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I The Portuguese economy in 2017

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1 Overview

In 2017 GDP grew by 2.7%, in real terms, after increasing by 1.6% in the previous year. The main economic activity sectors made positive contributions to this momentum, with manufacturing recording its largest growth since 2010. The Portuguese economy benefited from a very favourable external environment. World economic activity and trade accelerated in 2017 and, in the euro area, the recovery was broadly-based across a wider set of economies and economic activity sectors. Monetary and financial conditions contributed to this economic momentum, with the ECB's monetary policy remaining accommodative. In Portugal, GDP growth stood close to the euro area average.

Economic and financial integration, including the mobility of factors of production, helps reduce differences between developments in the economies that are part of a monetary union. In the past decade, the cyclical synchronisation between Portugal and the euro area remained high, when assessed by relative developments in economic cycles. The differences in the amplitude of the cycles – resulting from the fact that the impact of the last crisis was relatively more pronounced in Portugal – eased in 2017, with dispersion indicators declining to levels comparable to those prevailing at the start of the monetary union.

The factors behind the acceleration of the Portuguese economy in 2017 were exports and investment. This composition of growth is particularly important in correcting a number of structural problems persisting in the Portuguese economy. The strong performance of Portuguese exports mostly resulted from a recovery in the pace of growth of external demand for Portuguese goods and services, in particular from euro area partners. At the same time, Portuguese exports gained market share in external markets. Portuguese exporters have gained market share in the external market since 2008. These developments have a structural dimension, including the closure of firms which are more oriented towards the domestic market and the establishment and expansion of new firms that export higher value-added goods and are oriented towards more diversified geographical markets than in the past. The positive performance of Portuguese exports largely exceeded that of other euro area countries. In 2017 the market share gain of Portuguese exports was also associated with extraordinary growth in tourism exports. The dynamism observed in the tourism sector in Portugal exceeds that of a number of competing countries, namely the other countries in Southern Europe.

In 2017 investment accelerated considerably. The recovery in investment in construction follows a protracted period of structural adjustment in the sector, which deepened during the crisis. Construction benefited from favourable financing conditions, an increase in demand from non-residents and strong growth in tourism and related real estate activities. Higher growth in investment in machinery and equipment reflected positive prospects for developments in demand, favourable financing conditions and the need to increase the capital stock. Investing in more productive sectors is a key requisite for sustained economic growth and increased productivity. This is particularly relevant for an economy such as Portugal, where housing has a very high share of the capital stock and the level of capital per worker is low compared with the other European countries. Bringing the GDP per worker in Portugal closer to the average of European Union (EU) countries is a particularly important challenge for the Portuguese economy. This will entail the accumulation of capital, warranting greater productive investment, in particular in tradable sectors.

In the labour market, the labour force grew after falling for six consecutive years. Employment increased by 3.3%, the highest annual growth rate since the start of the euro area. In the current recovery period in the Portuguese economy, productivity per worker in the economy as a whole has decreased. According to the evidence available, this is associated with intra-sectoral declines in productivity.

The unemployment rate decreased from 11.1% to 8.9%, a figure slightly below the euro area average. Job destruction, measured by the number of individuals moving from employment to unemployment or inactivity as a percentage of the labour force, continued to fall sharply, although there is also a downward, less marked, trend in job creation. The slight acceleration in compensation compared with the previous year reflects a slight labour market pressure, particularly owing to a considerable decline in unemployment.

Employment grew more considerably in the youngest and oldest age groups and in segments with at least secondary education. Developments in the qualifications structure of Portuguese workers have been positive but were still not enough to reach the average of EU countries. In a global economy, where growth relies on technologically advanced industries and innovation, it is crucial that the low qualifications of the workforce are corrected. In addition, it is proven that qualifications are beneficial not only for economic growth, but also individually, in terms of income, access to employment, better healthcare and the improved ability to live in society.

Long-term unemployment declined markedly in 2017. The incidence of very long-term unemployment increased considerably in the period 2011-13 and remained high in the following years, while unemployment with a duration of less than two years decreased from mid-2013 onwards. Consequently, despite the decline observed in 2017, very long-term unemployment still maintains a share of 42% in total unemployment. This is particularly worrying given the negative effects on human capital, which depreciates rather rapidly. Reducing the high incidence of very long-term unemployment must play a central role in the formulation of policies to reduce unemployment, on account of the impact of very protracted unemployment durations on poverty rates, the risk of social exclusion, the incidence of health problems and the economy's potential output.

In 2017 the general government deficit increased compared with the previous year, owing to the capital injection into Caixa Geral de Depósitos. In structural terms, i.e. correcting for the impact of temporary measures and the economy's cyclical developments, the deficit declined by 0.8 p.p. of GDP. This is consistent with the European Commission recommendations, under the process of convergence towards the medium-term objective of a surplus of 0.25% of GDP. General government debt declined from 129.9% of GDP in 2016 to 125.7% of GDP in 2017, benefiting from a positive primary balance, nominal GDP growth above the interest rate implied in debt, and a decline in the stock of deposits. Additional fiscal consolidation efforts are still required, given that the structural balance remains below the medium-term objective and general government debt is still very high and considerably above the euro area average. According to the European rules, these efforts must also include complying with rules regarding the evolution of government expenditure. These constraints are important challenges for the conduct of fiscal policy in the coming years. Costs associated with population ageing are expected to continue to exert strong pressure towards an increase in expenditure on pensions and health. In addition, it must be ensured that the level of public investment does not compromise the economy's potential growth. Finally, recent trends towards an increase in public expenditure have been observed, in particular through general government employment growth, which are of a more permanent nature.

The decline in household and corporate indebtedness, when measured in relation to GDP, signals that the deleveraging process of the non-financial private sector continued in 2017. New housing

loans continued to increase, but not enough to offset the increase in repayments of previous loans which, for the most part, are not related to future new loans. The value of new housing loans remains considerably below the value observed in the years leading up to the economic and financial crisis. The amount of new consumer loans continued to increase markedly in 2017, reaching in December the highest level since mid-2006. A growing number of new debtors had access to the market in consumer credit and debtors increasingly moved between institutions. Against a background of economic recovery more conducive to an easing in credit standards, Banco de Portugal announced a macroprudential measure in the form of a recommendation to ensure credit institutions do not take excessive risk when extending new loans.

For firms, the deleveraging process which is still ongoing is characterised by a gradual change in the financing structure towards a reduction in their dependence on resident banks and an increase in self-financing and other sources of funding, in particular from international investors. In 2017 total loans to firms grew for the first time since 2011. These developments are associated with an increase in funding from non-residents, which have gradually gained in importance in lending to non-financial corporations. As in previous years, on average, firms continued to reduce their debt to resident banks. Banks have differentiated between firms according to their risk profile, continuing to fund lower-risk firms and more dynamic economic activity sectors. Furthermore, developments in bank loans have shown a growing presence of new debtors in the market.

