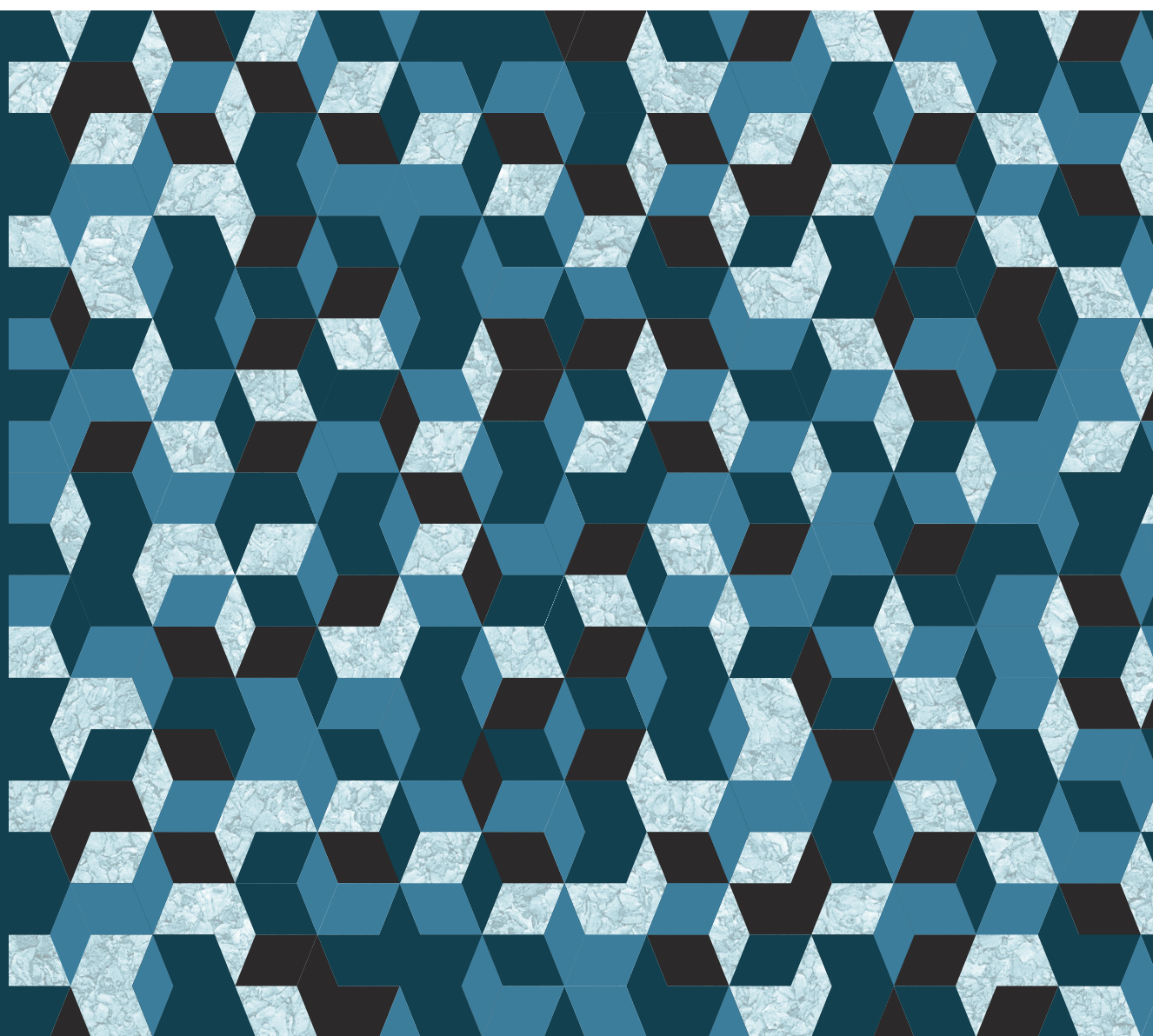




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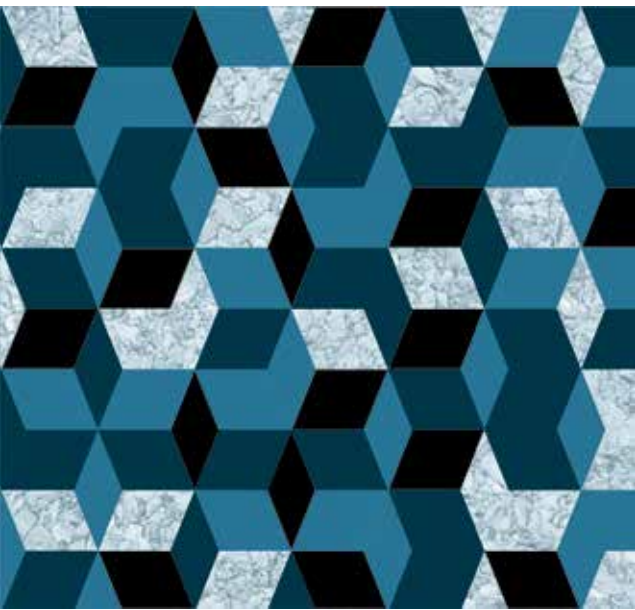
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I The Portuguese Economy

Overview

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Overview

The recovery of the Portuguese economy consolidated in 2015, with most domestic demand components and exports accelerating in the year as a whole. Nonetheless, economic activity showed signs of weakness in the second half of the year, chiefly concerning corporate gross fixed capital formation and exports. This intra-annual profile was the result of the deterioration of the external environment as regards demand for Portuguese exports, which in a context of increased uncertainty may have led to a postponement of investment decisions. In turn, in other dimensions, the external context for the Portuguese economy remained favourable over the year, due to oil price developments (Box 'Developments in commodity prices') and the ECB's implementation of monetary policy measures tending to reduce financial fragmentation in the euro area and to improve the financing conditions of the non-financial private sector.

The change in the corporate investment trend in the course of 2015 affected mainly the purchases of machinery and equipment, while other components, such as the acquisition of transport material, continued to show a robust growth, even in the second half of the year. Developments in these variables during the economic recovery since mid-2013 occur in a context of capital stocks' rebuilding, after persisting falls in investment flows during the recessionary episodes in the 2008-2012 period. This process – which is highly important for it drives the incorporation of new technologies into the production process – should gain momentum in the near future, especially as a favourable evolution of external demand permits. The normalisation of financial conditions plays an important role in this respect, with 2015 seeing a significant increase in loans to the enterprises which got bank financing for the first time, as well as on a gradual recovery of loans to small and medium-sized enterprises.

Nevertheless, the pace of Portuguese firms' accumulation of productive capital stands short of that observed before 2008. In most European Union countries, the current economic recovery has been characterised by weak investment. In the Portuguese case, the behaviour of this variable will remain particularly constrained limited by high corporate indebtedness levels. According to microeconomic evidence, small enterprises face particular difficulties in this regard, since they present a smaller decline in debt, although they were penalised the most in their borrowing. The deleveraging of the corporate sector as a whole has been slow, also because it has been almost exclusively based on debt reduction, without the contribution of own funds (Box 'Developments in corporate indebtedness in Portugal and the euro area'). Over the last two years, in particular, the sector was almost unable to attract financing through foreign direct investment, which is besides frequently associated with positive externalities from a knowledge-sharing perspective.

The acceleration of private consumption in 2015 partly reflects higher growth of disposable income, as a result of an improvement in labour market conditions, a smaller fall in public employment and a recovery of social transfers. Simultaneously, the strength of private consumption is associated with households' high confidence level and favourable expectations regarding the evolution of their permanent income. In this context, the acquisition of durable goods has shown particular buoyancy, which must be understood in the light of the strong retrenchment of this variable in the first years of the financial assistance programme, in tandem with an improvement in households' financing conditions. These developments translated into strong growth of consumer credit in 2015, although from relatively low levels of this aggregate.

Private consumption grew above disposable income in the last two years, leading to reductions in the household saving rates which stood

at a historical low at the end of 2015 (Special issue 'An interpretation of household saving rate developments in Portugal'). Developments in disposable income have been affected by the subdued evolution of wages, justified by labour utilisation still short of the levels prevailing before the international crisis, notwithstanding the moderate increase in employment and the decline in the unemployment rate in 2015. At the same time, wage developments reflect the virtual stagnation of productivity in the Portuguese economy in the past few years. In this context, resuming an upward trend in productivity is crucial for a more consistent recovery of disposable income, which in turn can back a sustainable trajectory of private consumption. Households' financing capacity also showed a downward trend in 2015, in line with the behaviour of savings. Against this background, the household sector has been able to reduce its indebtedness ratio appreciably in the recent period.

Exports maintained a robust growth in 2015, underlining one of the most positive structural developments of the Portuguese economy in the recent period. This came about despite a weakening of external demand from some of the main trading partners outside the euro area, whose economies have been negatively affected, *inter alia*, by the fall in commodity prices. In particular, Angola – one of the main destinations of Portuguese exports in the 2011-2014 period – has been strongly hit by the fall in oil prices (Box 'Exposure of the Portuguese economy to Angola'). In turn, the tourism sector remained buoyant and strengthened its position in the economy. Although the openness of the economy – measured by the exports' share of GDP – has been increasing consistently, a comparison with similar-sized more open economies in the euro area shows that there is room for a deepening of this trend. Such a movement is in fact crucial, so that the maintenance of a high pace of productive capital accumulation and convergence towards an equilibrium path of private consumption do not undermine the necessary gradual reduction of the accumulated external

imbalances. Indeed, already in 2014 and 2015, the most dynamic domestic demand components had a high import content. In this context, the goods and services account balance remained positive partly due to terms-of-trade gains, stemming from the fall in energy prices.

The current and capital account balance was positive in 2015, meaning that the Portuguese economy maintained its external financing capacity. In spite of a slight improvement in the international investment position components related to debt instruments, progress towards a correction of the external indebtedness level since the start of the adjustment process has been limited. The size of this indebtedness is particularly related to the high public debt level, whose reduction is one of the main challenges faced by the Portuguese economy. In effect, the current situation not only puts permanent pressure on the external accounts, but creates also a latent vulnerability of the Portuguese economy, currently mitigated by the implementation of non-standard monetary policy measures by the ECB.

The fiscal consolidation trend observed since the start of the adjustment process came to a halt in 2015, due to the evolution of structural revenue. Structural primary current expenditure maintained its downward trend, albeit more moderately. It is important that the fiscal consolidation process continues, in particular through a more efficient use of public resources, with a view to reducing public debt. This is also required by European commitments. Performance indicators in key areas of public expenditure, such as health and education, suggest that expenditure restraint policies implemented in recent years have not jeopardised the levels and overall quality of the provision of these services. Nominal public investment grew in 2015, after several years of consecutive falls. In the upcoming recovery of public investment, benefiting from the availability of additional funding at the European level, projects should be selected taking into account their impact on the growth potential of the economy.

The above-mentioned low growth of productivity reflects persistent structural fragilities in the Portuguese economy. In effect, after gains during the recession, when the adjustment of the manufacturing base led to the disappearance of less productive firms and jobs, productivity essentially stagnated in the current phase of economic recovery. This is atypical when compared with previous economic cycles. The causes behind this phenomenon are complex and partly include the long-term trend of low potential growth of the Portuguese economy, associated with weaknesses in the functioning of the labour and product markets and the quantity and quality of the productive factors. Simultaneously, the pick-up of activity after the last recessionary episode has been affected by the financing difficulties faced by the Portuguese economy, implied by the sovereign debt crisis. Indeed, risk premia associated with the financial fragmentation in the euro area have faded only gradually, allowing corporations to benefit from the stimulus measures implemented by the ECB. Finally, the increase in the structural tax burden in the 2011-2013 period, within the scope of the fiscal consolidation process, has also weighed negatively on economic activity.

The adjustment process impacted itself on the accumulation of productive factors, leading to a significant strengthening of migration flows and a decline in the labour force, in an already adverse context of an ageing population, as well as to a decline in the investment rate. These migration flows have chiefly affected younger age groups, thus preventing the Portuguese economy from fully benefiting from the return associated with the improvement in labour force qualifications in recent decades. These constraints, which are endogenous to the adjustment process, will tend to revert as the latter proceeds.

Nevertheless, the Portuguese economy has undergone important changes in recent years, notably the increase in openness and the change in productive specialisation in favour of sectors more exposed to international competition, such as some manufacturing sectors, especially to the

detriment of the construction sector. The dynamism of the agricultural sector, partly related to its internationalisation, is illustrative in this regard. Microeconomic evidence points to a reallocation of productive resources and channelling of funds to more productive corporations.

Within the scope of the assistance programme, a wide agenda of structural reforms has been initiated, whose effects on the economy cannot be minimised. The on-going process of resource reallocation among sectors and the reduction of the under-utilization of labour in the Portuguese economy require a high level of productive resources' mobility. Product market reforms are crucial for ensuring that price developments in non-tradable sectors do not jeopardise the competitiveness of the economy. Furthermore, other aspects of the institutional environment play an important role. By way of example, a sample of corporations surveyed on the constraints on their competitiveness in the recent period, under INE's *Inquérito aos Custos do Contexto* (Business Context Costs Survey), has placed the legal system at the top of the list of impediments faced. It is therefore essential to continue the reform effort, against a background of predictability and appropriate incentives to economic agents.

Portugal's participation in a monetary union has allowed its economy to benefit, in the recent past, from mechanisms that smoothed out the course of the adjustment process, and provides particularly favourable monetary conditions in the current context. However, such participation also poses important challenges at a time of reducing accumulated imbalances, for it chiefly places the burden of that reduction on the real side of the economy. The European institutional architecture still shows some difficulties in dealing with the coexistence of diverse situations among the Member States in terms of macroeconomic imbalances. The implementation of common policies in this context inevitably generates tensions and may result in an unwanted intensification of dualisms in the evolution of the economies. In fact, European institutions have

assumed a more active role through the Macroeconomic Imbalances Procedure, which sets out mechanisms for identification and timely correction of those imbalances. However, the full implementation of these mechanisms faces difficulties in the sharing of competences and sovereignty between the European institutions and the Member States, which have not yet fully

matured. The strengthening of and compliance with the macroeconomic coordination rules, as part of the process of deepening the Economic and Monetary Union, are fundamental to ensuring an institutional framework that promotes and sustains the improvement of citizens' economic well-being.

1. International environment

In 2015 economic activity growth remained low and heterogeneous across regions

World economic growth was more moderate in 2015 than in the previous year (Table 1.1). The acceleration of economic activity in advanced economies was offset by a slowdown in emerging market economies, especially in Russia, Brazil, and China. In advanced economies the improvement in labour markets, accommodative financial

conditions, and low oil prices allowed for the maintenance of the growth pace. By contrast, in emerging market economies the heightening of uncertainty, a number of structural obstacles, and the decline in commodity prices in countries exporting this type of goods contributed to a slowdown in activity. From a long-term perspective, world economic growth remained low (0.4 p.p. below the average of the pre-financial crisis period, i.e. 1980-2007), both in advanced economies (-1.0 p.p.) and emerging market economies (-0.4 p.p.) (Chart 1.1).

Table 1.1 • GDP | Real growth rate, percentage

	2012	2013	2014	2015
World	3.5	3.3	3.4	3.1
Advanced economies	1.2	1.2	1.8	1.9
USA	2.2	1.5	2.4	2.4
Japan	1.7	1.4	-0.1	0.5
Euro Area	-0.8	-0.2	0.9	1.5
Germany	0.6	0.4	1.6	1.4
France	0.2	0.7	0.2	1.2
Italy	-2.9	-1.8	-0.3	0.6
Spain	-2.6	-1.7	1.4	3.2
United Kingdom	1.2	2.2	2.9	2.3
Emerging and developing economies	5.3	4.9	4.6	4.0
Emerging and developing Europe	1.2	2.8	2.8	3.5
Commonwealth of independent states	3.5	2.1	1.1	-2.8
Russia	3.5	1.3	0.7	-3.7
Developing Asia	6.9	6.9	6.8	6.6
China	7.7	7.7	7.3	6.9
India	5.6	6.6	7.2	7.3
Latin America and the Caribbean	3.2	3.0	1.3	-0.1
Brazil	1.9	3.0	0.1	-3.8
Middle East and North Africa	5.1	2.1	2.6	2.3
Sub-Saharan Africa	4.3	5.2	5.1	3.4
Angola	5.2	6.8	4.8	3.0

Sources: Eurostat, IMF and Thomson Reuters.

In 2015 international oil prices remained on the downward trend started in the second half of 2014. Following a slight increase early in the year, prices dropped to new lows in the second half. This was caused by weaker demand and excess supply – Box ‘Developments in commodity prices’ –, which in turn caused, *inter alia*, a fall in inflation rates in 2015.

Financial market volatility remained low for most of the year. However, in the third quarter there was a correction of financial asset prices in China that led to an increase in global volatility, with exchange rate depreciations and capital outflows from emerging market economies, associated with the emergence of doubts about the resilience of the Chinese economy and other vulnerable emerging market economies.

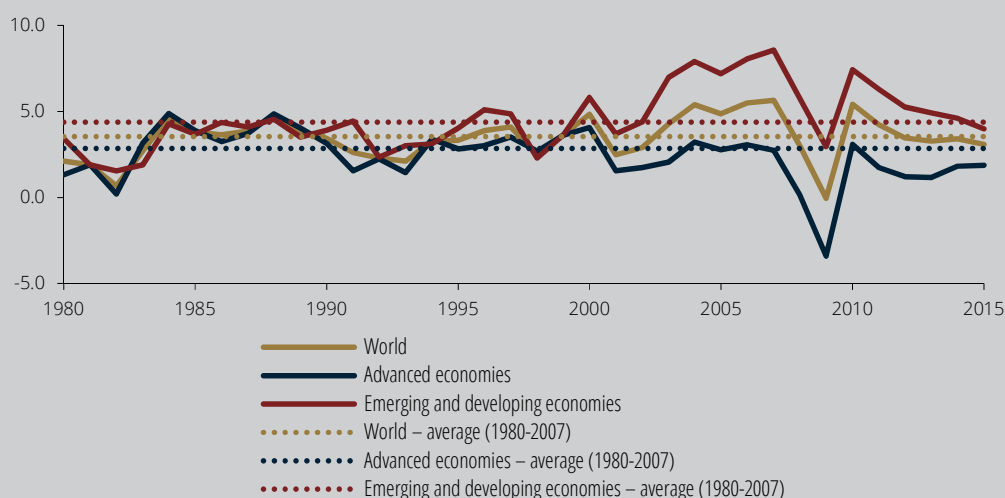
International trade growth remained weak, with the elasticity of world trade – the ratio of trade growth to world GDP growth – at very low levels (Chart 1.2). The structural downward trend of world trade elasticity is probably associated with various factors, particularly a different composition of world GDP and weaker trade of intermediate goods. In fact, the weight of the

investment component on GDP declined in the wake of the global financial crisis. Given that this domestic demand component has a higher import content, the impact of its deceleration on world trade was heightened, combining the effects of a slowdown in activity and a decline in the direct demand for imported goods. In addition, in the pre-crisis period the expansion of global value chains resulted in a stronger trade growth of intermediate goods. In the past few years this expansion of production chains has slowed down, translating into a decline in world trade growth.¹

Economic recovery continued in advanced economies

Advanced economies grew by 1.9 per cent in 2015, at a slightly faster pace than in 2014. This reflects the maintenance of a robust growth rate in the US and an acceleration in the euro area and Japan. In the US, following a weak start of the year due to adverse weather conditions and port strikes, activity growth recovered on the back of

Chart 1.1 •
World GDP growth
| Percentage



Source: IMF.

domestic demand. Labour market conditions improved with employment accelerating, and the unemployment rate declining from 5.6 to 5.0 per cent. With an appreciation of the US dollar since mid-2014 and a decrease in the price of oil and other commodities, inflation in the US declined to low levels in 2015 (from 1.6 to 0.1 per cent in annual average terms). Excluding the more volatile components of the price index, namely food and energy, inflation remained unchanged at 1.8 per cent in annual average terms. Monetary policy remained accommodative for most of the year. In December 2015 the *Federal Open Market Committee* started the monetary policy normalisation process, raising the *federal fund rate for the first time in 9 years*, to 0.25-0.5 per cent.

In Japan GDP growth was volatile throughout 2015. Over the year as a whole activity grew by 0.5 per cent, underpinned by a contribution from net external demand, after having stagnated in 2014. The inflation rate declined to levels close to zero in the second half of 2015, with an unwinding of the base effect related to the tax rise in April 2014. Excluding the food and energy components, the annual average inflation rate

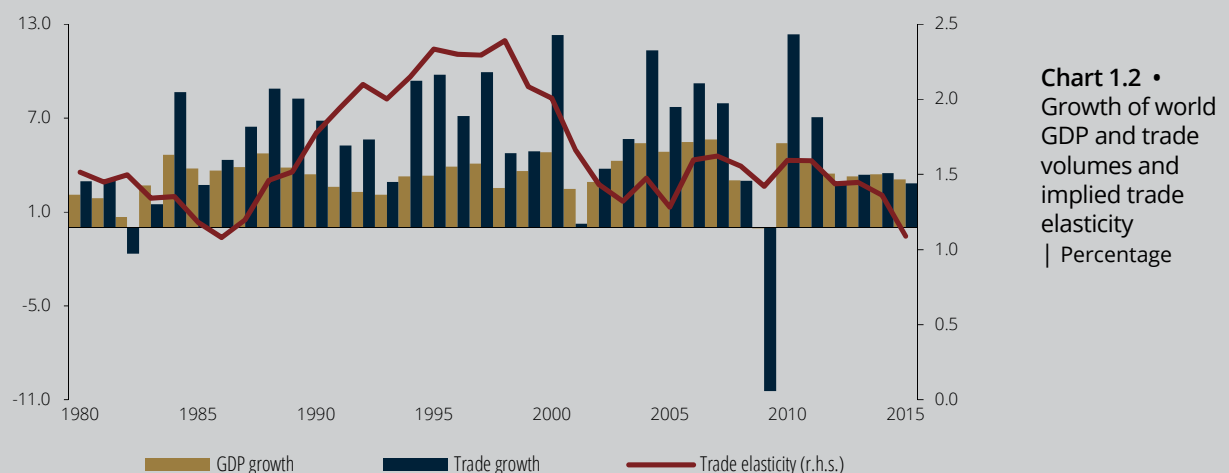
stood at 1.0 per cent. In spite of the measures implemented by the Bank of Japan, inflation is still below the objective.

Activity slowed down in the United Kingdom in 2015, reflecting in particular the behaviour of investment. Inflation declined to close to 0 per cent, mainly due to developments in food and energy components and an appreciation of the pound sterling. The unemployment rate declined to close to 5 per cent.

Investment in advanced economies remained weak, reflecting some uncertainty as to the outlook of economic activity, in addition to structural factors (Box 'Recent evolution of real interest rates').

Growth in emerging market economies decelerated in 2015

In 2015 activity in emerging market economies continued to slow down. In particular, the decline in commodity prices led to considerable slowdowns in economies exporting this type of goods. In Russia, the significant contraction of activity in 2015 also resulted from a worsening



Sources: IMF and Banco de Portugal calculations.

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

of geopolitical tensions and from international economic sanctions. The recession in Brazil, in turn, is associated not only with a decline in commodity prices and the consequent deterioration in terms of trade, but also with exchange rate depreciation and a high inflation rate. There was a slight slowdown in activity in China, more noticeably in investment and exports (Box 'The deceleration of the Chinese economy'). During the summer, an abrupt price correction in the stock market raised concerns about the sustainability of economic growth and the financial stability of the Chinese economy and other emerging market economies. With the purpose of stabilising economic growth and countering the decline in the inflation rate in 2015, the People's Bank of China reinforced its accommodative monetary policy measures.

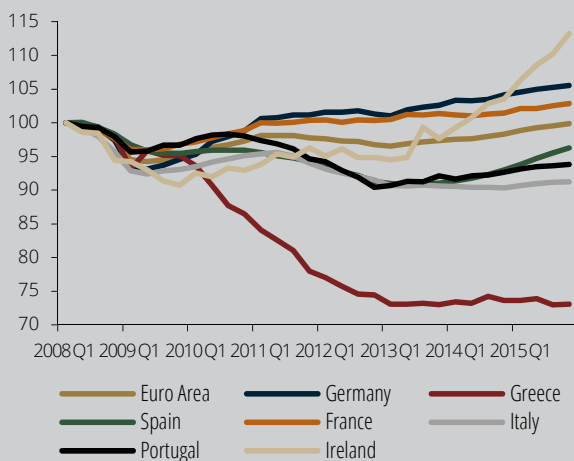
Euro area economic activity continued to improve in 2015

Economic activity in the euro area continued to recover into 2015 (Chart 1.3), chiefly reflecting

an improvement in domestic demand. In particular, the contribution by private consumption to GDP growth in 2015 was considerable and broadly based across most economies (Chart 1.4). Of the four major euro area economies, Spain stood out for its strong growth pace. The French and Italian economies also accelerated, while Germany decelerated slightly. Although its impact is not yet measurable, 2015 was also marked by an influx of refugees, which significantly affected several European countries and may eventually have important economic consequences.² Employment accelerated in the euro area in 2015, and the unemployment rate declined by around 1 percentage point. In the past two years the rise in disposable income associated with improvements in the labour market and real gains in purchasing power (stemming from low energy prices) has translated into higher consumer confidence levels and an increase in private consumption, namely of durable goods.

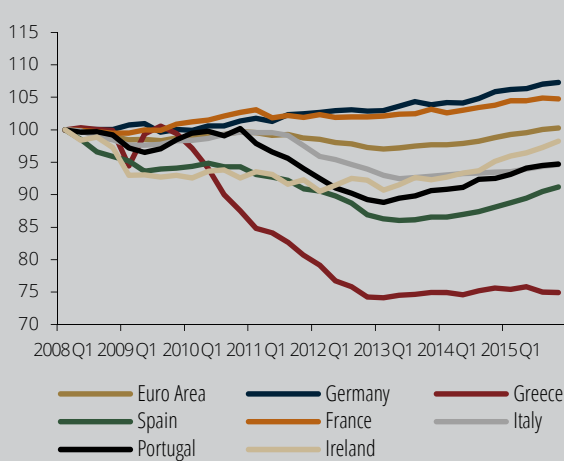
In 2015 both the euro area and Japan recorded a net lending position, in contrast to the

Chart 1.3 • Real GDP in the euro area
| Index 2008 Q1 = 100



Source: Eurostat.

Chart 1.4 • Real consumption in the euro area
| Index 2008 Q1 = 100



Source: Eurostat.

maintenance of a net borrowing position in the US and the United Kingdom (Table 1.2). The combined current and capital account balance in the euro area increased noticeably after 2012, due on the one hand to adjustments of economies such as Greece, Spain, Ireland, Italy, and Portugal. On the other hand, highly rated economies such as Germany continued to strengthen their positive balances. Although the disparities in the different countries' balances have narrowed in the past few years, the long-term maintenance of negative balances in the group of countries with a lower rating led to the accumulation of significant external liabilities, which are still a vulnerability factor for these countries.

Inflation remained low in the euro area, reaching negative values in 2015

Inflation in the euro area over the course of 2015 remained very low, even reaching negative values in several months. In annual terms, the harmonised index of consumer prices grew

by 0 per cent in 2015, compared with 0.4 per cent in 2014. In this context, energy prices recorded negative year-on-year rates of change throughout the whole year and offset the positive contributions from all other index components (Chart 1.5). However, even the measure of inflation excluding energy and food reached historical lows during the first half of 2015, in spite of the significant depreciation of the euro since the second half of 2014 and the maintenance of low interest rates. Reference should be made to the absence of inflationary pressures via the evolution of unit labour costs in the different euro area countries and the lagged effect of the appreciation of the euro in 2013 and early 2014.

Low inflation rates in 2015 were common to the various economies, and price developments slowed down in the vast majority of euro area countries (including Germany, France, and Italy), with some countries presenting negative inflation rates (in particular Spain). Outside the euro area, price developments in the neighbouring economies were also subdued, notably in Switzerland, Sweden, Denmark, Poland, and the Czech Republic.

Table 1.2 • Current and capital account balance | Percentage of GDP

	2004-2007	2008-2011	2012-2015	2015
USA	-5.3	-3.4	-2.7	-3.3
Japan	3.9	2.9	1.2	2.7
Euro Area	0.6	0.3	2.9	3.9
Germany	5.4	5.8	7.6	8.8
France	-0.4	-1.7	-2.3	-1.1
Italy	-1.0	-2.8	1.3	2.4
Spain	-7.3	-4.7	1.5	2.0
High rated countries	3.5	2.9	3.8	4.8
Lower rated countries	-4.3	-4.3	1.3	2.2
United Kingdom	-2.0	-2.8	-4.5	-5.1

Source: European Commission (AMECO).

Note: High rated countries include Germany, Austria, Belgium, Finland, France and the Netherlands. Lower rated countries include Cyprus, Spain, Ireland, Italy, Greece and Portugal.

External demand for the Portuguese economy slowed slightly, but continued to recover

External demand for the Portuguese economy continued to record positive developments in 2015, growing by 4.3 per cent, i.e. slightly less

than in the previous year (Table 1.3).³ However, while the demand of extra-euro area countries slowed down significantly, external demand from euro area countries kept accelerating. In this context, imports from the Spanish economy grew by 7.5 per cent in 2015. In intra-annual terms, external demand slowed down in the second half of the year.

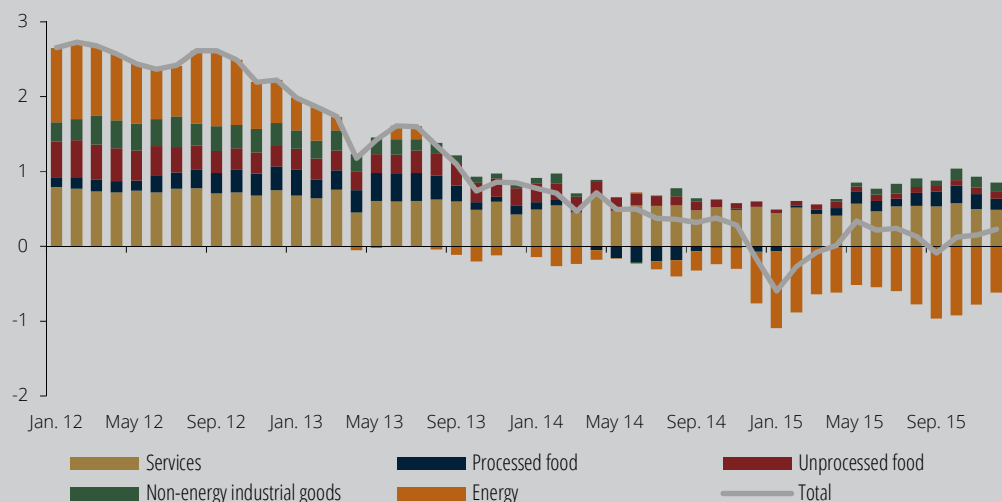
Table 1.3 • External demand of goods and services for the portuguese economy
| Real year-on-year rate of change, percentage

		yoy							
	Shares ^(b)	2012	2013	2014	2015	H1 2014	H2 2014	H1 2015	H2 2015
External demand (ECB) ^(a)	100.0	-0.2	1.8	4.5	4.3	4.3	4.7	4.6	3.9
Intra euro area external demand	66.3	-2.6	0.9	4.9	6.3	4.6	5.2	6.4	6.3
of which:									
Spain	27.1	-6.2	-0.3	6.4	7.5	5.7	7.1	7.5	7.5
Germany	13.7	0.1	3.2	3.7	5.4	4.1	3.3	5.6	5.3
France	12.5	0.8	1.8	3.9	6.7	3.5	4.4	6.3	7.1
Italy	3.9	-8.3	-2.2	3.0	5.8	2.8	3.2	6.4	5.2
Extra euro area external demand	33.7	4.5	3.5	3.9	1.1	3.9	3.8	1.9	0.2
of which:									
United Kingdom	5.6	2.9	2.8	2.4	6.3	2.1	2.7	6.9	5.7
USA	3.5	2.2	1.1	3.8	4.9	3.4	4.2	5.6	4.2
Memo:									
World trade on goods and services (IMF)		2.8	3.4	3.5	2.8				
World merchandise imports (CPB)		1.6	2.2	3.0	1.7	2.6	3.5	2.1	2.1

Sources: European Central Bank, Netherlands Bureau for Economic Analysis (CPB), IMF, Thomson Datastream and Banco de Portugal calculations.

Notes: (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.

Chart 1.5 •
Year-on-year rate of change of the harmonized index of consumer prices in the euro area
| Percentage



Source: Eurostat.

Box 1.1 | Developments in commodity prices

Following a relatively long period of sustained rises in commodity prices over the 2000s – temporarily interrupted by a strong correction during the 2009 recession – 2011 marked the start of an ongoing decline in metal prices, followed in 2014 by a relatively more abrupt decrease in oil prices (Chart 1). At the end of 2015, the accumulated reduction in the oil price in US dollars amounted to around 65 per cent (56 per cent in euros) and that of the metal prices amounted to 59 per cent (49 per cent in euros). Compared to other episodes of price decreases in the past 35 years, these falls have been quite significant.

This box describes metal and oil price developments in the past few years and seeks to characterise their determinants based on an analysis of production and consumption patterns and other factors with a potential impact on these markets.

The downward trend of metal prices observed since 2011 is likely to have mostly reflected a slowdown in demand by China⁴ (Chart 2), whose weight on world consumption of metals had increased from 3 per cent in 2000 to 47 per cent in 2010. In fact, according to the IMF,⁵ most of the ongoing reduction in metal prices is explained by a slowdown in China's industrial production, which reflected *inter alia* the transition to a growth pattern more sustained by private consumption and services and less by investment and the industrial and exporting sectors (Box 'The deceleration of the Chinese economy'). On the supply side, the steady increase in production also appears to have contributed to the sustained decline in prices. Factors such as the devaluation of producers' currencies, the reduction in production costs, and the discovery of new mineral deposits likely supported high production levels in spite of the price decline.

Chart 1 • Oil and metals prices in real terms | Dollars, index 2010=100



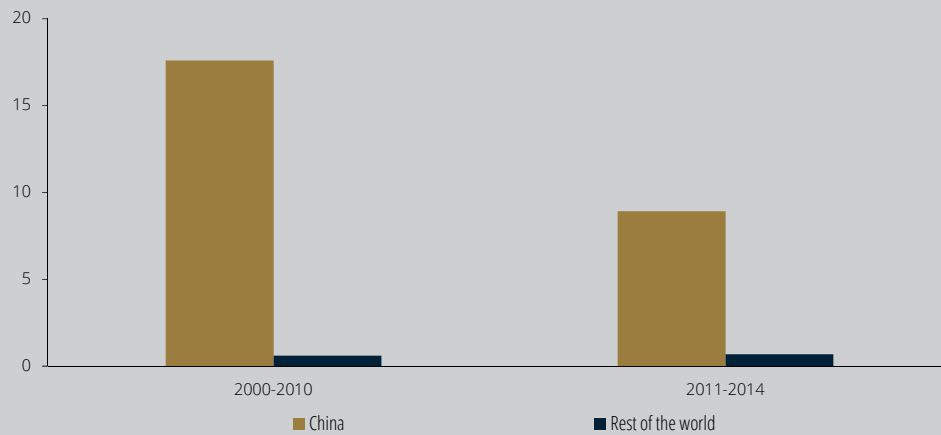
Sources: Bureau of Labour Statistics, IMF, Thomson Reuters and Banco de Portugal calculations.

Note: Deflated by the United States consumer price index.

By contrast, oil prices remained relatively stable between 2011 and mid-2014, fluctuating at around USD 110 per barrel, in a context of balanced demand and supply (Chart 3). In particular, on the supply side, the considerable increase in production in non-OPEC countries (notably the United States) seems to have been partly offset by OPEC's production ceilings and supply disruptions in the Middle East and Northern Africa (Chart 4).

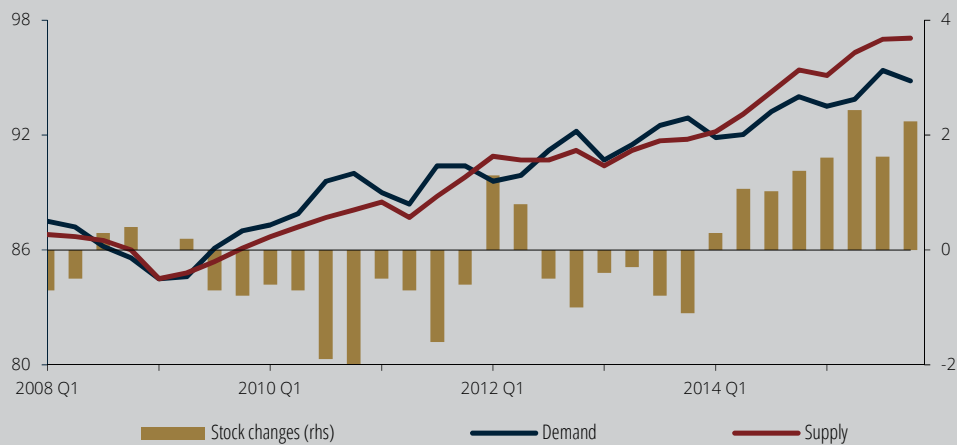
In the second half of 2014, oil prices started to plunge amid more optimistic expectations about the evolution of supply, the sustained increase in non-OPEC production and signs of a slowdown in emerging economies' activity. In spite of this significant price decline, at the end of 2014 OPEC decided to leave its production unchanged. This decision reflected a change of strategy with a

Chart 2 • Metals consumption | Average annual growth, percentage



Sources: World Bank and Banco de Portugal calculations.

Chart 3 • World oil demand and supply | Million barrels per day

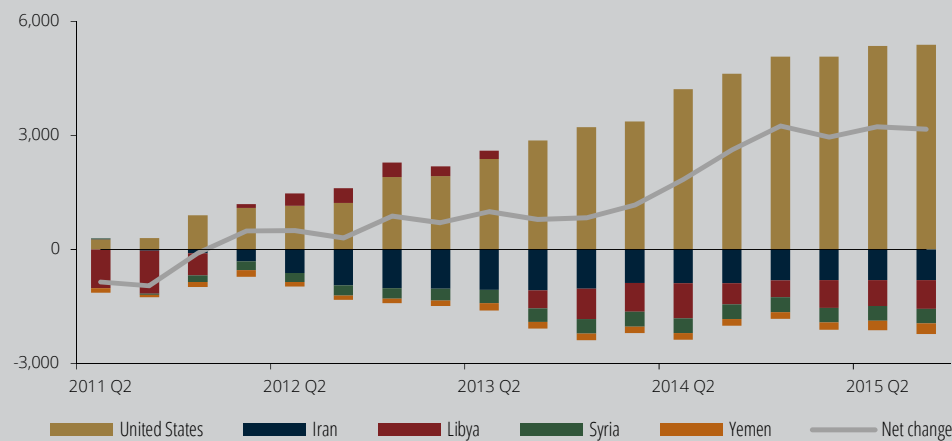


Source: International Energy Agency.

view to maintain market share, given the increased supply in non-OPEC countries. In particular, production in the United States accelerated substantially from 2012 onwards, chiefly due to new shale oil exploration projects (Chart 5). This increase in production led to a considerable reduction of the country's energy dependence from abroad, with net imports of oil and other petroleum products accounting for 24 per cent of consumption in 2015 compared with over 60 per cent in 2005.

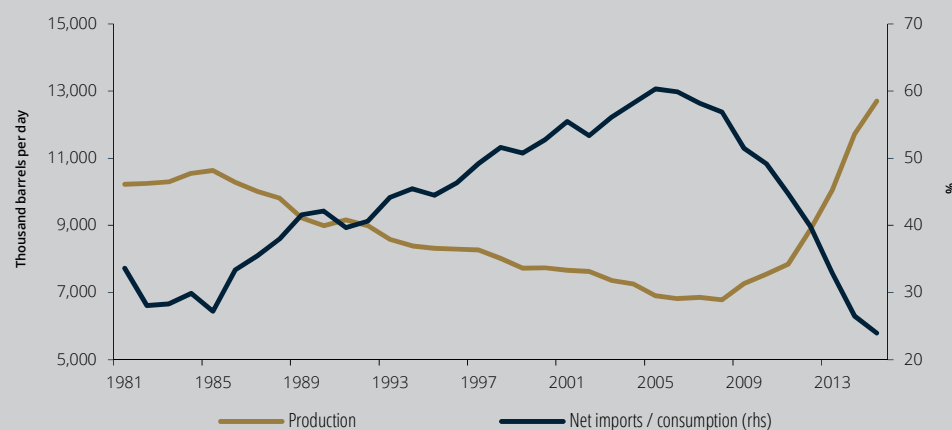
In 2015, oil prices continued to fall in an environment of persisting excess supply (Chart 3) driven by various factors. First, production in the United States proved more resilient to price declines than anticipated, reflecting cost reductions and efficiency gains. Second, OPEC continued to pursue a

Chart 4 • Oil production in selected countries – change since 2011 Q1
| Thousand barrels per day



Sources: US Energy Information Administration and Banco de Portugal calculations.

Chart 5 • Production and ratio between net imports and consumption of oil and other petroleum products in the United States



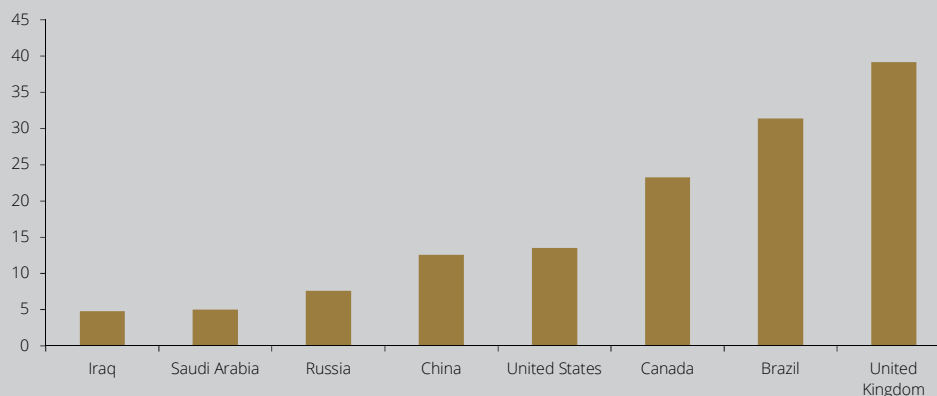
Sources: US Energy Information Administration and Banco de Portugal calculations.

strategy of maintaining its market share, which led to an increase in supply to the highest levels recorded in the past three years. Third, expectations of a considerable increase in oil exports by Iran were built-up due to the lifting of economic sanctions on the country following the agreement on its nuclear programme. Finally, concerns about the weakening of the world economy, particularly in China⁶ and other emerging economies, have increased.

The downward trend of oil prices was interrupted in February 2016, following a decision by the governments of Saudi Arabia, Russia, Venezuela, and Qatar to maintain production at January 2016 levels, in order to stabilise the market. However, at around USD 46 per barrel at the end of April 2016, oil prices remain at very low levels in comparison with the values recorded in the first half of 2014. At this level, the price is above the operating costs per barrel⁷ in countries where these are relatively higher, such as the United Kingdom and Brazil (Chart 6).

The fall of commodity prices, namely oil, has, *ceteris paribus*, a positive impact on economic growth in Portugal, notably through the reduction of production and transportation costs and their pass-through to consumer prices.⁸ In addition, it generates a beneficial terms of trade effect from the balance of payments perspective. However, the impact on the producer countries' economies with which Portugal has important trade links, namely Angola and Brazil, has negative repercussions on the trend of Portuguese exports (Box 'Exposure of the Portuguese economy to Angola').

Chart 6 • Oil production operating cost in selected countries | Dollars per barrel



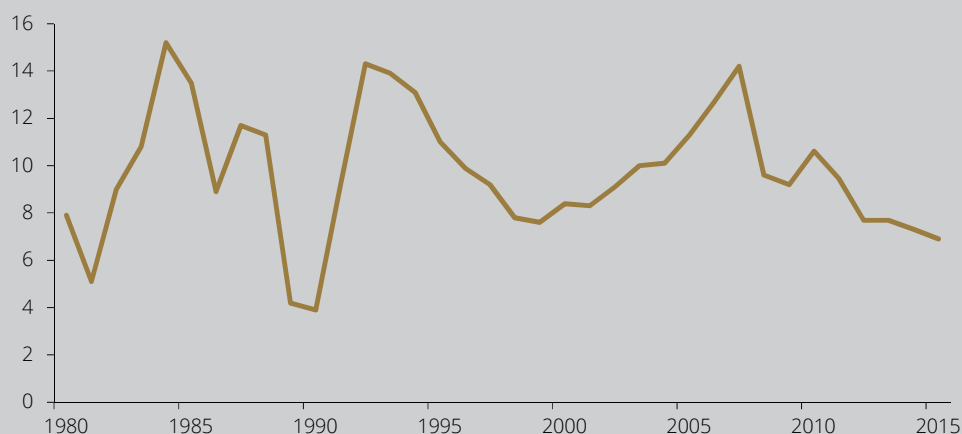
Source: IMF.

Box 1.2 | The deceleration of the Chinese economy

The deceleration of the Chinese economy continued in 2015, in a context of considerable volatility in stock markets, significant capital outflows, and pressure on the renminbi's exchange rate. These developments have important implications for the world economy, taking into account the preponderant role reached by China in the world economy in the past three decades, significantly contributing to economic growth and global trade flows.⁹ In the most recent years the deceleration of the Chinese economy also had a particularly negative effect on a number of emerging economies, considering that it made a rather significant contribution to the sharp fall in commodity prices (Box 'Developments in commodity prices').

The Chinese economy grew at a very significant pace – around 10 per cent a year – as of the start of the economic reforms in the early 1980s up to 2011 (Chart 1). Despite a deceleration during the Great Recession, a significant fiscal stimulus plan (amounting to around 12 per cent of GDP) and an expansionary monetary policy in 2008-10 helped to sustain economic growth in that period. An analysis of growth factors shows that growth in the past few decades relied essentially on capital accumulation and to a lesser extent on total factor productivity growth (Chart 2). The latter is strongly associated with the relocation of workers across economic sectors and from rural areas to urban areas, with the process of openness to external markets and other economic reforms, including the development of the financial system.

In the most recent years, the growth rate of GDP in China stood between 7 and 8 per cent in the 2012-14 period and declined to 6.9 per cent in 2015. The deceleration has been gradual and reflects cyclical factors such as a decline in world demand or a reduction of the contribution made by macroeconomic policies, but also structural factors, namely the transformation of the economic growth model that has been largely based on the expansion of productive and export capacity. At the end of 2013 the Chinese authorities launched a series of economic reforms targeted at

Chart 1 • Real GDP growth | In percentage

Source: IMF (WEO April 2016).

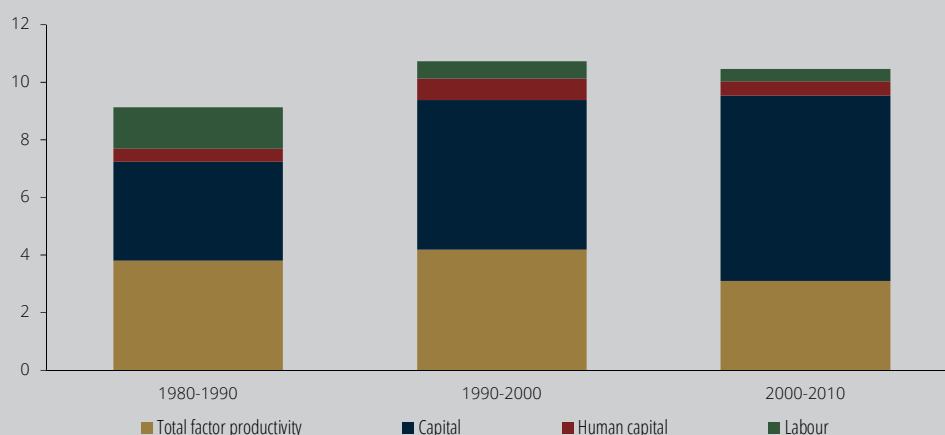
rebalancing the economic structure, so as to make it less managed at and dependent on – essentially public – investment and on the industrial and export sector, and move towards an economy more reliant on private consumption and domestic demand, where resource allocation is increasingly market driven.¹⁰ The said rebalancing, although liable to cause a slowdown of economic growth in the short to medium term, is crucial to reducing some of the existing imbalances in the Chinese economy and sustain longer-term growth.

The Chinese economy is thus in a process of economic transition that has raised some uncertainty about economic growth sustainability. The uncertainty reflects the existing doubts as to both the possibility of the adjustment process occurring smoothly (the so-called *soft landing*, as opposed to the possibility of a *hard landing*), and the outlook for the respective potential growth.

The Chinese economy's growth pattern, particularly after the global financial crisis, was largely supported by investment and credit. In 2014 the weight of investment on GDP amounted to around 44 per cent (5 p.p. more than in 2008), which was considerably above the highs recorded in other economies throughout the economic growth process.¹¹ This was mainly accounted for by investment in infrastructure construction, in the real estate sector (particularly residential), and also by investment in specific industrial sectors, such as steel and cement. This increase in investment occurred in parallel with a very significant expansion of credit to enterprises and local governments. Despite having decelerated in the most recent years, credit has continued to grow at a higher pace than GDP, and indebtedness levels rose considerably.¹² The possibility of many investments did not follow strict economic efficiency criteria, given the evidence of excess capacity in certain sectors, has raised concerns about economic and financial stability in China and a possibly sharper economic deceleration.

According to various international organisations, the most probable scenario points to a gradual reduction of Chinese economic growth. IMF forecasts point to annual growth slightly above 6 per

Chart 2 • Contribution of factors to real GDP growth | In percentage points



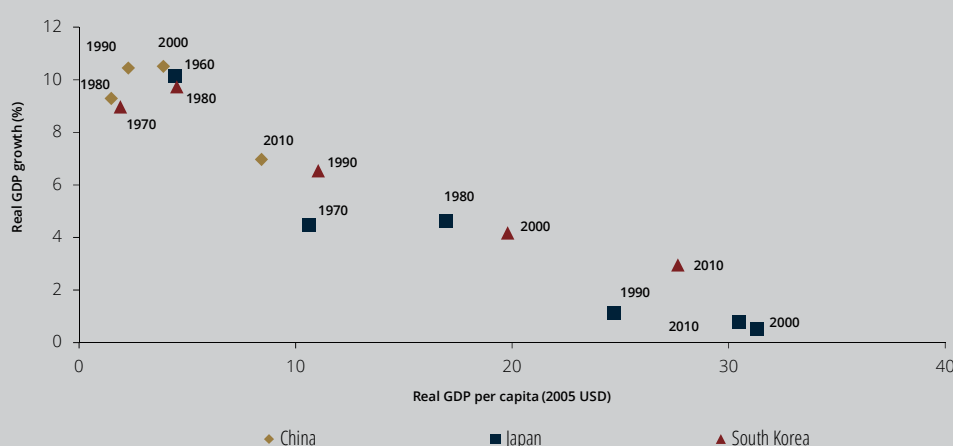
Sources: *Penn World Tables (version 8.1)* and Banco de Portugal calculations.

Note: (a) The calculations of contributions is based on a Cobb-Douglas production function, with elasticity of output to capital equal to 0.5. Data for the various production factors were taken from the *Penn World Tables version 8.1* (Feenstra, Robert C., Robert Inklaar, and Marcel P. Timmer (2015), 'The Next Generation of the Penn World Table,' *American Economic Review*, 105 (10): 3150-82).

cent from 2015 to 2020. The contribution from the labour factor is expected to remain low and possibly even become negative, reflecting the expected decline in the labour force, as a result of population ageing¹³ Capital accumulation is likely to continue to significantly contribute to GDP growth, considering that the *per capita* capital level in China is still quite low. However, this contribution should decline gradually, given this factor's diminishing returns, and in line with a greater economic rebalancing and with the economic reforms launched by the Chinese authorities. In turn, the contribution from total factor productivity is particularly uncertain. On the one hand, a certain decline in growth rates seen in the past few decades is to be expected, taking into account some exhaustion of factors that gave it a strong boost in the past and China's convergence towards higher income levels. On the other hand, employment in the primary sector and in rural areas are still relatively high (around 30 and 49 per cent of total employment in 2014), and thus there seems to be some room for productivity increases via the relocation of workers across sectors. This may be reinforced by the ongoing reforms that also intend to mitigate the cost of geographical migration (e.g. through the reform of the '*hukou*' registration system) and the high mobility of foreign investment that may easily move to other regions.

In spite of the considerable increase in the past few decades, the income level in China is still only approximately 20 per cent of that in the US. A comparative analysis of the economic convergence process of China and other Asian economies like Japan and South Korea shows that the scenario of gradual deceleration implied in IMF forecasts places China in a similar situation to Japan in the 1970s and in particular to South Korea in the 1990s (Chart 3). This comparison also suggests that the Chinese economy may maintain relatively high economic growth rates, and higher than the world economy's for a few more years, although the ongoing transition process that largely depends on a successful implementation of the announced economic reforms involves risks that should not be neglected.

Chart 3 • Convergence in the process of economic growth



Sources: IMF (*WEO April 2016*) and *Penn World Tables (version 8.1)*.

Notes: (a) Real GDP *per capita* relates to the indicated year, according to the *Penn World Tables* (output base). (b) The real GDP growth refers to the average growth in the decade beginning in the year indicated. (c) The 2010s includes projections of the IMF (*WEO April 2016* database) up to 2020.

2. Monetary and financial conditions

2.1. Euro area

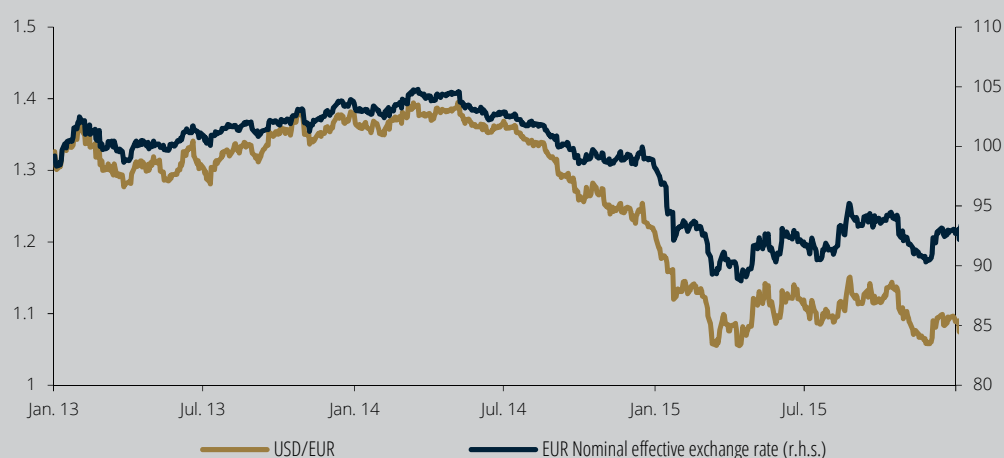
ECB strengthened non-standard monetary policy measures

2015 was characterised by the implementation of new non-standard monetary policy measures by the ECB. Firstly, in January, the ECB announced an expanded asset purchase programme to be carried out until at least September 2016, with monthly purchases amounting to €60 billion. This programme was mostly aimed at ensuring the ECB met its objective of price stability. During the second half of the year, downward pressures on actual inflation and continued downward risks to the inflation forecasts led the ECB to evaluate the need for additional measures. In December, the Governing Council of the ECB therefore announced an extension of the expanded asset purchase programme until March 2017 and a reduction in the interest rate on the deposit facility by

10 basis points, to -0.30 per cent (Box 'Market reaction to the asset purchase programme in January and to the measures announced by the European Central Bank in December 2015').

The depreciation of the euro that began in 2014 continued in the first quarter of the year (Chart 2.1). Following the implementation of the expanded asset purchase programme, 10-year euro area government bond yields reached a historical low in spring (Chart 2.2). However, during the following months, with an improving economic outlook and as markets became familiarised with the ECB's public sector purchase programme, 10-year government bond yields increased, reaching the highest levels of the year. Simultaneously, increased risk aversion and uncertainty surrounding the Chinese economy, and other emerging market economies, have contributed to the appreciation of the euro. At the end of the year, the anticipation of the announcement of new measures, led to a depreciation of the euro exchange rate. This anticipation is also visible in the decline in government bond yields.

Chart 2.1 •
Euro exchange rates



Source: Eurostat.

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

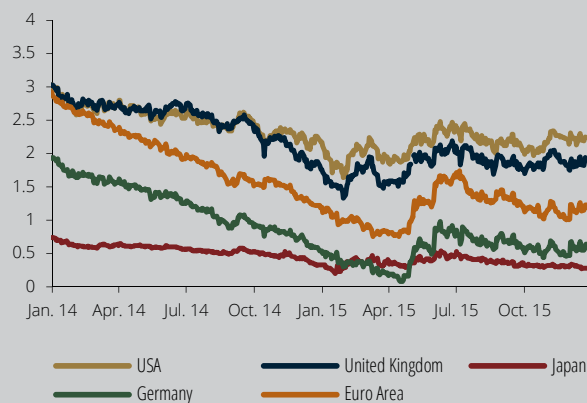
10-year government bond yield spreads against Germany remained relatively stable during 2015, with the exception of the interest rate on Greek bonds, which reflected the instability related to the negotiation of the third macroeconomic adjustment programme during the summer (Chart 2.3).

The downward path of market based inflation expectations reversed in 2015 with the announcement of the expanded asset purchase programme. However, the recovery observed in inflation expectations faded away over the year. At the

end of 2015, the anticipation of additional monetary policy measures by the ECB led to a further increase in inflation expectations, which turned out to be temporary (Chart 2.4 and Box 'Market reaction to the asset purchase programme in January and to the measures announced by the European Central Bank in December 2015').

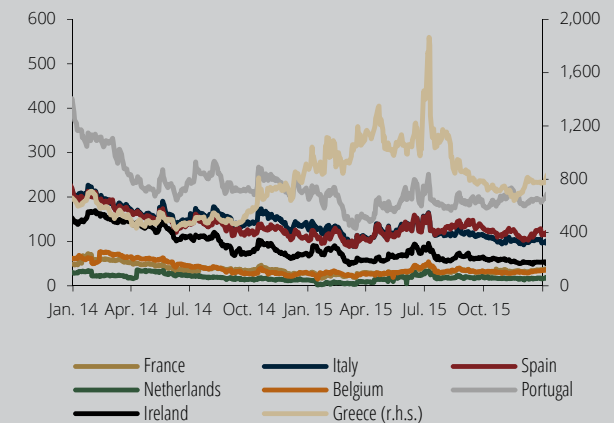
Over the past two years, the yield curve has been moving downwards (Chart 2.5), which may be attributed to the asset purchase programme and the stance of maintaining interest rates at

Chart 2.2 • 10-year government bond yields
| Percentage



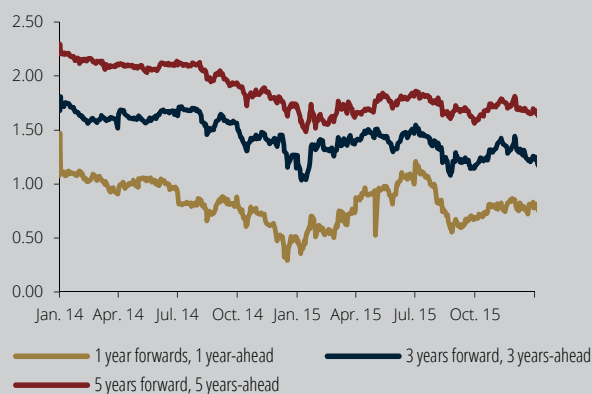
Source: Thomson Reuters.

Chart 2.3 • 10-year government bond yields – spreads against Germany
| Basis points



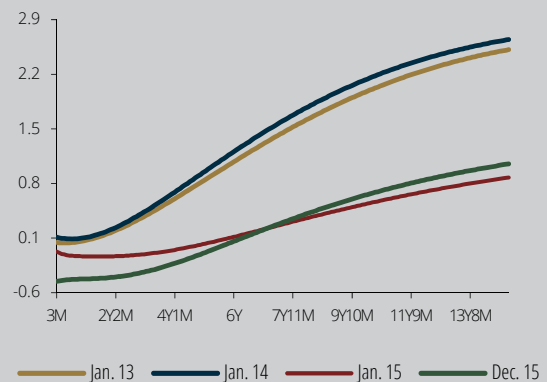
Sources: Bloomberg and European Central Bank.

Chart 2.4 • Market-based inflation expectations (euro area) | Percentage



Sources: Bloomberg and Banco de Portugal calculations.

Chart 2.5 • Euro area yield curve | Percentage



Source: European Central Bank.

very low levels during a prolonged period of time. Although it is currently also at low levels, the real interest rate has remained relatively stable (Chart 2.6), reflecting the simultaneous decline in inflation expectations. This tends to offset the desirable effect of the monetary policy measures that have been implemented. The behaviour of the real interest rate is likely also reflecting non-monetary factors, specifically long-term trends of decreased investment and increased savings (Box 'Recent evolution in real interest rates').

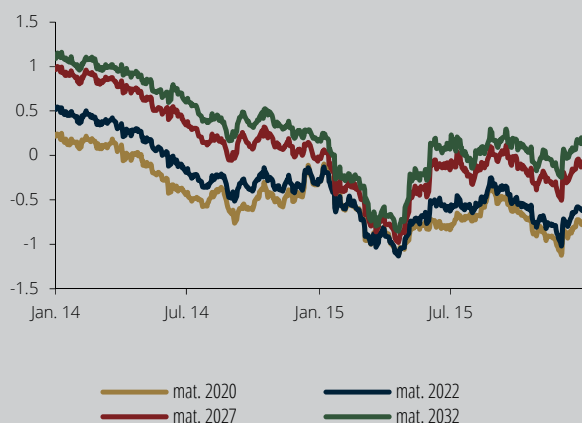
The implementation of the asset purchase programme by the ECB has also had an impact on the balance of the claims and liabilities of each euro area central bank *vis-à-vis* the Eurosystem aggregate (TARGET balances). Thus, after two years of decline from the peaks reached during the sovereign debt crisis, TARGET balances increased again in 2015. Growth in TARGET balances is in contrast with developments in liquidity-providing

monetary policy operations, which, after declining for two years, remained stable throughout 2015. A continued high creditor position of the central banks of Germany, Luxembourg and the Netherlands (in contrast with the debtor position of the central banks of Italy, Spain, Greece and Portugal, among others), points to the persistence of fragmentation in the euro area money markets (Chart 2.7).

Credit market conditions continued to improve

Responses to the Bank Lending Survey indicate that liquidity obtained through the expanded asset purchase programme and the targeted longer-term refinancing operations was used to grant loans and replace funding from other sources. Measures implemented by the

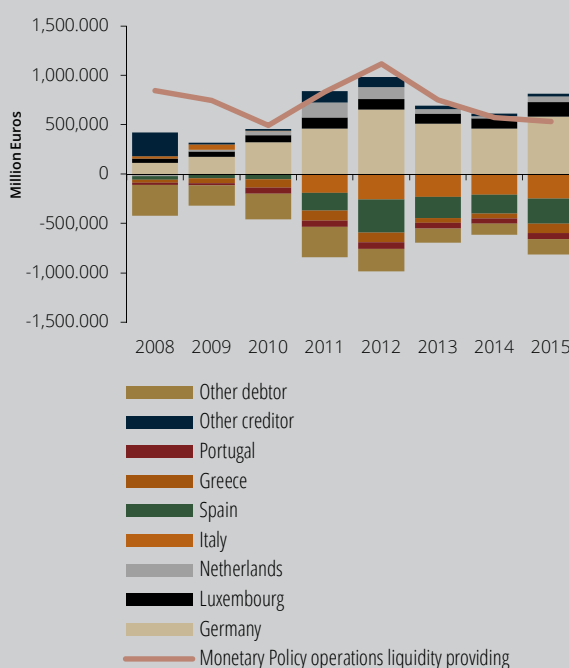
Chart 2.6 • Real interest rates (euro area)
| Percentage



Sources: Bloomberg and Banco de Portugal calculations.

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

Chart 2.7 • TARGET balances and monetary policy operations liquidity providing



Source: European Central Bank.

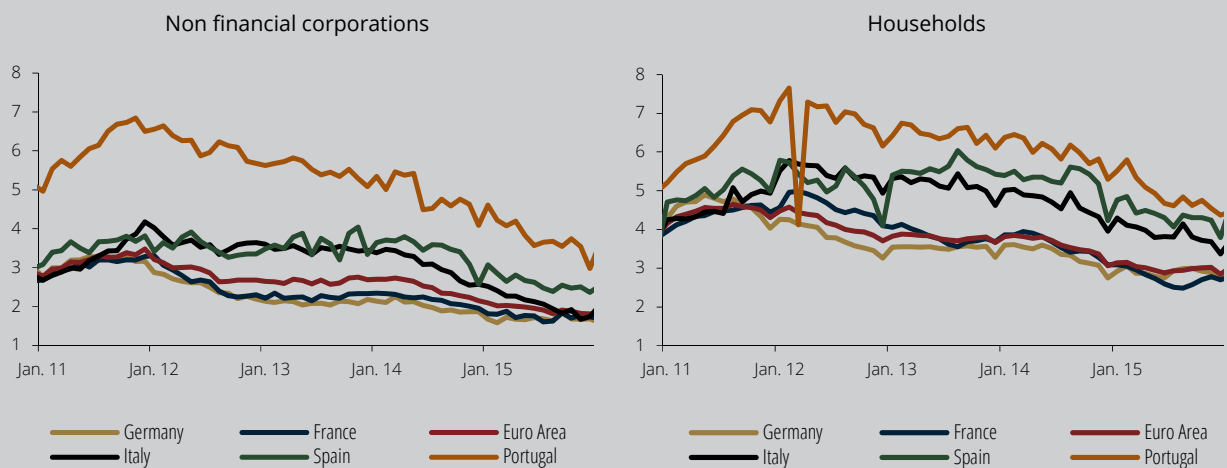
ECB throughout the year lowered banks' funding costs, easing both credit standards and lending conditions.

Borrowing costs for the private sector decreased throughout the year in most euro area countries and the differential between countries narrowed, particularly for loans to non-financial corporations (Chart 2.8).

Credit growth has been recovering gradually

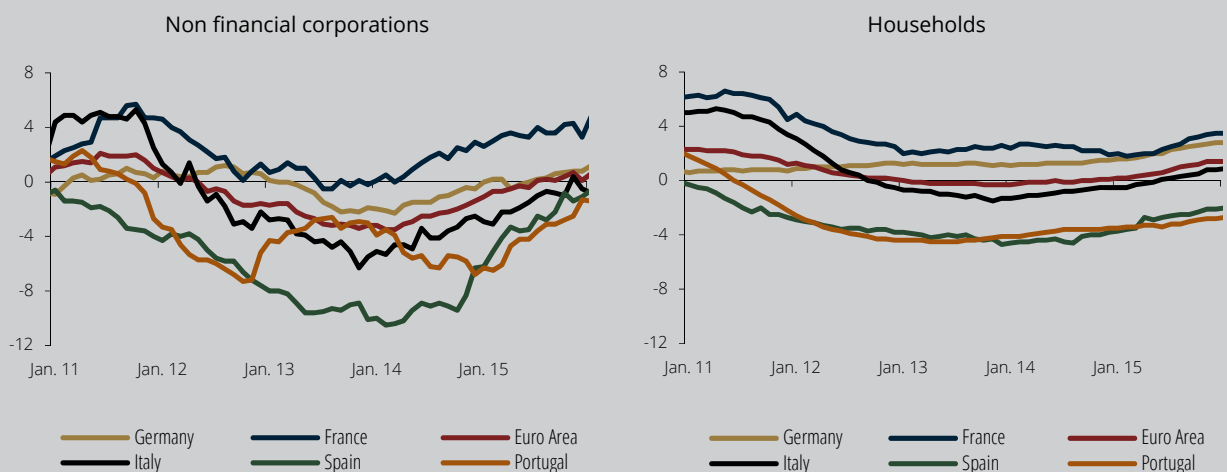
Growth in new loans to non-financial corporations and households improved in 2015, but remained negative in some euro area economies (Chart 2.9).¹⁴ These developments are

Chart 2.8 • Interest rates on new business loans in the euro area | Percentage



Sources: European Central Bank and Banco de Portugal calculations.

Chart 2.9 • Euro area – Loans adjusted for sales and securitization | Annual rate of change, percentage



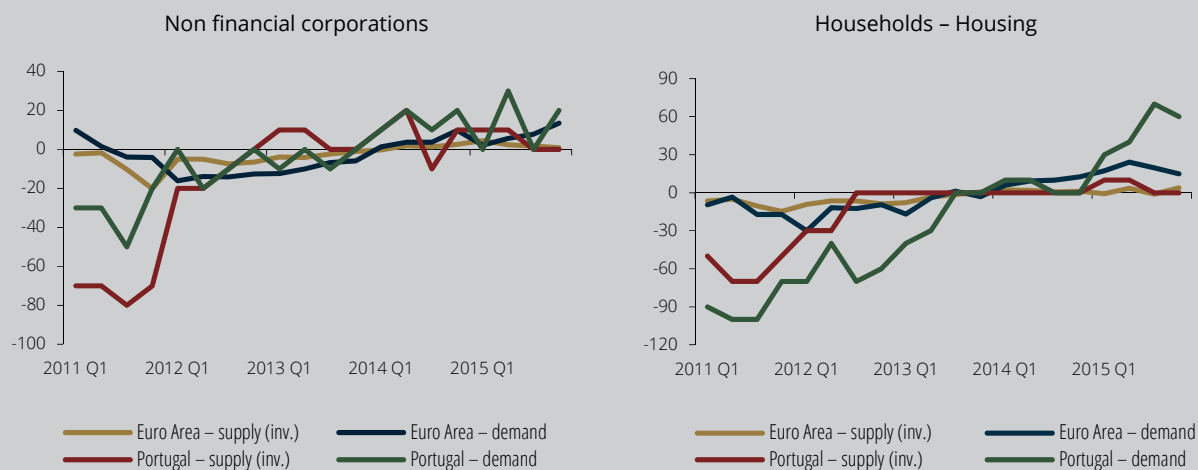
Sources: European Central Bank and Banco de Portugal calculations.

the result of a decline in interest rates on loans, supported by a decrease in banks' funding costs related to the ECB's non-standard monetary policy measures. Despite this recovery in 2015, credit growth remains weak.

Overall, the results of the euro area Bank Lending Survey point to increased credit demand both

from non-financial corporations and households (Chart 2.10), resulting from low interest rates, increased financing needs, improved consumer confidence and housing market prospects, and increased spending on durable consumption goods.

Chart 2.10 • Euro area – Results from Bank Lending Survey | Diffusion Index



Sources: European Central Bank and Banco de Portugal calculations.

Box 2.1.1 | Market reaction to the asset purchase programme in January and to the measures announced by the European Central Bank in December 2015

In 2015 the monetary policy of the European Central Bank (ECB) was characterised by two announcements of new measures, on January 22nd and December 3rd. This box compares market reactions to both announcements.

In January 2015, the Governing Council of the ECB announced an expanded asset purchase programme. Monthly purchases would amount to €60 billion and the programme would be carried out at least until September 2016, with the aim of bringing inflation close to 2 per cent. The implementation of these measures was justified by the fact that the degree of monetary accommodation achieved was not sufficient to address the risks of a prolonged period of low inflation.

These non-standard measures are expected to work through different transmission channels (see the Special Issue in the June 2015 *Economic Bulletin*). Through large-scale asset purchases, the central bank contributes to increase their prices and lowering their yields, thereby leading to a need to rebalance investor portfolios. These measures also result in improved borrowing conditions for the non-financial private sector, specifically through easing of bank refinancing conditions, and thus supporting loan creation. In turn, by implementing measures that affect its balance sheet, the central bank reaffirms its commitment to the inflation target. In December 2015, the Governing Council of the ECB re-examined its monetary policy and decided to intensify the measures in place. The ECB announced it would lower the interest rate on the deposit facility to -0.30 per cent and extend the expanded asset purchase programme for another six months, until March 2017.

Economic theory assumes that efficient markets should be able to anticipate and incorporate the effects of the central bank's measures before they are formally announced, as the probability of implementation and their expected size are reassessed. As regards the announcement of January 22nd 2015, the measures implemented by the ECB were clearly anticipated, and there was no considerable adjustment of responding financial variables on the day of the announcement. In the month preceding the announcement, interest rates on 10-year sovereign bonds declined by 12 basis points, one-year inflation expectations one year ahead increased by 0.13 percentage points, the euro depreciated by around 5 per cent and euro area equity markets index increased by 4 per cent. After the day of announcement of the asset purchase programme, inflation expectations continued to rise, euro area equity markets index increased, interest rates on 10-year sovereign bonds decreased and the euro depreciated. All these developments were expected in response to the announcement, but were mitigated by the effects of anticipation (Chart 1).

This anticipation is also visible regarding the December announcement. The statement of the President of the ECB, after the Governing Council meeting in October, signalled that the degree of monetary policy accommodation would be re-examined in December. During the month preceding the announcement of December 3rd 2015, developments in responding financial variables revealed a trend compatible with an anticipation of strengthened measures. However, immediately after the announcement, there seems to have been a correction to the developments that preceded it. According to a Thomson Reuters poll anticipating the December meeting, market agents estimated the (median) probability of an announcement of new measures in this meeting to stand at 80 per cent. An increase in monthly purchases to €75 billion and an extension of the programme until the first half of 2017 were also expected and a decline in the interest rates on the deposit facility to

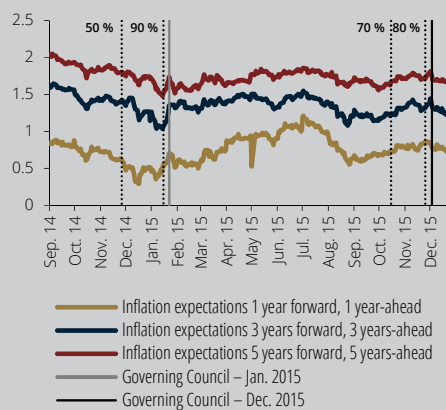
around -0.3 per cent was anticipated. The measures announced in December were therefore fully foreseen by the markets, and were less considerable than expected as regards a possible increase in monthly purchases. This may be the reason why the adjustment preceding the meeting was partially reversed immediately after the announcement.

Chart 1 • Market indicators

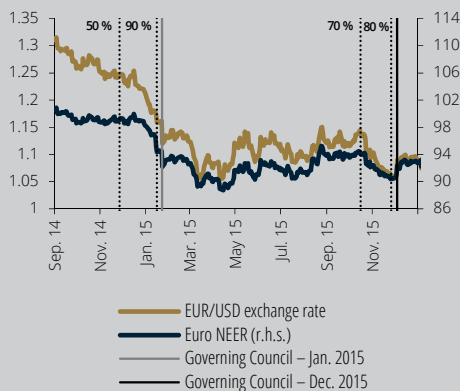
10-year government bond yields (euro area)
| Percentage



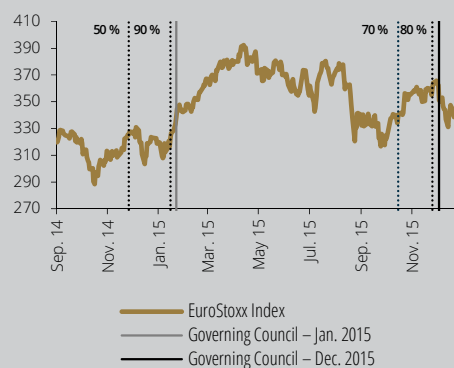
Market-based inflation expectations (euro area)
| Percentage



Euro exchange rates | Percentage



Stock market



Sources: European Central Bank, Bloomberg, Thomson Reuters and Banco de Portugal calculations.

Note: The dashed vertical lines represent moments where Reuters' polls asked about the probability of the ECB announcing new monetary policy measures. The responses, in median, are displayed on the left of the corresponding dashed line.

Box 2.1.2 | Recent evolution of real interest rates

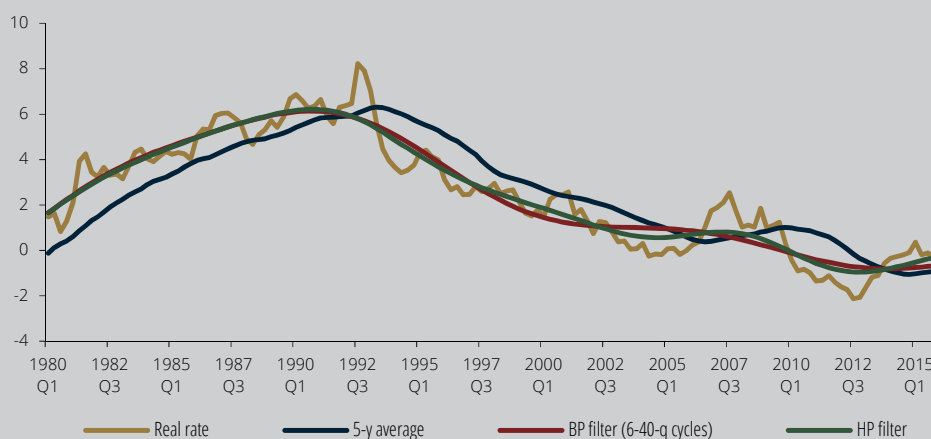
The equilibrium real rate is the rate that equates the desired demand (investment) for and supply (saving) of loanable funds. This concept is closely related to the natural interest rate, which is the real interest rate consistent with output at the potential level and stable inflation. Even though this is a long-run concept, changes in aggregate supply and demand may induce changes in the level of the natural rate. Temporary shocks to the real economy or monetary policy result in transitory deviations from this rate. This box focuses on the determinants of the long-run level of the natural real interest rate and gives a brief overview of the recent evolution of real interest rates.

In contrast to nominal interest rates, real interest rates are not observed and must be estimated.¹⁵ Graph 1 shows the evolution of the real interest rate (Real rate in Graph 1) and the natural real interest rate (the other estimates in Graph 1) in the euro area over the past decades, using different types of estimation procedures. All measures show a peak – around 6 percent for the natural rate – in the 1990s, followed by a decline. Before the financial crisis, the natural real interest rate was already below 2 percent and it is now negative but close to 0 percent. Note that there is some evidence that real interest rates around the world have increasingly moved together, because of globalization and the financial integration of the recent decades, meaning that global factors may explain movements in real interest rates.

Intuitively, the described fall in the real interest rate may have been the result of a permanent positive shock to savings, a permanent negative shock to investment, or a combination of the two. Another driver may have been the change in investors' portfolio preferences towards safe assets. In the following, this box briefly addresses the potential role of each of these factors.

The decrease in investment during the last two decades of the 20th century was brought about mainly by the decline in the relative price of investment goods. Even though real investment was increasing during this period, prices were decreasing faster, leading to an overall decrease of

Chart 1 • Euro area short-term real rate and long-term estimates
| Percentage



Sources: Eurostat, Reuters and Bank of Portugal calculations.

investment in nominal terms. The fall in the relative price of investment goods is usually associated with technological progress and improvements in the efficiency of investment goods. During the 2000s these trends changed and the decrease in real investment became the main driver of the fall of investment in nominal terms. Until the financial crisis both prices and volume remained fairly constant with real investment already showing some downward trend that significantly increased after the collapse. In addition, other factors may have impacted investment negatively. On the one hand, advanced economies have moved from manufacturing to financial and business services, which have smaller investment content. On the other hand, increasing fiscal consolidation efforts by governments, particularly since the financial crisis, have brought down public investment.

Regarding the behavior of savings, for some time, changes in demographics favored the rise of savings in advanced economies. Firstly, the weight of the middle-aged segment increased. According to the life-cycle theory, as this is the population segment with the highest income and propensity to save, an increase in its dimension implies higher household savings. In addition, with the continuous increase in life expectancy, this working age population was also saving more for a longer period of retirement. The increase in wage dispersion in advanced economies added to this, given that the wealthier – who save more – saw their income increase faster. More recently, however, emerging economies became the main driver behind the rise in world savings, benefiting from sustained economic growth, in particular in China that in 2013 accounted for around half of the total emerging market economies' savings. The IMF reports that the global savings rate between 2000 and 2007 increased by 1.7 percentage points of which 1.5 percentage points are attributed to higher savings in the emerging market economies, 0.8 percentage points to the increased weight of these economies in world GDP, and -0.6 percentage points to the decrease in savings by advanced economies.¹⁶

Finally, the reduction in the real interest rate may be associated with the shift of portfolio allocation towards safe assets. Before the bursting of the dot com bubble in 2000-01, return on bonds and equity had been declining. Afterwards, there was a sharp increase in the equity premium that made bonds relatively more attractive. With the financial crisis, the relative riskiness of bonds and equity was only intensified. Recent quantitative easing policies, such as asset purchase programs, narrowed real-term premiums on long-term government bonds which, in turn, may have also led to the increase in the equity premium. Furthermore, during the first decade of the 2000s, foreign official purchases of U.S. Treasuries boosted, especially by China and other emerging economies.

The financial crisis impacted each of these channels, probably reinforcing their effect on the real interest rate. Firstly, investment-to-GDP ratios fell after the crisis due to tighter financial regulations and increased uncertainty. Secondly, the crisis encouraged private and public savings. Savings in the private sector were essentially due to precautionary motives (uncertainty regarding future income and future pensions), credit constraints, and the deleveraging process of the financial system. Higher public savings were particularly important in countries under fiscal consolidation processes. Thirdly, the crisis reinforced investors' preferences for safe assets.

From what has been described, this trend in the real interest rate had its roots well before the recent global financial crisis. As such, even though one can expect some reversal trend on the factors that were exacerbated by the crisis, it will probably be the case that the level of the natural real interest rate will be lower in the future than it was in previous decades.

2.2. Portugal

New loans to households increased considerably amid progressively lower interest rates

New bank loans to households increased considerably throughout 2015 (Chart 2.11). Loans for house purchase contributed most to this increase, although consumer loans also increased significantly, particularly car loans (Chart 2.12). According to the results of the Bank Lending Survey, the

increase in bank loans is mostly associated with growth in demand, in particular in the case of loans for house purchase, given that on the supply side, banks indicated that they eased credit standards only slightly.¹⁷ An increase in consumer confidence and a more optimistic outlook for developments in permanent income are likely to have contributed to growth in demand, but also a decrease in bank interest rates on loans for house purchase and consumer loans (Chart 2.13). In the latter case and in contrast with 2014, the decline in interest rates was mostly due to a narrowing of spreads and

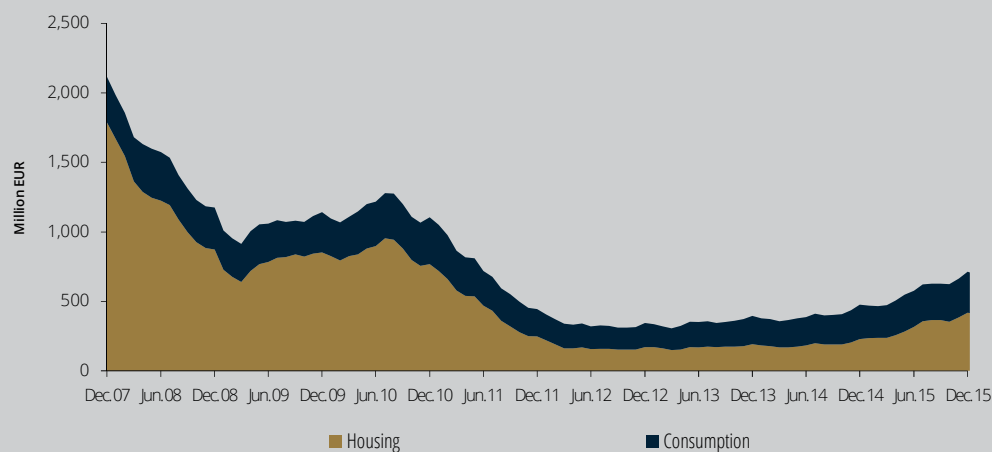


Chart 2.11 •
Amounts
of new loans
to households
granted by
resident banks
| Three month
moving average

Source: Banco de Portugal.

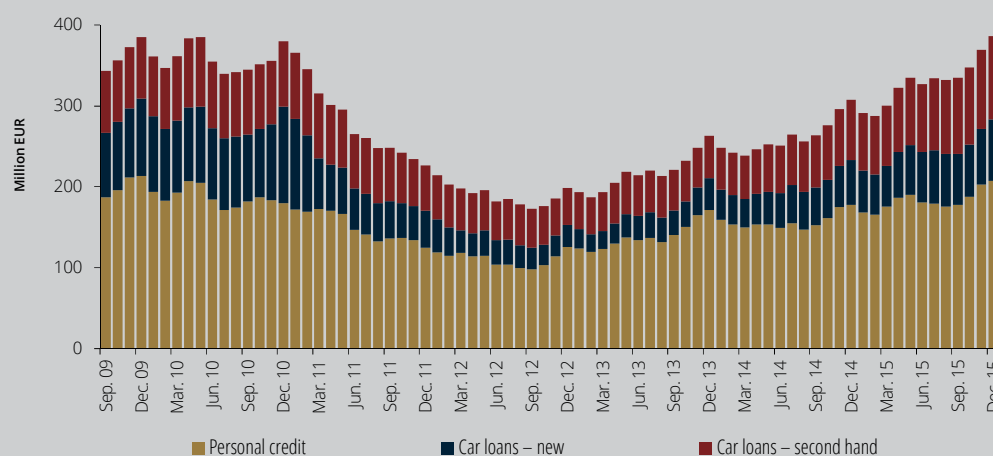


Chart 2.12 •
Amounts
of new loans
to households
for consumption
by credit category
| Three month
moving average

Source: Banco de Portugal.

Note: Amounts of new loans for consumption granted by financial institutions. Excludes amounts related with credit cards and overdraft facilities.

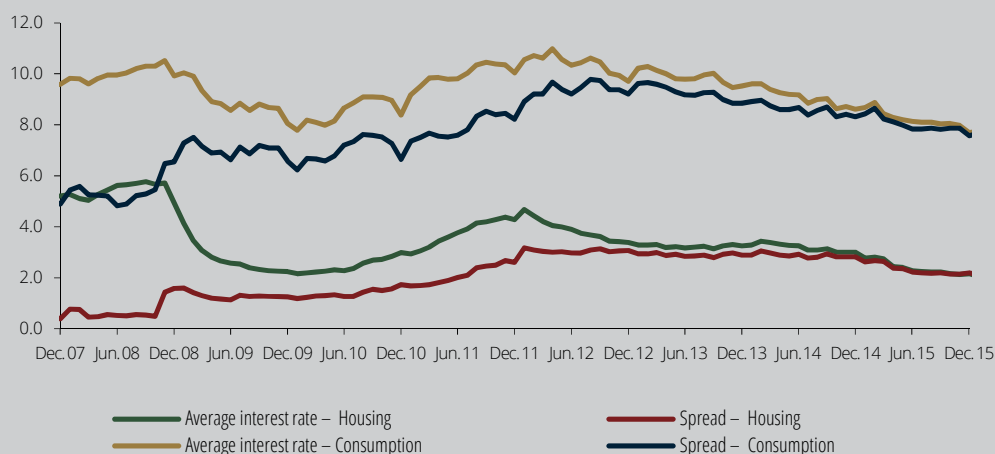
not to the decrease in key interest rates. The narrowing of spreads helped rates move closer to interest rates in other countries with comparable markets.