In 2017 the external position of the Portuguese economy improved further due to a positive current and capital account balance. The increase in the services account surplus offset the slight worsening of the goods deficit. The net lending position of the Portuguese economy increased to 1.4% of GDP, reflecting an increase in domestic savings slightly above that of investment. These developments contributed to an improvement in the international investment position. This indicates that the process of external adjustment in the Portuguese economy is still ongoing, one of the most important features of recent developments.

Developments in the Portuguese economy in 2017 confirmed the path of recovery observed in the past few years, with economic activity and employment accelerating and the unemployment rate declining. At the same time, the consolidation of fundamental macroeconomic balances progressed, including an improvement in external accounts and the structural budget balance, as well as a reduction in the indebtedness ratios of the general government and the non-financial private sector. Despite recent favourable developments, the Portuguese economy still faces important challenges in converging towards European income levels. In order to reach these goals, it is crucial to continue to ensure a macroeconomic stability framework, including financial stability. In addition, both potential growth and productivity must be increased, which means increasing quality investment and the educational level of the labour force. The degree of compliance with these targets will be greater as European integration (including the banking union) deepens.

2 International environment

World economic activity and trade accelerated in 2017

The pace of economic growth increased in 2017 in advanced and emerging economies, with world economic activity accelerating to 3.8% (Table I.2.1) and greater synchronisation among countries. Continued accommodative monetary policy and high levels of economic sentiment fostered higher economic growth in advanced economies. In turn, commodity price increases in 2017, particularly oil and industrial metals, helped the recovery observed in a number of emerging market economies.

	2014	2015	2016	2017
World	3.6	3.5	3.2	3.8
Advanced economies	2.1	2.3	1.7	2.3
USA	2.6	2.9	1.5	2.3
Japan	0.3	1.4	0.9	1.7
Euro area	1.4	2.0	1.8	2.5
Germany	1.9	1.5	1.9	2.5
France	1.0	1.0	1.1	2.0
Italy	0.2	0.8	1.0	1.6
Spain	1.4	3.4	3.3	3.1
United Kingdom	3.1	2.3	1.9	1.8
Emerging and developing economies	4.7	4.3	4.4	4.8
Emerging and developing Europe	3.9	4.7	3.2	5.8
Commonwealth of Independent States	1.0	-2.0	0.4	2.1
Russia	0.7	-2.5	-0.2	1.5
Emerging and developing Asia	6.8	6.8	6.5	6.5
China	7.3	6.9	6.7	6.9
India	7.4	8.2	7.1	6.7
Latin America and the Caribbean	1.3	0.3	-0.6	1.3
Brazil	0.5	-3.6	-3.5	1.0
Middle East and North Africa	2.6	2.4	4.9	2.2
Sub-Saharan Africa	5.1	3.4	1.4	2.8
Angola	4.7	3.0	-0.8	0.7

Table I.2.1 Gross Domestic Product | Real year-on-year rate of change, in percentage

Sources: Eurostat, IMF and Thomson Reuters.

World trade in goods and services recovered markedly in 2017, after growing at a pace below that of global GDP for two consecutive years. Against a background of acceleration in advanced economies and strong recovery in emerging economies, world trade grew by 4.9%. Consequently, the elasticity of world trade to GDP interrupted the downward path observed in the past few years, despite remaining low compared with the past decades (Chart I.2.1).

In 2017 global inflation followed developments in oil prices (Chart I.2.2). Following a decline in the first half of the year, OECD inflation increased in the second half of the year, accompanying the acceleration observed in oil prices. However, inflation excluding energy and food remained broadly unchanged over the course of the year, at around 1.8%. In advanced economies, the inertia of this inflation measure, which excludes more volatile components, occurs amid an economic expansion and a recovery in labour markets, and may be related to some remaining labour market slack (which

is not captured by the unemployment rate) and subdued inflation expectations of economic agents (due to inflation persistently remaining below monetary policy objectives), among other factors.¹



Chart I.2.1 • Growth of world GDP and trade volumes | Percentage

Sources: IMF and Banco de Portugal calculations. | Notes: The elasticity was computed as the 5 year average of the ratio between World Trade growth and World GDP growth, excluding outliers.

Chart I.2.2 • OECD Inflation and International price of Oil | Year-on-year growth rate, in percentage



Sources: Bloomberg and OECD.

Financial markets with a strong performance in 2017

The optimism generated by the improving outlook for the global economy boosted equity markets in 2017 (Chart I.2.3). Throughout the year, concerns about geopolitical tensions had a very limited impact on the stock market, resulting in low volatility despite some fears of overvaluation. In the United States, favourable economic indicators and expectations regarding the tax reform at the end of the year supported the upward trend observed in the indices, which reached historical highs. In the euro area, equity indices increased in the year as a whole, in spite of the political uncertainty

surrounding several electoral processes. In Japan, the depreciation of the yen and expectations of an extension of fiscal and monetary stimulus policies boosted the main indices.





Sources: Bloomberg, Thomson Reuters and Banco de Portugal calculations. | Notes: Stock indexes: Dow Jones Eurostoxx Broad (Euro area), Standard and Poors (USA), Footsie (UK), Nikkei (Japan) and Morgan Stanley Capital International (emerging markets). Stock market's implied expectation of volatility in S&P500 for the USA (VIX) and EuroStoxx50 for the euro area (VSTOXX).

In the bond market, interest rates on government debt in the United States and the United Kingdom increased in the short end of the yield curve. For longer maturities, at the end of 2017 interest rates were broadly at the same level as at the start of the year (Chart I.2.4).



Chart I.2.4 • 10-year sovereign debt rates | Percentage

Sources: Bloomberg and Thomson Reuters. | Notes: The Euro area aggregate corresponds to the weighted average of countries' sovereign debt rates.

Oil prices increased in 2017, particularly in the second half of the year (exceeding USD 65 per barrel at the end of the year) ahead of the extension of the agreement between OPEC and non-OPEC producers to control production and ensure greater conformity to the agreement (Box 1). The price of industrial metals also increased considerably, boosted by expectations of increased investment in infrastructure in the United States and sound economic indicators in China.