The increase in new loans to households has been compatible with the ongoing deleveraging process

As regards the strong increases seen in new loans to households, the monthly volume of new

loans for house purchase remains very distant from pre-crisis levels, while the figures for new consumer loans in 2015 are already considerably close to those levels. In any case, given the greater share of loans for house purchase and the high volume of repayments, the annual rate of change in the stock of bank loans to households remains negative (Chart 2.14). Households therefore continue to reduce their debt, which decreased from 92 to 77 per cent of GDP from 2009 to 2015, but remains considerably above the euro area average (Chart 2.15).

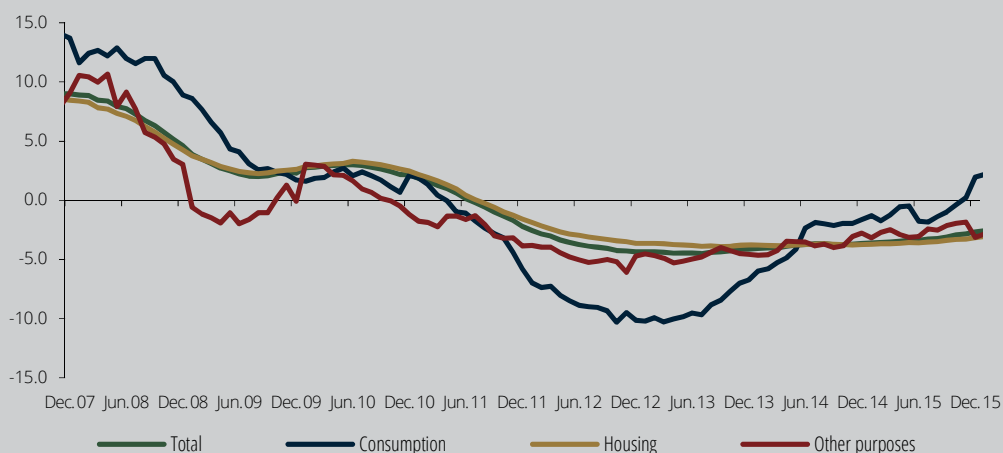
Chart 2.13 •
Interest rate on new loans by resident banks to households
| Per cent / Percentage points



Sources: Thomson Reuters e Banco de Portugal.

Notes: 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. In the case of loans for consumption, it was considered the 6-month Euribor, the 1-year Euribor and the 5 year swap rate for loans of less than 1 year, between 1 and 5 years and more than 5 years, respectively.

Chart 2.14 •
Loans granted by resident bank to households
| Annual rate of change, per cent



Source: Banco de Portugal.

Note: 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.

New bank loans to non-financial corporations with a maturity of over one year increased progressively throughout 2015, contributing to a gradually less negative annual rate of change

New bank loans to non-financial corporations with a maturity of over one year increased gradually throughout 2015 (Chart 2.16), in contrast with the relative stability observed since the start of the series in June 2012. Conversely, loans with a maturity of up to one year decreased very significantly. However, this decrease is largely a

result of the behaviour of two public transport enterprises. An analysis of the stock of bank loans shows that the annual rate of change became progressively less negative throughout 2015 (Chart 2.17). Similarly, the annualised quarterly rate of change increased gradually during the first three quarters of the year, but decreased in the last quarter of 2015. Developments in bank loans throughout the year are consistent with the results of the Bank Lending Survey, which indicated a slight growth in demand, particularly for small and medium-sized firms, and a slight easing of credit standards by banks. Similarly to 2014, construction and real estate activities

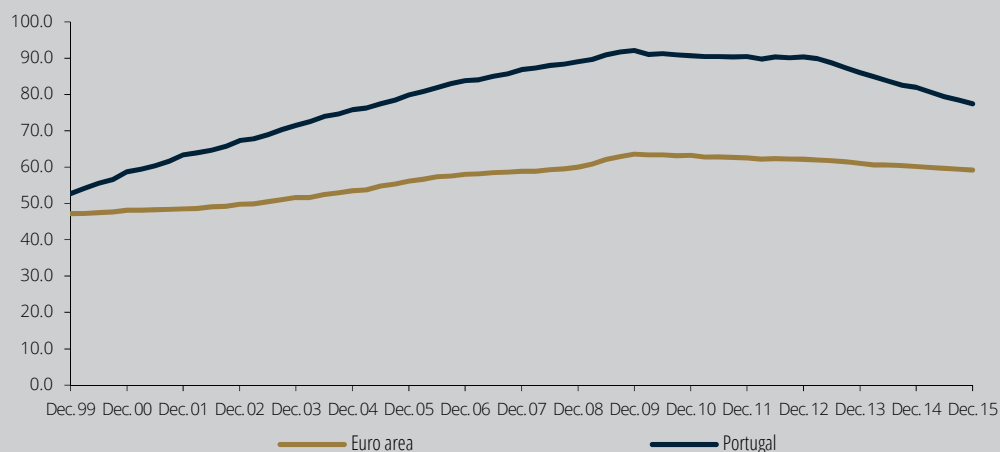


Chart 2.15 •
Households' financial debt
| Per cent of GDP

Source: Banco de Portugal.

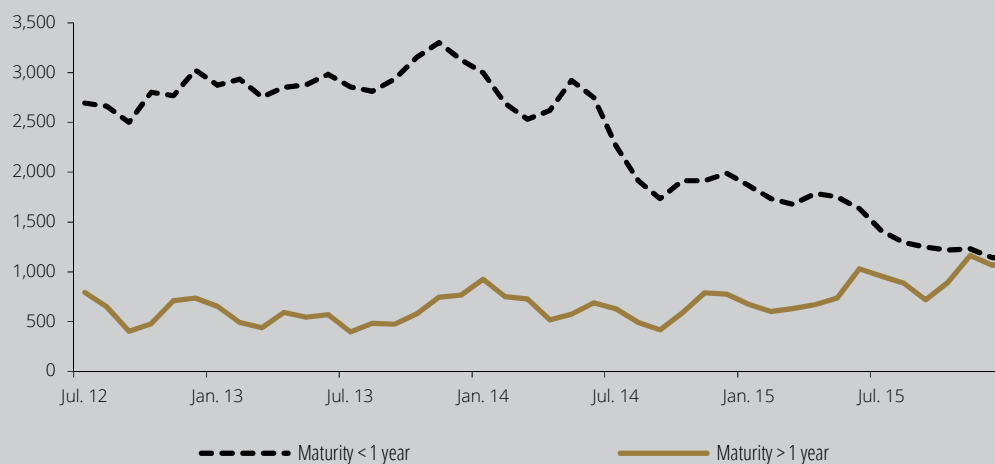


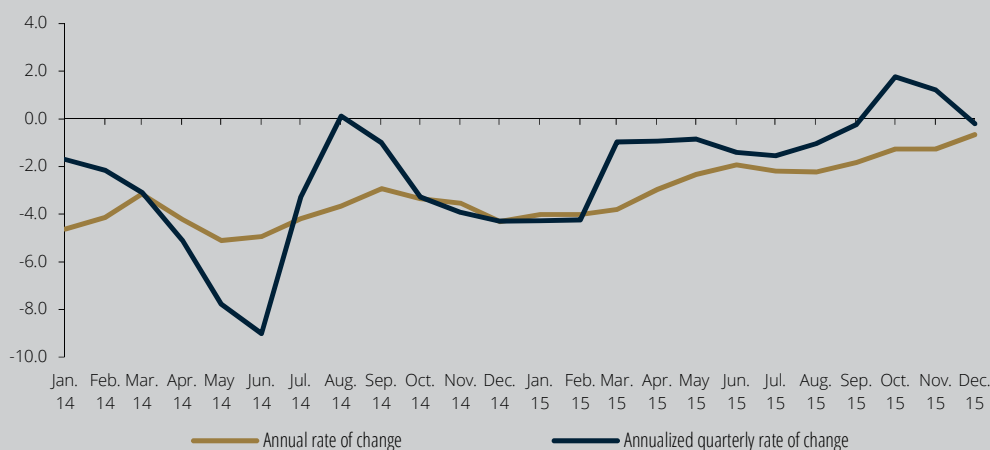
Chart 2.16 •
Amounts of new loans granted by resident banks to non-financial corporations by contract maturity
| Three month moving average

Source: Banco de Portugal.

were the sectors that contributed the most to the decrease in bank loans, which continue to record fairly negative rates of change, though gradually less significant (Chart 2.18). By contrast, loans to manufacturing recorded progressively less positive annual rates of change. An analysis of lending by firm size shows that loans to small and medium-sized firms have recovered gradually. This is consistent with a normalisation of monetary and

financial conditions. Finally, according to data from the Central Credit Register, loans to firms that have access to bank loans for the first time increased considerably in 2015. This increase comes after several years of levels considerably below those recorded in the period before the financial crisis (Chart 2.19). Similarly, the number of firms that have access to bank loans for the first time also grew.

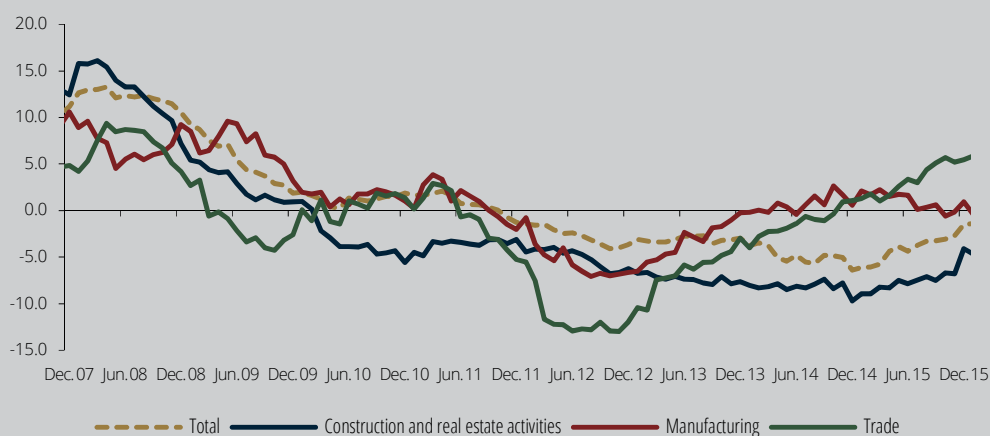
Chart 2.17 •
Credit granted by resident banks to non-financial corporations
| Annual rate of change and annualized quarterly rate of change, per cent



Source: Banco de Portugal.

Note: Bank credit includes loans and debt securities held by banks. 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 2.18 •
Loans granted by resident banks to non-financial corporations by sector of activity
| Annual rate of change of change, per cent



Source: Banco de Portugal.

Note: Bank credit includes loans and debt securities held by banks. 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.

Bank loans are being channelled to firms with a better risk profile, which is having a gradual impact on bank balance sheets

Bank loans showed mixed developments over 2015, according to risk profile (Chart 2.20). Consequently, while loans to higher risk firms recorded year-on-year rate of change of around

-7 per cent, loans to lower risk firms grew by approximately 3 per cent. These developments are in contrast to those seen at the end of 2012, when bank loans declined strongly, regardless of the exposure class. This differentiation is helping to gradually improve the risk profile of banks' credit portfolios, although riskier loans continue to have a significant weight in credit portfolios (Chart 2.21).

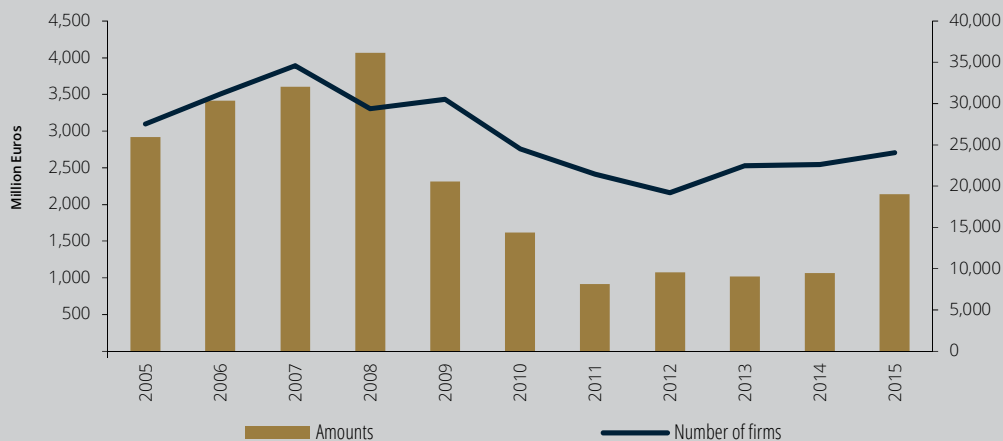


Chart 2.19 •
Loans granted to firms new in the central credit register
| Amounts granted and number of firms

Source: Banco de Portugal.

Note: A new firm is a firm that has no liabilities in the central credit register during the previous year.



Chart 2.20 •
Credit granted by resident financial institutions by risk profile
| 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 Antunes, Gonçalves and Prego (2016) (Banco de Portugal Economic Studies, April 2016). The year-on-year growth rate is calculated based on the annual rate of change of the stock of loans in each month.

Portuguese firms continue to record high levels of indebtedness, reflecting a relatively slow deleveraging process

According to data from the national financial accounts, the debt-to-assets ratio of Portuguese firms has been declining since the end of 2012. However, this process is progressing relatively more slowly than in other euro area countries, particularly when compared with Spain (Box 'Developments in corporate indebtedness in Portugal and the euro area'). Also in contrast with other euro area countries, corporate deleveraging in Portugal has been mostly achieved via a reduction in debt, while equity has not changed significantly.

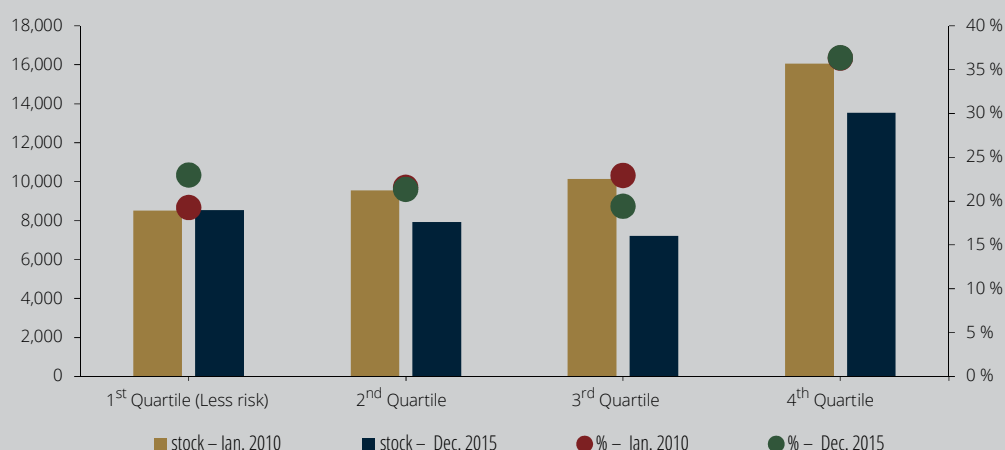
Given the high number of corporate insolvency cases over the past few years, the decline in the debt-to-assets ratio may partly reflect the exit of firms with high levels of debt. In order to expunge this effect, data from Simplified Corporate Information (Informação Empresarial Simplificada) have been used to analyse

developments in the distribution of the debt-to-assets ratio in a constant sample of firms (Charts 2.22 and 2.23). Charts shown indicate that the level of leveraging of Portuguese firms has declined, albeit only slightly, from 2011 to 2014. By firm size, although bank loans recorded a higher decline in smaller firms, data point to the process of deleveraging being slightly more marked in medium-sized and large firms. By activity sector, real estate firms recorded a sharper decrease in their debt-to-assets ratio than the remaining sectors. Nevertheless, these firms tend to continue to show leverage ratios that are considerably above average.

Interest rates on loans to firms continue to decrease, with differentials *vis-à-vis* the euro area closer to pre-crisis levels

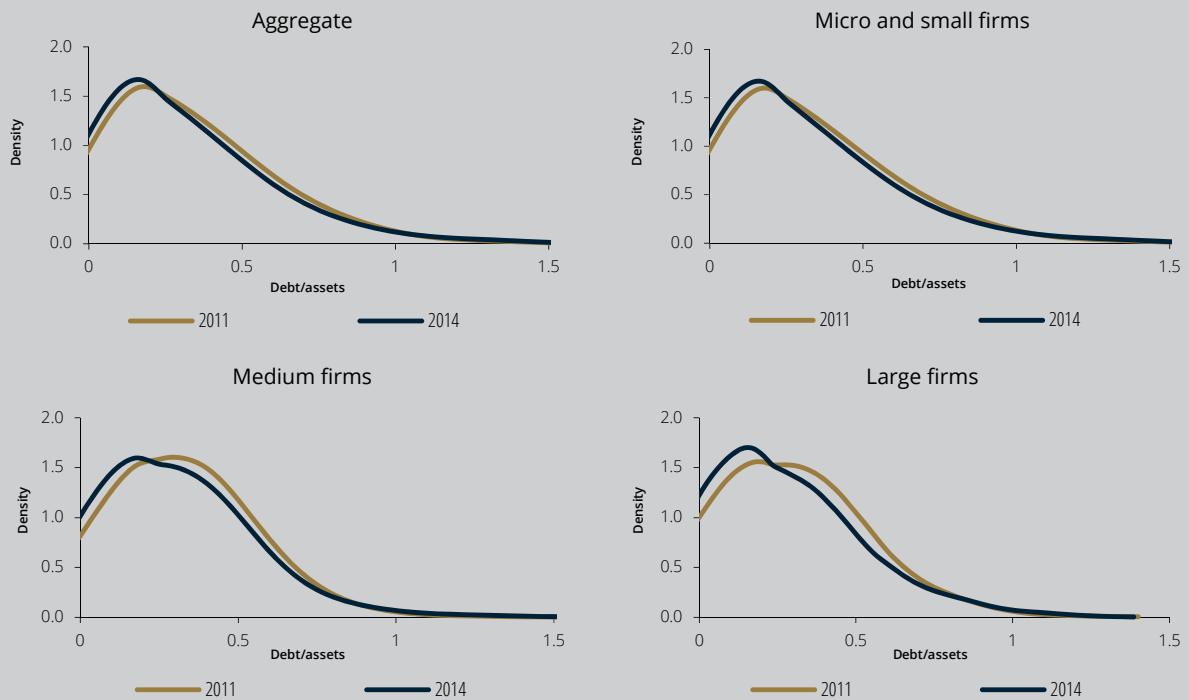
Interest rates on new loans to non-financial corporations declined sharply in 2015 recording in December the lowest level since Portugal joined the euro area (Chart 2.24). This decline was mostly the result of a narrowing of spreads, as market interest rates declined very slightly in absolute

Chart 2.21 •
Credit granted by resident financial institutions to resident private firms by risk quartile
| Amounts and share of loans by risk quartile, million euros and per cent



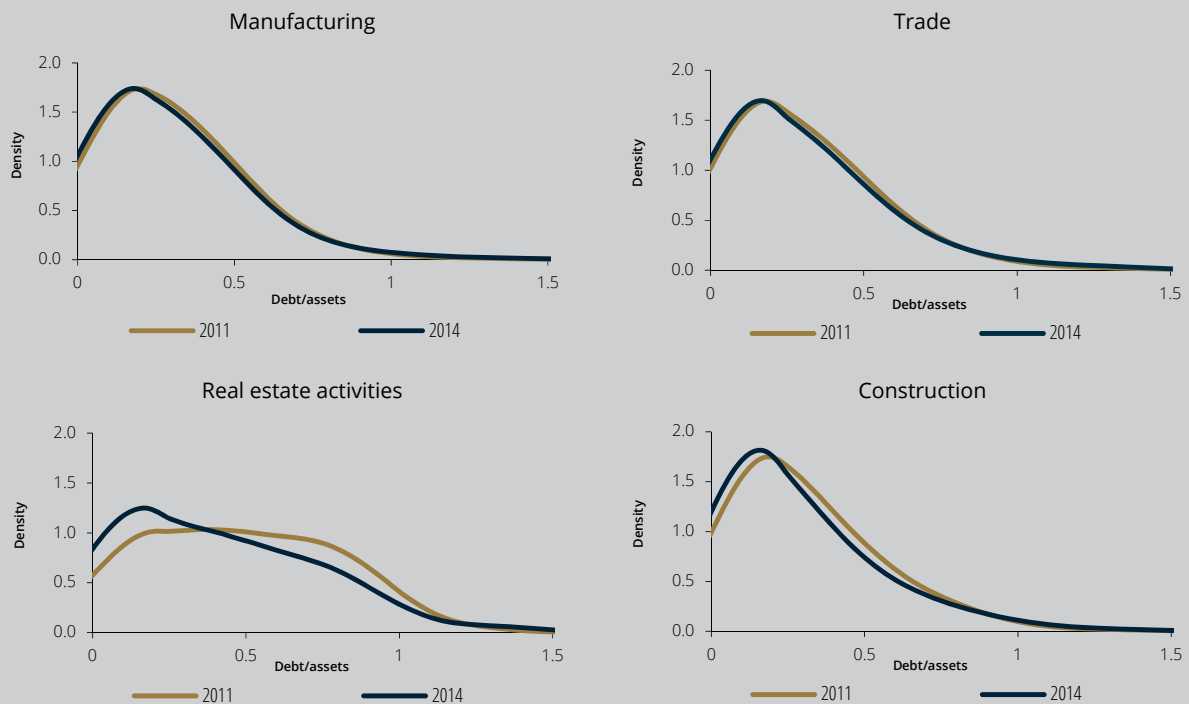
Source: Banco de Portugal.

Note: Credit risk measured by the Z-Score estimated according to the methodology of Antunes, Gonçalves and Prego (2016) (Banco de Portugal Economic Studies, April 2016). It was considered a sample of around 70000 firms, which correspond to approximately 50 per cent of the number of firms with bank loans. The sample used represents approximately the same in terms of loans value.

Chart 2.22 • Distribution of the debt-to-assets ratio of private non-financial corporations by firm size

Source: Banco de Portugal.

Notes: It was considered as debt all interest paying liabilities. It was used an unweighted Epanechnikov kernel.

Chart 2.23 • Distribution of the debt-to-assets ratio of private non-financial corporations by sector of activity

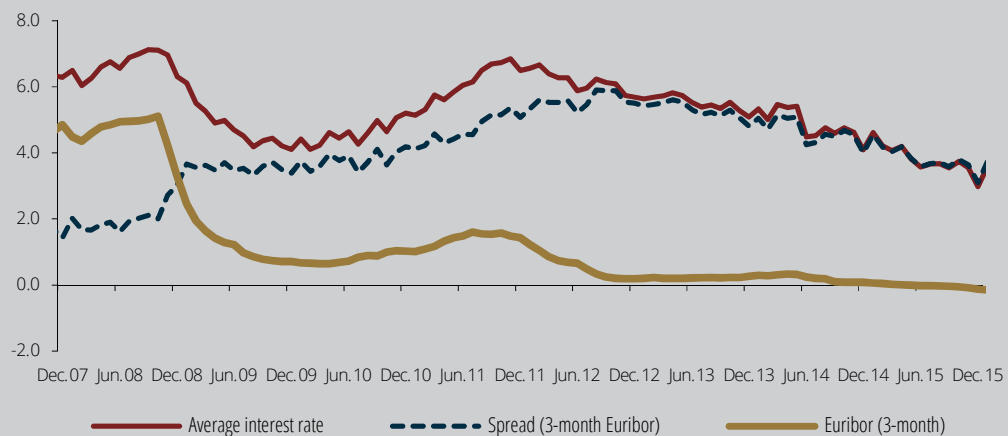
Source: Banco de Portugal.

Notes: It was considered as debt all interest paying liabilities. It was used an unweighted Epanechnikov kernel.

terms. This decline has helped narrow the differential between interest rates in Portugal and the euro area, providing a positive signal, taking into account the ongoing normalisation of monetary and financial conditions (Chart 2.25). Nevertheless, spreads applied by banks at the end of 2015 remain considerably above

pre-crisis levels. This differential is likely reflecting *inter alia* the regulatory amendments implemented at European level having an impact on banks' liabilities structures and financing costs (Box 'Implications of amendments to the European bank resolution framework on monetary and financial conditions').

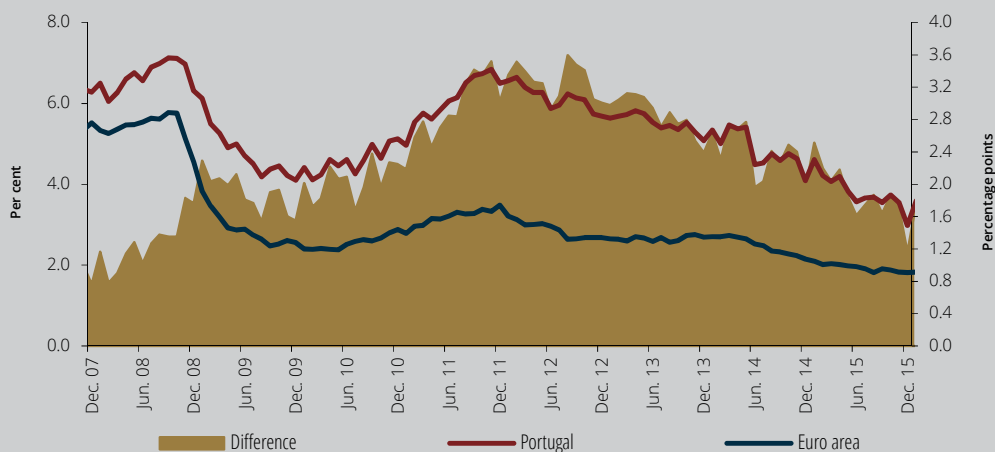
Chart 2.24 •
Interest rate
on new loans
by resident banks
to non-financial
corporations
| Per cent
and percentage
points



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

Notes: 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.

Chart 2.25 •
Interest rates
on new bank
loans granted
to non-financial
corporations –
International
comparison



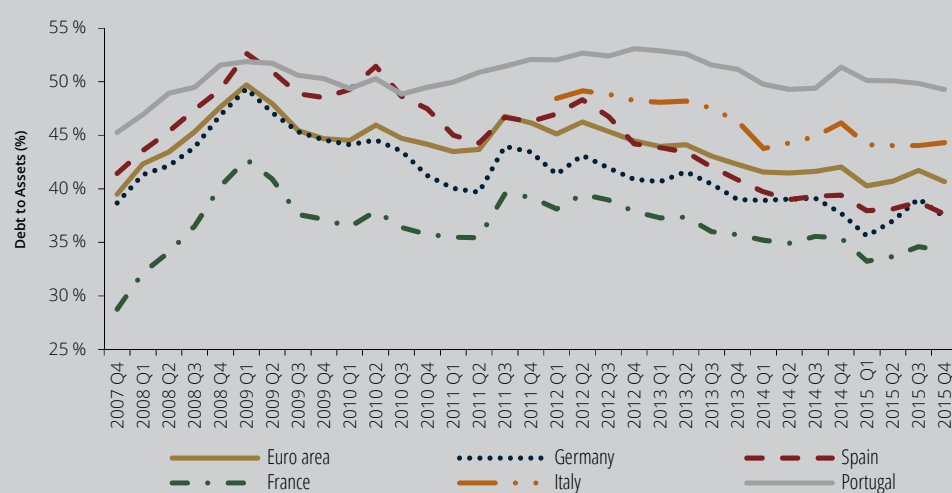
Source: Banco de Portugal and European Central Bank.

Box 2.2.1 | Developments in corporate indebtedness in Portugal and the euro area

Against the background of the global financial crisis of 2008, the excessive leverage of non-financial corporations was considered one of the main imbalances in the euro area, particularly in a number of Member States, such as Portugal and Spain. This box analyses developments in the indebtedness of euro area non-financial corporations and documents the heterogeneity across some of its Member States: Germany, Spain, France, Italy and Portugal. The debt-to-total assets ratio is used as a measure of indebtedness,¹⁸ derived from non-consolidated data from the national financial accounts. Debt is defined as the total value of loans and debt securities.

The indebtedness ratio of euro area non-financial corporations reached a peak during the period under review (around 50 per cent) in the first quarter of 2009 (Chart 1). Since then, this indicator has followed a downward trend, which was partially reversed at the start of 2011. The debt-to-assets ratio of non-financial corporations resumed its earlier downward trend during 2012, standing at around 41 per cent at the end of 2015 (relatively close to the level observed at the end of 2007). Chart 1 also shows that, from 2007 to 2009, the indebtedness of non-financial corporations clearly increased in the analysed countries. Furthermore, the situation of Portuguese enterprises in this indicator was close to that of the euro area as a whole at the start of 2009. However, in mid-2012, non-financial corporations in France, Germany and, in particular, Spain started a deleveraging process, where the value of debt to assets had dropped by around 12 percentage points (p.p.) by the end of the period under review. In the latter case, developments in debt partly reflected the significant increase in write-offs at the end of 2012, related to the transfer of mortgage loans to the asset management company that was created following the restructuring of the banking system (Sareb).

Chart 1 • Developments in the leverage ratio of non-financial corporations



Source: ECB Statistical Data Warehouse.

Note: (a) National financial accounts; non-consolidated data.

(b) Euro area reflects the aggregate of the current 19 euro area countries and includes the financial accounts of the European Central Bank. In addition, data are adjusted for inconsistencies resulting from the aggregation.

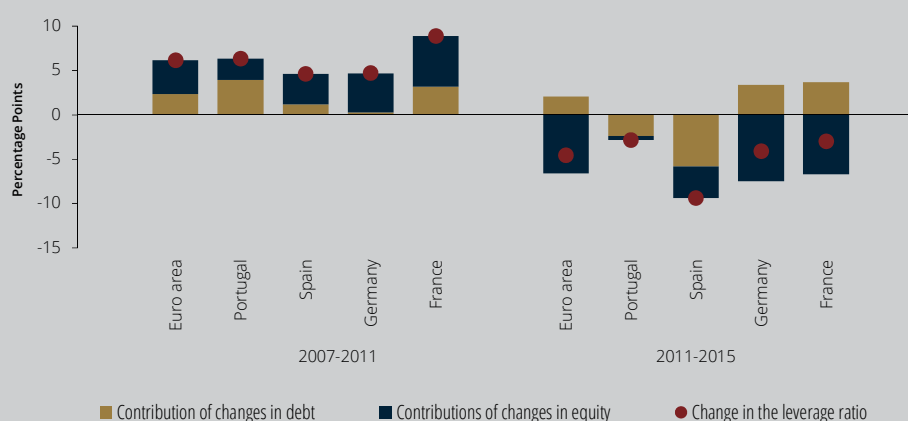
In Portugal and Italy, the deleveraging process started at a later stage. In the case of Portuguese non-financial corporations, the indebtedness ratio recorded a gradual decline of around 4 p.p. from the end of 2012 to the end of 2015. In turn, the leverage ratio of Italian enterprises decreased by around 4 p.p. from the second quarter of 2013 to the end of 2015.

In December 2015, the level of indebtedness of Portuguese non-financial corporations remained high and clearly above the euro area average, accounting for around 49 per cent of assets.

The international financial crisis and the new supervisory rules have resulted in a trend of compression of banks' loans and balance sheets. Against this background, the capacity of enterprises to continue funding their activity and investment will likely depend on a more balanced funding structure between debt and equity, compared to the pre-crisis period.

Chart 2 shows the breakdown, for the 2007-11 and 2011-15 sub-periods, of changes in the indebtedness ratio between changes in equity and changes in debt in analysed countries. Overall, in the first sub-period, developments in both debt and equity contributed to increase the indebtedness ratio. These developments are similar in Portugal and the other analysed countries. However, in the case of Portuguese enterprises, the increase in debt made a more significant contribution than the decrease in equity. In the second sub-period, developments are more mixed. For German and French enterprises, the sharp increase in equity more than offset the increase in debt, with leverage ratios declining. In Spain, both debt and equity helped reducing the leverage ratio. Lastly, in Portugal, the equity of non-financial corporations remained relatively stable, with the decrease in leverage only attributable to a slight reduction in debt. This analysis therefore shows the importance of Portuguese enterprises having reinforced capital increases.

Chart 2 • Contributions from changes in debt and equity to changes in the leverage ratio



Source: ECB Statistical Data Warehouse.

Note: (a) National financial accounts; non-consolidated data.

(b) Euro area reflects the aggregate of the current 19 euro area countries and includes the financial accounts of the European Central Bank. In addition, data are adjusted for inconsistencies resulting from the aggregation.

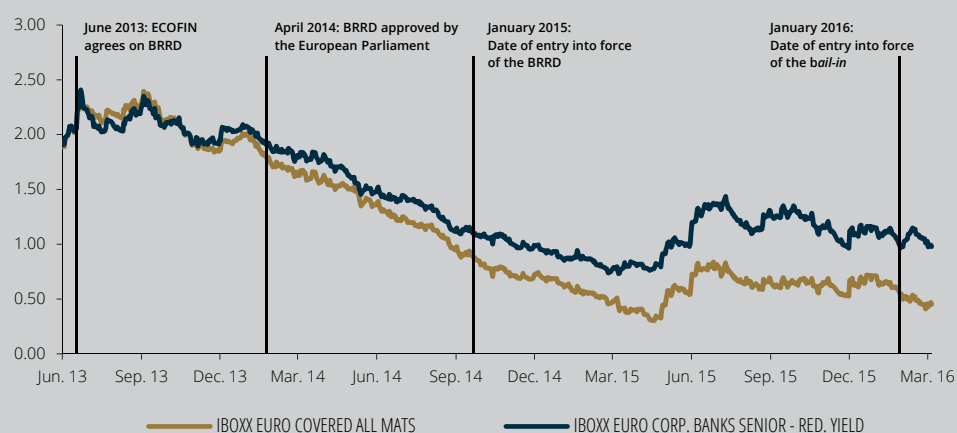
(c) Contributions were estimated on the basis of the first and second order terms of the second-order Taylor series expansion.

Box 2.2.2 | Implications of amendments to the European bank resolution framework on monetary and financial conditions

With the transposition of the Bank Recovery and Resolution Directive (BRRD) into national law, resolution authorities in each country now have a new tool in case of imminent failure of a credit institution: the bail-in tool. This tool allows losses arising from the failure of an institution to be borne by its shareholders and creditors, thereby mitigating the transmission of risks from banks to States. In order for the bail-in tool to be effective, institutions must have liabilities that are eligible for its application. In other words, institutions must meet a minimum requirement for own funds and eligible liabilities. Collateralised debt may not be considered for the purposes of a bail-in and therefore is not eligible for the minimum requirement. Given that introducing the bail-in tool decreases the level of protection for the holders of the bank's debt in the event of a capital shortfall, thereby increasing its cost, these changes may have consequences in terms of price and volume of credit granted by the banking sector, similarly to other amendments to own fund requirements. Furthermore, given the differences between countries in terms of risk perception, the new rules may contribute to greater segmentation in the transmission of monetary policy, particularly in a context of growing volatility in financial markets.

Chart 1 shows developments in the financing costs for European banks in senior unsecured debt and covered bonds since June 2013, when the ECOFIN Council reached an agreement on this Directive. From the end of 2013 to April 2015, the differential between these two types of debt widened, although financing costs decreased for both types of debt. From April 2015, and amid increased volatility in financial markets, the cost of financing and the differential between these two instruments increased simultaneously. Although available information on the collateralised debt market indicates that the cost of financing through this instrument remains relatively low,

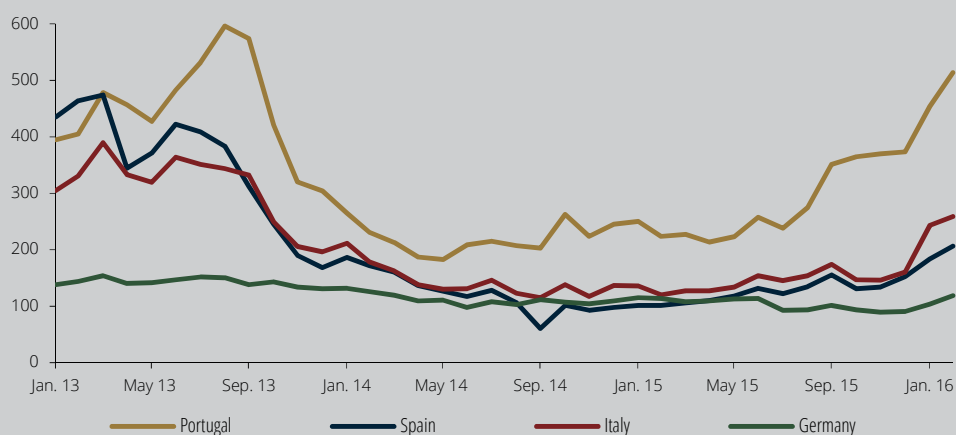
Chart 1 • Evolution of euro area banks funding costs on secured and unsecured senior bonds | Per cent



Source: Thomson Reuters.

Chart 2 shows a considerable increase in the credit default swaps of banks located in the euro area periphery. This increase is particularly marked in Portuguese banks and shows that issuing non-collateralised senior debt may have a particularly high cost for these banks. Against this background, and although indicators for price and volume analysed in this section point to a normalisation of monetary and financial conditions in the Portuguese economy, developments in financial markets highlight the need for permanent vigilance.

Chart 2 • Credit default swaps of euro area banks (5 years senior)
| Basis points



Source: Thomson Reuters.

Notes: The values presented correspond to an unweighted average of CDS spreads by country. The number of banks considered varies from country to country. End of month values.

3. Fiscal policy and situation

The fiscal consolidation process that started in 2011 was interrupted in 2015

In 2015 the fiscal deficit stood clearly above the 3 per cent of GDP reference value, hindering the possibility of a closure of the excessive deficit procedure within the deadline established under European commitments. This outcome was strongly affected by temporary measures. In parallel, the structural primary balance deteriorated for the first time since 2011.

In fact, according to the first excessive deficit procedure notification this year, the general government deficit reached 4.4 per cent of GDP. Excluding the impact of the resolution measure applied to Banif,¹⁹ the deficit stood at

3.0 per cent of GDP, which compares with the 2.7 per cent target set in the State Budget for 2015 (Table 3.1).

Compared with the previous year, the fiscal deficit decreased by 2.8 p.p.. A significant part of this reduction (2.2 p.p.) was the result of the change in the impact of temporary measures.²⁰ The amount of one-off operations in 2014 (namely the recapitalisation of Novo Banco and the reclassification of debt of two public transport corporations – STCP and Carris)²¹ was considerably higher than the effect stemming from the resolution measure applied to Banif. Thus, the fiscal deficit adjusted for temporary measures declined by 0.6 p.p., with the cut in interest expenditure as a percentage of GDP contributing with 0.3 p.p. to this improvement.

Table 3.1 • Main fiscal indicators | As a percentage of GDP

	2010	2011	2012	2013	2014	2015	Change 2014-2015
Overall balance (1)	-11.2	-7.4	-5.7	-4.8	-7.2	-4.4	2.8
Temporary measures and special factors ^(a) (2)	-2.8	-0.2	0.0	0.3	-3.6	-1.4	2.2
Overall balance excluding temporary measures and special factors (3=1-2)	-8.4	-7.2	-5.6	-5.2	-3.6	-3.0	0.6
Cyclical component (4)	1.5	0.6	-1.7	-2.2	-1.3	-0.5	0.8
Structural balance ^(b) (5=3-4)	-9.9	-7.8	-3.9	-3.0	-2.3	-2.5	-0.2
Interest expenditure (6)	2.9	4.3	4.9	4.9	4.9	4.6	-0.3
Structural primary balance (7=5+6)	-7.0	-3.5	0.9	1.9	2.6	2.0	-0.5
Structural Revenue (as a percentage of trend GDP) ^(b)	39.9	42.0	43.1	44.9	44.8	43.9	-0.8
Structural primary expenditure (as a percentage of trend GDP) ^(b)	47.1	45.6	42.1	43.0	42.2	41.9	-0.3
Public debt	96.2	111.4	126.2	129.0	130.2	129.0	-1.2
Change in public debt (in p.p.)	12.6	15.2	14.8	2.8	1.2	-1.2	-
(-) primary balance	8.2	3.1	0.8	0.0	2.3	-0.2	-
Differential between the effects of interest and of GDP growth	0.8	6.4	10.0	3.5	2.5	0.3	-
Deficit-debt adjustments	3.5	5.8	4.0	-0.7	-3.6	-1.3	-

Sources: INE and Banco de Portugal.

Notes: (a) Special factors are operations that transitorily affect the general government deficit, but cannot be treated as temporary measures according to the definition adopted in the Eurosystem. (b) Structural figures are adjusted for the impacts of the cycle, temporary measures and special factors. The cyclical components and temporary measures are computed by Banco de Portugal according to the methodologies adopted in the Eurosystem.

Calculations made by Banco de Portugal, according to the cyclical adjustment methodology adopted by the Eurosystem in 2001, suggest that the impact from the economic activity recovery on fiscal developments in 2015 reaches 0.8 p.p.²² Therefore, the primary fiscal balance, in structural terms, deteriorated by 0.5 p.p., pointing to a pro-cyclical fiscal policy stance in the year under review.

The decline in the structural primary balance in 2015 reflects the contributions, in p.p. of trend GDP, of the reduction in non-tax revenue (-0.6) and in the total tax and social contribution burden (-0.2), as well as an increase in capital expenditure (-0.3), which more than offset the impact of the structural decline in primary current expenditure (0.7). Thus, in terms of the structural developments of the main aggregates, the ratio of revenue to trend GDP declined by 0.8 p.p. and primary expenditure decreased by 0.3 p.p. of trend GDP (Chart 3.1). In 2015 the ratio of structural primary expenditure to trend GDP reached its lowest level since 2003 (Chart 3.2).

In a context of expenditure restraint, compensation of employees has significantly contributed to the decline in primary expenditure

The structural decline in the ratio of current primary expenditure to trend GDP (-0.7 p.p.) was in part due to developments in compensation of employees (-0.4 p.p.) which, after a decline of 3.9 per cent in 2014, decreased by 1.1 per cent in the year under review (Chart 3.3). As regards wages and salaries developments, which rose by 0.3 per cent in 2015, is it important to highlight two effects with opposing signs. On the one hand, the partial reversal of the wage cuts introduced in 2011 has contributed to the increase in expenditure. On the other hand, the reduction in the number of general government employees, which continued in 2015 although at a slower pace than in previous years, contributed to expenditure restraint. Regarding imputed contributions, a 5.8 per cent decline

was observed, in particular as a result of the elimination of the contribution of employers to the public employees' healthcare sub-system (Portuguese acronym: ADSE) and the base effect stemming from the payment of a significant amount of compensations associated with the voluntary separation programme in 2014.

In 2015 social benefits in cash increased in actual terms by 1.8 per cent (2.4 per cent in structural terms), chiefly as a result of the elimination of the extraordinary solidarity contribution (*Contribuição Extraordinária de Solidariedade* – CES),²³ approved in the 2015 State Budget. These developments reflect a significant acceleration *vis-à-vis* the 2.5 per cent decline observed in 2014.²⁴ In 2015, the growth of pension expenditure adjusted for the effect of CES was lower than could have been expected, given the pressures associated with the ageing population, as the increase in the retirement age allowed to contain the rise in the number of pensioners in the Social Security system. In addition, expenditure on unemployment benefits declined very sharply in actual terms in 2015 (-21.0 per cent), almost exclusively as a result of the reduction in the number of the unemployed receiving benefits (-18.2 per cent). This is partly due to the improvement in the cyclical position of the economy. However, even in structural terms, this expenditure declined significantly, since the decrease in the total number of unemployed was much lower than in the number of those receiving unemployment benefits.²⁵

In turn, social benefits in kind declined by 4.4 per cent, particularly as a result of a reduction in expenditure associated with the health sector. On the contrary, intermediate consumption rose by 5.2 per cent, with particularly sharp growth occurring in the local government subsector (10.4 per cent). Excluding expenditure with concessions to public-private partnerships which, as in 2014, grew significantly, intermediate consumption rose by 3.9 per cent in 2015. Moreover, subsidies decreased by 3.1 per cent, in a context of cuts in expenditure on training schemes financed by the European Social Fund (ESF) and compensatory payments to State-owned enterprises not included in general government. Furthermore, other

current expenditure declined significantly, chiefly due to developments in the autonomous services and funds and regional government subsectors.

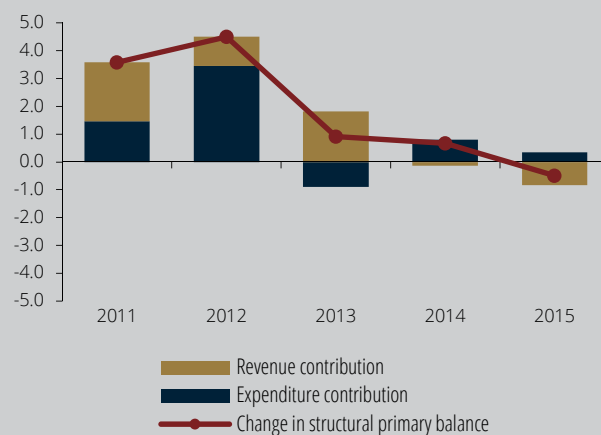
Capital expenditure adjusted for temporary measures, as a ratio to trend GDP rose by 0.3 p.p.. In recent years, this aggregate was affected by the above-mentioned sizeable temporary measures. These measures had a particular impact on capital transfers, totalling 3.6 per cent of GDP in 2014, and 1.3 per cent in 2015. Excluding these effects, capital transfers increased by 73.9 per cent, chiefly due to the requests for additional appropriations by *Instituto de Financiamento da Agricultura e Pescas* (IFAP), following the procedures related to European funds, and the conversion into an equity increase of loans granted by Wolfpart to *Caixa Imobiliário*. After a cumulative decline of 62.8 per cent from 2010 to 2014, investment in nominal terms rose by 4.3 per cent, when adjusted for the effect of the acquisition of real estate assets by *Oitante*, within the scope of the resolution measure applied to Banif. Regarding the breakdown into subsectors, this rise is chiefly due to growth in the State and autonomous services and funds, which contrasted with a decline in the other subsectors.

Structural reduction in revenue is explained by developments in non-tax revenue

The ratio of revenue to trend GDP had a structural decline of 0.8 p.p. in 2015. Non-tax revenue was decisive for this outcome (-0.7 p.p.) (Chart 3.4).

In 2015 the total tax and social contribution burden rose in actual terms by 3.6 per cent, being the growth rate of taxes on production and imports particularly high. Amid an acceleration in economic activity, the bulk of this increase may be associated with developments in the macro-economic bases of the main taxes, which grew above their trend, in particular private consumption. As a result, the rise in total tax and social contribution revenue adjusted for the effect of the economic cycle was considerably smaller, standing at 1.8 per cent. As regards taxes on production and imports, the structural revenue as a percentage of trend GDP increased by 0.1 p.p.. A number of legislative changes approved in the context of the State Budget for 2015 contributed to these developments. Conversely, the revenue from taxes on income and wealth as a ratio to trend GDP posted a structural decline

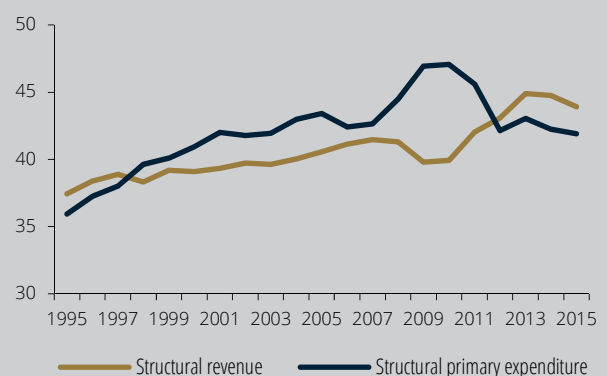
Chart 3.1 • Breakdown of the change in the structural primary balance | In percentage points of trend GDP



Sources: INE and Banco de Portugal.

Note: Expenditure contribution is the symmetrical of the change in structural primary expenditure as a percentage of trend GDP while the revenue contribution is the change in total structural revenue as a percentage of trend GDP.

Chart 3.2 • Revenue and primary expenditure developments | As a percentage of trend GDP



Sources: INE and Banco de Portugal.

of 0.1 p.p., given that the rise in revenue of corporate income taxes was not enough to offset the cut in household income taxation. In addition, the ratio of cyclically-adjusted social contributions to trend GDP declined by 0.2 p.p. (for further details see Box 'Structural developments in tax revenue in 2015').

Regarding non-tax revenue, other current revenue, including sales of goods and services, declined by 6.4 per cent, chiefly due to the sharp decrease both in interest revenue and in transfers from the ESF received by the general government.²⁶ Finally, capital revenue declined by 8.2 per cent.

After a near stabilisation in 2014, the public debt ratio declined in 2015

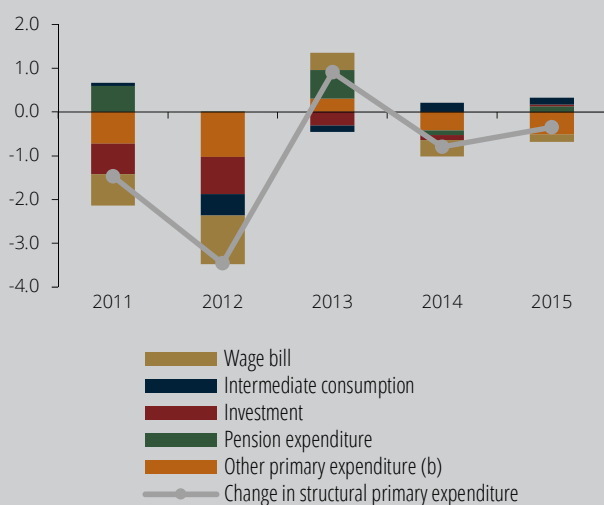
At the end of 2015, general government debt stood at 129 per cent of GDP,²⁷ 1.2 p.p. less than at the end of the previous year. This debt ratio development was chiefly due to deficit-debt adjustments, which contributed with 1.3 p.p. to the

debt reduction. Conversely, in a context of sharp deposit decumulation, the general government debt ratio net of these assets rose in the period under review from 117.9 to 118.8 per cent of GDP (Chart 3.5).

The contribution of the primary balance towards a reduction of the debt ratio (-0.2 p.p.) was offset by an impact of similar magnitude in the negative differential between the GDP nominal growth rate and the interest rate (+0.3 p.p.). This differential had put significant pressure on debt in previous years, contributing to the growth of the debt ratio from 2011 to 2014 by an annual average of 5.6 p.p. (Table 3.1).

As regards deficit-debt adjustments, the contribution of the change in deposits held by the general government reached -1.7 p.p. of GDP, in spite of the 0.7 p.p. increase associated with margin accounts.²⁸ This deposit decumulation is partly due to the amount used for capital injections within the scope of the resolution measure applied to Banif (1.3 per cent of GDP). Note that the deposit decumulation could have been more significant, had there

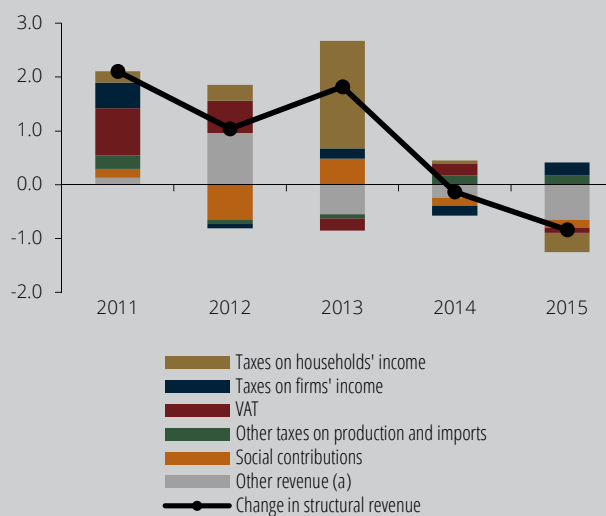
Chart 3.3 • Breakdown of the change in structural primary expenditure | In percentage points of trend GDP



Sources: INE and Banco de Portugal.

Notes: (a) Other primary expenditure includes social payments excluding pensions, general government social contributions, subsidies and other current and capital expenditure.

Chart 3.4 • Breakdown of the change in structural revenue | In percentage points of trend GDP



Sources: INE and Banco de Portugal.

Note: (a) Other revenue includes other current and capital revenue.

been no disinvestment in debt securities of non-residents held by the general government (-0.5 per cent of GDP). Also important, due to its contribution towards debt reduction, was the joint effect of the issue, redemption and repurchase of securities above par (-0.8 p.p.) and the difference between interest accrued and interest paid (-0.3 p.p.). Conversely, adjustments related to other general government liabilities raised debt by 1.2 p.p., namely through the reduction in trade credit and in transfers related to European funds. In addition, exchange rate fluctuations had an impact on the value of debt issued in foreign currency (0.8 p.p.), in particular on the International Monetary Fund (IMF) loan. In 2015, part of the loan granted by the IMF under the financial assistance programme was repaid in advance (4.3 per cent of GDP).

The Portuguese State maintained a regular presence in the sovereign debt market in 2015, and carried out issues at longer-term maturities. This strategy allowed the country to significantly benefit from a broadly based decline in sovereign debt yields in the euro area, obtaining lower interest rates than in the previous year. As regards short-term issues, the average interest rate on one-year Treasury Bill auctions stood below 0.1 per cent, a 0.4 p.p. decline from the previous year. Also, Treasury Bonds were

issued at different maturities, including, for the first time since 2006, a 30-year issue which was carried out in January 2015. Turning to developments in long-term interest rates, in the 10-year maturity, the average rate in auctions and exchange-based purchases was 2.3 per cent, 2.1 p.p. less than in 2014. In this context, the implicit interest rate on public debt²⁹ declined by 0.2 p.p. from the previous year, standing at 3.6 per cent, also influenced by interest on loans granted under the assistance programme.

Fiscal policy in the euro area also had an expansionary stance

The European Commission's winter forecasts, published in February 2016, point to a deterioration of the structural primary balance in the euro area, in a context of improved economic activity and lower interest as a ratio to GDP.³⁰ Based on these forecasts, fiscal policy in the euro area was moderately expansionary in 2015, after several years of consolidation (Chart 3.6). An analysis of the developments in different Member States shows that the most significant declines in the structural balance occurred in Spain, Cyprus, Greece and Luxembourg. In turn, Austria, Estonia and Lithuania were the main exceptions, following consolidation policies.

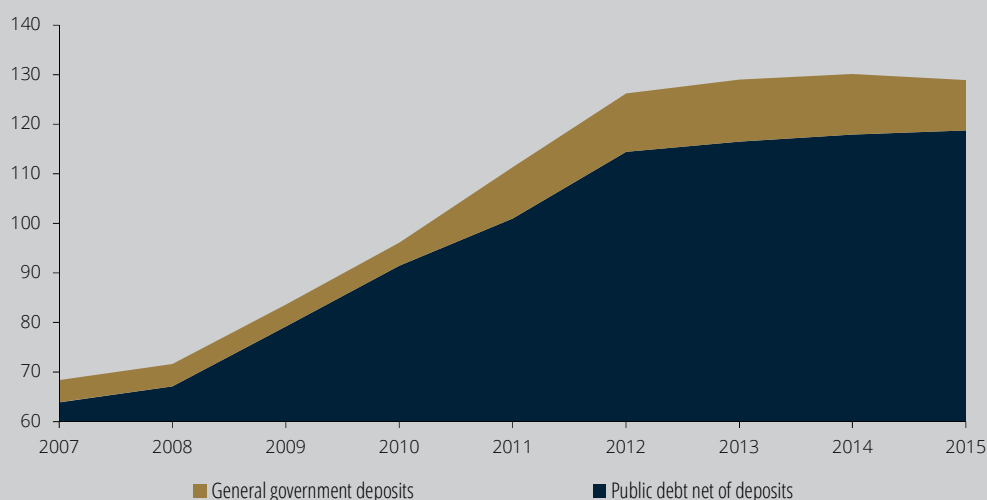


Chart 3.5 •
Public debt
| As a percentage
of GDP

Sources: INE and Banco de Portugal.

As regards countries in excessive deficit procedure, Ireland, Slovenia and Cyprus had nominal deficits below 3 per cent in 2015, contrary to Spain, Greece, France and Portugal, which will continue to be under the corrective arm of the Stability and Growth Pact. In this last group of countries, Portugal was the only with 2015 as the deadline for the correction of the excessive deficit, whereas 2016 is the deadline year for Spain and Greece, and 2017 for France (Table 3.2).

The public debt ratio in the euro area has remained virtually stable since 2012, at levels slightly above 90 per cent, with no reversal of the very significant increase that occurred in the wake of the financial crisis. In 2015, this indicator

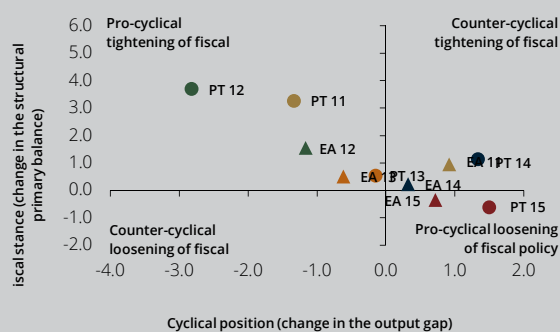
stood at 90.7 per cent, and only Luxembourg, Slovakia and the Baltic countries had ratios below 60 per cent (Chart 3.7). The Fiscal Sustainability Report 2015³¹ highlights the existence of high risks for the sustainability of public finances in the medium term in eight countries, namely Belgium, Slovenia, Spain, Italy, Ireland, France, Finland and Portugal. It should be noted that this report does not analyse the risks associated with countries under an adjustment programme (Greece and Cyprus). Therefore, the reduction in euro area public indebtedness is a key challenge for fiscal policy in the medium term, particularly in a context of weak economic growth and low inflation and pressures arising from ageing costs.

Table 3.2 • Euro area countries in excessive deficit procedure
| As a percentage of GDP

Country	European Council decision date	Current deadline for correction	Last change in the correction year	Fiscal balance in 2015
Ireland	27-04-2009	2015	07-12-2010	-2.3
Portugal	02-12-2009	2015	21-06-2013	-4.4
Slovenia	02-12-2009	2015	21-06-2013	-2.9
Cyprus	13-07-2010	2016	16-05-2013	-1.0
Spain	27-04-2009	2016	21-06-2013	-5.1
Greece	27-04-2009	2016	04-12-2012	-7.2
France	27-04-2009	2017	10-03-2015	-3.5

Sources: Eurostat (Excessive Deficit Procedure – April notification) and European Commission.

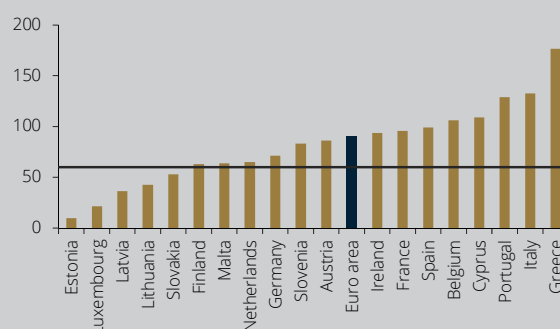
Chart 3.6 • Fiscal policy and cyclical position in the euro area in 2015
| In percentage points of trend GDP



Sources: European Commission, 2016 Winter Forecast.

Note: (a) The cyclical position of the economy is assessed by the change in the output gap, which represents the difference between GDP and potential GDP growth rates.

Chart 3.7 • Public debt in the euro area in 2015
| As a percentage of GDP



Source: Eurostat.

Note: Euro area data is consolidated for intergovernmental lending in the context of the financial crisis.

Box 3.1 | Structural developments in tax revenue in 2015

After significant growth between 2010 and 2013, the structural revenue from taxes and social contributions as a percentage of trend GDP has remained relatively stable at values close to 37 per cent, with only a slight decline in 2015 (-0.2 p.p.). As regards the composition of this aggregate, the year under review was characterised by a decline in the share of both personal income tax and social contributions and by an increase in corporate income tax and taxes on production and imports (Chart 1).

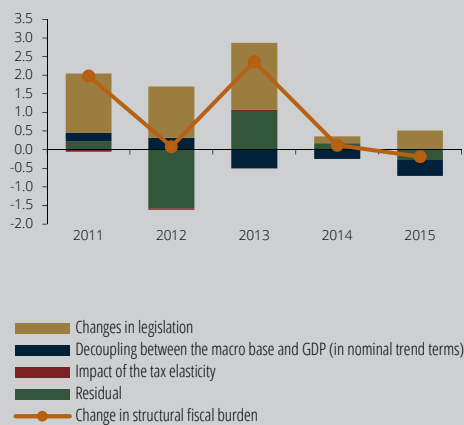
The theoretical benchmark used is that developed in the context of the Eurosystem to disentangle the structural development of major taxes and social contributions into different components.³² Therefore, this box presents the impact of legislative changes and quantifies the effects, on the one hand, of the discrepancy between the trend nominal change of the macroeconomic base used and GDP and, on the other hand, of the fiscal elasticity. Finally, developments that are not explained by these effects are attributed to the residual.

As regards indirect taxation, the ratio of revenue from taxes on production and imports to trend GDP increased, in structural terms, by 0.1 p.p. in 2015. This occurred notwithstanding a negative contribution of VAT revenue (-0.1 p.p. of trend GDP). In a year when legislative changes did not have a considerable impact on this tax revenue, that slight decline as a percentage of trend GDP is due to smaller growth of private consumption comparing to GDP, both measured in trend nominal terms.³³ In turn, developments in other taxes on production and imports have led to a structural increase in revenue equivalent to 0.2 p.p. of trend GDP, below the estimate for the impact of legislative changes (0.4 p.p.). These changes included an increase in the road service contribution, with an estimated impact on revenue from the tax on oil products and energy equivalent to 0.1 p.p.. Other legislation changes were widely dispersed, and their impact would be rather difficult to estimate ex-ante, namely as regards the creation of new taxes and fees. The possible overestimation of the effect of these measures may partially explain the residual of -0.2 p.p. (Chart 2).

Revenue from taxes on income and wealth declined, in structural terms, by 0.1 p.p. of trend GDP, as a result of different developments in personal income tax and corporate income tax. As regards taxes on households, there was a decline in revenue corresponding to 0.4 p.p. of trend GDP which was significantly sharper than the effects associated with legislative changes reflected in withholding tax rates implemented in 2015 (-0.1 p.p.). In addition to this effect, the discrepancy between trend nominal developments of the private sector wage bill and GDP has also contributed to this decline (-0.1 p.p.). Moreover, the evolution not explained by the previous mentioned effects stands at -0.1 p.p. and may be associated with the reduction in receipts from final withholding taxes on capital revenue, as a result of a broadly based fall in interests on financial investments. In contrast, the ratio of the revenue from corporate income taxes to trend GDP increased by 0.2 p.p., in spite of the effect of the decline in the corporate income tax from 25 to 23 per cent, implemented in 2014. Indeed, the impact of this measure was offset by the effects of other legislative changes, including the investment tax credit, which affected refunds in 2014, and changes to the taxation of investment funds, resulting in revenue to be collected in 2016 being brought forward to 2015.

Finally, social contributions had a structural decline of 0.2 p.p., partly explained by the discrepancy between trend nominal developments of the wage bill and GDP, which contributed with -0.1 p.p. to the change in this item.

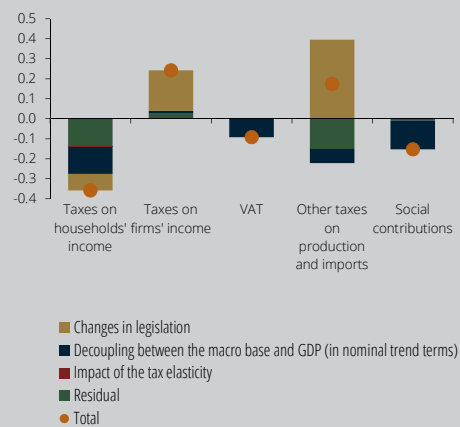
Chart 1 • Breakdown of the overall change in structural fiscal burden ^{a)}
| In percentage points of trend GDP



Sources: INE and Banco de Portugal.

Note: (a) For more details on the methodology underlying the calculation of these contributions see Kremer *et al.*, (2006) and Braz, C., (2006).

Chart 2 • Breakdown of the change in structural taxes and social contributions in 2015 ^{a)}
| In percentage points of trend GDP



Sources: INE and Banco de Portugal.

Note: (a) For more details on the methodology underlying the calculation of these contributions see Kremer *et al.*, (2006) and Braz, C., (2006).

4. Supply

Moderate economic recovery in 2015

In 2015, Portuguese GDP *per capita* converged somewhat with the EU average, to stand at around 72 per cent (Chart 4.1).³⁴

In 2015, gross value added (GVA) at basic prices increased by 1.1 per cent, representing a slight acceleration compared to the previous year (when it grew by 0.6 per cent). This increase consolidated the moderate recovery initiated in late 2013 and is overall in line with developments in the economic sentiment indicator (Chart 4.2).³⁵ Notwithstanding the level of GVA is still 4.1 per cent below the one registered in 2008.

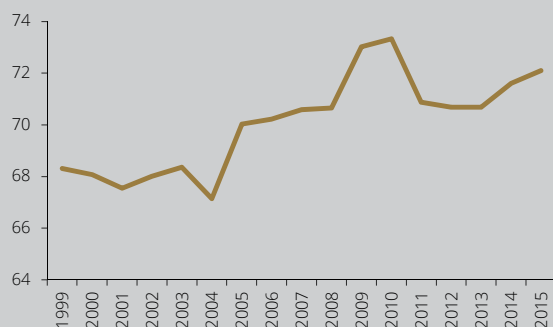
GVA in the services sector rose by 1.0 per cent in 2015, following a 0.7 per cent increase in 2014, maintaining the recovery trend started in early 2014 (Chart 4.3). This increase mainly reflected the 3.1 per cent growth in activity in the subsectors of trade and repair of motor vehicles and hotels and restaurants, which reflect

a combination of favourable developments in tourism exports and more dynamic domestic demand. Moreover, GVA developments in this sector were consistent with the corresponding confidence indicator (Chart 4.4).

In manufacturing, GVA increased by 1.5 per cent in 2015 in year-on-year terms. Nonetheless, this increase corresponded to a deceleration compared to the previous year, when it grew by 1.9 per cent. Overall, this profile was consistent with developments in the manufacturing confidence indicator.

In 2015, GVA in the construction sector increased by 3.7 per cent, in contrast to a 1.4 per cent fall registered in 2014, which was not in line with developments in the corresponding confidence indicator. This increase is an interruption of the downward trend registered over the past few years, which translates the structural adjustment in this sector to lower levels, following the substantial investment in construction observed in previous decades. In 2015, GVA in construction

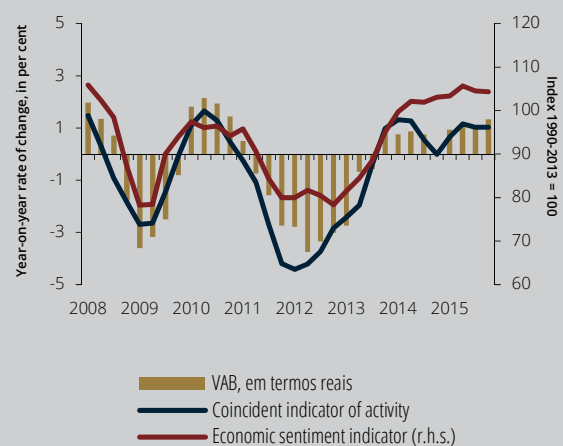
Chart 4.1 • Gross domestic product at current prices per head of population – PORTUGAL as a percentage of the European Union (EU15)



Source: AMECO.

Note: UE15 refers to the initial 15 member countries of the European Union.

Chart 4.2 • GVA, coincident indicator of activity and economic sentiment indicator



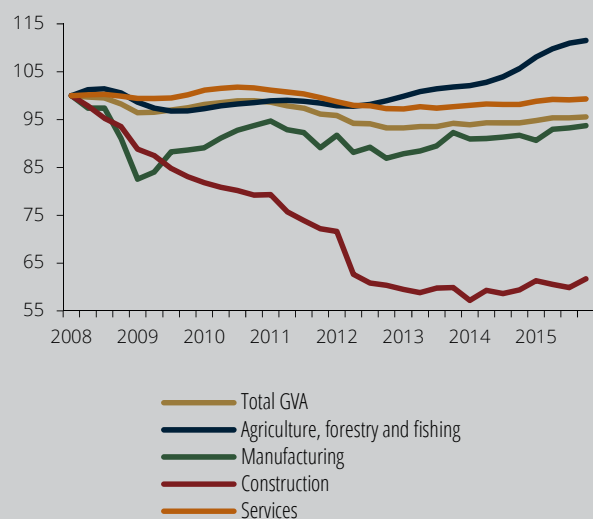
Sources: European Commission, INE and Banco de Portugal.

accounted for around half the value recorded in 2008.

GVA dynamics in the agriculture, forestry and fishing sector has been particularly positive over the past few years. In 2015, GVA increased by 6.3 per cent, following a 2.6 per cent growth in 2014. However, this sector's share in total GVA is particularly low (approximately 2.5 per cent).

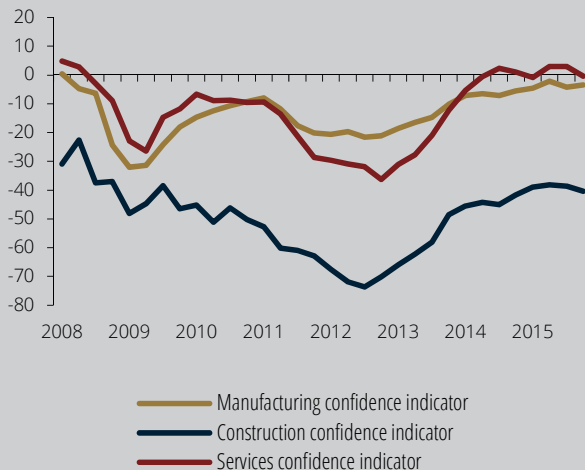
GVA developments in sectoral terms are partly reflected in dynamics of the firms, in particular related to entry and exit. In the 2008-14 period, there was a particularly marked net exit of firms in construction, which represented a fall in the total number of firms of around 15 per cent (Chart 4.5). In contrast, the number of firms in the services sector, excluding wholesale and retail

Chart 4.3 • GVA by main sectors of activity
(2008 Q1-2015 Q4) | Index 2008 Q1=100



Source: INE.

Chart 4.4 • Confidence indicators – (2008 Q1-2015 Q4)
| Balances (quarterly mean)



Source: European Commission.

Note: Seasonally adjusted figures.

Chart 4.5 •
Evolution of the
number of firms
| Index 2008 =100



Source: Banco de Portugal.

trade, registered a very substantial net increase, reflecting also strong flows of both entry and exit of firms (Charts 4.6 and 4.7).

Downward trend in population and labour force

In 2015, resident population and labour force continued to decline, by 0.5 and 0.6 per cent respectively (Table 4.1). This reduction is particularly noticeable within the age group of 25-34 years, where resident population fell by 2.8 per cent, while labour force decreased by approximately 3.1 per cent (which, however, represent smaller reductions compared to the ones registered over the past few years). In cumulative terms between 2011 and 2015, population and labour force decreased markedly, by around 200,000 and 230,000 individuals respectively (Chart 4.8).

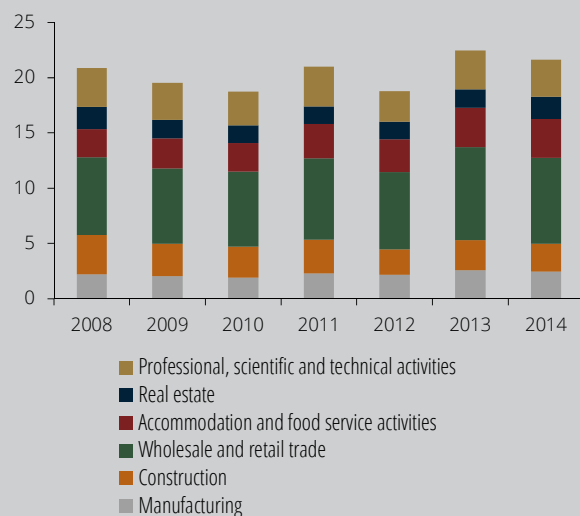
These demographic developments are largely associated with recent migratory flows. Since 2011, the net migration rate has been negative, mainly reflecting a very substantial increase in the

number of permanent emigrants (approximately 200,000 individuals between 2011 and 2014).³⁶

Improved labour market conditions in a context of moderate growth in economic activity and wages in 2015

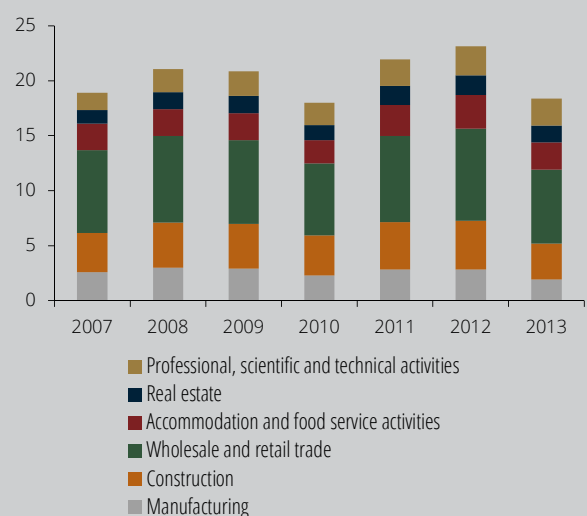
Labour market developments in 2015 continued to be characterised by an increase in employment and a marked decrease in unemployment, thus continuing the upward trend that started in the second quarter of 2013, still in a context of strong wage moderation. According to data released by the Ministry of Labour, Solidarity and Social Security, average wages declared to Social Security grew by 0.5 per cent in 2015 (0.3 per cent in 2014). Low wage growth is largely related to a high unemployment rate and a rather detrimental development in productivity (see below). This moderate dynamics of wages is associated to a reduced number of collective bargaining instruments, particularly of sectoral

Chart 4.6 • Firm entry | Thousands of firms



Source: Banco de Portugal.

Chart 4.7 • Firm exit | Thousands of firms



Note: Services excluding wholesale and retail trade includes the following activities: Accommodation and food service activities; Real estate and Professional, scientific and technical activities. A new firm is the one which has initiated its activity in the reference period. An exiting firm is the one which has stopped its activity in the reference period.

scope, despite a slight increase from the minimum recorded in 2012. This fact assumes a higher relevance since wages of around 90 per cent of employees are defined within the scope of collective bargaining. Nevertheless, wage developments in 2015 were positively influenced by

an increase in the minimum wage, which came into force on 1 October 2014, from €485 to €505 (4.1 per cent increase). This change is likely to have contributed to the slight increase in average wages in 2015, given that a substantial share of workers was affected by this measure.

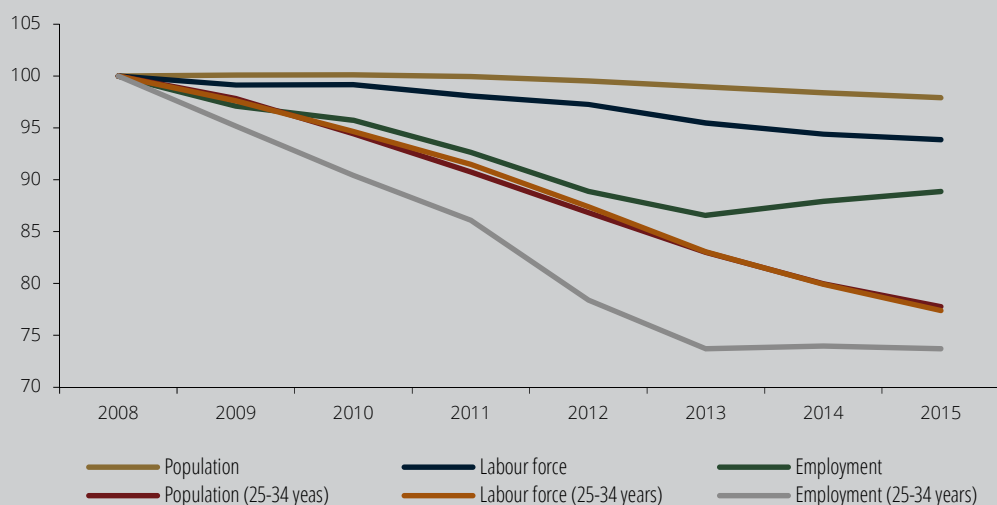
Table 4.1 • Labour market indicators | Year-on-year rate of change, in per cent, unless otherwise stated

	Thousands of individuals in 2015	Years			Semesters		
		2013	2014	2015	S2 2014	S1 2015	S2 2015
Population	10,337	-0.6	-0.6	-0.5	-0.6	-0.5	-0.5
Population 25-34 years	1,211	-4.4	-3.6	-2.8	-3.5	-2.9	-2.7
Labour force	5,195	-1.8	-1.1	-0.6	-1.2	-0.6	-0.5
Labour force 25-34 years	1,084	-5.0	-3.8	-3.1	-4.0	-3.2	-3.1
Participation rate 15-64 years (in % of population)		73.0	73.2	73.4	73.3	73.3	73.5
Total Employment	4,549	-2.6	1.6	1.1	1.3	1.3	0.9
Employees	3,711	-2.4	4.4	2.8	5.1	3.6	1.9
Self-employment	815	-3.3	-8.2	-5.7	-11.9	-7.7	-3.6
Total Unemployment	647	2.3	-15.1	-11.0	-14.8	-12.1	-9.7
Unemployment rate (in % of labour force)		16.2	13.9	12.4	13.3	12.8	12.1
Unemployment rate 25-34 years (in % of labour force)		19.0	15.5	13.1	14.4	13.6	12.5
Long-term unemployment (in % of total unemployment)		62.1	65.5	63.5	65.7	64.3	62.7
Discouraged inactives (in % of labour force)		5.2	5.2	5.0	5.4	4.8	5.2

Source: INE.

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.

Chart 4.8 •
Population, labour
force, employment
| Index 2008=100



Source: INE (Labour Force Survey).

Substantial fall in the unemployment rate, though remaining at very high levels

According to Statistics Portugal's Labour Force Survey, the total number of unemployed fell by 11.0 per cent in 2015, a decrease that was nevertheless smaller than the one observed in 2014 (15.1 per cent). In 2015, the unemployment rate stood at 12.4 per cent, close to the level observed in 2011, after the substantial decline from 13.9 per cent in 2014. The reduction in the total number of unemployed was particularly marked for the age group 25-34 years (Table 4.1). Also, the share of individuals receiving unemployment benefits stood at 30.7 per cent in 2015, compared with 31.4 per cent in 2014 (Chart 4.9).³⁷

Furthermore, the number of discouraged workers, i.e. individuals not actively seeking work but who are able to work, accounted for approximately 5.0 per cent of the labour force in 2015, slightly below the figures registered for 2013 and 2014 (5.2 per cent). Nevertheless, this group represents a total of approximately 250,000 individuals.

One of the most negative aspects in Portuguese labour market developments over the past few years has been the very high level of long-term unemployment, which tends to cause a sharp depreciation in human capital, with adverse effects on potential growth. In this context, the number of unemployed seeking work for more than 12 months fell by 13.7 per cent in 2015, more markedly than in 2014 (10.4 per cent). Nonetheless, the share of long-term unemployment in total unemployment is still very high (63.5 per cent in 2015, corresponding to around 415,000 individuals). This is particularly relevant since it mostly covers those seeking work for more than 25 months (around 72 per

cent of long-term unemployment). Moreover, the number of unemployed seeking work for less than 12 months declined by 5.7 per cent in 2015 (15.3 and 22.9 per cent declines in 2013 and 2014 respectively) (Chart 4.10).

Employment recovered, although still at historically low levels

According to the Labour Force Survey, total employment rose by 1.1 per cent in 2015, following a 1.6 per cent increase in the previous year. This dynamics reflects growth in the number of employees (2.8 per cent), given that self-employment fell markedly (5.7 per cent). In spite of the upward trend in employment registered since 2014, employment remains historically low, in the wake of an unprecedented fall occurred between 2008 and 2013 (which, according to national quarterly accounts, corresponded to approximately 630,000 individuals). With respect to general government employment, according to data released by the Directorate General for Administration and Public Employment, the number of civil servants seems to have decreased, although less markedly than in recent years.

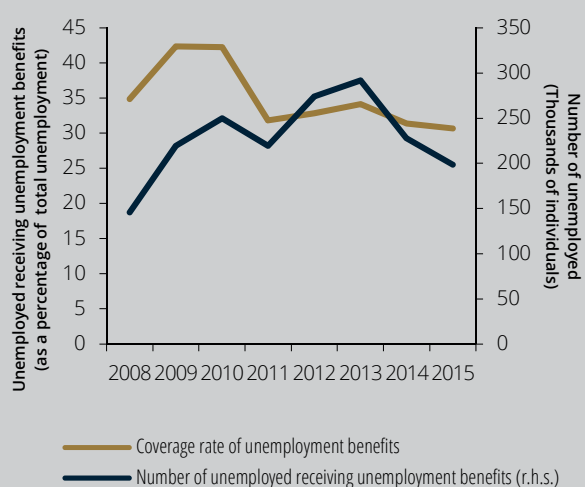
Labour productivity remained relatively stable in 2015

The current recovery period of the Portuguese economy is characterized by an atypical dynamics compared with previous recoveries. In this case, recovery is associated with a fall in labour productivity, reflecting more favourable dynamics in employment than in GVA, but where both variables grew very modestly (Chart 4.11).³⁸ In contrast with previous recessions, productivity grew during the entire downward phase in economic activity, amid strong job destruction in that period.

The current dynamics of labour productivity arises in a context of low potential growth, reflecting difficulties in the functioning of a number of

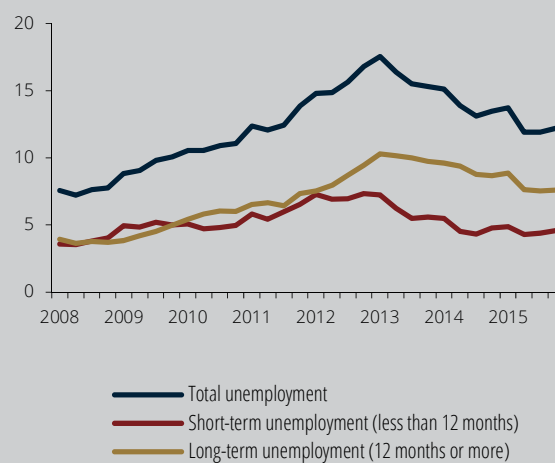
markets, as well as in input factor use and its accumulation. This dynamic highlights the need to pursue structural reforms in these fields.

Chart 4.9 • Number of unemployed receiving unemployment benefits and coverage rate



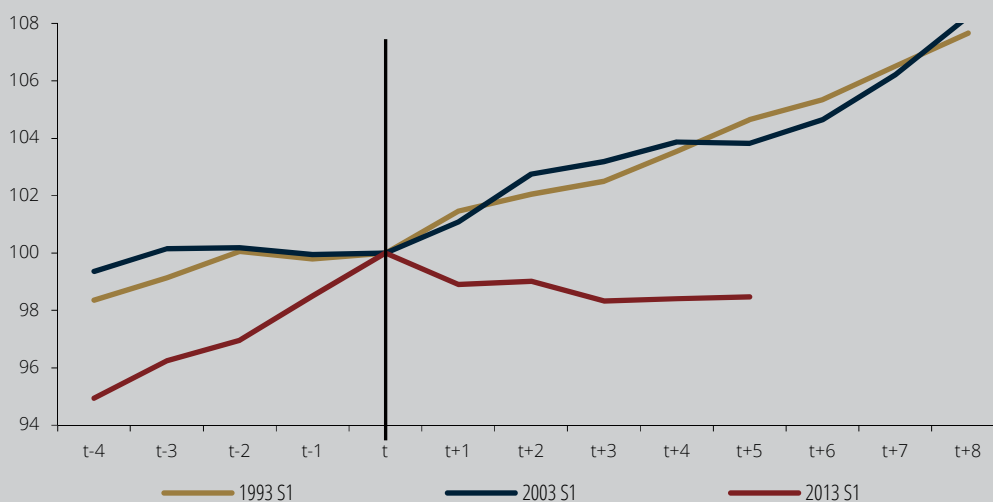
Source: INE (Labour Force Survey).

Chart 4.10 • Unemployment rate by duration of unemployment | As a percentage of the labour force



Source: INE (Labour Force Survey).

Chart 4.11 • Labour productivity in the last crisis
| Biannual figures; semester $t=100$



Source: INE and Banco de Portugal.

Note: Labour productivity was computed based on GVA, except for the crisis in 1992, in which GDP was considered instead. The moment t corresponds to the semester immediately before the beginning of the recovery period, which matches the first half of the years of 1993, 2003 and 2013.

5. Demand

GDP maintained a moderate recovery growing in line with the euro area average

In 2015 GDP increased by 1.5 per cent in real terms (Table 5.1). Although higher than in 2014 (by 0.6 p.p.), the pace of recovery of the Portuguese economy was relatively moderate, particularly given the considerable contraction observed between 2011 and 2013. In this context, in 2015 GDP stood 5.7 per cent below that in 2008 (Chart 5.1). As in 2014, Portuguese economic activity growth was in line with the euro area average, resulting in a growth differential of zero for the second year in a row (Chart 5.2).

Given the major demographic changes over the past few years, the analysis of *GDP per capita*

developments becomes even more relevant (Section 4). Against this background, *GDP per capita* seems to have grown by 2.0 per cent in 2015 (1.5 per cent in 2014), reflected in a gap between GDP developments, which grew by 1.5 per cent, and *GDP per capita* in Portugal (Chart 5.3).³⁹

The acceleration in activity in 2015 spread to most domestic demand components, most notably consumption of non-durable goods. Developments in GFCF in construction, which grew in 2015, were also favourable, after consecutive declines since 2002. Exports of goods and services continued to be the most robust component of overall demand, with an increase in volume of 5.2 per cent (3.9 per cent in 2014), although the acceleration from the previous year largely reflects a temporary effect that led to substantial growth in the volume of exports of energy goods.