Economic activity accelerated in advanced and emerging economies

After decelerating in 2016, economic growth in the United States was fairly buoyant in 2017 (2.3%, compared with 1.5% in 2016), supported by domestic demand, in the context of a labour market close to full employment. After declining gradually in the first six months of 2017, inflation measured by the private consumption deflator increased in the second half of the year, in tandem with the recovery in energy prices, but remained below the Federal Reserve target of 2% (1.7% in December 2017). Throughout the year, the Federal Reserve continued the process of monetary policy normalisation, increasing the interest rates in three separate occasions (March, June and December, by a total of 75 basis points) and beginning its balance sheet reduction by limiting reinvestments (from October 2017). At the end of the year, the US Congress approved the Tax Cuts and Jobs Act, a reform of the US tax system resulting in cuts in personal and corporate income taxes, which is expected to have positive effects on economic growth in the United States in the short run.

In the United Kingdom, economic activity declined marginally in 2017, to 1.8%, and was not in line with the faster expansion observed in the other advanced economies. The pound sterling depreciated considerably since the referendum to leave the European Union (*Brexit*), generating pressures towards an increase in the inflation rate, which, in turn, resulted in a loss of purchasing power for households and, consequently, a deceleration in private consumption. At the same time, this depreciation boosted a recovery in net exports, although this impact on GDP growth was dominated by a slowdown in domestic demand. Although the more pessimistic scenario (expected immediately after the referendum) for the impact *Brexit* would have on economic activity in the United Kingdom did not materialise, prospects for 2017 deteriorated over the course of the year. Inflation in the Second half of 2016, standing above the monetary policy objective for the most part of the year (2.9% in December). In terms of monetary policy, the Bank of England decided to raise the interest rate by 25 basis points, to 0.5%, in November 2017, following an improvement in the balance of risks to economic activity. However, the Bank of England signalled that this was not the beginning of a tightening cycle.

In emerging market economies, China continued to show a strong pace of growth, and a number of commodity-exporting economies accelerated, benefiting from higher commodity prices throughout the year. Among these, the end of the recession in Brazil and Russia stand out, as well as a return to economic growth in Angola after the slump in 2016.

In 2017 euro area economic activity surprised on the upside, exhibiting the largest economic growth in the past decade

In 2017 euro area economic growth accelerated markedly following a recovery in exports (in line with global activity growth, despite the appreciation of the euro), while domestic demand remained robust. Euro area GDP continuously exceeded projections over the course of the year, growing by 2.5% in 2017 as a whole, achieving its largest growth since 2007. This acceleration was broadly-based across euro area countries and sectors (Chart I.2.5 and Box 9). Despite the economic growth observed in the more recent period, countries that experienced more significant losses in output and employment during the global financial crisis and the sovereign debt crisis (including Portugal, Italy and Greece) did not experience economic growth rates in the post-crisis period to enable them to catch up with the other members of the monetary union (Chart I.2.6).





Sources: Eurostat and Banco de Portugal calculations. | Note: The data used included 10 sectors in 16 countries of the euro area (Ireland, Malta and Slovakia were excluded), comprising a total of 160 series. The dispersion of growth corresponds to a weighted standard deviation, using the relative size of the sector-country in the total GVA of the euro area as weights.





Sources: Eurostat and Banco de Portugal calculations. | Notes: Countries sorted in descending order of growth troughout 2008-2017. Ireland was excluded for being na outlier regarding GDP growth (in recent years GDP growth in Ireland has been extremely high, partially due to statistical procedures).

Employment reached its highest level since the creation of the euro area, while the unemployment rate continued to decline, reaching 8.6% in December. Throughout 2017, improvements in the labour market, together with positive developments in world economic activity and trade, led to a rise in confidence and economic sentiment to high levels compared with the past few years.

External demand for Portuguese goods and services accelerated considerably (to 4.5%, after 2.1% in 2016), resuming a pace of growth close to that observed in the period 2014-15 (Table I.2.2). This resulted from an acceleration in demand from euro area countries (in particular, Spain and Germany) and from partners outside the monetary union (namely, the United States). Taking into account the indicator of external demand adjusted for the importance of external trade with Angola, growth in external demand for Portuguese goods and services in 2017 was even more pronounced (4.9%, after 0.8% in 2016).

	Weights ^(b)	2013	2014	2015	2016	2017
External demand (ECB) ^(a)	100.0	1.9	5.0	4.0	2.1	4.5
Intra euro area external demand	61.8	0.8	5.2	5.8	3.7	4.5
of which:						
Spain	24.8	-0.5	6.6	5.9	2.7	4.7
Germany	12.1	3.1	3.5	5.2	3.8	5.6
France	12.2	2.2	4.8	5.5	4.2	4.1
Italy	3.3	-2.3	3.0	6.6	3.8	5.7
Extra euro area external demand	38.2	3.8	4.7	1.1	-0.5	4.6
of which:						
United Kingdom	6.3	3.1	4.5	5.1	4.8	3.2
USA	4.7	1.1	4.5	5.0	1.3	4.0
Memo:						
Goods and services imports from Angola ^(c)	3.7	9.2	11.5	-21.8	-25.1	14.1
Adjusted external demand ^(d)		2.3	5.4	2.5	0.8	4.9
World trade of goods and services (IMF)		3.5	3.8	2.7	2.3	4.9
World imports of goods (CPB)		2.1	2.8	1.8	1.5	4.6

Table I.2.2 External demand of goods and services | Real year-on-year rate of change, in percentage

Sources: CPB, ECB, IMF, Thomson Datastream and Banco de Portugal calculations. | Notes: (a) External demand is computed as the weighted average imports volume of Portugal's main trading partners. Each country/region is weighted by its share in Portuguese exports. (b) Average share of nominal exports of goods and services in Portugual's total exports, between 2013-15. (c) Weight of nominal exports of goods and services to Angola on Portugal's total exports, between 2013-15. (c) Weight of nominal exports of goods and services to Angola on Portugal's total exports, between 2015-17. (d) External demand indicator adjusted for the importance of foreign trade with Angola. Corresponds to the weighted average (by exports weights) between ECB's external demand indicator and Angola's volume of imports of goods and services. IMF forecasts (World Economic Outlook) for Angola's growth of imports in 2016 and 2017 were used.

The intra-annual profile of euro area inflation reflected developments in energy prices

In 2017 euro area inflation remained below the Eurosystem's price stability objective. The increase in average annual inflation from 0.2% in 2016 to 1.5% in 2017 resulted mostly from contributions from energy and food prices (Chart I.2.7), with average annual underlying inflation (excluding energy and food) increasing only marginally to 1.0%. Despite the increase in the producer price index and a slight acceleration in compensation per employee, pipeline pressures in the supply chain were still not enough to result in a sustained increase in prices. In 2017 market-based inflation expectations for medium and long maturities remained at historically low levels and below survey-based expectations (Chart I.2.8), recording changes in the intra-annual profile associated with some co-movement with expectations for shorter maturities.