Table 5.1 • GDP maintained a moderate recovery | Year-on-year growth rates
in percentage, unless otherwise stated

	% of GDP in 2015	2013	2014	2015	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4
GDP	100	-1.1	0.9	1.5	0.6	1.7	1.5	1.4	1.3
Domestic demand	99	-2.0	2.2	2.5	1.7	1.8	3.7	2.1	2.2
Private consumption	66	-1.2	2.2	2.6	2.0	2.6	3.3	2.3	2.4
Public consumption	18	-2.0	-0.5	0.6	-1.1	-0.2	1.1	0.8	0.7
Investment	15	-5.1	5.5	3.9	4.3	1.3	8.8	2.4	3.4
GFCF	15	-5.1	2.8	3.9	2.8	8.6	5.2	2.0	0.2
Change in inventories ^(a)		0.0	0.4	0.0	0.2	-1.1	0.5	0.1	0.5
Exports	40	7.0	3.9	5.2	5.6	7.1	7.1	4.0	2.6
Imports	40	4.7	7.2	7.4	8.5	7.3	12.5	5.4	4.8
Contribution of domestic demand ^(a)		-2.0	2.2	2.5	1.7	1.9	3.7	2.1	2.3
Contribution of exports ^(a)		2.6	1.6	2.1	2.3	2.8	2.9	1.6	1.1
Contribution of imports ^(a)		-1.8	-2.9	-3.1	-3.4	-3.0	-5.2	-2.3	-2.1
<i>Memo:</i>									
GDP – change over the previous period					0.4	0.5	0.4	0.1	0.2
Domestic demand (exc. change in inventories)		-2.0	1.8	2.5	1.5	2.9	3.2	2.0	1.8

Sources: INE and calculations by Banco de Portugal.

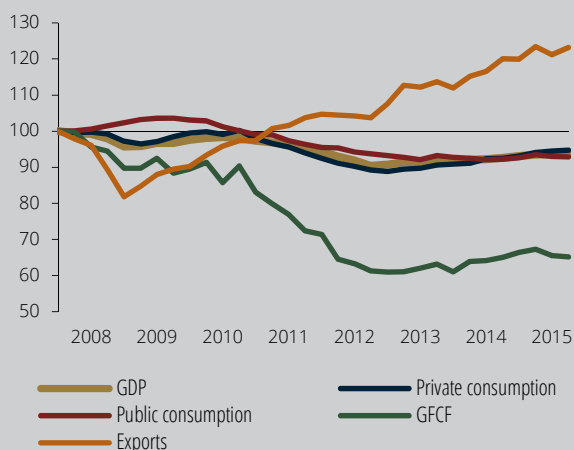
Note: (a) Contribution to GDP growth in percentage points.

The continued ample buoyancy in a number of domestic demand components with high import content (such as private consumption of durable goods or GFCF in transport equipment), together with an acceleration in exports of energy goods, was reflected in continued strong growth of imports in 2015.

In the year as a whole, GDP growth reflected a contribution of 2.5 p.p. from domestic demand and 2.1 p.p. from exports, with imports making a

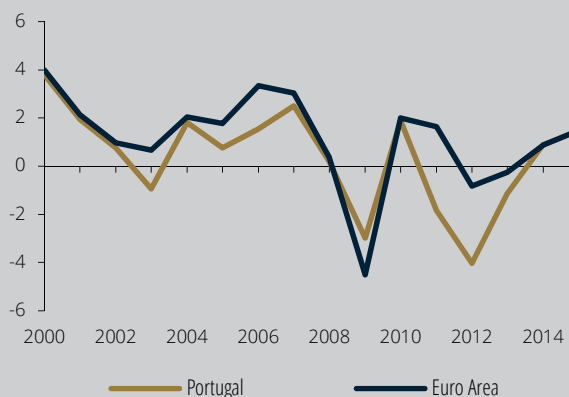
negative contribution of 3.1 p.p. to GDP growth. Taking into account demand components net of imports (deducting from each demand component an estimate of imports needed to meet such demand), the contribution of domestic demand is estimated to have amounted to 1.1 p.p. and the contribution from exports to GDP growth to have stood at 0.4 p.p., which reflects an increase in the contribution from domestic demand and a slight decrease in the contribution from exports compared with 2014 (Chart 5.4).

Chart 5.1 • Developments in GDP and its main components | 2008 Q1=100



Sources: INE and calculations by Banco de Portugal.

Chart 5.2 • GDP growth in Portugal and in the euro area | Year-on-year growth rate, in percentage



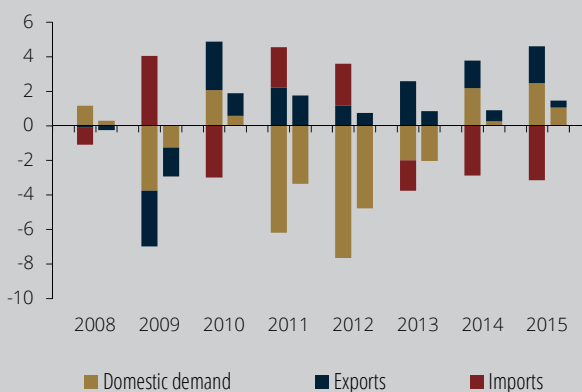
Sources: Eurostat, INE and calculations by Banco de Portugal.

Chart 5.3 • Developments in GDP and GDP per capita | 2011 Q1=100



Sources: INE and calculations by Banco de Portugal.

Chart 5.4 • Contribution of domestic demand and exports to GDP growth | Values including and excluding the import content, in percentage points



Sources: INE and calculations by Banco de Portugal.

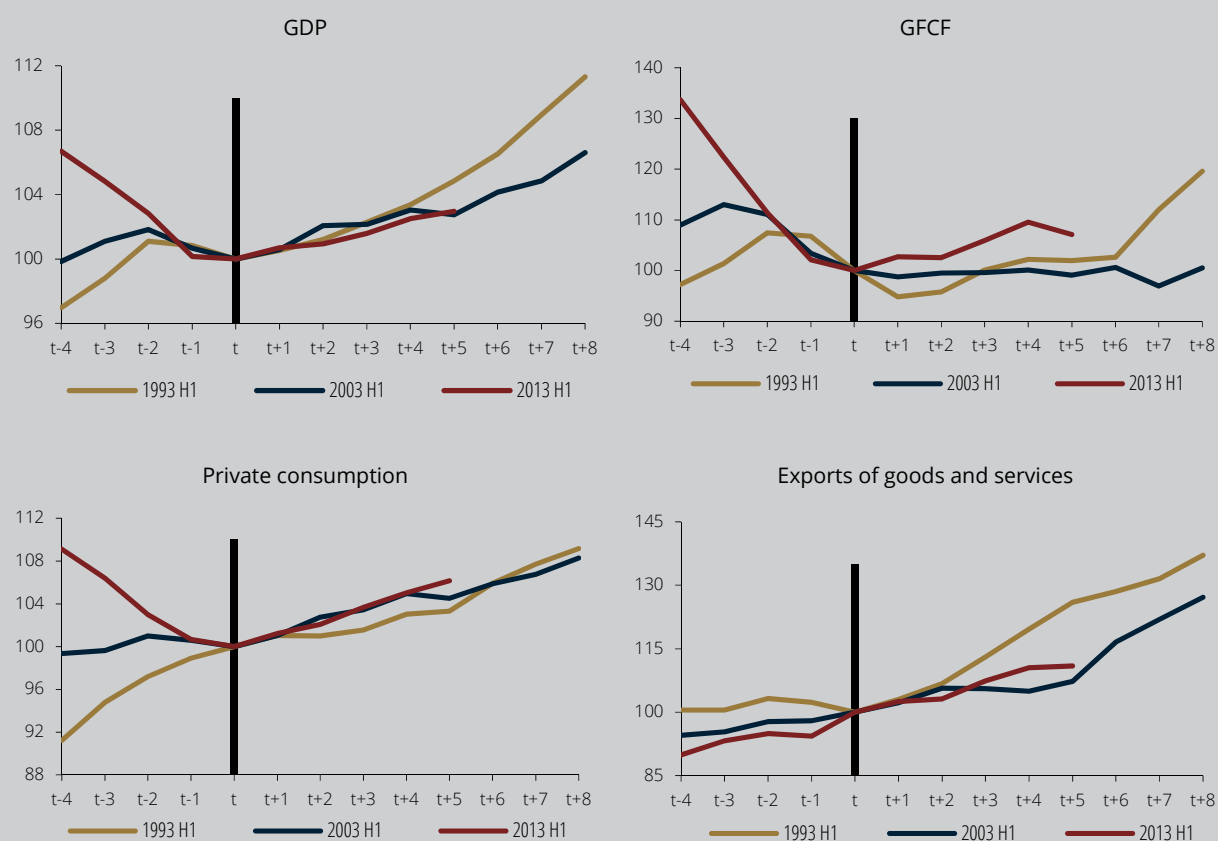
Intra-annual deceleration in demand, most notably in investment in machinery, exports and consumption of durable goods

Underlying GDP developments in 2015 was a deceleration in domestic demand and exports of goods and services in the second half of the year. More specifically, GFCF in machinery and equipment fell and consumption of durable goods and exports of goods and services decelerated in the final half. Given that the deceleration in GDP was more substantial

among components with higher import content, imports of goods and services also slowed down in the second half of the year.

Compared with other recessions, economic activity in more recent years has been characterised by a relatively moderate recovery in GDP, similarly to what was seen following the recession in 2003, in spite of a more marked contraction in the latest recession period. Private consumption has followed a similar path to that in previous recessions, while GFCF has been more robust, which is not surprising given its substantial fall in the latest recession. In turn, exports of goods and services, albeit growing significantly, were less buoyant

Chart 5.5 • Path of recovery of GDP and its main components over the last recessions and recoveries
| Half-yearly values; Lowest GDP value= semester t=100



Sources: INE and Banco de Portugal.

Note: Moment t corresponds to the semester immediately before the start of GDP recovery in each of the three recessions. These coincide with the first semesters of 1993, 2003 and 2013.

than in the recession of 1993, for instance, which may be due to more subdued developments in external demand (Chart 5.5).

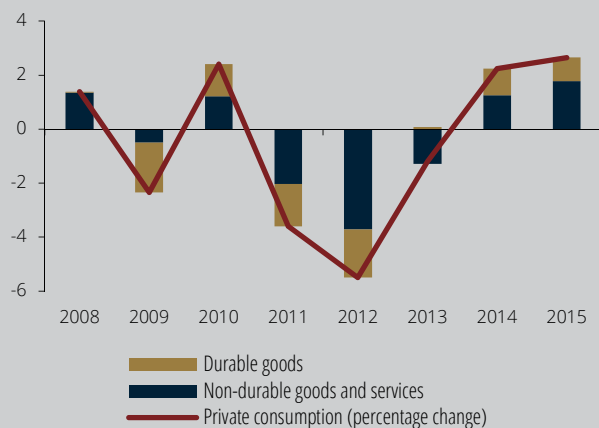
Maintenance of a recovery trend in private consumption, amid improved labour market conditions and lower household indebtedness

In 2015 private consumption grew by 2.6 per cent (2.2 per cent in 2014). The main contribution to this acceleration in private consumption in 2015 was made by more buoyant consumption of non-durable goods, particularly its non-food component (Chart 5.6). In spite of its acceleration, consumption of durable goods continued to grow strongly, chiefly as a result of continued substantial growth in the sales of passenger cars. However, in spite of a recovery in the past three years, car sales in 2015 remained below the average for the past 20 years (Chart 5.7). Moreover, the profile of loans for the purchase of new vehicles has been consistent with the markedly robust purchases of these vehicles since 2013.

The behaviour of private consumption seems to have reflected a moderate recovery in household disposable income in 2015, as well as favourable developments in consumer confidence and expectations for an increase in permanent income. In this context, new consumer credit grew more markedly. Among the factors that may explain the acceleration in disposable income are the maintenance of the downward trend in the unemployment rate and the increase in employment in 2015, albeit against a background of substantial wage moderation, the smaller decline in government employment and an acceleration in transfers to households, which are typically associated with greater propensity to consume. Also noteworthy is the potential effect of lower household debt servicing in the most recent period, amid a substantial decrease in interest rates on loans for house purchase, chiefly due to developments in EURIBOR rates.

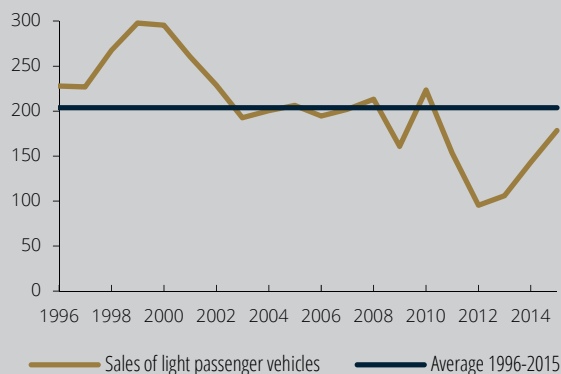
In spite of the strongly buoyant private consumption in the year as a whole, there was a deceleration in the second half of the year, largely due to lower consumption of durable goods. Car sales, in particular, following 32.8 per cent growth in the first half, grew more modestly in the final half of the year (16.1 per cent).

Chart 5.6 • Breakdown of private consumption real growth | Contribution in percentage points



Sources: INE and calculations by Banco de Portugal.

Chart 5.7 • Sales of light passenger vehicles | Thousands of vehicles, annual values



Sources: ACAP and calculations by Banco de Portugal.

GFCF acceleration, albeit with heterogeneous behaviour across components

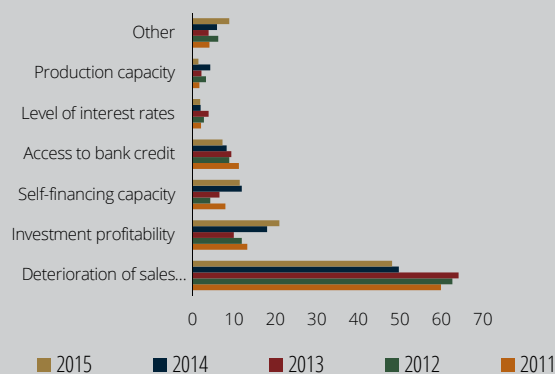
In 2015 investment grew by 3.6 per cent in terms of volume – 1.9 p.p. less than in 2014. However, developments in investment, particularly in the first quarter, were negatively affected by a very substantial negative contribution from changes in inventories, which largely reflected the base effect resulting from the build-up of stocks associated with international fuel trade flows in the first half of 2014. In this context, GFCF grew by 3.9 per cent in 2015, after 2.8 per cent in 2014.

The more favourable developments in GFCF in 2015 are in line with the lower share of enterprises reporting investment constraints. On the basis of information for the previous year incorporated in the Investment Survey published each January, this share stood at 58.4 per cent in 2013, increasing somewhat to 58.9 per cent in 2014, only to decrease again to 54.2 per cent in 2015. Although the deterioration in sales prospects continues to be the main constraint on investment according

to enterprises, their relative weight has decreased due to an increase in other factors, such as investment profitability and self-financing capacity (Chart 5.8).

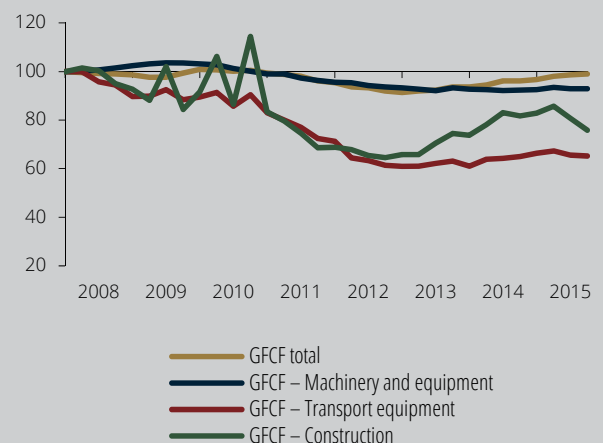
Against a background of improved financing conditions, the need to restore the capital stock and a consolidation of the growth outlook for domestic demand and external demand for Portuguese goods and services, GFCF continued to be one of the most robust overall demand components in the first half of 2015. However, in the second half of the year, GFCF followed a clearly downward trend, which was particularly significant in the last quarter, posting a 0.2 per cent year-on-year rate of change. The lower buoyancy of GFCF in the second half of the year was particularly marked in the machinery and equipment component (Chart 5.9), which fell, year-on-year, in the third and fourth quarters (2.9 and 7.1 per cent respectively).⁴⁰ Unfavourable developments in this investment component may be associated with increased uncertainty at international and domestic level in the second half of 2015, which seems to have led to the postponement of a number of investment decisions,

Chart 5.8 • Main limitation to investment
| As a percentage of firms that reported limitations to investment



Sources: INE.

Chart 5.9 • GFCF developments by type of investment
| 2008 Q1=100



Sources: INE and calculations by Banco de Portugal.

as well as the lack of pressure to increase spare capacity (Chart 5.10).

Despite decelerating between the first and second halves of the year, GFCF in transport equipment grew strongly, while GFCF in construction continued to post positive rates of change throughout the year, following consecutive decreases in annual average terms since 2002. In the year as a whole, GFCF in transport equipment grew by 25.4 per cent (18.8 per cent in 2014), while GFCF in construction grew by 4.1 per cent (3.2 per cent in 2014). The buoyancy of the latter component was particularly noticeable in the first half of the year, partly reflecting the base effect stemming from adverse weather conditions in early 2014. The more favourable developments in GFCF in construction in 2015 were accompanied by a rise in housing prices in real terms, following substantial falls in recent years.

By institutional sector, public investment grew in 2015, after substantial decreases in the previous four years, in spite of the relatively low weight of this component. In turn, according to annual estimates and following a clear recovery trend since the end of 2013, corporate investment fell markedly in the second half of 2015, most notably in the last quarter of the year, with a year-on-year decrease of 1.8 per cent.

The behaviour of corporate investment over the next few years will likely be conditioned by the outlook for domestic demand growth, developments in external demand and the need to adjust corporate balance sheets given their high indebtedness levels. In this context, as seen after the contraction in economic activity in 2003, it is possible that the rebound in investment will not be as robust as is typical in post-recession periods. Furthermore, chiefly among those factors constraining investment decisions are labour force skills, their complementarity with investment in physical capital, the existing institutional framework, particularly as regards market flexibility, and the predictability of the tax system.

Given that investment decisions are assessed in a global context and resources have been considerably reallocated within the Portuguese economy, the framework governing investment decisions will also be influenced by the way in which economic imbalances will continue to be corrected and structural reforms needed to increase productivity will be implemented. Amid the growing integration of Portuguese enterprises in the global economy, the factors that may hamper their competitiveness are of particular relevance, most notably context costs.⁴¹ According to Statistics Portugal's Business Cost of Context Survey in 2015, the judicial system was reported by enterprises as posing the greatest challenges to their activity, followed by licensing and the tax system.

Acceleration in exports in 2015, with marked growth in exports of energy goods

Exports of goods and services remained very robust in 2015, growing by 5.2 per cent in terms of volume (1.3 p.p. more than in 2014). This reflects an acceleration in exports of goods, to 5.6 per cent (2.9 per cent in 2014), and a deceleration in exports of services, to 4.2 per cent (6.3 per cent in 2014).

The continued strong buoyancy in exports of goods in 2015 was largely due to the behaviour of the energy goods component (Chart 5.11), which, over the year as a whole, grew by 35.9 per cent in terms of volume, in contrast to a 12.2 per cent fall in the previous year. This partly reflected the base effect associated with the temporary shutdown of a major refining unit in the first half of 2014. The substantial growth in sales of energy goods in terms of volume in 2015 was accompanied by a marked fall in fuel prices (Section 7).⁴² Excluding energy goods, exports of goods grew by 2.7 per cent in terms of volume (4.6 per cent in 2014). This deceleration was largely due to a substantial decrease in exports of goods to Angola,

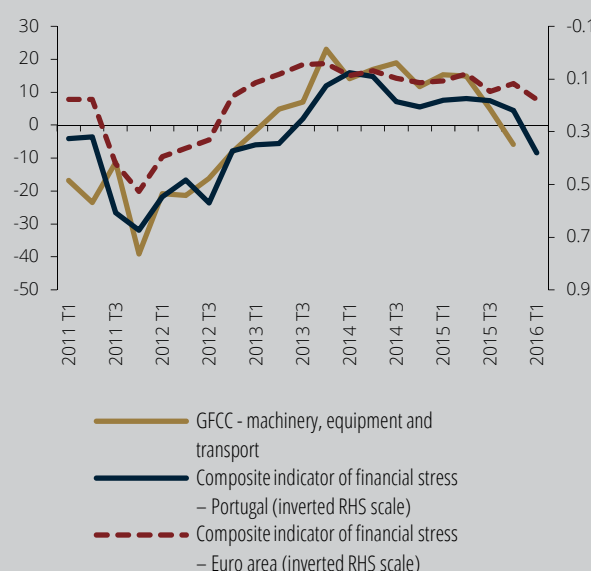
which, in nominal terms, stood at 33.8 per cent (see Box 'Exposure of the Portuguese economy to Angola').

Turning to developments in exports of goods in 2015, special mention should be made to the very robust exports of transport equipment, more specifically motor vehicles, as well as a few groups of products, most notably machinery and equipment, and pulp, paper and cardboard. By destination market, exports to Spain grew significantly in 2015. Intra-EU exports also grew considerably, particularly to the United Kingdom and France. In turn, extra-EU exports of goods decreased in 2015, partly due to a strong decline in exports to Angola. Excluding sales to Angola, exports of goods to non-EU countries posted positive rates of change, due to a depreciation in the euro in nominal effective terms since mid-2014.

In 2015 exports of services grew by 4.2 per cent in terms of volume, which led to a 2.1 p.p. decrease from the previous year. Despite decelerating in 2014, exports of tourism services continued to be very strong in 2015, growing by 8.0 per cent in real terms (11.7 per cent in 2014). This is in line with developments in nominal tourism revenue and the number of nights spent by non-residents in Portuguese hotels (Chart 5.12).⁴³ Exports of other services excluding tourism grew by 1.3 per cent in 2015, after 2.6 per cent in 2014.

In 2015 exports of goods and services in terms of volume grew more than external demand for Portuguese goods and services, in contrast to 2014 (Chart 5.13). The external demand indicator typically used by Banco de Portugal, calculated on the basis of Eurosystem data, does not reflect the relative importance of external

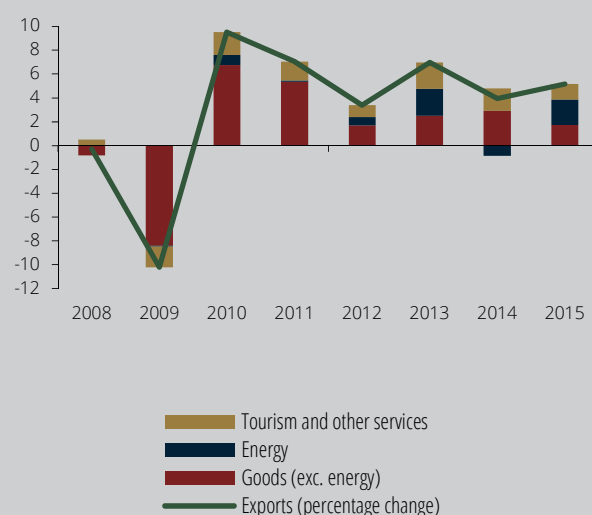
Chart 5.10 • GFCC in machinery, equipment and transport material and the composite indicator of financial stress | Year-on-year rates



Sources: INE and Banco de Portugal.

Note: For a more detailed description of the methodology underlying the computation of the Composite Indicator of Financial Stress see: Braga et al. (2014): "The Indicator of Financial Stress for Portugal", Banco de Portugal, *Financial Stability Articles*, number 1.

Chart 5.11 • Contributions to the real growth to exports of goods and services | Contribution in percentage points



Sources: INE and calculations by Banco de Portugal.

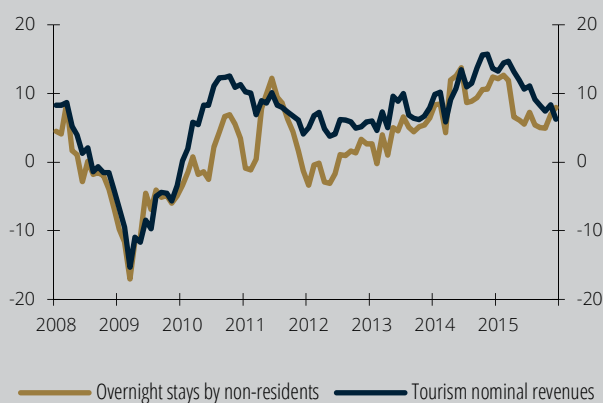
trade with Angola. A re-estimation of external demand taking into account the actual weight of Angola and import developments shows, as should be expected, less significant growth in 2015, which points to higher share gains. However, share gains in 2015 were largely influenced by the above-mentioned temporary factors that affected exports of energy goods in 2014 and 2015. During this two-year period and excluding this type of goods, exports of goods and services grew, on average, broadly in line with external demand developments. This reflects a less favourable behaviour of Portuguese export market shares compared with the 2011-13 period, which is further supported by a more detailed analysis of market shares by export market and product (see Box 'Market shares of Portuguese exports of goods in the recent period: an analysis based on a sample of export markets').

Acceleration in imports of goods and services, with notably strong growth in imports of energy goods

In 2015 imports of goods and services grew by 7.4 per cent in terms of volume (7.2 per cent in 2014). These developments reflect an acceleration in imports of goods and less robust imports of services (Chart 5.14). In fact, in the year as a whole, imports of goods grew by 7.9 per cent in real terms (6.7 per cent in 2014), while imports of services grew by 4.8 per cent (9.9 per cent in 2014).

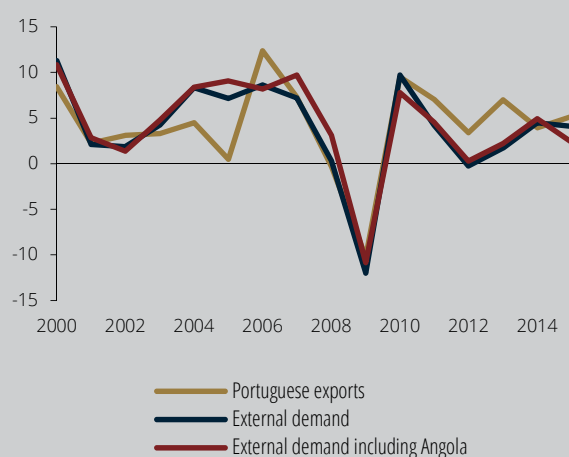
Growth in imports of goods in 2015 reflected the continued strong buoyancy in a number of domestic demand components with high import content – such as consumption of durable goods

Chart 5.12 • Tourism nominal revenues and number of overnight stays by non-residents
| Year-on-year growth rates, in percentage; monthly values



Sources: INE and calculations by Banco de Portugal.

Chart 5.13 • Exports of goods and services and external demand | Year-on-year growth rates in percentage



Sources: INE and Banco de Portugal.

The indicator of external demand including Angola takes into account the importance of foreign trade with this country and it corresponds to the weighted average (weights based on exports) between the indicator of external demand computed by the ECB and Angola's total volume of imports of goods and services.

or GFCF in transport equipment – together with strong growth in exports of energy goods. In the year as a whole, imports of energy goods grew significantly (15.0 per cent in terms of volume, after a 1.1 per cent decline in 2014), particularly in the second quarter. Excluding energy goods, imports of goods grew by 6.4 per cent in 2015, most notably imports of pharmaceutical products, particularly in the second quarter. In nominal terms, imports of pharmaceutical products grew by 42.2 per cent, year-on-year, in the second quarter.⁴⁴

Underlying import developments in 2015 was a deceleration in the second half of the year, reflecting a loss in buoyancy for a number of demand components with high import content, most notably as shown by the fall in GFCF in machinery and equipment, and a deceleration in consumption of durable goods and exports of energy goods in the second half of the year.

In 2015 growth in imports of goods and services was higher than that in overall demand weighted by import content, which led to an increase in the level of import penetration, similarly to 2013 and 2014.



Chart 5.14 •
Contributions
to the real
growth
of imports
of goods
and services
| Contribution
in percentage points

Sources: ECB, IMF, INE and calculations by Banco de Portugal.

Box 5.1 | Exposure of the Portuguese economy to Angola

A period of rapid growth in the Angolan economy started in the wake of the end of the civil war in 2002. Between 2002 and 2014, average annual GDP growth was around 10 per cent. During this period, there was also a gradual nominal stabilisation, accompanied, during most years, by fiscal and external surpluses.

Strong growth seen over the past decade was closely related to an expansion in the oil extraction industry, with Angola becoming the 16th largest oil provider worldwide. In spite of some efforts to diversify, the Angolan economy remains highly dependent on the oil sector. In 2014 this sector had a share of approximately 35 per cent in GVA, generated 68 per cent of fiscal revenue and accounted for 97 per cent of goods' exports.

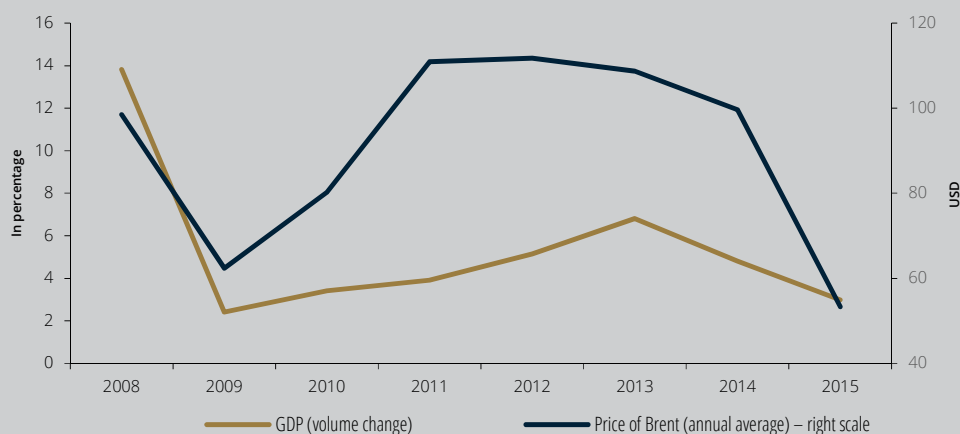
In this context, the marked decline in international oil prices in the second half of 2014, which continued in 2015, led to a deceleration in the economy and a rapid move to imbalances in public and external accounts (Chart 1). In 2015, despite a reduction in foreign exchange reserves, the Angolan kwanza depreciated by more than 30 per cent against the euro in the official market. Inflation climbed to two-digits. Furthermore, debt to suppliers increased and a number of financial stability indicators, such as non-performing loans, deteriorated.⁴⁵

Available information points to a substantial reduction in Angolan imports in 2015, reflecting difficulties in means of payment and a slowdown in economic activity. According to IMF estimates, imports of goods and services declined by approximately 24 per cent, in real terms, during this period (11 per cent in 2014).⁴⁶

External trade is an important shock transmission channel across economies. The Portuguese economy's exposure to the Angolan economy is chiefly evidenced by bilateral trade flows, more specifically Angola's demand for Portuguese exports.

Trade between Portugal and Angola increased very substantially between 2005 and 2014, in line with an expanding Angolan economy. Angola went from being the 9th most important destination for Portuguese exports in 2005 to becoming the 4th in the 2011-14 period, accounting for nearly 7 per cent of total Portuguese exports. Nominal exports of goods and services increased,

Chart 1 • Angola GDP and the oil price



Sources: IMF (WEO april 2016) and Reuters Datastream.

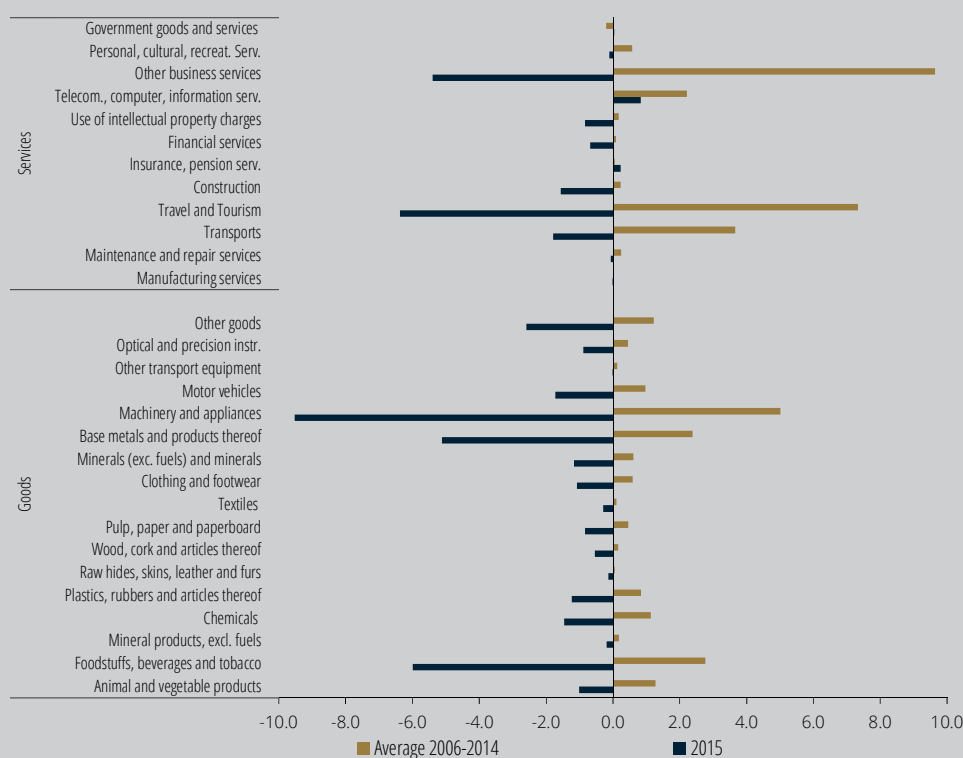
in annual average terms, by 16 and 27 per cent respectively, in the 2011-14 period (Chart 2). Exports of goods were particularly robust in terms of machinery and equipment, base metals and articles of base metal, and food, beverages and tobacco, while in the case of services the most relevant items were other services supplied by enterprises, travel and tourism, and transportation. As regards imports, Angola's weight is considerably lower (approximately 3 per cent of total Portuguese imports in the 2011-14 period), with a very substantial share of mineral fuels.

Portuguese exports to Angola fell markedly in 2015, with the fall worsening over the course of the year. In the year as a whole, nominal exports of goods to this destination fell by 34 per cent, while exports of services decreased by 14 per cent, extending to both tourism and other services. This reduction was particularly significant for products and services that had previously posted more buoyant developments (Chart 2). The downward trend in exports to Angola intensified further in the first two months of 2016.

As such, Angola's share of total Portuguese exports declined to around 4 per cent in 2015. In spite of the negative contribution made by Angola (-1.8 percentage points), Portuguese exports of goods and services accelerated, in nominal terms, from 3.2 to 4.6 per cent in 2015, due to favourable developments in sales to other markets (Chart 3).

Besides trade, Portugal and Angola are economically interlinked in many ways. However, in some cases, the effects of the slowdown in the Angolan economy are difficult to quantify, due to their complexity and statistical gaps. During the Angolan economy's rapid expansion, substantial migratory

Chart 2 • Contribution to the average annual growth rate of goods and services' exports to Angola | In percentage points



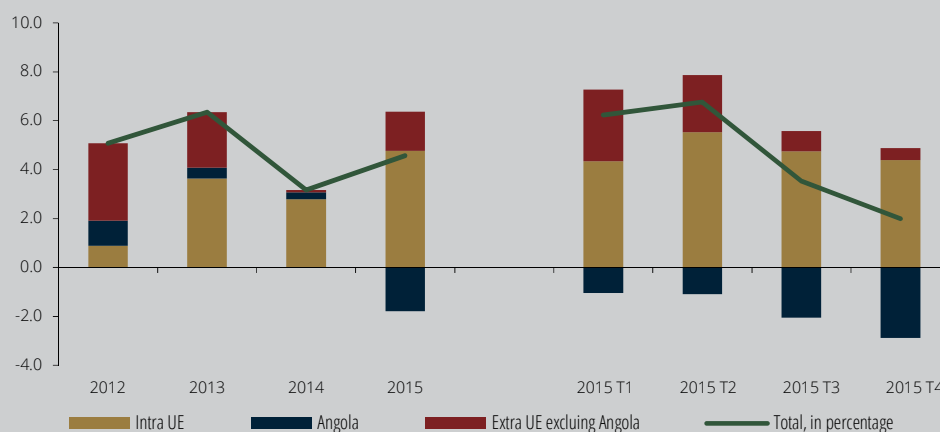
Sources: INE and Banco de Portugal.

outflows from Portugal to Angola took place, which seem to have been partly reversed in the most recent period. However, the lack of information on the number of Portuguese emigrants in that country makes it impossible to perform an in-depth analysis of this phenomenon and its impact on the Portuguese labour market. In line with the migratory flow, emigrants' remittances from Angola grew rather quickly in the 2006-13 period (by around 40 per cent, in annual average terms), accounting for 10 per cent of the total at the end of this period. In 2014 and 2015 Portuguese emigrants' remittances from Angola dropped by 19 and 12 per cent respectively. Despite substantial fluctuations, the impact of these flows on Portuguese external accounts remained relatively low (between 0.1 and 0.2 per cent of GDP).

Furthermore, financial links between Portugal and Angola are significant and may contribute to an amplification of the effects of the economic crisis in Angola on the Portuguese economy. In this context, it should be noted that direct investment flows between the two countries have also intensified during the past decade. At the end of 2015 Angola's direct investment position in Portugal corresponded to 1 per cent of Portuguese GDP, while Portugal's direct investment position in Angola represented 2.2 per cent (0.1 and 0.2 per cent respectively in 2005). However, it is possible that these statistics underestimate foreign direct investment links between the two economies, as they do not take into account transactions settled through entities located in third countries. Lastly, mention should be made to the Portuguese banking sector's exposure to Angolan entities, more specifically in terms of loans and deposits. This exposure is even greater when taking into account Portuguese banks' subsidiaries in Angola, as well as credit granted by the Portuguese banking system to enterprises with strong ties with that country, whose default levels have been growing substantially.

The Portuguese economy is significantly exposed to economic developments in Angola. Its slowdown therefore had a considerable negative impact on exports and activity in Portugal in 2015, which will most likely continue in 2016. However, it is foreseeable that these developments will lead to a re-orientation process of economic relations to other markets with better growth prospects, as has been observed in the recent past.

Chart 3 • Nominal exports of goods and services by country of destination
| Contribution in percentage points



Sources: INE and Banco de Portugal' computations.

Box 5.2 | Market shares of Portuguese exports of goods in the recent period: an analysis based on a sample of export markets

This box examines the evolution of the share of Portuguese exports of goods in some of its main individual destination/product markets, using international trade data in nominal terms from the Global Trade Atlas database. The analysis is based on a sample of nominal exports to 10 major destination countries with a sectoral breakdown by 12 groups of products defined from the chapters of the Combined Nomenclature (CN), corresponding to around 70 per cent of Portuguese exports of goods and around 50 per cent of Portuguese exports of goods and services in 2014.⁴⁷ The concept of individual market refers to each country/product market, measured by the imports of a given product by a specific country.

The total change of share of Portuguese exports of goods in this sample of individual markets is calculated by comparing the growth of Portuguese exports to all markets in the sample with the growth of imports of all of them. By applying a constant market share methodology, this total change of share can be broken down into two additive and interpretable components.⁴⁸

The first component, called market share effect, takes into account the effective changes of share in each individual country/product market. In its calculation, the effective gain/loss of share in each individual market (e.g. the Spanish market of cars) is given by the difference between the growth rate of Portuguese exports to that market and the growth rate of imports of that market. The market share effect is obtained by weighing the changes of share in each individual market by its weight on Portuguese exports in the previous year. The contribution of each individual market to the market share effect depends both on the change of the individual market share and on the weight of that market.

The second component, called combined structure effect, assesses the extent to which the relative specialisation of Portuguese exports in the individual markets contributes to the evolution of total market shares. Portugal is relatively specialised in an individual market if that market's weight on Portuguese exports exceeds its weight on total imports of the sample. This specialisation generates a positive (negative) contribution to the combined structure effect if imports of that individual market grow more (less) than the average growth of total imports of all markets.

It is important to analyse the market share effect since it reflects the revealed competitiveness in the individual markets considered, associated with the ability of Portuguese firms to compete effectively with suppliers from other countries in each market. Chart 1 shows that the market share effect was very positive in 2013 (5.2 percentage points (p.p.)), negative in 2014 (-1.9 p.p.) and positive again, but moderate, in 2015 (0.7 p.p.).

Table 1 presents the contribution of each individual market to the market share effect in these three years. The table also includes the totals by product and by geographical destination of the breakdown of the market share effect. The effective gains of market share of exports of fuels made a very substantial positive contribution to the market share effect in 2013 and 2015. In 2013, this gain reflected a significant increase of Portuguese fuel exports, associated with an increase in oil refining capacity. However, the gain of market share in 2015 was partly related to a strong recovery in exports determined by a base effect, namely the temporary closure of a refining unit in the first quarter of 2014. This fact contributed to an effective loss of market share of Portuguese fuel exports in 2014, which resulted in a -0.6 p.p. contribution to the negative market share effect observed in that year.

Therefore, given the strong influence of the energy component – whose developments are particularly exposed to oil price developments – it is important to perform an analysis excluding fuels. In this case, the market share effect is negative in both 2014 and 2015, and continues to be positive, but less significant, in 2013. With the exception of agri-food products, beverages and tobacco, and minerals and base metals, Portuguese exports recorded effective losses of market share in most products in the past two years. In 2014, the products that made the most substantial negative contributions

to the effective changes of market share of Portuguese exports of goods were stones, ceramics and glass, together with wood, paper and cork, chemicals, plastics and rubber, and transport equipment. In 2015, the most negative contributions were made by footwear, apparel and clothing accessories, followed by transport equipment and chemicals, plastics and rubber.

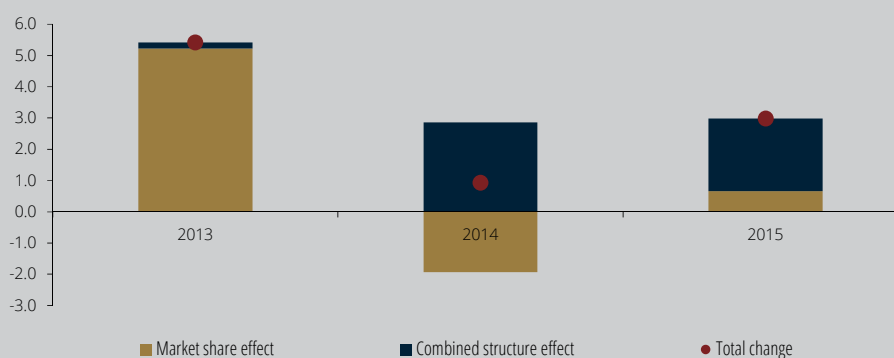
In terms of geographical destinations and still excluding fuels from the analysis, Spain and Germany gave the most negative contributions to the market share effect in the average of the last two years. The contribution of the other euro area countries considered was also negative, with the exception of the effective gains of market share in France in 2015, chiefly due to the evolution of exports of agri-food products, beverages and tobacco. Regarding extra-euro area countries, there were substantial effective gains of market share in the United Kingdom, the United States and China in 2014, but their contribution to the market share effect in 2015 was marginal.