Chart I.2.7 • Euro area HICP | Year-on-year growth rate in percentage and contributions in percentage points

Sources: Eurostat and Banco de Portugal calculations.

Chart I.2.8 • Market-based and survey-based inflation expectations | Average inflation rate in percentage

Average inflation during 2 years, 4 years ahead

Average inflation during 5 years, 5 years ahead



Sources: Consensus Economics, ECB and Thomson Reuters. | Note: Average intlation rates implied in swaps for 2-year and 5-year periods, starting in 4 and 5 years, respectively.

Box 1 • Oil market in 2017: developments and prospects

Oil prices increased considerably throughout 2017 and at the start of 2018. From January 2017 to January 2018, the price of Brent oil increased by around 26% in US dollar terms and by 9% in euro terms (Chart C1.1).² These developments contributed in particular to an acceleration in energy prices and an increase in euro area inflation in 2017, including in Portugal. Against this background, this box describes recent developments in the oil market and prospects for the near future.





Source: Bloomberg.

The increase in oil prices largely reflected growth in demand above growth in supply and a decline in inventory levels (Chart C1.2). On the one hand, the acceleration in global economic activity in 2017 consistently surprised on the upside and led to sustained growth in demand for oil. On the other hand, oil supply was significantly affected by production cuts resulting from the agreement between OPEC and non-OPEC producers (in particular, Russia). This agreement was initially reached in December 2016 and established production cuts in the first half of 2017, but was subsequently extended, with the cuts in the current version expected to last until the end of 2018. Overall, the level of conformity to the agreement has increased and, in the past few months, production cuts have even been above those agreed.³ In 2017 global inventory levels therefore declined markedly, after the historical highs of the past few years, which may signal a relatively tighter market and contribute to additional upward pressure on prices.⁴

2. In annual average terms, the increase stood at around 23% in 2017, after drops of 47% and 16% in 2015 and 2016 respectively (an increase of around 21% in euro, after declines of 37% and 15% in 2015 and 2016).

3. The agreement was first extended until March 2018 (in May 2017) and then until the end of 2018 (in November 2017). Production cuts were expected to reach around 1.2 million barrels per day for OPEC countries and half of this amount for the other producers. On 21 March 2018, the Joint OPEC-Non-OPEC Ministerial Monitoring Committee stated that the level of conformity stood at 138% (compared with an average of 107% in 2017).

4. When the level of inventories is lower, the benefit of physically storing oil as a means to smooth production and accommodate unexpected shocks in demand (*convenience yield*) increases, with the oil spot price consequently tending to increase.

.....



Sources: International Energy Agency and Banco de Portugal calculations. | Oil supply assumes OPEC/Non-OPEC cuts remain in place from the first quarter of 2018 onwards (OPEC crude production constant at 32.3 mb/d).

At the start of 2018, there was a greater demand/supply balance. Despite the production cuts resulting from the agreement between OPEC and non-OPEC producers, global oil supply increased in 2017, mostly reflecting a continued increase in production in the United States, particularly of shale oil. This segment of production reacts increasingly faster to increases in prices to levels consistently above USD 50 per barrel (Chart C1.3).⁵ This factor is expected to have contributed to an interruption of the upward trend in prices, in February 2018, also following some volatility in financial markets. The price of Brent oil in April stood close to the level observed in January, at around USD 69 per barrel.⁶ While some uncertainty remains, market balance is expected to be maintained over the course of the year. Given the positive global outlook, projections point to an increase in demand, which is expected to continue to be largely accompanied by oil production growth in the United States, given that the production cuts under the agreement between OPEC and non-OPEC producers are expected to remain in effect until the end of the year. Although this is the most likely scenario, were they to occur, possible supply disruptions (specifically owing to geopolitical factors and more dynamic demand than expected) might exert upward pressure on oil prices. Under these scenarios, the swift reaction of production in the United States, which has increased in efficiency, would probably limit these increases. Consequently, this analysis suggests that oil prices will remain close to their current levels, which also seems to be implicit in the futures markets (Chart C1.1).7

^{5.} According to market analysts, oil prices are expected to remain in a range consistent with the production costs of marginal producers, currently expected to stand close to USD 50 per barrel over the short term. However, according to projections by the same analysts, prices are expected to rise to USD 65-70 per barrel over the medium term if US shale oil production continues to expand profitably ("The oil market in the age of shale oil", ECB Economic Bulletin, Issue 8 /2017).

^{6.} On the basis of information available up to 12 April.

^{7.} Futures markets suggest a slight and gradual decrease in oil prices until the end of 2019. However, as mentioned before, when inventory levels are lower, the convenience yield of storing oil increases, with the oil spot price consequently tending to increase and futures prices to decrease. In this case, the price futures curve tends to flatten and become slightly downward sloping (a situation usually known as backwardation) and may not be an accurate representation of expectations of market conditions.



3 Monetary and financial conditions

3.1 Euro area

Throughout 2017, macroeconomic projections were successively revised upwards, but solid growth was not reflected in sustained convergence of euro area inflation towards the ECB's price stability objective. The ECB therefore maintained an accommodative monetary policy stance throughout the year and announced in October that the Expanded Asset Purchase Programme (APP) would be extended for at least 9 months, until September 2018. The monthly pace of purchases was reduced to €30 billion from January 2018, and the ECB reiterated its commitment to use all instruments available to ensure the convergence of the inflation rate towards a level below, but close to, 2% over the medium term. The ECB thus maintained an accommodative monetary policy stance, expecting key interest rates to remain at their present levels for an extended period of time, and well past the horizon of the net asset purchases, i.e. the moment when monthly purchases correspond solely to the replacement of securities reaching maturity in the central bank's balance sheet. In addition, reinvestments of principal payments from securities purchased under the APP are expected to continue for an extended period of time after the end of the net asset purchases, while the refinancing operations as fixed rate tender procedures with full allotment are expected to be conducted at least until the end of the last reserve maintenance period of 2019.

Monetary and financial conditions in the euro area remained favourable

Against a background of accommodative monetary policy and with key interest rates remaining unchanged, money market interest rates stabilised at historically low levels (Chart I.3.1), interrupting the downward trend of the previous years. In any case, high demand for assets with a high credit quality at the end of each quarter continued in 2017 (to a lesser degree in in the first three quarters), resulting in significant, but one-off, changes in secured money market interest rates.



Chart I.3.1 • Euro area money market rates | Percentage

Source: Bloomberg. | Note: The chart is cut off at -1.2% in order to allow for a clear reading (Germany's overnight repo rate hit -4% in the last days of 2016 and 2017).

In the bond market, together with broadly-based economic growth in the monetary union and positive revisions to the ratings on the sovereign debt of countries that are regarded as more vulnerable, tenyear government bond spreads narrowed against Germany, in particular for Portugal (Chart I.3.2). In the foreign exchange market, the exchange rate of the euro appreciated by 5.4% in nominal effective terms⁸ in 2017, amid positive surprises in economic recovery and an increased relative attractiveness of investments in the euro area. In bilateral terms, the euro appreciated against most currencies, in particular the US dollar (12.3%).



Chart I.3.2 • Spreads in 10-year sovereign debt rates by country against Germany | Percentage points

Sources: Thomson Reuters and Banco de Portugal calculations.

The euro area banking sector continued to recover in 2017, in an environment where bank's funding costs have been compressed over the course of the year to historical lows, accompanied by a reduction in cross-country dispersion (Chart I.3.3). Against this background, the ECB's non-standard monetary policy measures had a positive impact on developments in loans to the private sector. In particular, the results of the bank lending survey (BLS) indicate that the APP helped improve financing conditions for the banking sector and that the additional liquidity from the APP was used to grant new loans (Chart I.3.4). The results of the BLS also show that credit standards and credit terms and conditions eased for non-financial corporations and households, mainly owing to increased competitive pressure and lower risk perception. In turn, low interest rates (Chart I.3.5) and an improved economic outlook mostly justified the increase in credit demand. Bank loans to non-financial corporations and households therefore continued to recover in 2017 (Chart I.3.6). However, some heterogeneity persisted in loan developments across euro area countries. The pace of growth in bank loans to households and non-financial corporations in Southern Europe remained below the euro area average.

The nominal effective exchange rate corresponds to a weighted geometric average of the bilateral euro exchange rates (in nominal terms) against the currencies of 19 trading partners.





Sources: ECB, Bank of America Merrill Lynch and Banco de Portugal calculations. | Notes: Bank financing costs calculated as a weighted average (based on outstanding amounts) of the cost of deposits and a proxy for bank bond yields. The standard deviation is calculated over the 4 countries displayed.





Source: ECB. | Notes: APP stands for asset purchase programme. The Bank Lending Survey is a quarterly survey to banks in the euro area. The diffusion index varies between -100 and 100. Values below (above) zero represent a negative (positive) contribution to the evolution of credit supply.

Chart I.3.5 • Interest rates on new business loans in the euro area | Percentage



Sources: ECB and Banco de Portugal calculations.

Chart I.3.6 • Euro area - Loans to private sector | Annual rate of change in percentage



Sources: ECB and Banco de Portugal calculations. | Note: Annual growth rates of loans adjusted for sales and securitization.

3.2 Portugal

In 2017 the borrowing conditions of the non-financial private sector evolved favourably both in terms of volume and price. The ECB's unconventional monetary policy measures, in particular the APP, continued to have an important role in these developments (Chart I.3.7), interacting with favourable developments in credit risk for firms and households (Chart I.3.8).



Chart I.3.7 • APP impact on credit supply | Diffusion index

Source: Banco de Portugal. | Notes: The diffusion index is computed based on the bank lending survey and varies between -100 and 100. Values of less (more) than zero mean a decrease (increase) in the supply or a negative (positive) contribution for the change in supply.

Interest rates on new loans to households decreased, in particular in the second half of the year

In 2017 interest rates on new bank loans to households maintained the downward trend that started in mid-2012 (Chart I.3.9). In December 2017, the annual percentage rate of charge (APRC) on loans for house purchase and consumer credit recorded the lowest level since the start of the series in 2003 (2.4% and 8.6% respectively). This decline was mostly due to a narrowing of the spreads applied by banks, given that reference interbank interest rates remained stable. In the case of lending for house purchase, average spreads observed in December 2017 were close to those recorded at the end of 2010 and in line with the euro area average. However, these figures were well above the levels observed in the period prior to the economic and financial crisis.





Source: Banco de Portugal. | Notes: The probability of default (1 year) is measured by the Z-score estimated according to Antunes, Gonçalves and Prego, 'Firm default probabilities revisited', *Banco de Portugal Economic Studies*, Vol. 2, No 2, April 2016. The flow of new loans in default is computed based on the change in the stock of overdue loans and other doubtful loans adjusted for write-offs, reclassifications and sales.



Chart I.3.9 • Interest rates on new loans granted by resident banks to households | Percentage and percentage points

Sources: Thomson Reuters and Banco de Portugal. | Notes: Average interest rates are based on new loans by initial fixation period and weighted by new loan amounts in each period. In the case of loans for consumption, the 6-month Euribor, the 1-year Euribor and the 5 year swap rate were considered as reference interest rates for loans with initial fixation period of less than 1 year, 1 to 5 years and more than 5 years, respectively. In the case of housing, the reference interest rate is the 6-month Euribor.

New housing and consumer loans continued to increase

In line with developments since 2015, the amount of new bank loans to households for house purchase followed an upward trend throughout 2017 (Chart I.3.10). Nevertheless the total amount of new loans for house purchase remain considerably below the level observed in the years leading up to the economic and financial crisis. After two years of increasingly gaining importance in total new loans, the share of agreements with an interest rate fixation period of over one year stabilised at around 40% in 2017. The increase in new loans for house purchase has contributed to the increase in the annual rate of change of bank loans for house purchase (Chart I.3.11), which nevertheless remains in negative territory (-1.7% in December 2017), given that repayments continue to be higher than new loans. On the basis of the analysis shown in Box 2, repayments have increased in the most recent period as a result of an increase in the volume of total early repayments, which, for the most part, are not associated with new loans for house purchase.

The momentum observed in new loans for house purchase occurs amid a significant increase in the price and volume of transactions in this market (Chart I.3.12). The price increase was particularly marked during the second half of the year, with the year-on-year rate of change going from 8.0% to 10.5% from the second to the fourth quarter of 2017. As a result, at the end of 2017 prices in real terms reached the levels observed in the first quarter of 2008. The increase in the volume of transactions is expected to be associated, *inter alia*, with the increase in new loans, which, similarly to 2015 and 2016, increased as a percentage of total transactions. Nevertheless, new loans corresponded in 2017 to less than half of total transactions, far below the level observed in the pre-crisis period.

According to the BLS, improvements in housing market prospects, including expected developments in prices, improvement in consumer confidence and low interest rates, drove the increase in demand for housing loans. On the supply side, reporting banks have signalled a slight increase in competition from other banking institutions and a more optimistic outlook for developments in housing prices, although they do not indicate an easing of credit standards.