The total change of market share of Portuguese exports is also influenced by the combined structure effect, which shows how the country benefits from being relatively more specialised in more dynamic individual markets. The combined structure effect was close to zero in 2013, but positive in 2014 and 2015 (Chart 1).

Given that the calculations were made using international trade data in nominal terms, the results should be interpreted with caution as they are influenced by foreign exchange and price changes. In particular, the strong reductions in the international prices of oil and other commodities, as well as the strong depreciation of the euro against the US dollar pose additional challenges to the interpretation of the results, particularly in 2015. Furthermore, the sample of destination countries used in this box does not include Angola. In 2015, imports of Angola fell markedly, which, given the specialisation of Portuguese exports in this geographical destination, would lead to a negative contribution to the combined structure effect should the country be incorporated in the sample.

Despite these limitations, the results obtained point to a smaller revealed competitiveness of Portuguese exports of goods in this sample of export markets in 2014 and 2015. In fact, the market share effect was positive in 2015, but this reflected an extraordinary gain of Portuguese fuel exports related to temporary factors. Excluding fuels, the market share effect was negative and amounted to around -1.5 p.p. in the average of 2014 and 2015, thus interrupting the trend of effective gains of market share of Portuguese exports of goods observed in the previous three years, amounting to around 4 p.p. in annual average terms.⁴⁹

Chart 1 • Arithmetic breakdown of the nominal change of the share of Portuguese exports of goods in a sample of 120 individual markets | In percentage points



Sources: Global Trade Atlas and calculations of Banco de Portugal.

Notes: For details on the methodology of constant market share analysis, see Amador, J. and Cabral, S. (2008), 'The Portuguese Export Performance in Perspective: A Constant Market Share Analysis', *Economic Bulletin*, Banco de Portugal, Autumn 2008.

Table 1 • Breakdown of the market share effect in a sample of 120 individual markets
 | Contribution of each individual country/product market in percentage points

2013												
Code CN	Description	Spain	Germany	France	United Kingdom	Netherlands	United States	Italy	Belgium	China	Brazil	Total
01-24	Agri-food, beverages and tobacco	0.5	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
27	Mineral fuels	2.5	-0.1	0.6	0.1	-0.1	0.2	0.0	0.3	0.0	0.0	3.4
28-40	Chemicals, plastics and rubbers	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	1.1
44-49	Wood, cork, pulp and paper	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.5
41-43; 50-59	Hides, leather, and textiles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60-63	Apparel and clothing accessories	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.3
64-67	Footwear and headgear	0.0	0.0	-0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
68-71	Stones, plasters, ceramics and glass	0.0	0.0	0.0	0.1	0.0	0.0	-0.2	-0.5	0.0	0.0	-0.5
25-26; 72-83	Minerals and base metals	-0.3	0.0	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	0.1	0.1
84-85	Machinery and electrical appliances	0.2	0.2	-0.1	0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.2
86-89	Transport equipment	0.0	-0.7	-0.1	0.0	0.0	0.1	0.0	-0.1	-0.5	0.1	-1.2
90-99	Miscellaneous products	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.6
	Total	3.8	-0.2	0.6	0.9	0.1	0.7	-0.1	-0.2	-0.5	0.1	5.2

2014												
Code CN	Description	Spain	Germany	France	United Kingdom	Netherlands	United States	Italy	Belgium	China	Brazil	Total
01-24	Agri-food, beverages and tobacco	0.1	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.6
27	Mineral fuels	-0.9	0.0	0.2	-0.2	0.1	-0.2	0.1	0.4	0.0	-0.1	-0.6
28-40	Chemicals, plastics and rubbers	-0.4	0.1	0.0	0.0	-0.1	0.3	-0.2	-0.1	0.0	0.0	-0.4
44-49	Wood, cork, pulp and paper	-0.2	-0.2	0.0	0.1	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.4
41-43; 50-59	Hides, leather, and textiles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60-63	Apparel and clothing accessories	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
64-67	Footwear and headgear	0.0	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-0.2
68-71	Stones, plasters, ceramics and glass	0.1	0.1	-0.1	0.0	0.1	0.0	-0.1	-0.5	0.0	0.0	-0.5
25-26; 72-83	Minerals and base metals	0.0	0.0	0.2	0.1	-0.1	0.0	0.0	0.0	0.1	-0.3	0.1
84-85	Machinery and electrical appliances	-0.2	-0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
86-89	Transport equipment	-0.1	-0.2	-0.2	0.0	-0.1	0.0	-0.1	-0.1	0.3	0.1	-0.4
90-99	Miscellaneous products	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.3
	Total	-1.8	-0.5	0.1	0.4	0.0	0.3	-0.2	-0.2	0.4	-0.2	-1.9

2015												
Code CN	Description	Spain	Germany	France	United Kingdom	Netherlands	United States	Italy	Belgium	China	Brazil	Total
01-24	Agri-food, beverages and tobacco	0.0	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.6
27	Mineral fuels	1.3	0.0	0.1	0.0	0.3	0.9	0.0	-0.3	0.0	0.0	2.4
28-40	Chemicals, plastics and rubbers	-0.1	-0.3	0.2	0.0	-0.2	0.1	0.0	0.0	0.0	0.0	-0.5
44-49	Wood, cork, pulp and paper	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
41-43; 50-59	Hides, leather, and textiles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
60-63	Apparel and clothing accessories	-0.1	-0.1	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.5
64-67	Footwear and headgear	-0.1	-0.1	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.6
68-71	Stones, plasters, ceramics and glass	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
25-26; 72-83	Minerals and base metals	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.3
84-85	Machinery and electrical appliances	-0.3	0.1	0.0	0.2	0.0	0.0	-0.1	0.0	0.1	-0.1	-0.2
86-89	Transport equipment	0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.2	0.1	-0.5
90-99	Miscellaneous products	0.0	-0.1	0.1	0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
	Total	0.6	-0.6	0.4	0.1	0.0	0.9	-0.1	-0.4	0.0	-0.1	0.7

Sources: Global Trade Atlas and calculations of Banco de Portugal.

Notes: CN refers to the Combined Nomenclature. For details on the methodology of constant market share analysis, see Amador, J. and Cabral, S. (2008), 'The Portuguese Export Performance in Perspective: A Constant Market Share Analysis', *Economic Bulletin*, Banco de Portugal, Autumn 2008.

6. Prices

Positive inflation rate in 2015, reversing the declining trend in prices in 2014

In 2015, the inflation rate in Portugal, as measured by the change in the Harmonised Index of Consumer Prices (HICP), stood at 0.5 per cent, compared with -0.2 per cent in 2014 (Table 6.1 and Chart 6.1). A breakdown by categories of goods shows that processed and unprocessed food prices and services prices were particularly buoyant. By contrast, industrial goods prices recorded a negative change, particularly marked in the case of energy goods. Despite the reversal in this trend of inflation, 2015 continued to be characterised by the absence of inflationary pressures. At domestic level, wage growth was low (Section 4) and, at external level, commodity prices declined, namely oil prices (Box 'Developments in commodity prices').

Considering the contribution of the different categories of goods to the inflation rate in 2015 (Chart 6.2), there was a positive contribution from the change in services prices (0.6 p.p.) and, to a lesser extent, in food prices (0.4 p.p.), while energy and non-energy industrial goods continued to make a negative contribution (-0.2 and -0.3 p.p. respectively).

In 2015 services prices increased 1.4 per cent, 0.3 p.p. up from 2014. The average annual rate of change in unprocessed food prices increased from April 2015, standing at 1.9 per cent at the end of the year, compared with -2.1 per cent in 2014. These developments seem to have been due to the reversal of base effects, which had an impact on figures for 2014.

The rate of change in processed food prices stood at 1.2 per cent, 0.8 p.p. higher than in 2014. Non-energy industrial goods prices continued to show a negative rate of change (-0.7 per cent), albeit less marked than in the previous year (-1.4 per cent).

Table 6.1 • HIPC – Main components | As a percentage

	Weights	Annual rate of change			Year-on-year rate of change			
	2015	2013	2014	2015	15 Q1	15 Q2	15 Q3	15 Q4
Total	100.0	0.4	-0.2	0.5	0.0	0.7	0.8	0.5
Total excluding energy	91.8	0.6	0.0	0.8	0.5	0.9	1.1	0.9
Total excluding unprocessed food and energy	81.0	0.4	0.2	0.7	0.5	0.6	0.9	0.8
Goods	58.1	0.0	-1.1	-0.1	-1.0	0.3	0.3	-0.1
Food	24.9	2.3	-0.7	1.5	0.5	2.2	2.2	1.1
Unprocessed food	10.7	2.6	-2.1	1.9	0.2	3.0	3.1	1.4
Processed food	14.2	2.0	0.4	1.2	0.7	1.6	1.5	0.9
Industrial	33.2	-1.5	-1.4	-1.3	-2.1	-1.0	-1.2	-1.0
Non-energy	25.0	-1.5	-1.4	-0.7	-1.1	-0.9	-0.6	-0.4
Energy	8.2	-0.7	-1.5	-3.7	-5.9	-1.9	-3.7	-3.3
Services	41.9	1.1	1.1	1.4	1.3	1.3	1.5	1.4
<i>Memo items:</i>								
Contribution of administered prices (in p.p.)	-	0.3	0.3	0.1	0.2	0.2	0.2	0.1
Contribution of taxes (in p.p.)	-	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Consumer Price Index (CPI)	-	0.3	-0.3	0.5	-0.1	0.7	0.8	0.6
HICP – Euro Area	-	1.4	0.4	0.0	-0.3	0.2	0.1	0.2

Sources: Eurostat and INE.

Energy prices continued along the downward path, which started in November 2013, falling 3.7 per cent in 2014, after a 1.5 per cent drop in the previous year.

Price developments in Portugal above those in the euro area

In 2015 the inflation rate in Portugal stood above the euro area average, which had a zero inflation rate. This represents a reversal in the figures

registered between end-2012 and end-2014, when the euro area inflation rate was systematically higher than in Portugal (Chart 6.3).

This positive differential resulted from the contribution of various HICP components, including energy goods. Conversely, non-energy industrial goods prices fell at a higher pace than in the euro area, possibly continuing to reflect the competitiveness gains of the Portuguese economy regarding tradable goods (Charts 6.4 and 6.5).

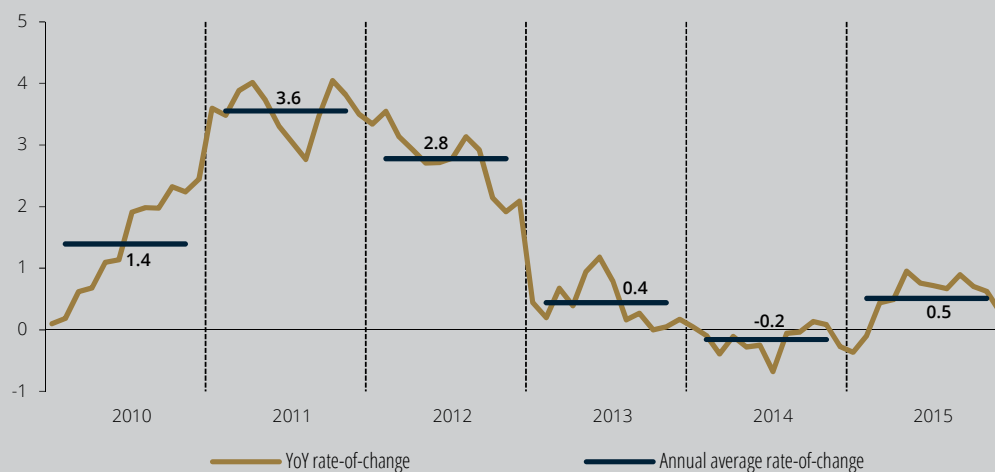


Chart 6.1 •
Harmonized index
of consumer prices
| In per cent

Source: INE.

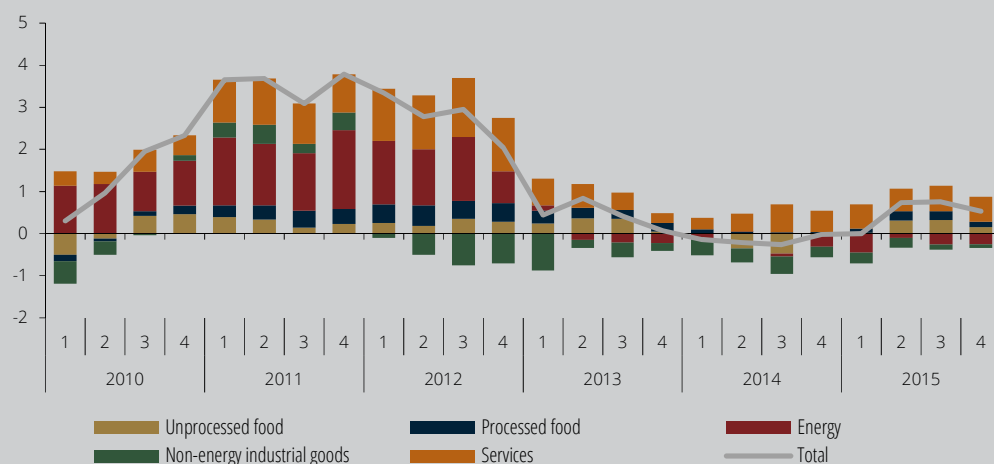


Chart 6.2 •
Contributions
to the year-on-year
rate of change
of the IHCP
| In percentage
points

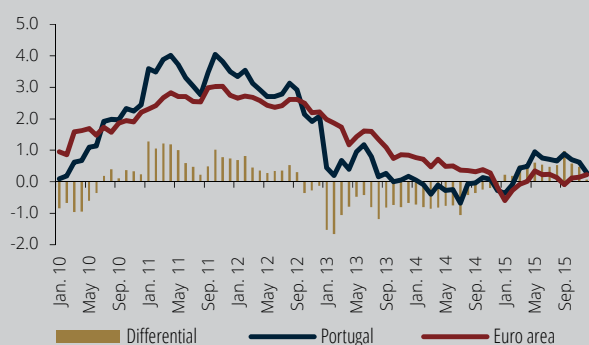
Source: INE.

In Portugal, the fall in oil prices in international markets, partly offset by the depreciation of the euro against the US dollar, was not fully reflected in consumer prices. This is explained by the rise in the tax on oil products and in refining costs and margins (Charts 6.6 and 6.7). The change in refining costs and margins was higher than in the euro area (Charts 6.8 and 6.9), making a positive contribution to the above-mentioned inflation differential of energy goods.

Inflation forecasts in line with the upward trend in the HICP

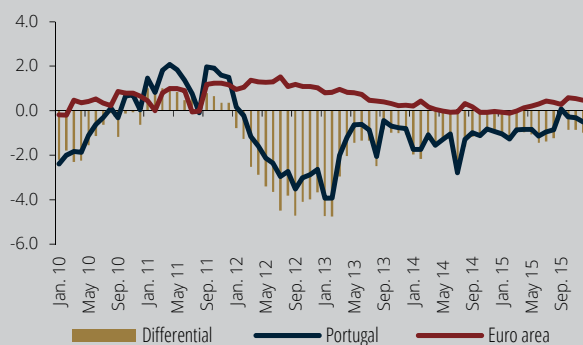
According to information disclosed by Consensus Economics, the inflation forecast for the current year showed an upward trend in 2015, moving in line with the observed annual average inflation rate (Chart 6.10). This represents a reversal in the performance seen from end-2012 to end-2014,

Chart 6.3 • HICP – Portugal and euro area
| Year-on-year rate of change, in per cent and p.p.



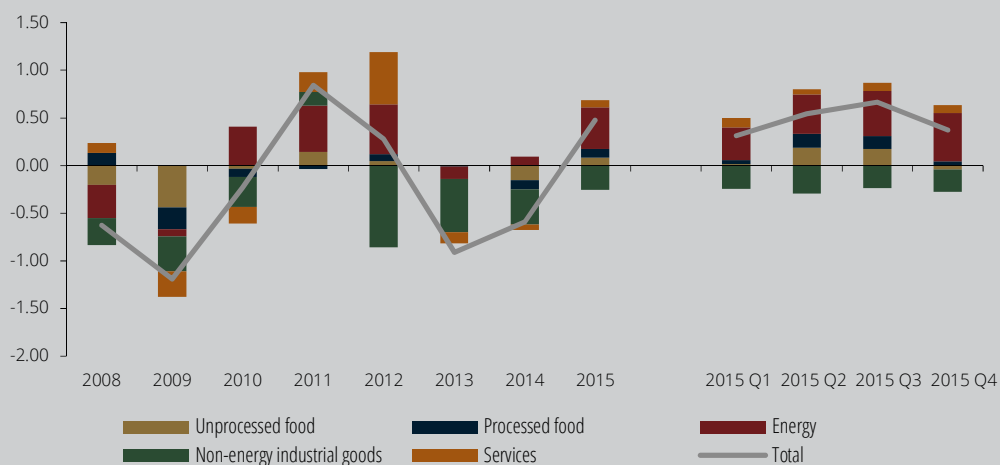
Sources: Eurostat and INE.

Chart 6.4 • HICP – Non energy industrial goods – Portugal and euro area
| Year-on-year rate of change, in per cent and p.p.



Sources: Eurostat and INE.

Chart 6.5 • HICP and contributions – differential between Portugal and euro area
| In percentage points



Sources: Eurostat and INE.

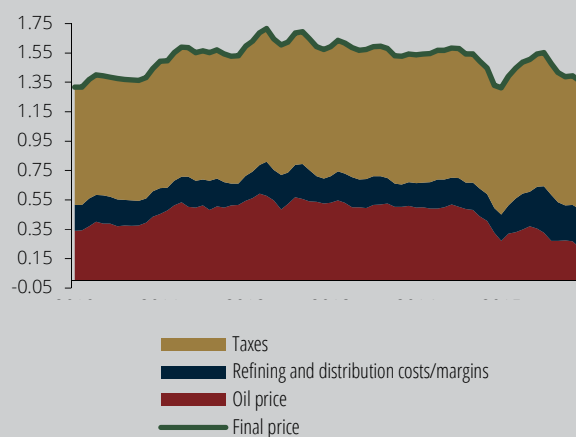
when inflation expectations were successively revised downwards.

The inflation forecast for the subsequent year, i.e. 2016, indicates higher inflation expectations than those of 2015, although towards the end of the year the figures observed in the last months of 2015 moved closer together (Chart 6.11).

Terms of trade contributed positively to the GDP deflator

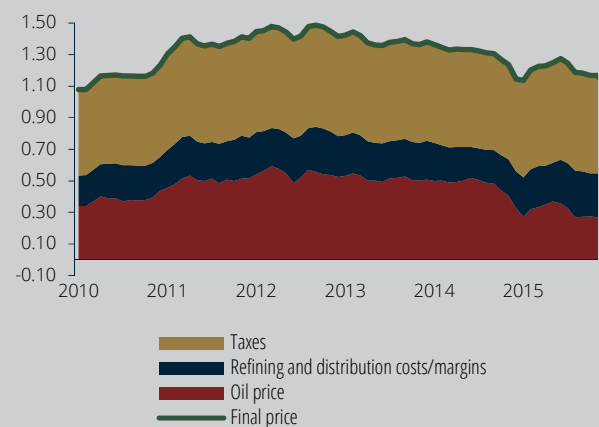
In 2015 the growth dynamics of the GDP deflator continued to be far stronger than that of the domestic demand deflator, due to the terms of trade effect (Chart 6.12). Falling oil prices in the past few years have had a negative impact on both the import and export deflators. Considering that Portugal is a net importer of energy

Chart 6.6 • Price of petrol, oil and taxes
| Euros per liter



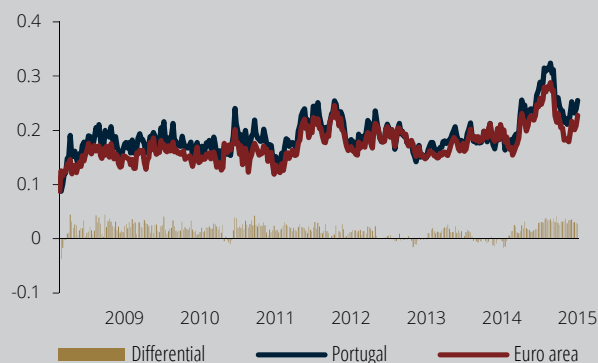
Sources: ECB and *Direção Geral de Energia e Geologia*.

Chart 6.7 • Price of diesel, oil and taxes
| Euros per liter



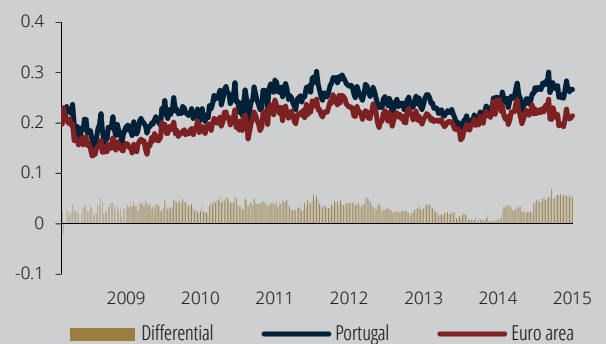
Sources: ECB and *Direção Geral de Energia e Geologia*.

Chart 6.8 • Refining and distribution costs/margins (petrol)
| Euros per liter



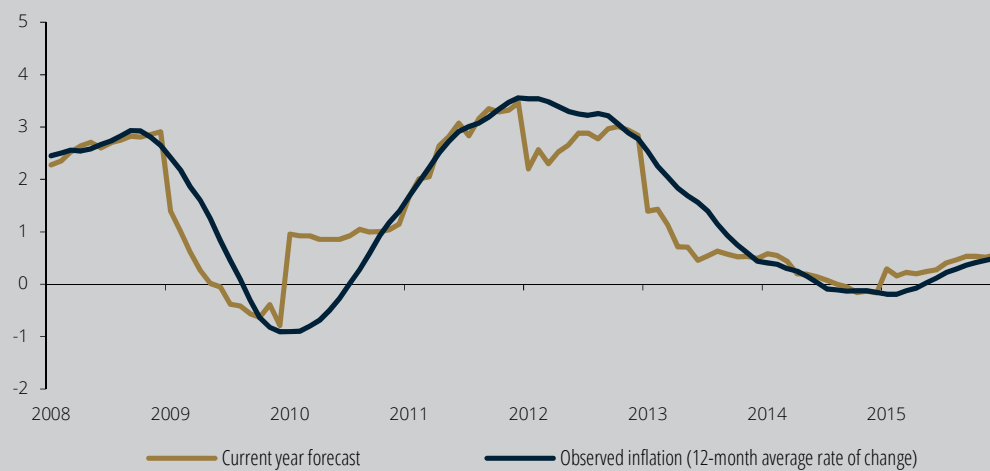
Source: European Commission.

Chart 6.9 • Refining and distribution costs/margins (diesel)
| Euros per liter



Source: European Commission.

Chart 6.10 •
Inflation
expectations and
observed inflation
| In per cent



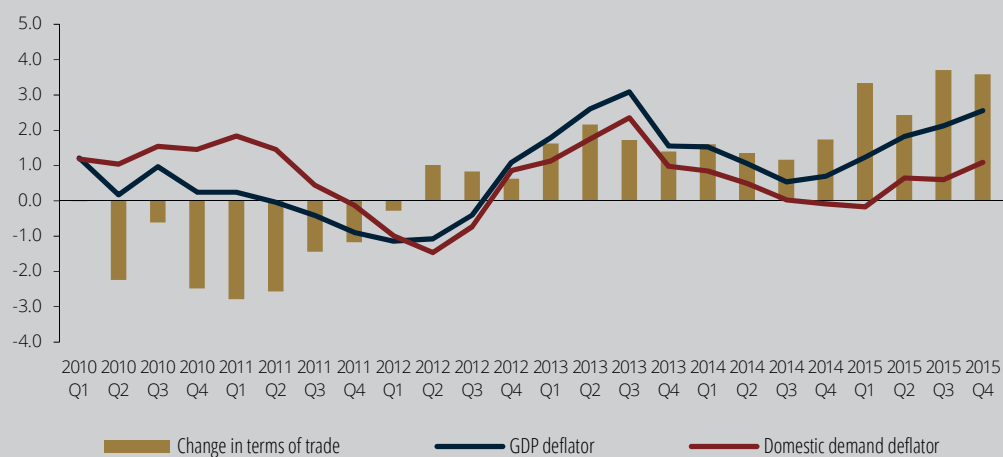
Sources: Consensus Economics and INE.

Chart 6.11 •
Inflation
expectations
for current
and next year
| In per cent



Source: Consensus Economics.

Chart 6.12 •
GDP deflator,
internal demand
deflator and terms
of trade
| In per cent



Source: INE.

goods, this generates a positive terms of trade effect. Note, however, that developments in import prices are reflected in the deflators of the domestic demand components, namely in the private consumption deflator, dampening the said effect.

Non-tradable goods prices resumed an upward trend in the recent period

Until 2008, in Portugal, prices of non-tradable goods increased more rapidly than those of tradable goods, and considerably above the prices of non-tradable goods in the euro area (Chart 6.13). In fact, in the euro area, an increasing differential was also recorded between non-tradable

and tradable goods prices, but of smaller magnitude. In the subsequent period, in the context of decreasing activity and macroeconomic adjustment in Portugal, developments in non-tradable goods prices were more mitigated than in the euro area. However, these developments seem to be recording a reversal in the most recent period, which may exert pressure on production costs of the Portuguese export sectors and have in general a negative impact on the competitiveness of the economy. In the case of tradable goods, the gap between prices in Portugal and in the euro area is significantly smaller and has remained stable in the period after the financial crisis.

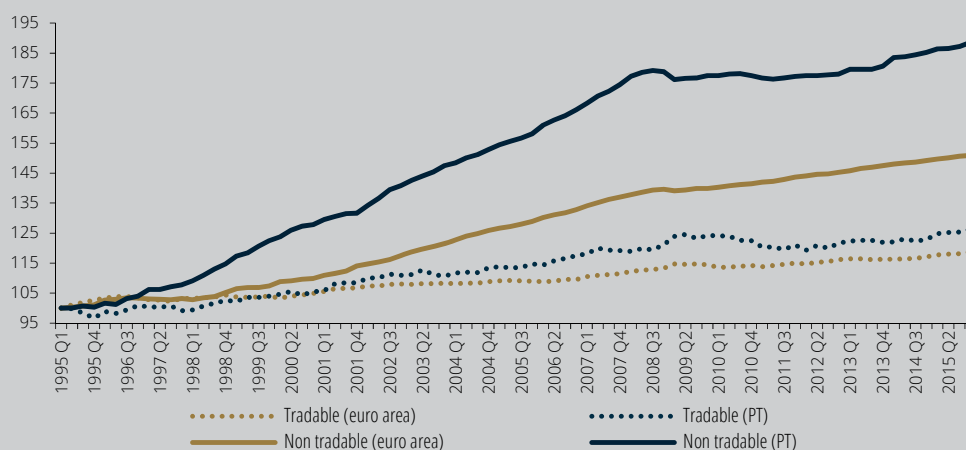


Chart 6.13 •
Price Index
of private GVA,
tradable and
non-tradable
goods
| Index 1995 Q1=100

Sources: Eurostat and Banco de Portugal calculations.

Note: Private GVA is calculated excluding the public administration, health and education. Tradable sectors include: agriculture and fishing, industry (excluding construction), wholesale and retail trade, transportation, accommodation and food service, information and communication. Non tradable sectors include: construction, finance and insurance, real estate, professional, scientific and technical activities, administrative and support service activities and arts, entertainment and recreation; other service activities.

7. External financing and balance of payments

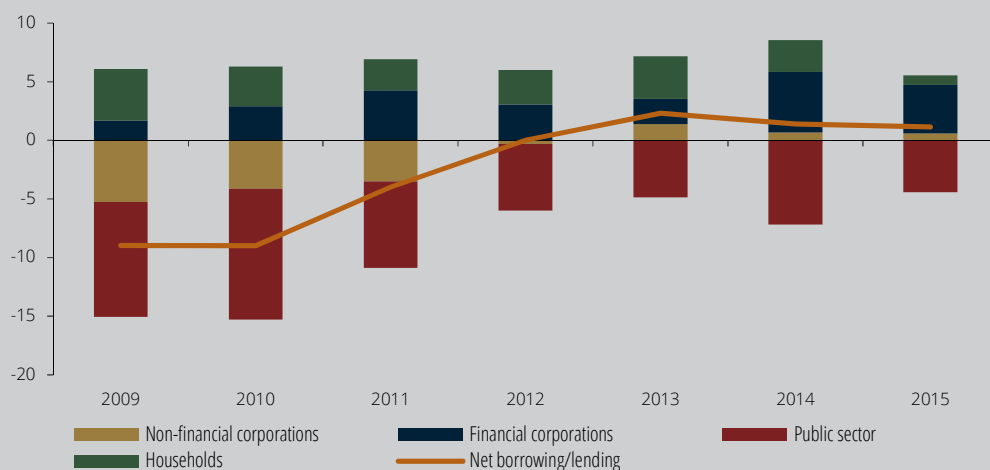
Net lending capacity of the Portuguese economy remained relatively stable in 2015, amid the stabilisation of investment and savings

In 2015 the net lending capacity of the Portuguese economy remained positive and relatively

stable compared with 2014 (1.1 per cent of GDP, down from 1.4 per cent) (Chart 7.1). The stabilisation of the net lending capacity of the economy in 2015 reflected a stabilisation of both investment and savings (Chart 7.2).

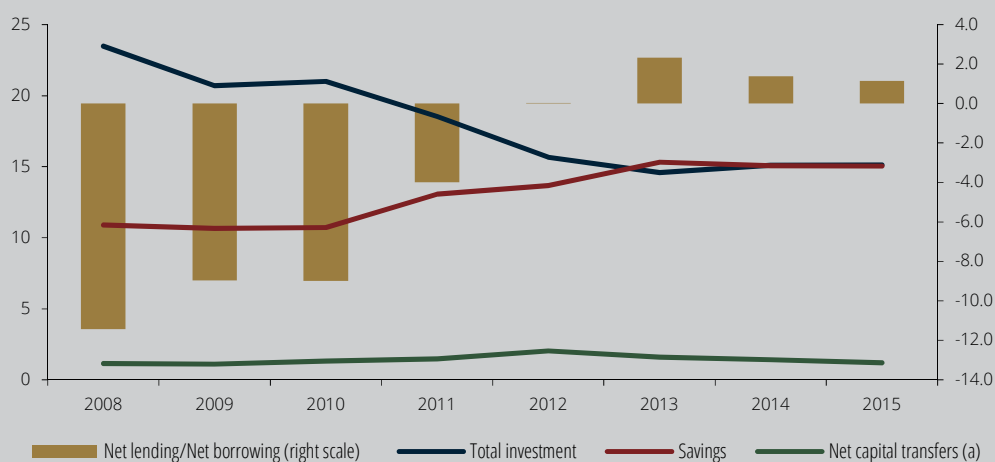
As in the past two years, the general government sector was the only one with financing needs, albeit lower than in 2014 (Section 3). The net

Chart 7.1 •
Net lending/net borrowing of the economy
| As a percentage of GDP



Source: INE.

Chart 7.2 •
Net lending/net borrowing of the economy
| As a percentage of GDP



Source: INE.

Note: (a) Includes net acquisition of non-produced non-financial assets.

lending capacity of the remaining sectors recorded a broadly based decrease. In the case of individuals, these developments reflect a reduction in the saving rate, which fell to a historical low (4.2 per cent). In the case of non-financial corporations, the maintenance of the net lending capacity, albeit low, may reflect the restrictions resulting from the high indebtedness level.

⋮ Maintenance of the current ⋮ and capital account ⋮ surplus, amid improving ⋮ terms of trade and ⋮ buoyant tourism

In 2015 the current and capital account balance stood at 1.7 per cent of GDP,⁵⁰ virtually unchanged from 2014, with the external accounts continuing the positive path that has characterised the Portuguese economy in the recent period, including a trade surplus (Table 7.1). As to the latter, during the Economic and Financial Assistance Programme, improvements in the trade balance were based on volume effects, reflecting buoyant exports and a strong contraction of imports, in line with a fall

in domestic demand. By contrast, in the past two years, the trade balance benefited from important terms of trade effects, as the contribution of net exports in real terms has been negative (Chart 7.3 and Section 5). Net exports of tourism services continued to make a positive contribution in volume. Besides, the income account continued to post a deficit, associated with the high indebtedness level of the Portuguese economy, which has been partly offset by positive developments in net emigrants' remittances.

The goods and services account balance improved by 0.6 p.p. of GDP, with the goods deficit declining by 0.4 p.p. of GDP and the services surplus increasing by 0.2 p.p. of GDP. The decline in the goods deficit reflected higher export than import growth (3.7 per cent and 2.5 per cent respectively).⁵¹

The services account balance improved (by 0.2 p.p. of GDP) given the acceleration in exports (6.6 per cent compared with 6.3 per cent in the previous year), along with a deceleration in imports, which however continued to grow robustly (6.1 per cent compared with 10.4 per cent in 2014).

Table 7.1 • Current and capital accounts | As a percentage of GDP

	2012	2013	2014	2015
Current and capital accounts	0.2	3.1	1.6	1.7
Current account	-1.9	1.5	0.1	0.5
Goods and services account	0.1	1.8	1.1	1.7
Goods	-5.5	-4.7	-5.5	-5.1
Services	5.6	6.6	6.6	6.8
of which:				
Travel and tourism	3.4	3.6	4.1	4.3
Primary income account	-2.6	-1.3	-1.7	-2.1
Secondary income account	0.6	0.9	0.7	0.9
of which:				
Emigrants/immigrants remittances	1.3	1.4	1.5	1.6
Capital account	2.1	1.6	1.5	1.3

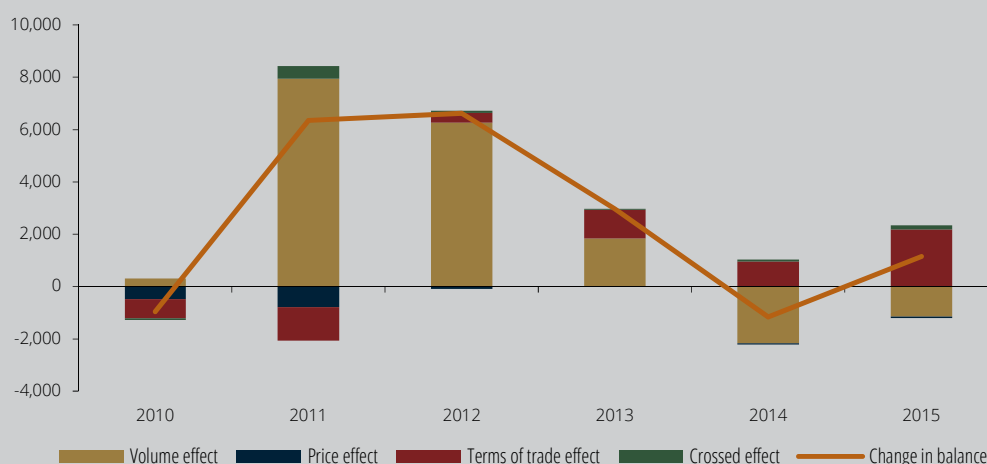
Sources: INE and Banco de Portugal.

The primary income account deficit deteriorated by 0.4 p.p. of GDP, given a more marked reduction in receipts⁵² (by 0.5 p.p. of GDP) than in payments (by 0.1 p.p. of GDP). As to the former, there was a reduction in portfolio investment income, namely income on long-term debt securities and other primary income. Direct investment income rebounded. After a reduction of 0.6 p.p. of GDP in 2014, this type of income recorded marginal growth of 0.1 p.p. of GDP in 2015.

Total income paid remained virtually flat, with a slight increase associated with direct investment (0.3 p.p. of GDP) being offset by a reduction in portfolio investment income (by 0.2 p.p. of GDP) and other investment income (by 0.2 p.p. of GDP).

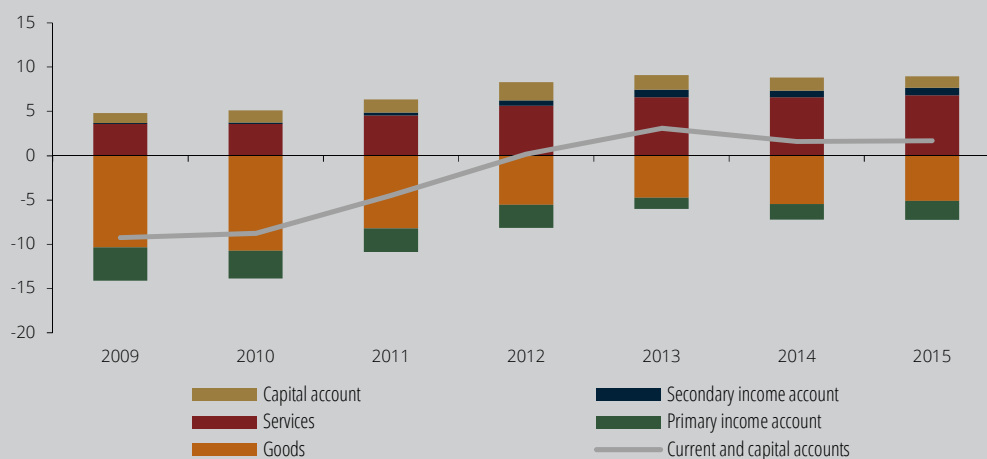
As to the secondary income account, emigrants' remittances increased by 8.3 per cent, with contributions from the main emigration destinations, namely France and Germany. By contrast, remittances from Angola decreased

Chart 7.3 •
Decomposition
of goods and
services account
| Million of euros



Sources: INE and Banco de Portugal.

Chart 7.4 •
Decomposition
of current and
capital account
balance
| As a percentage
of GDP



Sources: INE and Banco de Portugal.

in line with economic developments in this country (Box 'Exposure of the Portuguese economy to Angola').

Change in the composition of net outflows from 2014 to 2015

The net lending capacity of the economy translated into net outflows. In 2015 the magnitude of outflows remained virtually unchanged from 2014 (1.8 p.p. of GDP), but had a different composition: while in 2014 the net change in foreign assets was higher than the net change in liabilities (13.1 and 11.3 p.p. of GDP respectively), in 2015 the net reduction in liabilities was higher than in assets (-5.5 and -3.7 p.p. respectively). A disaggregation by item of the financial account shows that net outflows were recorded across most items, with the exception of portfolio investment.

Most institutional sectors recorded a reduction in the net change in assets, in 2015, which was particularly marked in the case of insurance corporations and pension funds and other monetary financial institutions, which recorded a net sale of assets.

In terms of the net change in liabilities, emphasis should be placed on the evolution of the general government and non-monetary financial institutions other than insurance corporations and pension funds, which resorted to external financing in 2014 but repaid liabilities in 2015. The other monetary financial institutions moved in line, disinvesting in external assets and making significant repayment of liabilities.

Since the Economic and Financial Assistance Programme, the net change in assets has been higher than the net change in liabilities, thereby giving rise to financial account surpluses (Chart 7.5).

The components of the international investment position related to debt instruments showed a slight correction

The international investment position of the Portuguese economy reached -109.4 per cent of GDP in 2015, accounting for an improvement of 5.0 p.p. from end-2014 (Table 7.2). The net external debt⁵³ moved in line, declining by 3.0 p.p. of GDP in 2015, to 101.5 per cent of GDP in 2015 (Chart 7.6). Despite this improvement, taking into

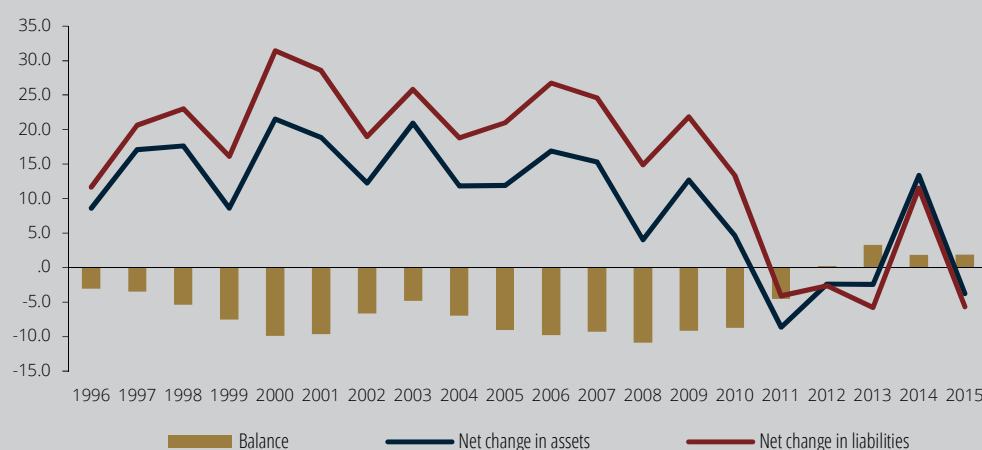


Chart 7.5 •
Net change
in financial assets
and liabilities
and financial
account balance
| As a percentage
of GDP

Sources: INE and Banco de Portugal.

account a longer horizon, progress regarding the reduction of the Portuguese economy's external indebtedness has been limited, with this variable standing at a level similar to that of the beginning of the adjustment process. The net position in capital instruments stood at -7.9 per cent of GDP, increasing by 0.9 p.p. in 2015.

Liabilities relating to foreign direct investment – which includes financial positions in companies

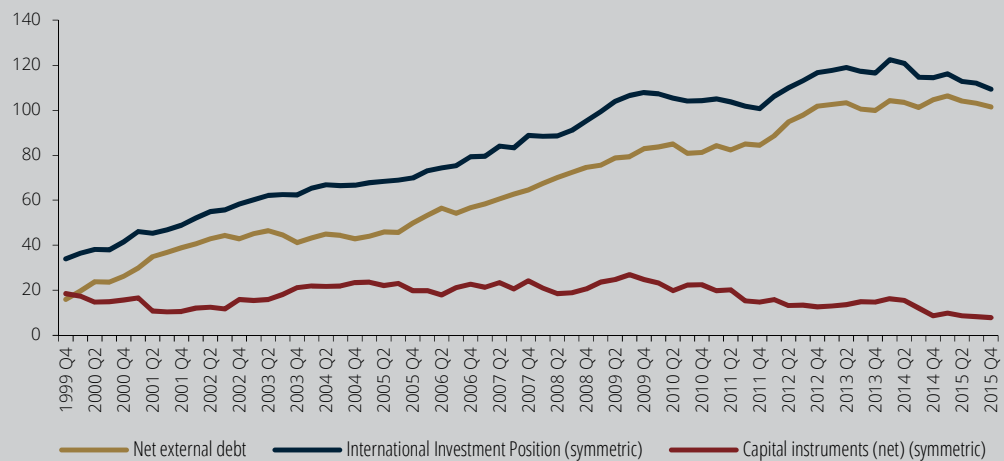
conferring control or significant influence – have remained relatively stable as a percentage of GDP in the past few years, after an increase in the beginning of the adjustment process, accounted for by the privatisations process. This component of the international investment position is the most sustainable, besides being associated with positive externalities in terms of technology sharing and entrepreneurial spirit.