Chart I.3.10 • New loans granted by resident banks to households | 3-month moving average, EUR millions



Chart I.3.11 • Loans granted by resident banks to households | Annual rate of change, percentage

Source: Banco de Portugal. | Notes: Annual rates of change are based on the relation between end-of-month outstanding amounts (adjusted for securitisation operations) and monthly transactions. Monthly transactions correspond to the difference in the end-of-month outstanding amounts adjusted for reclassifications, write-offs/write-downs, exchange rate and price revaluations, and any other variations that do not correspond to financial transactions. Whenever relevant, figures are additionally adjusted for sales of credit portfolios.

Source: Banco de Portugal. | Notes: In the case of housing, new loan amounts are disaggregated by interest rate fixation period.

Chart I.3.12 • Prices and transactions in the housing market



Source: Statistics Portugal. | Note: Housing prices are measured by the House Price Index. The real price corresponds to the ratio between that index and the HICP.

The amount of new consumer loans granted by banks increased considerably throughout 2017, reaching in December the highest level since mid-2006 (Chart I.3.10). These developments contributed to an increase in the annual rate of change in consumer credit granted by banks, which went from 9.2% in December 2016 to 10.7% in December 2017 (Chart I.3.11). This aggregate does not include loans by other non-monetary financial institutions, which have an approximate share of 20% in the total stock of consumer loans and whose annual rate of change increased to 18.9% (7.3% in December 2016) (Chart I.3.13). An analysis on the basis of microeconomic data suggests that the current momentum in the market for consumer loans is related to the capture of new customers entering the market for the first time and an increasing number of customers moving between institutions (Box 3). According to the banks participating in the BLS, the strong momentum observed in consumer loans is associated with a significant increase in demand as a result of increased consumer confidence. On the credit supply side, credit standards for this type of loan are expected to have remained fairly stable. However, reporting banks refer a decline in spreads in the context of lower risk perceptions for overall economic activity and greater competition from other banks and non-banks. Broken down by component, car loans, in particular loans for second-hand cars, continued to be the most buoyant component (Chart I.3.14).





Source: Banco de Portugal. | Notes: Annual rates of change are based on the relation between end-of-month outstanding amounts (adjusted for securitisation operations) and monthly transactions. Monthly transactions correspond to the difference in the end-of-month outstanding amounts adjusted for reclassifications, write-offs/write-downs, exchange rate and price revaluations, and any other variations that do not correspond to financial transactions. Whenever relevant, figures are additionally adjusted for sales of credit portfolios. Bank loans refer to loans granted by monetary institutions (i.e. financial institutions authorized to receive deposits).



Chart I.3.14 • New loans to households for consumption by credit category | Six-month monthly average, EUR millions

In an environment particularly conducive to an easing of credit standards, characterised by historically low interest rates, economic recovery and an increase in housing prices, on 30 January 2018 Banco de Portugal announced a macroprudential measure in the form of a recommendation to ensure credit institutions and financial corporations do not take excessive risk when extending new loans and that borrowers have access to sustainable financing.9

Total household debt stabilised in nominal terms but continued to decrease as a percentage of GDP

Total household debt stabilised in nominal terms at the end of 2017 after six years of decline (Chart I.3.15). Despite this stabilisation in the nominal value, as a percentage of GDP household debt fell by 0.8 percentage points (p.p.). The stabilisation of household debt involved a decelerating decline in the component relating to credit for house purchase and an increase in debt associated with consumer credit. Consumer credit as a proportion of total household debt is slightly above that of the period before the economic and financial crisis. Given the difference in behaviour between these two types of debt, consumer credit is expected to grow as a component of household debt during 2018. Despite this pattern, most household debt is collateralised, and is concentrated in the highest income quintiles (Box 4).

Source: Banco de Portugal. | Notes: New loan amounts for consumption granted by financial institutions. The analysis excludes credit cards, current accounts, and overdraft facilities.





Source: Banco de Portugal.

The cost of financing firms through loans and debt securities continued to decrease during 2017

The average cost of financing non-financial corporations through debt, in real terms, has fallen to 0.6% at the end of 2017 (Chart I.3.16). As in the last few years, this favourable performance is the result of the behaviour of bank loans and (short- and long-term) debt securities. The decline was sharper however in the case of securities, which have increased as a proportion of corporate indebtedness, although with limited breadth. These developments are likely to relate to the relative increase in financing from the international capital markets, which currently offer interest rates below those offered by the resident banks in the case of some large firms (see the Special issue).

In line with the behaviour of the cost of financing, nominal interest rates on new bank loans to nonfinancial corporations trended downwards throughout 2017. As in the case of households, this was due chiefly to a reduction in the spreads on market interest rates (Chart I.3.17). The positive spread on the average interest rate on loans to non-financial corporations in the euro area also continued to narrow, reaching levels similar to those observed before the economic and financial crisis.





Sources: Banco de Portugal, Barclays, Consensus Economics and Thomson Reuters. | Notes: The cost of financing with bank loans, short-term debt securities and long-term debt securities is measured, respectively, by the interest rates on new loans granted by resident banks, interest rates on commercial paper and the yield implicit in the Barclays index for bonds issued by Portuguese corporations. Consensus Economics' inflation expectations for horizons comparable with the maturities of the different instruments were used to deflate the nominal values.





Sources: Banco de Portugal, BCE and Bloomberg. | Note: Average interest rates are based on new loans by initial fixation period, weighted by new loan amounts in each period.

As in the last few years, average interest rates on new loans granted to higher-risk firms continue to be significantly higher than those observed for lower-risk loans (Chart I.3.18). Furthermore, average interest rates on new loans granted to higher-risk firms continue to show greater dispersion. In the latest period however, the decline in the interest rates on new loans to higher-risk firms is likely to be accompanied by a smaller dispersion in terms of risk premia.





Source: Banco de Portugal. | Notes: Interest rates weighted by loan amounts. Low (high) risk firms lie in the first (last) quartile of the credit risk distribution. Credit risk is measured by the Z-score estimated according to Antunes, Gonçalves and Prego, 'Firm default probabilities revisited', Banco de Portugal Economic Studies, Vol. 2, No 2, April 2016.

New bank loans to firms remained relatively stable over the year, despite there being signs of a slight increase in demand

Despite the reduction observed in the costs of financing, new bank loans with more than one year's maturity granted to non-financial corporations, which are less affected by changes in the maturity structure of the firms' debt, remained relatively stable, at levels close to those observed over 2016 (Chart I.3.19). As loan repayments continue to be greater than new loans, the annual rate of change on bank credit, which includes all loans and securities held by the banks, was -0.7% in December (Chart I.3.20).



Chart I.3.19 • New loans granted by resident banks to non-financial corporations with contractual maturity above 1 year | 3-month moving average, in million EUR

Source: Banco de Portugal. | Notes: Only new loans with contractual maturity above 1 year are considered in order to avoid overweighting short maturity loans due to frequent rollover.

The most dynamic economic activity sectors were manufacturing and mining and trade, accommodation and food services. Furthermore, the annual rate of change in bank credit to the construction and real estate activities sector increased, approaching zero after several years at significantly negative levels. Developments in bank credit to the trade, accommodation and food services and construction and real estate activities sectors are likely to be linked to the strong performance observed across all tourism-related activities (Chapters 5 and 6). In contrast, there was a sharp decline in bank credit to the electricity, gas and water sector.



Chart I.3.20 • Bank credit to non-financial corporation | Annual rate of change, percentage

Source: Banco de Portugal. | Notes: Loans and debt securities are considered. Annual rates of change are based on the relation between end-ofmonth outstanding amounts (adjusted for securitisation operations) and monthly transactions. Monthly transactions correspond to the difference in the end-of-month outstanding amounts adjusted for reclassifications, write-offs/write-downs, exchange rate and price revaluations, and any other variations that do not correspond to financial transactions. Whenever relevant, figures are additionally adjusted for sales of credit portfolio. The values in parenthesis correspond to the weight of credit to the sector in bank credit to non-financial corporations.

Despite the annual rate of change of bank credit to firms remaining negative, an analysis of the participants in the loan market shows an increase in credit granted by resident financial institutions to new debtors (Chart I.3.21). According to the Bank Lending Survey, firms' demand for loans is likely to have increased in 2017. This increase appears to be linked to a greater need for credit to finance

investment (Chart I.3.22). The banks surveyed also cited as positive factors behind the growth in demand a greater need for financing inventory purchasing and working capital, and the low level of interest rates.

Resident banks continued to increase their financing of firms with lower credit risk

As observed in the last few years, the loans granted by resident financial institutions to firms behaved differently according to risk profile (Chart I.3.23). The firms belonging to the lowest credit risk quartile recorded a positive year-on-year rate of change, while those in the highest credit risk quartile continued to show a negative year-on-year rate of change. The firms in the second and third credit risk quartiles recorded near-zero year-on-year rates of change at the end of 2017.





Source: Banco de Portugal. | Notes: Loan balances of private non-financial corporations with regular credit, past due loans or renegotiated loans are analyzed. The exit of a company from the credit market in year t is defined by its absence from the CCR of that year. The entry of a company is identified by the first year of reporting to the CCR or by the year in which it reappears after it has left. Year-on-year rates of change are calculated based on the average monthly company-level balances. Sales and purchases of credit portfolios to the rest of the world or to other national institutions that do not report to the CCR are corrected from 2015.



Chart I.3.22 • Evolution and determinants of demand for loans by non-financial corporations | Diffusion index

Source: Banco de Portugal. | Notes: The diffusion index is computed based on the bank lending survey and varies between -100 and 100. Values of less (more) than zero mean a decrease (increase) in the demand or a negative (positive) contribution for the change in demand.



Chart I.3.23 • Loans granted by resident financial institutions to private non-financial corporations by credit risk quartile | Year-on-year rate of change, percentage

Source: Banco de Portugal. | Note: Credit risk is measured by the Z-score estimated according to Antunes, Gonçalves and Prego, 'Firm default probabilities revisited', Banco de Portugal Economic Studies, Vol. 2, No 2, April 2016. The year-on-year rate of change is the annual rate of change of outstanding amounts in each month.

Total credit to firms increased in 2017, with the share of financing from non-residents growing gradually

As banking sector financing has progressively reduced its weight on total financing to firms, it is important to analyse a broader credit aggregate, such as total credit, which includes bank credit, financing obtained through loans and securities held by other resident financial institutions and the loans, securities and trade credit from other residents and non-residents (see the Special issue). The year-on-year rate of change of total credit to non-financial corporations was 0.7% in December 2017 (-1.3% at the end of 2016) (Chart I.3.24). The increase in the rate of change of total credit relates to an increase in financing from non-residents, which has gradually increased its relative importance in financing non-financial corporations. As in the last few years, the firms have continued to reduce their indebtedness to the resident financial sector



Chart I.3.24 • Total credit to non-financial corporations by funding sector | Year-on-year rate of change and contributes in percentage and percentage points

Source: Banco de Portugal. | Notes: Total credit contains loans, debt securities and trade credits. Trade credits between resident firms are excluded. Year-on-year rates of change are computed based on the relation between end-of-month outstanding amounts. No adjustments are done regarding sales, reclassifications, write-offs and exchange rate and price revaluations. Year-on-year rates of change allow us to analyze debt in the perspective of the debtor sector.

As analysed in the Special issue, the different activity sectors have benefited to differing degrees from financing granted by institutional sectors other than the banking sector. The largest differences between the annual rate of change of total credit and of bank credit are found in the electricity, gas and water sector and the head offices sector (Chart I.3.25).



Chart I.3.25 • Total credit to non-financial corporations in 2017 by sector of activity |Annual rate of change and contributions by financing sector

Source: Banco de Portugal. | Notes: Total credit by sector corresponds to loans and debt securities. Annual rates of change are based on the relation between end-of-month outstanding amounts (adjusted for securitisation operations) and monthly transactions. Monthly transactions correspond to the difference in the end-of-month outstanding amounts adjusted for reclassifications, write-offs/write-downs, exchange rate and price revaluations, and any other variations that do not correspond to financial transactions. Whenever relevant, figures are additionally adjusted for sales of credit portfolio. The values in parenthesis correspond to each sector weight on total credit granted to non-financial corporations.

$\mathbf{Box}\ \mathbf{2}$ • New loans to households for house purchase and loan repayments: an analysis with microeconomic data

The stock of loans for house purchase has been decreasing despite the dynamism observed in new loans granted to households for house purchase. This recent development mainly reflects the large amount of loan repayments. According to the monetary and financial statistics of Banco de Portugal, housing loan repayments registered maximum values of the recent years at the end of 2017 (Chart C2.1). In a context of a dynamic housing market and an increased differential between interest rates on loans and deposits, it is important to understand whether these dynamics stem from the debt repayments under the mortgage contracts or from a change in the households' behavior.

In the following analysis, household Central Credit Register data from Banco de Portugal (CCR) is used to study the developments in the repayments of loans for house purchase and its relation with new loans granted to households. The analysis with microeconomic data allows us to understand the reasons underlying the recent dynamism in loan repayments and the developments in indebtedness at the household level.



Chart C2.1 • Loans to households for house purchase: monthly net flows decomposition | EUR millions

Source: Banco de Portugal. | Notes: Net flows correspond to the difference in the end-of-month outstanding amounts adjusted for reclassifications, write-offs/write-downs, exchange rate and price revaluations, and any other variations that do not correspond to financial transactions. Whenever relevant, figures are additionally adjusted for sales of credit portfolios. Loan repayments are the difference between net flows and new loans.