Table 7.2 • International investment position | As a percentage of GDP

	2009	2010	2011	2012	2013	2014	2015
International investment position	-107.9	-104.3	-100.7	-116.6	-116.5	-114.4	-109.4
Direct investment	-20.3	-21.9	-18.6	-25.9	-27.5	-27.6	-25.9
Direct investment – assets	33.3	34.4	36.2	40.7	42.2	45.4	44.8
Direct investment – liabilities	53.6	56.4	54.7	66.7	69.7	73.0	70.7
Portfolio investment	-40.0	-27.6	-16.6	-10.8	-10.8	-11.9	-13.0
Portfolio investment – assets	83.4	81.0	64.8	65.1	64.8	68.6	66.3
Portfolio investment – liabilities	123.3	108.6	81.4	75.8	75.6	80.5	79.3
Other investment	-53.7	-62.9	-73.6	-88.0	-83.8	-83.2	-80.4
Other investment – assets	66.7	69.9	70.8	74.9	68.2	69.0	62.2
Other investment – liabilities	120.4	132.8	144.4	162.9	152.0	152.1	142.6
Reserve assets and derivatives	6.1	8.1	8.0	8.0	5.7	8.3	10.0

Sources: INE and Banco de Portugal.

Chart 7.6 •
International investment position, external debt and position in capital instruments
| As a percentage of GDP



Sources: INE and Banco de Portugal.

In 2015 the change in the international investment position is explained, firstly, by the effect of the change in GDP (3.8 p.p. of GDP), by financial account transactions (1.8 p.p. of GDP) and, to a lesser extent, by exchange rate changes and other adjustments (0.4 p.p. of GDP). Conversely, price changes made a negative contribution of 0.9 p.p. of GDP (Chart 7.7). Overall, the magnitude of the surpluses generated by the economy (i.e. the transactions-related share) in

the past few years has been relatively low compared with the size of the external imbalance.

By institutional sector, the international investment position was less negative regarding other monetary financial institutions and the general government, being partly offset by a more negative position of the central bank and the non-financial corporations (Chart 7.8). Households and NPISH reduced their positive position.

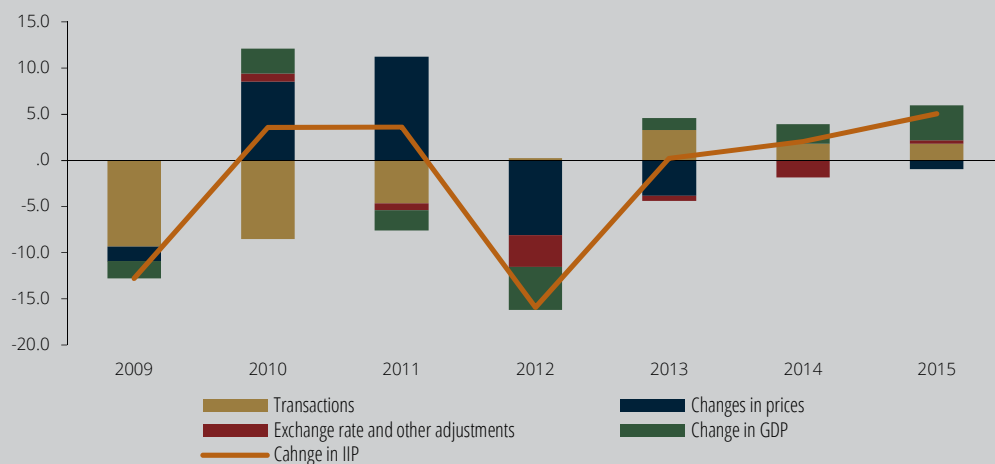


Chart 7.7 •
Change in the international investment position
| As a percentage of GDP

Sources: INE and Banco de Portugal.

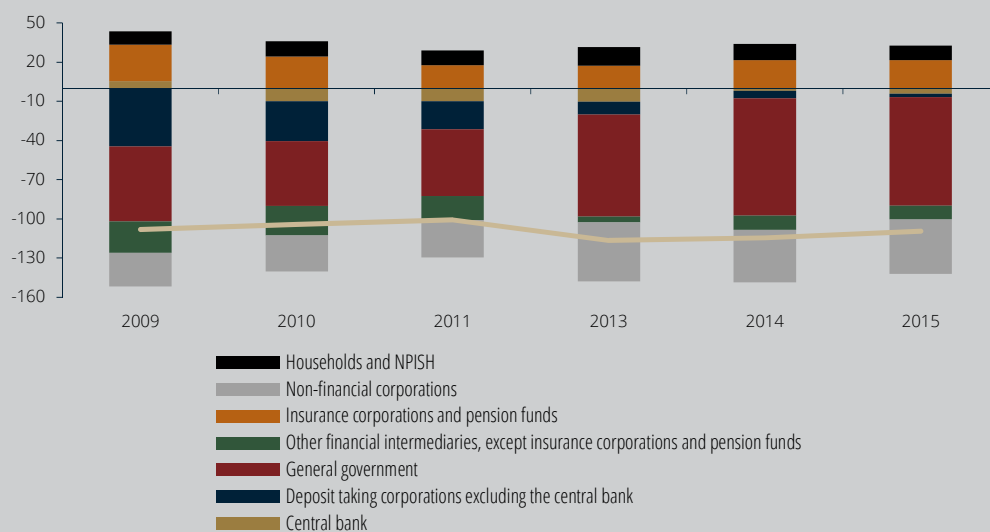


Chart 7.8 •
International investment position – by institutional sector
| As a percentage of GDP

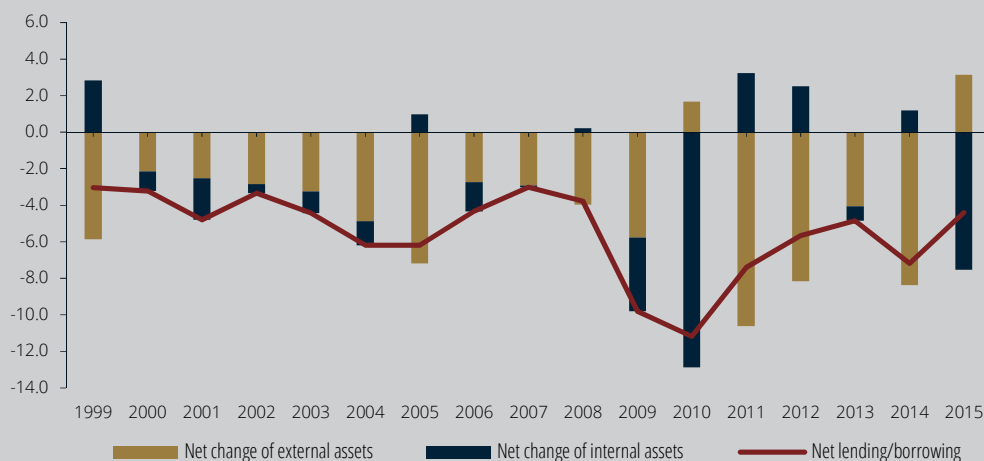
Sources: INE and Banco de Portugal.

Turning to other monetary financial institutions, the improvement in the international investment position, by 3.4 p.p. of GDP, resulted chiefly from the repayment of liabilities and decreases in their price, in the investment portfolio context.

Regarding the general government sector, the advance repayment of the IMF loan, obtained under the Economic and Financial Assistance Programme, which was only very marginally offset by net issuance of securities purchased by non-residents, led to an improvement in the respective international investment position. Low net acquisitions of public debt by

non-residents reflect in particular transactions under the securities purchase programme by the central bank, in the context of the implementation of the Eurosystem's non-standard monetary policy measures (Section 2.1). Purchases of public debt by the central bank are recorded simultaneously as claims of this sector on the general government, being offset against an increase in liabilities to the Eurosystem. In 2015 there was therefore a reduction in general government external indebtedness (Chart 7.9), translating into a deterioration of the central bank's position.

Chart 7.9 •
Financing
structure
of general
government
| As a percentage
of GDP



Sources: INE and Banco de Portugal.

Box 7.1 | Real estate investment in Portugal by non-residents

In the balance of payments and international investment position statistics, the acquisition of land or real estate in Portugal by non-residents is recorded under direct investment liabilities and the respective stock of real estate is a direct investment liability in the international investment position.⁵⁴ In Portugal, there has been a continued rise in the share of real estate investment positions held by non-residents, both as a percentage of GDP (Chart 1) and in total direct investment liabilities (rising from 3.4 per cent in 1999, to 9.9 per cent in 2015).

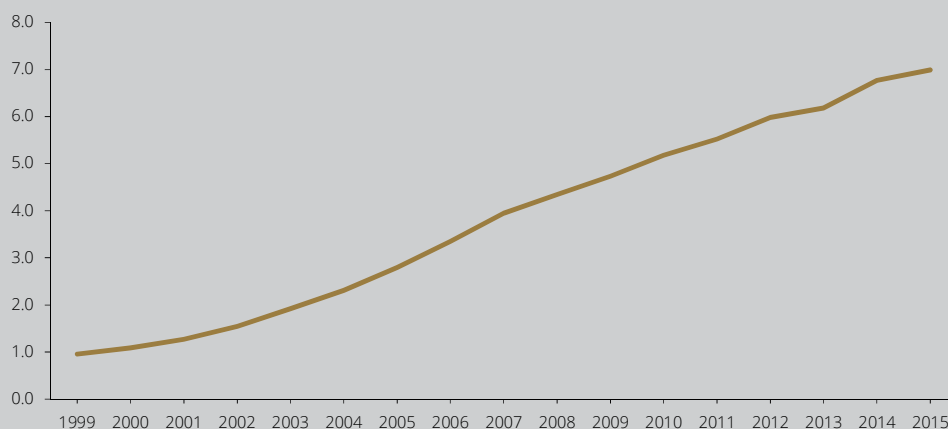
European Union (EU) residents, in particular United Kingdom residents, are the main investors in real estate property. However, in the past few years, this rise in real estate investment positions held by non-residents has originated in non-EU countries (Chart 2). This trend is partly related to the entry into force at the end of 2012 of the Residence Permit for Investment Activity Regime (Chart 3).

This regime enables third-country nationals to obtain a temporary residence permit to conduct investment activities with visa waiver to enter Portuguese territory. This regime also enables circulation in the Schengen area without a visa being required.

Access to this permit depends on compliance with one of the following requirements: (i) creation of at least 10 jobs; (ii) purchase of real estate property with a value equal to or higher than €500 thousand⁵⁵ or (iii) transfer of capital with a value equal to or higher than €1 million.⁵⁶

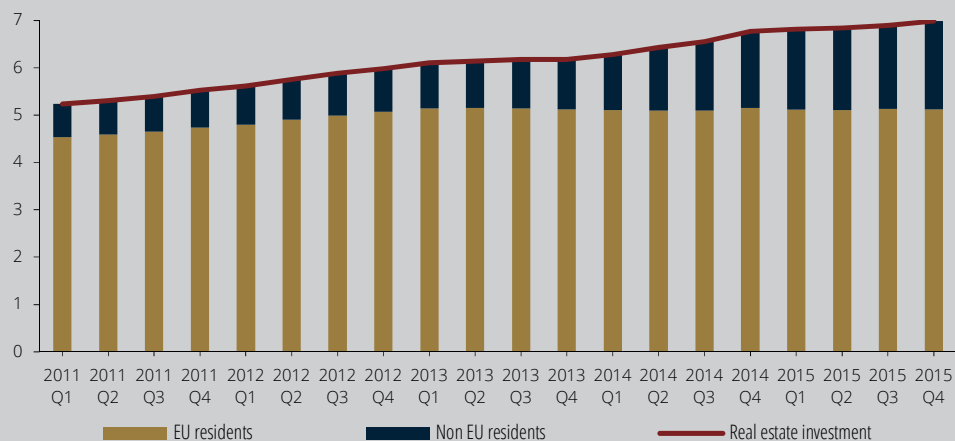
By the end of 2015, 2,788 residence permits under this regime had already been granted, the overwhelming majority to Chinese citizens. The most used requirement to access the residence permit was the purchase of real estate property, with an estimated investment in excess of €1,500 million, since the beginning of the programme at the end of 2012.

Chart 1 • Evolution of real estate investment in Portugal, by non residents
| Stocks, in percentage of GDP



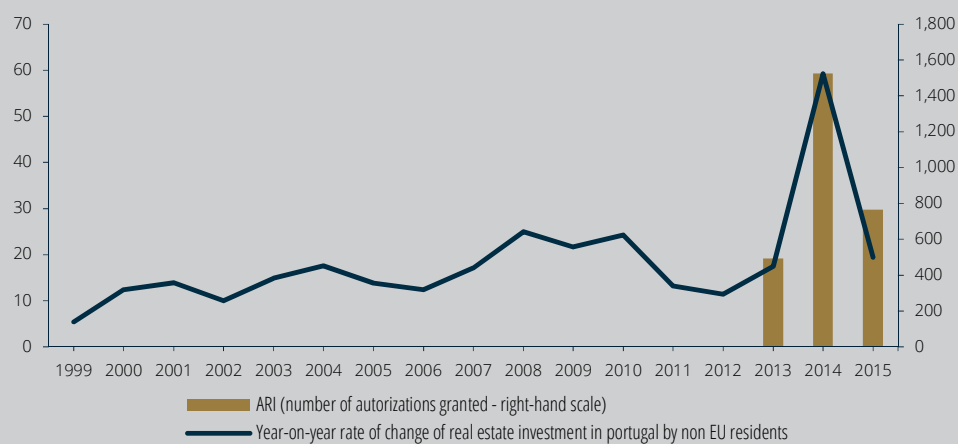
Sources: INE and Banco de Portugal.

Chart 2 • Evolution of real estate investment in Portugal, by country of origin of investors | Stocks, in percentage of GDP



Sources: INE and Banco de Portugal.

Chart 3 • Year-on-year rate of change of real estate investment by non EU residents and number of residence autorizations for investment activities



Sources: Serviço de Estrangeiros e Fronteiras, Internal Affairs Ministry and Banco de Portugal.

Notes

1. *Understanding the weakness in world trade* (ECB Economic Bulletin, Issue 3, 2015).
2. *The first assessment of the macroeconomic impact of the refugee influx* (European Commission – *European economic forecast*, autumn 2015).
3. This external demand indicator (based on information used in Eurosystem's exercises) does not adequately reflect the weight of Portuguese external trade with Angola. Hence, in 2015 the actual change in external demand for the Portuguese economy would have been lower than suggested by this indicator (Section 5).
4. For an analysis of China's importance in determining commodity prices, see Gauvin L. and Rebillard, C., (2015) 'Towards Recoupling? Assessing the Global Impact of a Chinese Hard Landing Through Trade and Commodity Price Channels', *Banque de France Working Paper*, no. 562.
5. 'Special Feature: Commodity Market Developments and Forecasts, with a Focus on Metals in the World Economy', IMF – *World Economic Outlook*, October.
6. Although the weight of China on world demand for oil is relatively low (12 per cent in 2015), the weight of net imports on this country's consumption is relatively high (58 per cent in 2015). According to the US Energy Information Administration, in 2013 China became the world's greatest net importer of oil.
7. Estimated in 'Special Feature: Commodity Market Developments and Forecasts, with a Focus on Investment in an Era of Low Prices', IMF – *World Economic Outlook*, April 2015.
8. Banco de Portugal's December 2015 issue of the *Economic Bulletin* (Box 2) presents an analysis of the impact of the oil price decline on economic activity growth in Portugal.
9. According to IMF data, in 2014 the weight of China on world GDP at current prices in US dollars was around 13 per cent, compared with around 17 and 22 per cent for the euro area and the US respectively. Considering GDP assessed in purchasing power parities, China's weight on world GDP was about 17 per cent, *vis-à-vis* 12 and 16 per cent for the euro area and the US. The weight of China's contribution to world GDP growth (in volume) in 2015 was approximately 36 per cent, *vis-à-vis* 6 and 13 per cent for the euro area and the US. According to UNCTAD and Eurostat data, as regards goods trade flows China weighed around 11 per cent in the world total, as did the US, while the euro area (excluding intra-euro area trade) weighed about 15 per cent. In particular, China accounted for 1.7 per cent of total Portuguese exports of goods in 2014 (around 7 per cent for the euro area, excluding intra-euro area trade).
10. Include reforms in State-owned enterprises and an increased role played by private enterprises, further liberalisation in certain services sectors, particularly the financial sector, including access to foreign investors, changes in the tax and social security system, the expansion of land ownership rights, greater environmental regulation, and the easing of the 'hukou' registration system (population registration system that requires every person to reside or work in a predetermined location, usually set at birth, distinguishing namely rural and urban areas).
11. In Japan and South Korea the maximum values of this ratio were observed in the early 1970s or 1990s respectively and did not exceed 40 per cent of GDP.
12. According to the IMF, credit to the non-financial sector (excluding the State and local governments) increased from 100 to 150 per cent of GDP between 2008 and 2014 (32 and 18 p.p. increases for non-financial corporations and households respectively, to 114 and 36 per cent of GDP), while financing through local government special purpose vehicles rose from around 16 to around 37 per cent of GDP. In the case of households, this credit corresponds chiefly to mortgages, with a low loan-to-value ratio, and is lower than the amount held in deposits.
13. This aspect is accelerated by the 'one-child policy', meanwhile partially reversed.
14. The total value of debt, shares and other equity of non-financial corporations is used as a proxy for total assets.
15. In the estimation of the *real rate*, expected inflation was approximated by the annual rate of change of the HIPC quarterly data.
16. See (IMF, 2014).
17. *Bank lending survey* – Results for Portugal, Banco de Portugal.
18. The sum of the values of debt, shares and other equity is used as proxy for the value of total assets of non-financial corporations.
19. The resolution measure applied to Banif affected the fiscal balance due to the capital injections made by the State and the Resolution Fund and the classification in the general government sector of Oitante, the entity created to manage the Bank's problematic assets. The quantification of the fiscal effect of this operation is net of the revenue obtained from the sale of assets and liabilities to *Banco Santander Totta*. The conversion of Banif's contingent capital instruments into equity increase did not have an impact on the general government deficit, due to consolidation effects. For further details on the impact on general government accounts, as a result of the resolution measure applied to Banif, see the Press Release published by Statistics Portugal on 31 March 2016, in the context of the release of the 1st excessive deficit procedure notification of 2016.
20. The definition of temporary measures is in line with the Eurosystem methodology.
21. For a description of the temporary measures for 2014 see the *Economic Bulletin*, May and October 2015.
22. This methodology has been consistently used by Banco de Portugal in its analysis of fiscal developments. For a discussion on the advantages and limitations of the different methodologies for the calculation of the structural balance, see the special issue *European fiscal rules and the calculation of structural balances*, in the *Economic Bulletin*, October 2015.
23. In national accounts, the extraordinary solidarity contribution is deducted from pension expenditure.
24. For an analysis of developments in social benefits in cash in 2014, see the *Economic Bulletin*, May 2015.
25. These developments suggest that a significant number of beneficiaries may have reached, in 2015, the end of their entitlement period for unemployment benefits without finding a job.

26. As regards transfers from the ESF to general government, with a contribution of -0.2 p.p. of trend GDP to the change in revenue, it is important to stress that the effect on the fiscal balance is rather small, since this development corresponded to a significant decline in expenditure in programmes financed by this European fund, as mentioned above.

27. In addition to the effect on the fiscal balance, the application of the resolution measure to Banif had an additional impact on debt, as a result of including debt securities issued by Oitante used in the acquisition of financial assets (0.3 per cent of GDP) and liabilities corresponding to 0.2 per cent of GDP which, after the resolution, remained in the residual entity Banif, S. A..

28. Margin accounts are related to deposits held by the Portuguese Treasury and Government Debt Agency (IGCP) within the scope of contracts to cover risk associated with exchange rate and interest rate fluctuations. For further details on the recording of margin accounts in public debt, see Box 2 'Revisions in general government deficit and debt: 2011-2014', included in the *Economic Bulletin*, October 2015.

29. The implicit interest rate results from the ratio of interest expenditure and the simple average of the debt stock at the end of the year and at the end of the previous year.

30. It should be noted that the methodology of the European Commission to calculate the structural balance, which is relevant for assessing the compliance with the European commitments, differs from that used by Banco de Portugal, which follows Eurosystem procedures.

31. European Commission (2016), *Fiscal Sustainability Report 2015*, January.

32. For further details on the methodology underlying the calculation of these contributions, see: Kremer et al. (2006), 'A disaggregated framework for the analysis of structural developments in public finances', ECB Working paper no. 579; and Braz, C. (2006), 'The calculation of cyclically-adjusted balances at Banco de Portugal: An update', *Economic Bulletin*, Winter, 2006, Banco de Portugal.

33. In 2015, developments in refunds, which usually affect the residual component of the disaggregated approach, had a negative albeit small impact on VAT revenue as a percentage of trend GDP. In fact, the sharp reduction of these refunds in a public account basis, was not matched by a similar change in national accounts, due to time adjustments.

34. Convergence towards EU levels (EU15) reflects population dynamics. In particular, there was a decline in population in Portugal, which contrasts with an increase in the EU average.

35. The discrepancy between real GVA and GDP growth (1.5 per cent) is mainly due to developments in taxes deducted from subsidies, which grew by 4.5 per cent in 2015.

36. Although data for 2015 are not yet available, this year may still continue the dynamics registered over the last years.

37. The coverage ratio is calculated on the basis of the number of unemployed, but actively seeking work, in terms of both the numerator and the denominator.

38. Labour productivity data for 2014 and 2015 may still be revised following the release of final annual accounts.

39. Taking into account the population dynamics, the path of convergence *vis-à-vis* the euro area would be more pronounced. In 2014 as a whole, GDP *per capita* in the euro area grew by 0.7 per cent, 0.8 p.p. below the figure for Portugal. Based on Eurostat's estimates for population growth, in 2015, GDP *per capita* in the euro area grew by 1.3 per cent, 0.7 p.p. less than in Portugal.

40. In 2015, GFCF in machinery and equipment grew by 2.7 per cent (14.4 per cent in 2014).

41. Context costs refer to the negative consequences that result from rules, procedures, actions or omissions that have a negative impact on firms' activity and that are not directly imputable to them.

42. Analysis by groups of products show that in 2015 energy exports declined by 6.5 per cent in nominal terms (-17.2 per cent in 2014).

43. In 2015, exports of services grew by 9.3 per cent in nominal terms (12.4 per cent in 2014) whereas the number of overnight stays by non-residents grew by 7.3 per cent (9.3 per cent in 2014).

44. The dynamics of this component was particularly significant in April which reflected to a great extent the increase of imports of a new medicine to the treatment Hepatitis C.

45. In April 2016 Angola submitted a request for financial assistance to the IMF. It should be recalled that in 2009, also against a background of oil price falls, the Angolan economy had requested financial assistance from the IMF.

46. According to statistics produced by Angolan authorities, in the first three quarters of 2015 as a whole, nominal imports of goods fell by 22.8 per cent. During the same period, the decline in nominal exports amounted to 14 per cent.

47. The sample includes ten of the main geographical destinations of Portuguese exports of goods (Spain, Germany, France, United Kingdom, Netherlands, United States, Italy, Belgium, China and Brazil). Angola, despite its significant share in Portuguese exports of goods (6.6 per cent in 2014), was not included given that the available information is not sufficiently detailed to make it possible to calculate markets shares in that country.

48. For details on this methodology of constant market share analysis, see Amador, J. and Cabral, S. (2008), 'The Portuguese export performance in perspective: a constant market share analysis', *Economic Bulletin*, Banco de Portugal, autumn 2008.

49. In 2011 and 2012, a constant market share analysis found a positive market share effect (2012 *Annual Report*, Banco de Portugal, Box 5.1 'Portuguese export market shares in 2012: an analysis based on a sample of export markets').

50. Note that the combined current and capital account calculated in the balance of payments statistics may differ from the net lending capacity calculated from a National Accounts perspective due to different methodologies between the two approaches. This is specifically the case of the different statistical treatment given to operations between non-residents and some Special Purpose Entities located in the free trade zone of Madeira.

51. It should be recalled that in 2014 fuel exports declined in volume in connection with the temporary interruption of activity in a large company of the sector (Section 5).
52. Strictly speaking, the balance of payments statistics are prepared on an accrual basis, i.e. under the change of ownership principle. In this context, the income account registers not only income received and paid but also income receivable and payable, even if it has not been paid yet. For simplification, the terminology used is received/paid.
53. The net external debt is measured in symmetrical terms relative to the international investment position, excluding from the latter capital instruments and financial derivatives. The capital instruments are classified in direct investment items or portfolio investment items, depending on the nature of the relationship between entities.
54. The registration implies the creation of a resident notional entity, for statistical purposes, which owns the land or real estate property, which in turn is acquired by the non-resident entity.
55. Or, alternatively, the purchase of real estate property, with construction dating back more than 30 years or located in urban regeneration areas for refurbishing, for a total value equal to or higher than €350 thousand.
56. Alternatively, the cap for capital transfers may be €250 thousand, €350 thousand or €500 thousand depending on whether it is invested in scientific research, artistic production or recovery or maintenance of cultural heritage or in investment funds or in venture capital geared to capitalise small and medium-sized enterprises.





II Special Issue

An interpretation of household saving
rate developments in Portugal

An interpretation of household saving rate developments in Portugal

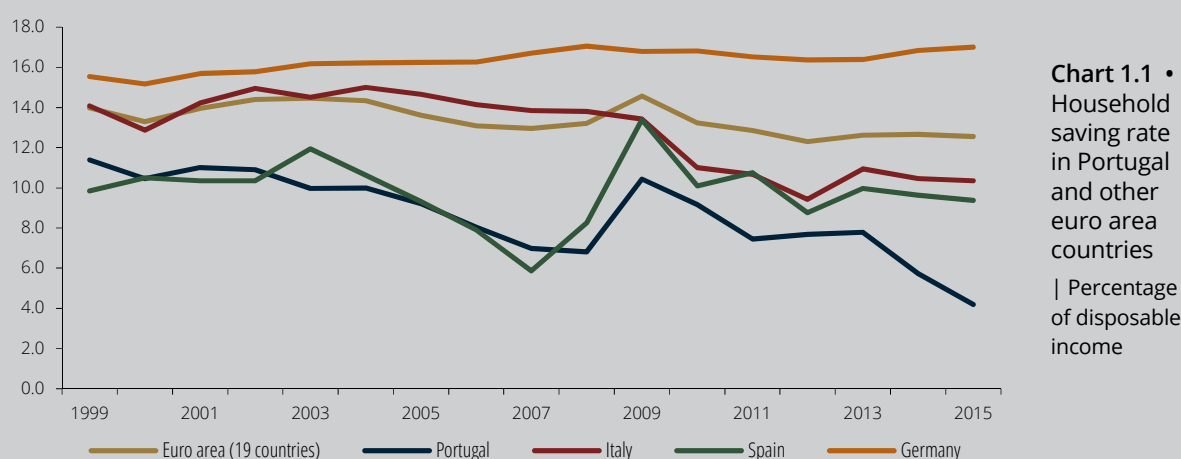
1. Introduction

Saving by households and the other economic sectors plays an important role as a domestic source of financing for investment, thereby affecting economic growth. From the launch of the euro until before the economic and financial crisis, savings generated by the various sectors were insufficient to finance domestic investment needs. As a result, external indebtedness reached a very high level. The recovery of domestic savings levels is key to financing investment and ensuring that debt is sustainable. This is why analysing the behaviour of household saving is especially important now.

The household saving rate¹ in Portugal has been falling since the launch of monetary union, interrupted only temporarily at the start of the economic and financial crisis (Chart 1.1). This contrasts with the euro area average, which has fallen only slightly since 1999, remaining at a level significantly higher than Portugal's. The

saving rates in the various European countries vary significantly, with those of southern European generally below the euro area average (Chart 1.2). In the period after the financial crisis, the euro area's saving rate fell slightly. This was not reflected across all countries however. Portugal is one of the countries where this fall was sharper. In 2015, the household saving rate in Portugal was 4.2 per cent, while the euro area average came to 12.5 per cent (7.5 per cent and 13.0 per cent respectively on average over 2009-2015). These data naturally cause some concern. It is important to understand the downward trend of the household saving rate in Portugal, as well as the relevance of this behaviour for analysing the other macroeconomic aggregates, as macroeconomic imbalances accumulated in the past still need to be corrected.

This Special Issue aims to describe and explain the behaviour of household saving in Portugal



Source: Eurostat.

since the launch of the euro area, focusing in particular on the most recent period. The analysis will fall mainly on household saving, and not aggregate domestic saving. However, reflections are presented throughout the Special Issue to contextualise household saving decisions within the broader decisions of the economy's different sectors.

The article is structured as follows. Section 2 presents the theoretical fundamentals behind households' decisions to save, as well as the microeconomic evidence that helps describe and interpret saving behaviour in Portugal. This analysis uses information – still preliminary in nature – from the 2013 Household Finance and Consumption Survey (HFCS). These data show the distribution of savings through the population and motives for saving by households with different demographics and socio-economic

characteristics, and are presented for the first time in this Special Issue. The results from the HFCS used in this Special Issue are essentially structural, and are not affected greatly by the fact that the survey was undertaken in a period of high uncertainty in which the behaviour of the economic agents in Portugal underwent various changes. Indeed, the results presented are broadly consistent with those of the 2010 HFCS, as well as with surveys held in the other euro area countries (ECB, 2016a). Section 3 analyses the role of various factors in the developments of the saving rate over the last 15 years. Section 4 discusses the relevance of household saving for the general financing of the economy, integrating the financial and non-financial perspectives of the financial flows to the economy as a whole as well as to its various institutional sectors. Lastly, Section 5 presents some final thoughts looking forward.

Chart 1.2 •
Household
saving rate
in Portugal and
other European
Union countries
| Percentage
of disposable
income



Source: Eurostat.

Notes: (a) Data start at 2002 for Poland, 2006 for Greece and 2005 for Slovenia; (b) Due to lack of data for 2015 Q4, for some countries (Belgium, Denmark, Ireland, Greece and EU(28)) it was assumed for 2015 the saving rate of the annual moving average in 2015 Q3).

Box 1 | Household saving concepts and measures in the national accounts

This box presents a definition of the household saving rate calculated from the national accounts and the concepts related to savings. Charts 1 and 2 illustrate some of these relationships in the Portuguese economy. First of all, it is important to clarify that the concept of households used here includes households (and also sole proprietors) as well as non-profit institutions serving households. This choice relates to the fact that the quarterly national accounts (financial and non-financial) do not present the data for households only.

In simplified terms, the household saving rate is defined in the non-financial national accounts as the proportion of households' disposable income not spent on final consumption of goods and services, i.e.:

$$\text{Saving rate} = \text{Savings/Disposable income} * 100$$

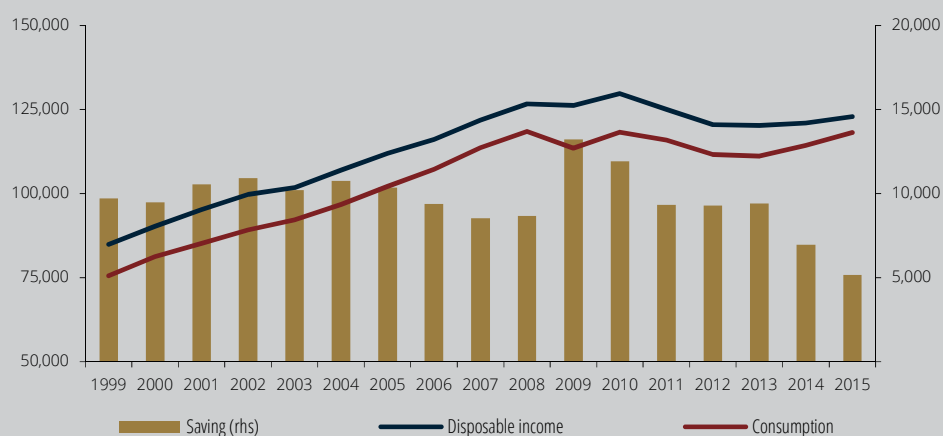
where $\text{Savings} = \text{Disposable income} - \text{Final consumption expenditure}$

and $\text{Disposable income} = \text{Compensation of employees} + \text{Corporate and property income} + \text{Transfers (Social benefits and Other current transfers)} - \text{Direct taxes} - \text{Social contributions}$

Note that in the national accounts, savings include also an adjustment arising from changes in households' rights over pension funds, which are also a resource for households and for that reason should be added to households' disposable income. In the case of Portugal, the saving rate is very similar with or without this adjustment, given its small weight in disposable income.

It is also interesting to review some of the basic relationships that reconcile the financial and non-financial aspects of developments in households' aggregates. In terms of obtaining and using funds, the former is normally the sum of savings, change in indebtedness and net capital transfers received (e.g. investment funds paid by the State or the rest of the world to sole proprietorships). In combination, these funds at the disposal of households at any given time are used to finance the acquisition of real or financial assets. The acquisition of real assets (designated as investment in the non-financial national accounts) relates mainly to house purchases in the case of households.

Chart 1 • Household savings, income and consumption | Million EUR



Source: INE.

Financial assets comprise currency, deposits, quoted and unquoted shares, debt securities and other financial instruments, including pension fund units. The relationship is therefore as follows:

Savings + Capital transfers + Change in indebtedness = Investment + Acquisition of financial assets

This relationship is equivalent to writing:

Acquisition of financial assets – Change in indebtedness = Savings – Investment + Capital transfers

Written in this way, the left-hand side of the formula above corresponds to Net lending capacity (+) or Borrowing requirement (–) calculated from the financial accounts, which is also known as net financial transactions, while the right-hand side corresponds to Net lending capacity (+) or Borrowing requirement (–) calculated from the non-financial accounts.

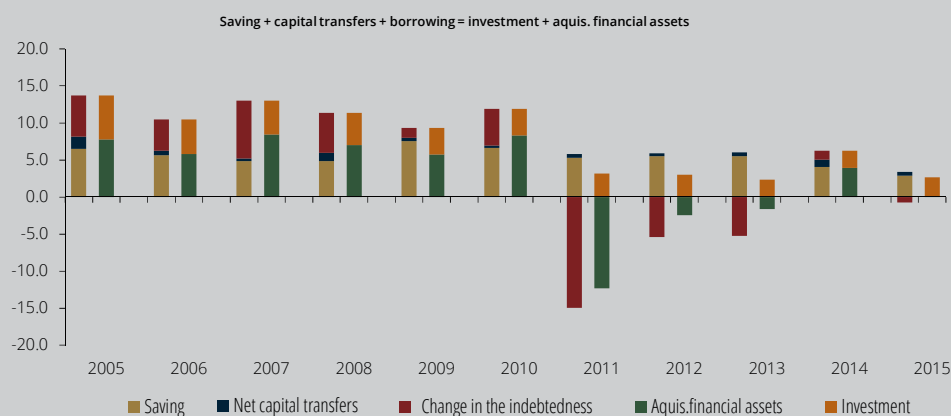
For the other institutional sectors and the economy as a whole, the financing capacity or borrowing requirement can be calculated in a similar way, from the financial and non-financial perspective, using the above formulae.

These financial and non-financial flows, when accumulated over time, are reflected in households' assets (also termed wealth). As these assets are valued at market prices, they reflect not only the purchases of assets net of sales but also changes in the price of the accumulated stock of these assets. From a stock perspective, we have:

Total assets (wealth) = Financial assets + Real assets

These concepts of wealth may also be considered in net terms, which involves subtracting the value of debt from the value of the assets.

Chart 2 • Household financial and non-financial flows | Percentage of GDP



Sources: INE and Banco de Portugal.

2. Insights from the economic theory

The saving decisions made by individuals and households aim to manage income volatility so that consumption is close to the level desired over the life cycle. A key starting point in any research on individuals' saving is the life-cycle hypothesis, as proposed originally by Modigliani and Brumberg (1954) and Ando and Modigliani (1963), as well as the countless extensions that have appeared in the literature over the last decades (see, for example, Deaton (1992) or Attanasio and Weber (2010)). This section presents the basic ingredients of the hypothesis, as well as illustrative empirical evidence based on the 2013 HFCS.

The life-cycle hypothesis starts by describing the income profile of individuals over their lives in a risk-free setting. For different reasons, associated particularly with the labour market search process and on-the-job training, each agent has an increasing income profile over their working life and a fall after retirement. Typically, an individual's consumption tends to increase slowly over her life due to consumption habits. This smoothing of consumption means that desired saving grows until income peaks, which comes normally just before retirement age, and thereafter tails off. Thus, saving will tend to be lower in younger and older age groups relative to intermediate age groups. Note that even assuming no macroeconomic uncertainty, individuals may display positive saving at the end of life (for instance due to uncertainty over the moment of death). Overall, these intertemporal consumption decisions may be interpreted as a sequence of static decisions at each moment in time, in which the individual takes into consideration her permanent income, i.e. the sum of discounted future expected income flows.

This hypothesis of individual behaviour can be extended to the household, especially if we assume that there are mechanisms for sharing income and consumption decisions at the

household level. The hump-shaped profile of income over the age groups and the intertemporal smoothing of consumption are thus still in evidence. However, applying the hypothesis to households requires certain qualifications to the analysis. In particular, alterations to the composition of households over the life cycle lead to changes in the consumption patterns, namely while children are dependent. Note that a part of the increase in consumption in these households is due to education expenses, which are accounted for in the national accounts as consumption even though they constitute an investment in human capital. Thus, household saving is low not only at the start of working age, but also while children are dependent, and increases only when children become independent. Furthermore, aside from transfers among its living members, households may share income intertemporally through inheritances. This is another factor that contributes to saving remaining positive in older age groups.

In Portugal's case, this profile of saving over the life cycle may be confirmed by microeconomic evidence collected in the 2013 HFCS. For each household, savings were calculated as the difference between annual income reported in the HFCS and an estimate for consumption of non-durable goods, obtained using consumption data from the HFCS and the Household Expenditure Survey.² This measure of savings allows for the analysis of the distribution of savings across the population; however, it only gives an indication about the level of savings. It is particularly important to keep in mind in what follows that these values are not directly comparable with those of the national accounts.³

According to the HFCS, by age of the reference person⁴ the median saving rate reaches the highest values in the age groups typically associated with working age (Chart 2.1).⁵ This behaviour seems to suggest that individuals undertake some intertemporal smoothing of consumption.

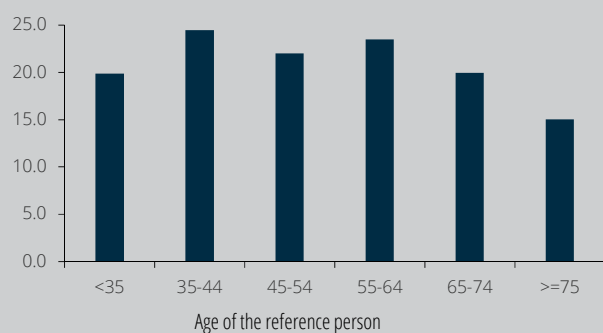
In line with the empirical evidence found for many other countries, the saving rates, however, vary little according to age, reaching positive levels both in households where the reference person is younger, and in those where it is older. For a better understanding of the factors underlying this behaviour, Chart 2.2 presents the median values for consumption and income by age group. The chart presents not only the data calculated for the different households, but also the values by equivalent adult, i.e. adjusted for household composition.⁶ The chart shows that household income increases initially with age, and then falls. Consumption presents a similar but smoother pattern. When household composition is taken into account, consumption and income reveal a fairly smooth behaviour, while still falling in older age groups.

Aside from varying according to age group, the evidence suggests that household saving may differ according to the initial wealth level and the potential for accumulating wealth over the life cycle (namely due to differences in labour productivity). The micro data indeed reveal that

the saving rate increases with net wealth or with education level, variables strongly correlated with permanent income (Charts 2.3 and 2.4). This positive relationship is observed for each age group. This behaviour, frequently found in the empirical literature, has been reconciled with economic theory, for example, when the utility function of the individuals depends on deviations of consumption from a basket of basic goods or when savings constitute a luxury good.

The life-cycle hypothesis also provides a framework for studying the agents' response to unexpected changes (shocks) in income. In a simple version, a temporary negative (positive) shock to income does not significantly change the consumption pattern, and so is reflected almost fully in a decrease (increase) in saving. This smoothing of consumption may involve a temporary change in household indebtedness. In turn, a negative (positive) and permanent shock in income involves a downward (upward) revision in consumption that does not affect saving. These implications of the theory result from

Chart 2.1 • Median saving rate, by age
| Percentage



Source: HFCS.

Chart 2.2 • Income and consumption, by age
| Median values, EUR



Source: HFCS.

simple versions of the life-cycle model, but they are very important for sketching out the basics of the agents' response to different economic shocks.

The introduction of risk and uncertainty into the life-cycle model requires that agents' behaviour as described above is qualified. Indeed, an important part of household saving is not associated with certainty about the future but with uncertainty about the future. This uncertainty relates not only to the state of the economy but also to demographic factors like life expectancy. In order to guard against the possibility of unexpected reductions in future income (or unexpected increases in expenditure), individuals tend to accumulate more wealth than would be needed to maintain the consumption level they desire over their lives, i.e. they save with precautionary motives (Carroll, 2001). This behaviour only takes place in the presence of incomplete insurance markets and restricted access to credit. Indeed, despite the government's intervention in covering certain events – unemployment, illness and old age – as well as the

safety nets in place between different households (typically successive generations), the adverse contingencies affecting each household are not fully covered (Feldstein, 1985). Precautionary saving will thus be greater in the case of an increase in uncertainty, a reduction in access to credit (already observed or expected in the future) and a weakening in the social safety net provided by the government and households (also already observed or expected in the future). These changes in precautionary saving may have quantitative effects that are relevant for aggregate household saving.

The importance of the precautionary motive is confirmed in the data from the 2013 HFCS, according to which Portuguese households mainly save to protect themselves against unexpected events (Chart 2.5). This suggests that it is important to consider the uncertainty level prevailing in the economy when interpreting saving behaviour. The other motives suggested more frequently by the households as important factors in their saving decisions are the constitution of provisions for old age, as well as the education/support of children and grandchildren.

Chart 2.3 • Median saving rate, by net-wealth percentile | Percentage



Source: HFCS.

Chart 2.4 • Median saving rate, by education level | Percentage



Source: HFCS.

When the motives to save are crossed with the households' characteristics, the data show that the greater importance attributed to precautionary saving is common to all classes – age, income and net wealth. Naturally, the motives underlying precautionary saving differ according to household type. For example, in the case of older households, precautionary saving probably aims to cover the risk of health problems or the possibility of living longer than anticipated. In households with individuals of working age, precautionary saving may be partly associated with the risk of unemployment. As Chart 2.6 shows, the precautionary motive seems to be highly relevant for younger households. Other motives for saving with higher importance for the younger households, than for the remaining ones, are own house purchase and travel and holidays, which are expenses of a sporadic nature. This behaviour may be partly justified by the existence of a greater percentage of households in this age group with liquidity constraints. In the case of older age groups, maintaining relatively high saving rates may be justified not only by the precautionary motive but also by the constitution of provisions for old age and for

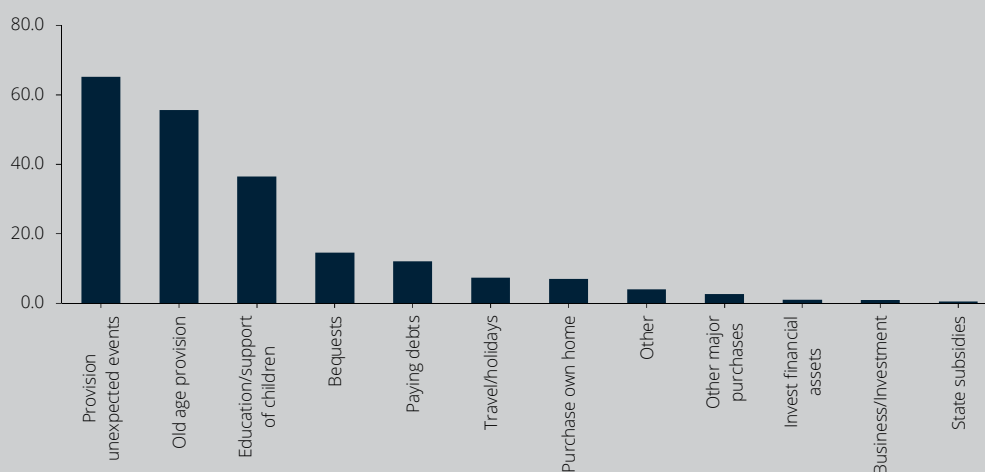
inheritances, the importance of which seems to increase with age. Chart 2.6 also reveals that the importance of saving for education and payment of debts reaches a peak in the 35 to 44-year age group (which is consistent with the predominance of households with school-age children and higher debts in this age group).

Given this theoretical framework and evidence, the next section will explore a set of factors that may have contributed to the reduction of the saving rate in Portugal since the launch of the euro area, including the latest period after the global financial crisis.

3. Factors underlying household saving rate developments since 1999

Between 1999 and 2015, the household saving rate fell from around 11.4 per cent to 4.2 per cent of disposable income.⁷ Household savings as a whole fell around 47 per cent in nominal terms. Such a sharp fall obviously cannot be ascribed to a single reason. This section aims to investigate the role of various complementary explanations, strongly interlinked in some

Chart 2.5 •
No. of households
considering it is
important to save
for the given
motive
| Percentage of total
households



Source: HFCS.

Note: The sum of the percentages is higher than 100 since each household might choose several saving motives.

cases, of household saving developments since the launch of the euro area. This road map is guided by economic theory, as presented in the previous section, along with micro- and macroeconomic evidence.

The conclusion of Section 2 was that household saving developments depend inter alia on agents' age, income, wealth, and access to the insurance and credit markets. It also emphasised factors such as the uncertainty level and the nature of economic shocks affecting the economy at a given moment. In this light, the next section begins by assessing the role of four factors that describe the Portuguese economy over the period: (i) the reduction in credit constraints and developments in access to the credit market (Subsection 3.1); (ii) developments in net wealth (Subsection 3.2); (iii) developments in income distribution (Subsection 3.3); and (iv) demographic changes (Subsection 3.4). Thereafter the analysis covers certain factors with particular influence over developments in the saving rate from the onset of the global financial crisis. This involves an assessment of (i) the increase in macroeconomic uncertainty (Subsection 3.5); (ii) agents' perception of the

persistence of macroeconomic shocks (Subsection 3.6); and (iii) the interaction between household saving developments and changes in the other economic sectors (Subsection 3.7). One factor not addressed individually in this analysis is the relevance of the real interest rate. The economic literature suggests that the effect of this variable on the saving rate is ambiguous, which is confirmed empirically, both for Portugal and for other countries.

The findings suggest a possible scenario for household saving in the near future, which will be presented in the concluding section.

3.1. Changes in credit constraints

According to economic theory, restrictions on access to credit may affect the level and evolution of the saving rate. Increased constraints on access to credit or cost of finance reduces consumption by agents upon whom the credit restriction is active, due to their inability to finance their desired consumption level, and also reduces consumption by those other agents who save only to guard against possible future falls in income.

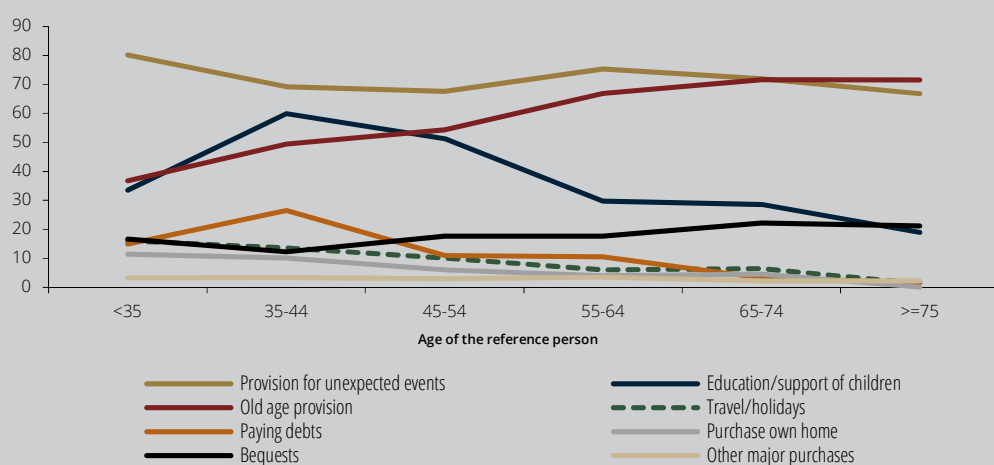


Chart 2.6 •
No. of households considering it is important to save for the given motive
| Percentage of total households in each age-class

Source: HFCS.

In the case of the Portuguese economy, participation in the euro area meant a transition to an economic system characterised by lower and less volatile nominal interest rates, as well as greater access to credit, which led to an increase in the agents' indebtedness level. In the period leading up to the global financial crisis, the increase in household indebtedness reflected previously unindebted households accessing credit, as well as a greater indebtedness of already indebted households (see DEE, 2009). In this period, the perception of risk was particularly low across all market segments and the belief was widespread that lower credit constraints would be permanent.

Credit therefore grew very fast, reaching an annual average of around 14 per cent between 1999 and 2008. This growth rate compares with average annual change in nominal disposable income of around 5 per cent over the same period. Credit's strong growth extended to consumer credit and lending for house purchase (Chart 3.1). The framework of abundant

financing, intermediated by the banking sector, thus contributed to the structural reduction of the saving rate in the first decade of the euro. This movement was also observed in other countries marked by the nominal convergence process spurred by the adoption of the euro.

After the onset of the global financial crisis, restrictions on access to the credit market increased significantly. These developments took place both in the consumer segment and in the housing segment (Charts 3.2 and 3.3). At the same time, the different agents reassessed their perception of the risk of public and private debt. Overall, the greater likelihood of active liquidity constraints affecting household balance sheets may have contributed to the slight increase in the saving rate average for 2008-2013.

More recently, credit market conditions began a normalisation process, although the level of restrictiveness and risk aversion in the banking system is still clearly above that observed in the period before the global financial crisis. Overall,

Chart 3.1. • Loans by resident banks to households
| Annual rate of change, percentage



Source: Banco de Portugal.

Chart 3.2. • Credit conditions on housing loans



Source: Banco de Portugal.

Note: A positive (negative) value for credit standards means that the banks reported in the Bank Lending Survey a quarter-on-quarter average tightening (loosening) of credit conditions on housing loans to households.

recent developments in consumer credit suggest that access to the credit market may not be affecting the current behaviour of the household saving rate very significantly.

3.2. Developments in net wealth

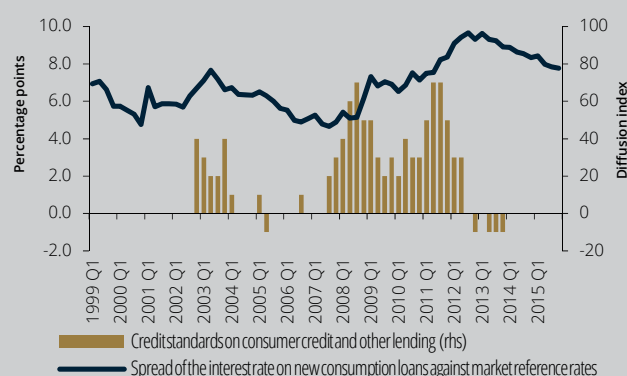
According to economic theory, following a permanent increase in net wealth, a permanent effect on consumption can be expected. In the national accounts, variations in wealth reflect not only transactions, but also price changes, without any impact on disposable income. Therefore, changes in levels of wealth perceived to be permanent can imply opposite variations to savings, as measured in the national accounts.

Estimates of the marginal propensity to consume in Portugal, resulting from long-term changes to wealth, points to relatively low values subject to high uncertainty (Farinha, 2008 and Castro, 2007). These studies suggest that the propensity to consume is positive, both in the case of persistent financial asset price changes, or in the

case of persistent real asset price changes. There is therefore a negative relationship between the value of real and financial assets and the equilibrium levels of savings. Furthermore, an increase in the price of real assets can increase the value of the collateral thus allowing to cover temporary shocks to income or consumption through an increase in indebtedness.

The evolution of net wealth in Portugal since the launch of the euro area is presented in Chart 3.4. The chart suggests that the increase in net wealth in Portugal essentially followed nominal disposable income growth. However, financial assets as a percentage of total net wealth increased over time. This observation may be important given that financial assets are concentrated in households with higher net wealth, which are the ones making a greater contribution to aggregate savings. In fact, the top quintile of total net wealth contains over 65 per cent of total financial wealth and is responsible for approximately 50 per cent of total savings (Chart 3.5). The increase in financial assets relative to wealth

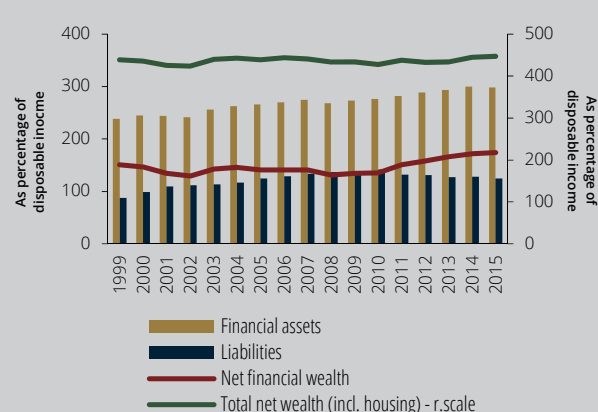
Chart 3.3 • Credit conditions on consumption loans



Source: Banco de Portugal.

Note: A positive (negative) value for credit standards means that the banks reported in the Bank Lending Survey a quarter-on-quarter average tightening (loosening) of credit conditions on consumer credit and other lending to households.

Chart 3.4 • Household wealth



Sources: INE and Banco de Portugal.

may thus have helped reduce total aggregate savings, albeit only insofar as it was associated with financial asset price variations considered to be permanent. The available evidence does not allow, however, the importance of this mechanism to be measured for the period under consideration.

Also in this regard, it is important to mention that a significant part of the savings of indebted households in Portugal is applied to debt service. Chart 3.6 presents an estimate for developments in these debt repayments since 1999, showing an overall upward trend for redemptions as a percentage of disposable income until the beginning of the financial crisis, and a gradual decline thereafter, within a context of household deleveraging.

3.3. Developments in income distribution

The saving rate increases steadily with household income (Chart 3.7). This fact indicates that saving is distributed very unequally throughout the population. The HFCS data presented in Chart 3.8 confirm the conclusions for Portugal reached by Alves and Cardoso (2010),

as well as the microeconomic data available for other countries (see, for example, ECB, 2016b). According to these data, approximately 80 per cent of savings in Portugal are generated by the 20 per cent of households that have the highest incomes. In contrast, households with the lowest incomes have a negative saving rate.

In this context, changes to the inequality of income distribution could have a non-negligible impact on developments of aggregate saving. A simple indicator to describe the evolution of income distribution is the proportion of total income earned by the various income quintiles over time. Chart 3.9 presents this evidence for Portugal, focusing on the period between 2003 and 2013, years for which there are comparable data published by *Eurostat*. The chart shows that the proportion of total income earned by the highest income distribution quintile fell continuously until 2009, stabilising thereafter. All the remaining distribution quintiles increased their share of the total income of the economy until 2009, stabilising likewise in the period 2010-13.

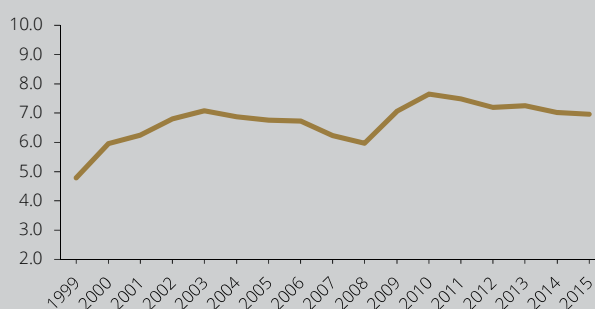
The impact of falling income distribution inequality on saving rate developments can be inferred, albeit mechanically, by applying estimated median saving rates for each income quintile (Chart 3.7) to the developments of each quintile's

Chart 3.5 • Distribution of savings, by net-wealth percentile | Percentage



Source: HFCS.

Chart 3.6 • Estimated household debt redemption | Percentage of disposable income



Source: Banco de Portugal.

share of total income. This simple calculation – that does not consider the shocks and structural changes underlying the developments in income distribution – suggests that approximately 1 percentage point of the fall in the aggregate saving rate until 2009 can be attributed to the reduction in income distribution inequality.

3.4. Demographic changes

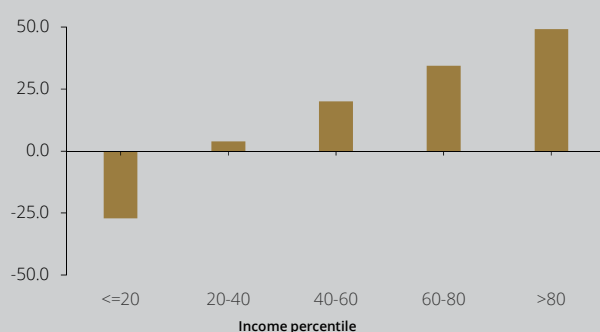
The life-cycle hypothesis suggests that saving rates increase during working life and fall after retirement age. Significant changes to the demographic structure could therefore have consequences on the development of aggregate savings. A population with a greater percentage of elderly people will tend to have, merely because of this structural effect, lower saving rates. However, other demographic dynamics can behave in the opposite direction. For instance, a fall in the fertility rate tends to increase savings in younger households. Furthermore, an increase in life expectancy could encourage an increase in saving from the outset of working age in the event of there being an expected borrowing requirement for longer retirement periods. Overall, these effects are contingent on the social safety net in place and expectations as to its future developments.

In the case of the Portuguese economy, population ageing is a fundamental demographic trend (Chart 3.10). This process is expected to continue in the future (see Special Issue *Demographic transition and growth in the Portuguese economy*, *Economic Bulletin* of Banco de Portugal, October 2015). It should be noted that, in the case of the Portuguese economy, the saving rate for higher age groups is lower than the average rate for the population as a whole (Chart 2.1). Thus, the aggregates with lower saving rates will tend to increase their share of the total population. However, focusing the analysis on the period 1999-2015, it can be concluded that the demographic change hitherto observed may not have contributed significantly to the fall in the household saving rate in Portugal. This calculation emphasises that the impact of demographic changes on saving rate developments is a process that only materialises over the very long term.

3.5. Uncertainty and precautionary saving

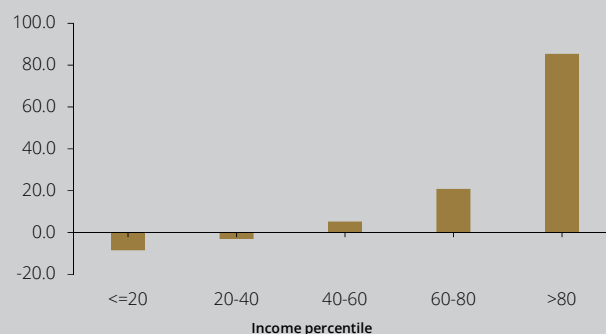
With the onset of the global financial crisis, the household saving rate interrupted its decade-long downward trend. More recently, following

Chart 3.7 • Median saving rate, by income percentile
| Percentage



Source: HFCS.

Chart 3.8 • Savings distribution, by income percentile
| Percentage



Source: HFCS.

the end of the Economic and Financial Assistance Programme, the saving rate dropped significantly once again. Subsection 3.1 has shown that the greater restrictiveness of the credit market and the reassessment of expectations as to the prevalence of liquidity constraints may have contributed to the increase in the household saving rate between 2008 and 2013. The reversal of these dynamics will also have contributed to the subsequent decline in saving. This subsection aims to assess the contribution made by a factor that is interrelated to those described above: the increase (and subsequent fall) in uncertainty and precautionary saving.

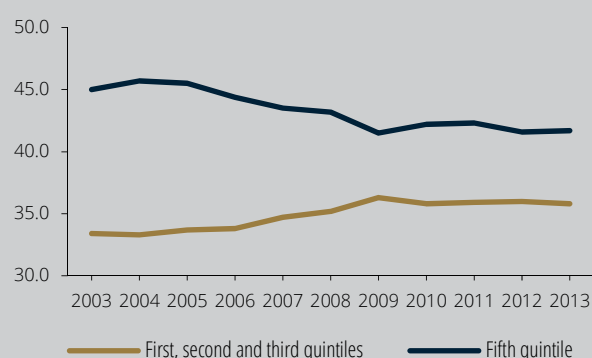
As described in section 2, precaution is the factor Portuguese households mention the most as their reason for saving. In fact, uncertainty surrounding future variations in income, combined with households' risk aversion, incentivises precautionary saving (Carroll, 1992). An increase in uncertainty naturally strengthens the incentive to make additional savings, which is augmented in the event of there existing significant liquidity constraints (Subsection 3.1).

Precautionary saving was especially expressive in the context of the uncertainty associated with

the 2009 global recession, as well as the recessionary period between 2011 and 2012. During these years, agents' expectations deteriorated considerably. This deterioration is especially visible in the expectations of households in terms of unemployment (Chart 3.11). In such periods of strong macroeconomic uncertainty, saving rates tend to increase, as also observed in the euro area average for 2009 (Chart 1.1). In a context of exacerbated uncertainty, decisions to acquire consumer durables (likewise, enterprises' investment decisions) tend to be delayed. This general process of delaying expenditure on consumer durables, which contributed to unprecedented falls in this variable, is illustrated in Chart 3.12.

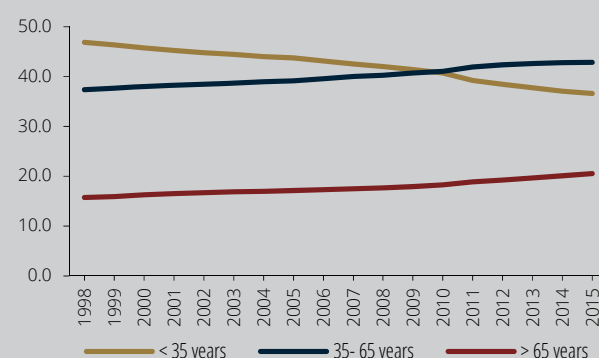
From 2013, against a background of gradual economic recovery, there was a fall in macroeconomic uncertainty, expressed in a substantial improvement in households' expectations (Chart 3.11). This change was especially marked in households which did not experience transitions to situations of unemployment. The decline in uncertainty was an incentive to carry out expenditure decisions on durable goods delayed in previous years, which contributed

Chart 3.9 • Proportion of income received by different income quintiles | Percentage



Source: Eurostat (EU-SILC).

Chart 3.10 • Population by age group | Percentage of the total



Source: INE.

to very significant variations in this variable in 2014 and 2015. In accordance with this interpretation, growth in consumption of consumer durables is expected to normalise in the future, in line with its usual relationship to disposable income and to the cost of borrowing. This dynamic should contribute to an increase in savings in the near future.

3.6. The perception of agents over persistence of shocks

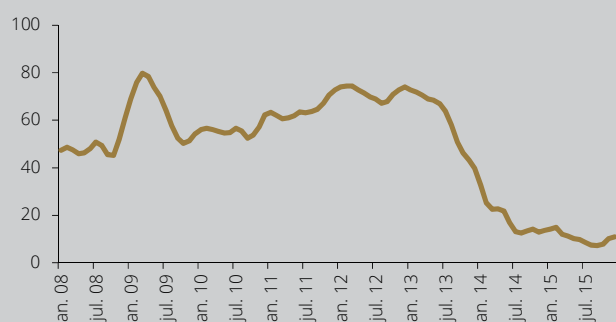
The life-cycle hypothesis suggests that, when faced with temporary income shocks, household consumption does not change. In contrast, in the case of permanent shocks, consumption is adjusted to the new level of permanent income. Within the context of the Economic and Financial Assistance Programme, households' behaviour was consistent with a perception that shocks to income would be quite persistent in nature. In fact, against a background of unprecedented falls in disposable income, even current consumption – which typically shows relatively smooth behaviour – fell sharply (Chart 3.13). Similarly, the strong improvement in households' expectations from

2013 onwards was also associated with changes in expectations of permanent income, within a framework of structural reversal of policies hitherto adopted and of perceptions that the long sequence of adverse economic shocks had ended. Therefore, the increase in current consumption observed in 2014 and 2015 may have been, in part, influenced by a revision of the optimum level of consumption in order to make it consistent with new expectations for permanent household income.

3.7. The interaction with saving in other economic sectors

Household saving developments cannot be dissociated from saving in other sectors of the economy. Even only from a perspective of the national accounts, it is well known that there are incomes that are particularly difficult to categorise into sectors, such as property income or the gross operating surplus of very small enterprises. Furthermore, there are transactions between sectors which directly influence saving in one sector to the detriment of the other, as is the case with distribution of corporate dividends or the tax burden on households. Finally, in periods

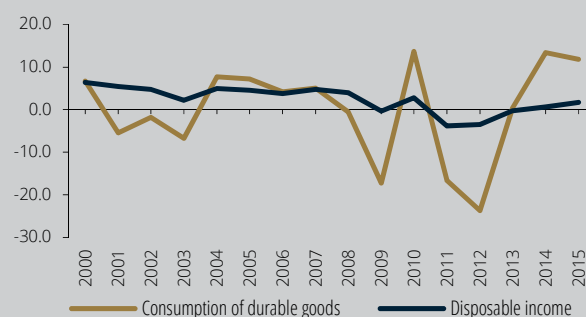
Chart 3.11 • Consumer unemployment expectations for the next 12 months | Balance of respondents



Source: European Commission.

Note: seasonally adjusted values, 3-months moving average.

Chart 3.12 • Disposable income and consumption of durable goods | Nominal rates of change



Source: INE.

of restrictions on access to finance, the reduced intermediation of the banking sector can be compensated by an increase in direct financing from households to enterprises. This situation is more prevalent in the case of micro and small enterprises. Chart 3.14 illustrates some of those intersectoral relationships and shows that, during the 2011-13 period, the fall in household income was closely associated with a fall in the wage bill paid by the public and private sectors, as well as an increase in direct taxation.

The existence of intertemporal insurance mechanisms between households and enterprises – as well as the difficulty in tracing a precise statistical curve on the respective savings – suggests that an aggregated analysis of these sectors could provide relevant complementary information. Chart 3.15 presents evidence for a number of countries in the euro area where household savings registered a downward trend after 2009. The chart shows that, in contrast, savings in the non-financial private sector remained relatively stable during this period. Portugal is no exception to this. This result raises questions about the optimum degree of aggregation to analyse saving behaviour in an economy. The

publication by Statistics Portugal of the final national accounts for 2014 and 2015 will be instrumental in answering this question for the Portuguese economy.

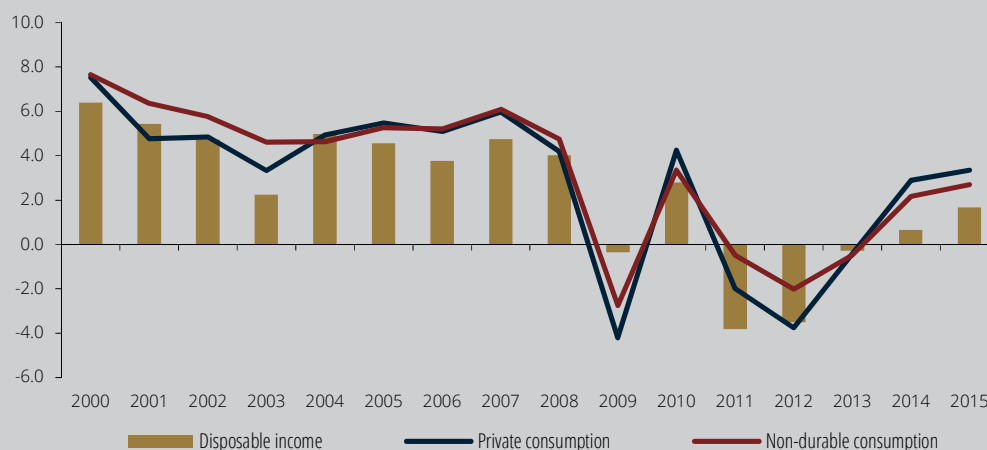
As far as the connection with the public sector is concerned, the literature suggests that the increase in public sector saving is partially offset by a fall in private sector saving. The response by households to changes in public sector saving is higher when liquidity constraints become less significant, and in longer time horizons.

4. Household savings and the financing of the economy

The domestic savings of an economy have an important role as a source of investment finance, thus influencing capital levels per worker and economic growth. In an economy where the capital stock is below the optimal level, productive capacity and labour productivity are lower, and as a consequence there are lower levels of real wages and consumption.

Household savings correspond to the disposable income of this sector that is not used for final consumption of goods and services and is therefore

Chart 3.13 •
Private
consumption
and disposable
income
| Nominal rates
of change



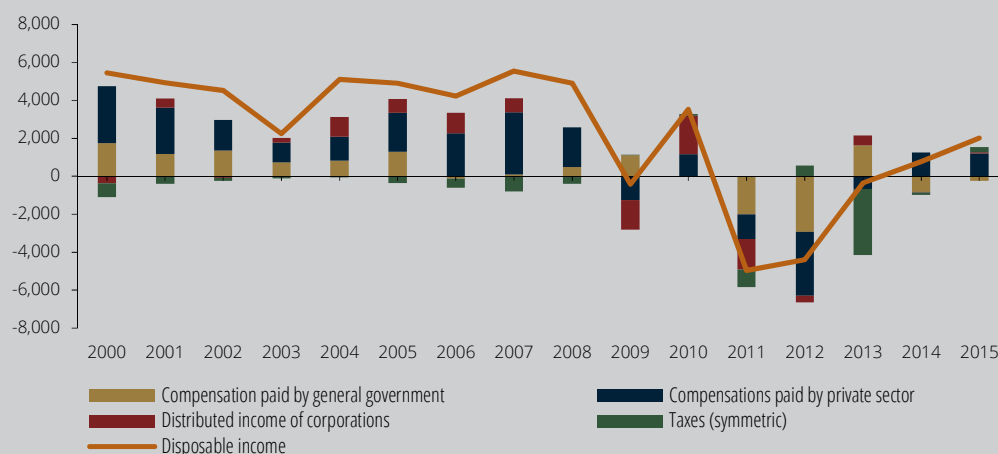
Source: INE

available for investment in real and financial assets. Investment of households in real assets essentially corresponds to investment in housing, one of the main determinants of the housing stock in the economy. The household resources available for investment in the other sectors of the economy roughly correspond to savings minus household investment in real assets, that is, households' investment in financial assets minus change in households' indebtedness. This aggregate is called households' net financial transactions or net lending (Box 1 "Household

savings concepts and measures in the national accounts" in this Special Issue).

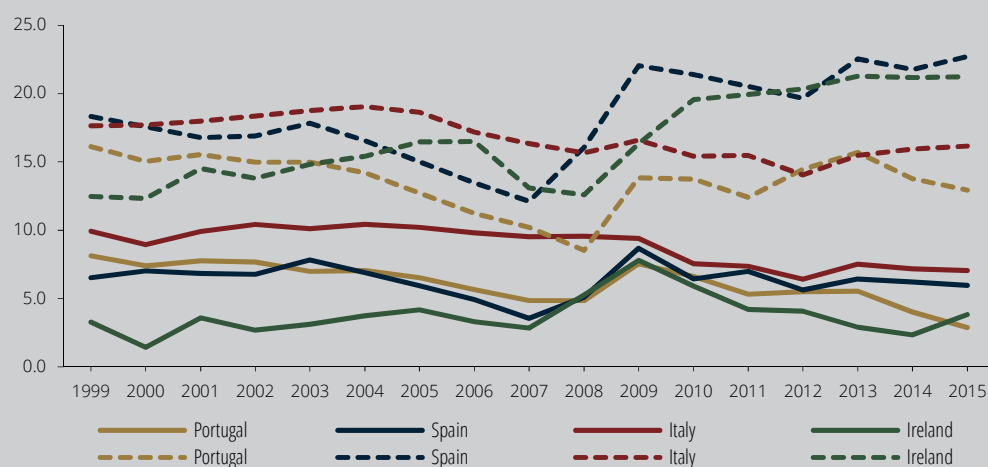
Despite observing a fall in household savings levels and rates over recent decades, the marked fall in housing investment explains why, in the period subsequent to 2008, household net lending as a percentage of GDP was greater than that observed in the first half of the 2000s (Chart 4.1).

From a financial point of view, the increase in net lending reflected a net repayment of debt by households, that is, a reduction in indebtedness



Source: INE

Chart 3.14 •
Variation
in disposable
income and some
of its components
| Million euro



Source: Eurostat.

Note: Solid (dotted) lines show households (households and non-financial corporations) savings.

Chart 3.15 •
Household
savings *versus*
non-financial
private sector
savings
| Percentage of GDP

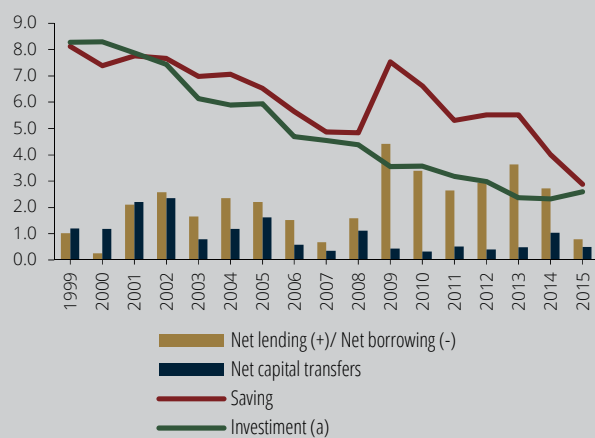
greater than the fall also registered in acquisition of financial assets (Chart 4.2). The falling trend in indebtedness was largely influenced by the fall in new long-term loans (especially loans for house purchase), whose value was below that of the repayments made by households (Chart 4.3).

Net lending in the economy is not, however, only a result of the contribution made by households, but corresponds to the sum of net lending of the various sectors. Chart 4.4 shows the net lending (or borrowing) requirements for each institutional sector and for the economy as a whole. From the beginning of the euro area to the period prior to the economic and financial crisis, the Portuguese economy systematically showed significant borrowing requirements (on average 8 per cent of GDP per year, for the period 1999-2010), which means that the savings generated by the various sectors were not sufficient to finance internal investment requirements. In this period, households and financial corporations registered, on average, net lending of about 2 per cent and 1 per cent of

GDP, respectively, while non-financial corporations and the public sector registered borrowing requirements of approximately 6 per cent and 5 per cent of GDP, respectively.

Financing through external capital is not a problem in itself, and can even be desirable when it contributes to increasing potential growth and when the economy is, from an intertemporal perspective, in a sustainable situation, that is, able to generate sufficient net lending in the future to make debt repayment credible. In the case of the Portuguese economy, the value of the external debt in net terms and in gross terms, however, became excessively high, meaning that in the context of the economic and financial crisis, it led to a sharp reduction in private external financing and made the downward correction of the external imbalance inevitable. Despite the difficulties in obtaining financing in financial markets during this period, the correction of the external imbalance went on gradually, benefiting, at a first phase, from the banks obtaining financing from the Eurosystem

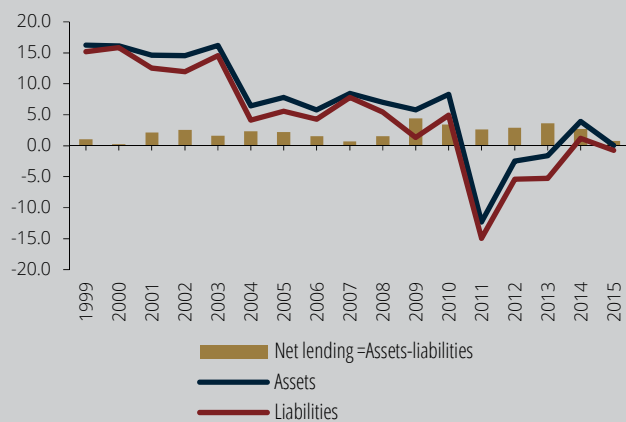
Chart 4.1 • Households' net lending
| Percentage of GDP



Source: INE.

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

Chart 4.2 • Household financial transactions
| Percentage of GDP



Sources: INE and Banco de Portugal.

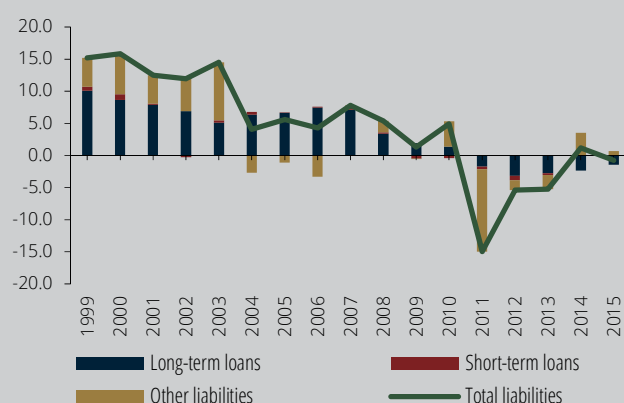
and, during the period 2011-13, from loans obtained by the Portuguese government within the framework of the Economic and Financial Assistance Programme. Since 2013, net lending in the economy has been slightly positive, in contrast to that what was systematically observed in the previous period. Between 2011 and 2013, the improvement in net lending was a result of an increase in national savings combined with an accentuating trend of reduction in investment, which in terms of percentage of GDP went from about 24 per cent in 2008 to about 15 per cent in 2013. In the last two years, values of national savings and investment have remained relatively stable at approximately 15 per cent of GDP (Chart 4.5).

The improvement in total net lending in the economy in the recent period was a result of the reduction in the borrowing requirement of the general government and, mainly, the increase in private sector net lending. In fact, in the period from 2009 to 2015 the private sector as a whole contributed positively to the financing of the

economy, while in the previous period it showed a borrowing requirement (Chart 4.6). Underlying this recent development was a very significant increase in corporate net lending (financial and non-financial) at the same time as households' net lending remained high.

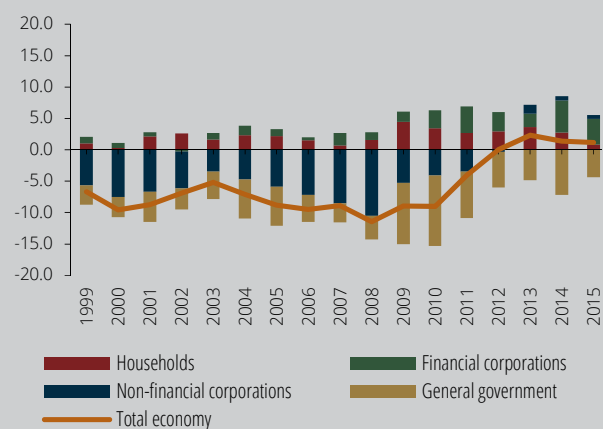
The breakdown in the evolution of savings and investment by sectors, and consequently the contribution made by these variables to the evolution of total net lending, has revealed distinct trends in recent years. The fall in household savings contrasts with the increase in public sector savings and, more significantly, with that of enterprises (Chart 4.7). These divergent developments are largely due to common factors, which translated into transfers from the households sector to that of enterprises and the public sector, namely a reduction in total wages, a fall in dividend distribution by enterprises and tax increases on households. On the other hand, investment in all sectors is significantly below the levels registered prior to the economic and financial crisis (Chart 4.8). This fall in investment,

Chart 4.3 • Household financial transactions – liabilities | As a percentage of GDP



Sources: INE and Banco de Portugal

Chart 4.4 • Net lending (+)/net borrowing (-) by institutional sector | Percentage of GDP



Source: INE.

which favoured the financial balance of the sectors, is neither sustainable nor desirable from an economic growth point of view.

5. Conclusion

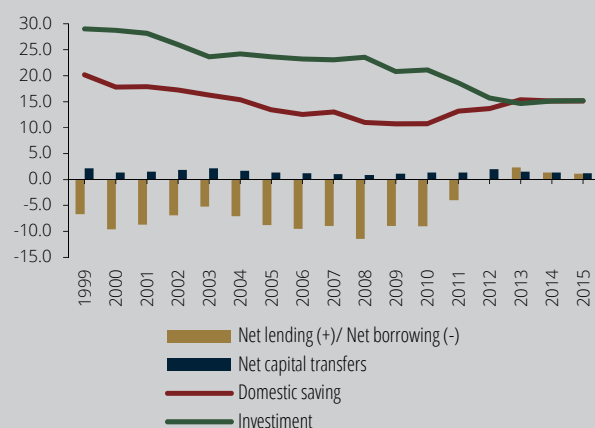
Developments in Portugal's domestic savings are essential to sustain investment and, simultaneously, ensure a sustained fall in external indebtedness. In fact, given the high level of external Portuguese debt, investment finance should continue to rely on domestic savings, both from the public and private sectors. In terms of the composition of these savings, this Special Issue has focused on analysing household saving determinants. This analysis has concluded that there are factors which should justify the fall in the household saving rate during the first decade of the euro, namely the reduction in liquidity constraints and the reduction in income distribution inequality. In recent years, savings have also been affected by large changes to the level of uncertainty surrounding households' macroeconomic environment and by changes to their expectations of permanent income. The impact of the latter factor on saving will tend to dissipate in the near future in

the absence of additional shocks. Therefore, this assessment suggests that household savings could increase in the near future, albeit to levels below those observed prior to the global financial crisis. This conclusion is backed by the developments in households' saving intentions from the last income quartile, which are responsible for almost all savings in Portugal (Chart 5.1).

At the same time, developments in household saving are closely linked to developments in corporate saving, which is currently high. In a context of moderate economic growth, it is expected that there will be a mild recovery in employment, wages and incomes distributed by enterprises. Despite increases in gross value added, corporate savings should interrupt the growth trend observed in recent years.

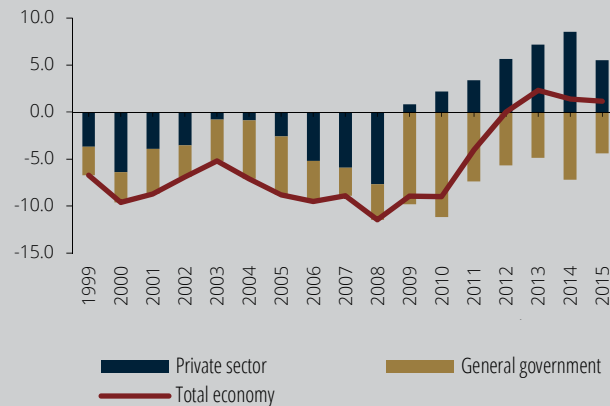
From a medium- to long-term perspective, it is expected that investment, especially productive investment in the economy, will show some signs of recovery. The need to compensate for capital stock depreciation should contribute to this development, in the first place. Furthermore, although population ageing contributes to a fall in the labour force, the stock

Chart 4.5 • Net lending (+)/net borrowing (-): total economy | Percentage of GDP



Source: INE.

Chart 4.6 • Net lending (+)/Net borrowing (-) of public sector and private sector | As a percentage of GDP



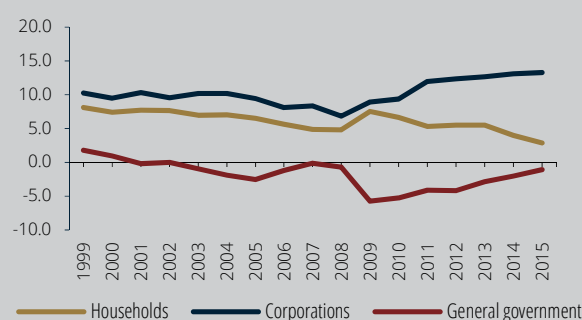
Source: INE.

of physical capital compatible with the growing level of human capital will tend to increase. In fact, the gradual improvement in levels of education should continue to be reflected in an improvement in the quality of labour, which should imply an increase in the level of optimal capital per worker.

In terms of net lending in the Portuguese economy, it is expected that developments in both savings and investment are reflected in an increase in household net lending and, in contrast, in

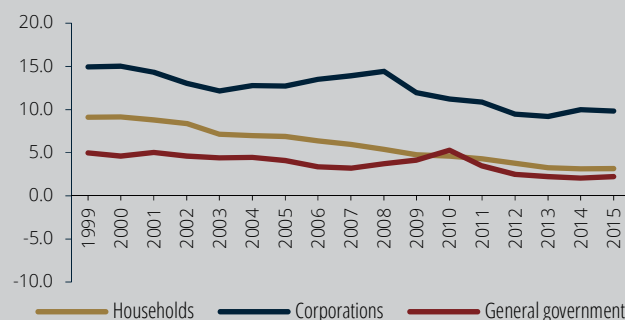
lower corporate net lending. The combination of these dynamics – in a context of gradual consolidation of public finances – would be consistent with a sustained decrease in external indebtedness of the Portuguese economy. A scenario which may jeopardise the simultaneous savings and investment growth in the private sector could create risks to the dynamics of falling external indebtedness and sustained growth of the Portuguese economy.

Chart 4.7 • Saving by institutional sector
| As a percentage of GDP



Source: INE.

Chart 4.8 • Investment by institutional sector
| As a percentage of GDP



Source: INE.



Source: European Commission.

Note: seasonally adjusted values, 3-months moving average.

Chart 5.1 •
Saving expectations for next 12 months by income quartile
| Balance of respondents

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Notes

- Box "Household saving concepts and measures in the national accounts" presents a simplified version of the concept of the household saving rate, as well as its relationship with other macroeconomic variables, both financial and non-financial, related to the financing of the economy and its various sectors.
- The HFCS does not provide an estimate of consumption so accurate as that obtained in the household expenditure surveys, where this is collected in a far more disaggregated way. Thus in line with the methodology of Browning et al. (2003), applied in ECB (2016b), based on the 2010 Household Expenditure Survey for Portugal (the latest available), an equation was estimated that relates total consumption of non-durables to variables that are also available in the HFCS (namely, food in and outside home and other socio-demographic variables). The coefficients estimated were used to estimate consumption of non-durables for the 2013 HFCS. In applying this methodology, it was assumed that the relationship between food consumption and total consumption of non-durables remained unchanged between 2010 and 2013. This hypothesis seems reasonable since the national accounts data suggest the proportion of food in non-durables consumption remained relatively constant.
- Countless factors contribute to this situation, including: uncertainty over the consumption estimation, the fact that the saving rate from the HFCS includes only consumption of non-durables and includes only households, while the national accounts also include saving by non-profit organisations serving households.
- The reference person was selected among the members of the household, according to the UN / Canberra definition.
- It is important to remember when interpreting these data that they reflect not only the age effect, as would be desirable for comparison with the life-cycle theory, but also that they are influenced by cohort and time effects (namely, past shocks to which the individuals were subject).
- In this case, the households' income and consumption is divided by the number of adult equivalents in each household, in accordance with the OECD modified equivalence scale, which attributes a weight of 1 to the first adult of the household, 0.5 to the others and 0.3 to each child.
- It is important to emphasise that the saving rates for 2014 and 2015 (taken from the quarterly accounts by institutional sector) are preliminary figures, as the definitive annual national accounts are only available for the period up to 2013.