The CCR data consist of monthly outstanding amounts of loans granted to households in all credit institutions, according to some characteristics of the loans, namely the original maturity and the monthly installment.^{10,11} Loan repayments are calculated as the difference between the outstanding amounts of two consecutive months. Three types of repayments were considered in the analysis: repayments under the mortgage contract, early partial repayments, and early total repayments. In general, in Portugal, repayments under the mortgage contract consist of monthly principal repayments until the contract maturity. These repayments and the interest payments

The CCR data cover loans granted by resident credit institutions (banks, savings banks, mutual credit agricultural banks, credit financial institutions, financial leasing companies, credit securitization companies, mutual guarantee companies and other lenders listed by Banco de Portugal).

^{11.} In this analysis, it is assumed that the outstanding amounts of a household in a given credit institution, with the same original maturity, and with less than a 3-month reporting gap are related to the same loan.
constitute the monthly installment. Early repayments are extraordinary debt payments that lead to a sharper debt reduction than the expected under the mortgage contract.¹² Early repayments that lead to the termination of the mortgage contract are considered total early repayments and those that only correspond to a payment of part of the debt are considered partial early repayments.

Chart C2.2 presents the decomposition of repayment amounts of loans to households for house purchase in the period between September 2009 and September 2017.¹³ In the most recent period, repayments under the mortgage contract account for 40% of the repayment amounts while early total and partial repayments account for 50% and 10%, respectively. Repayments under the mortgage contract increased until mid-2013 and slightly declined after this period, reflecting the developments in outstanding amounts and interest rates on loans for house purchase. In contrast, early total repayments decreased until mid-2014 and increased substantially in the following years, registering maximum values in 2017. This type of repayments, which is determined by decisions of the households and are, therefore, particularly sensitive to their financial situation, has been the main driver of the increase in repayment amounts in the last years.





Source: Banco de Portugal.

The developments in early repayment amounts were resembled by the developments in the number of early repayments (Chart C2.3). Between the end-2009 and the end-2014, the number of early total and partial repayments registered a downward trend. From 2015 onwards, the number of early partial repayments maintained the downward trajectory while the number of early total repayments increased considerably, surpassing the number of early partial repayments.

12. In this analysis it is assumed that an early repayment corresponds to a repayment amount greater than times the installment and a repayment under the mortgage contract corresponds to a repayment amount lower than this amount. Under these criteria, early repayment amounts of lower magnitude are not considered and therefore, early repayments can be underestimated. Nevertheless, this allows the analysis to be focused on early repayments of a substantial magnitude.

13. In the analysis it is considered a 6-month median to prevent the influence of extreme values resulting from the use of microeconomic data.



purchase | 6-month median, number of early repayments

Source: Banco de Portugal.

The CCR data may help to understand whether these early total repayments are associated with new loans for house purchase. This situation is commonly observed when households transfer the loan contract to another financial institution or move home. Chart C2.4 presents the decomposition of early total repayments in those made by households that were granted a new loan in the month of the repayment or in the next 6 months, and the remaining. According to these data, the vast majority of early total repayments is made by households that are not granted a new loan, suggesting that house moving or bank switching are not the main drivers of the dynamism registered in housing loan repayments. Moreover, the weight of the early total repayment amounts made by households that are granted a new loan is substantially lower than in the period before the financial crisis.14

The increase in early total repayments registered in the latest years may be associated with the increase in the differential between loan and deposit interest rates and the fact that deposit interest rates are close to zero.¹⁵ In a context of a strong increase in housing prices, these early total repayments may also be associated with house transactions that do not involve a new mortgage contract. In fact, the data on real estate transactions suggest that the weight of secondhand housing transactions in total housing transactions increased substantially since 2009.16

14. The analysis based on the number of early repayments leads to the same conclusions as the ones obtained considering the amount of early repayments.

15. See Box "Early repayment of housing credit in 2015", Economic Bulletin, october 2016, Banco de Portugal.

16. According to the data on real estate transactions released by Statistics Portugal with the Housing Price Index, the weight of the number and amount of second-hand housing transactions in total housing transactions in the first quarter of 2009 was approximately 63 and 52%, respectively, and increased to 85 and 81%, respectively, in the first quarter of 2017.



Source: Banco de Portugal.

The link between loan repayments and new loans for house purchase is important to understand whether the increase in new loans for house purchase since the end of 2014 is translating in "new credit" or in credit used to repay previous housing loans. In the case of households that early totally repaid a loan and were granted a new loan for house purchase, the effective increase in debt is low (Chart C2.5). Nevertheless, the largest amount of new loans is granted to households that did not early totally repay their loans in the previous 6 months. Therefore, most of the new loans for house purchase are contributing to a substantial increase in debt amounts of some households.



Chart C2.5 • Decomposition of the monthly amount of new loans for house purchase | 6-month median, EUR million

Source: Banco de Portugal.

Chart C2.6 presents the age profile of households that early totally repaid their loans or were granted a new loan. The average age of these households increased until mid-2013 and decreased in the following years. The households that early totally repaid their loans and were not granted a new loan for house purchase are on average older than those who are granted a new loan.

Moreover, among those that are granted a new loan, households that early totally repaid their loans for house purchase are older. The fact that first houses are usually bought by relatively young cohorts and that household's income and wealth increase over their working lifetime may contribute to explain this age profile. The results of the Household Finance and Consumption Survey (HFCS) of 2013 (Box 4) suggest that households that early repay their loans have relatively low debt to income ratios. In fact, households in the older cohorts are typically less indebted.





Source: Banco de Portugal.

All in all, this box suggests that the increase in repayments of loans for house purchase in the latest years was determined by early total repayments made by households that were not granted a new loan for house purchase in the following 6 months. This result suggests that house moving or bank switching are not the main determinants of the early total repayments growth. This does not mean that housing market price dynamics is not positively correlated with the growth in early repayments of loans for house purchase. In fact, in a context of a strong increase in housing prices, early total repayments can be associated with housing transactions that do not involve a house move. Moreover, in a context of the low level of deposit interest rates, the increase in repayments of loans for house purchase may be associated with the increase in the differential between loan and deposit interest rates.

The results also suggest that the relative stability of the aggregate stock of loans for house purchase hides substantial heterogeneity in the developments of debt at the household level. In fact, in the majority of the cases, households that are granted a new loan for house purchase and households that early repay this type of loans do not coincide, being the former on average younger than the latter. This situation translates into a simultaneous reduction of indebtedness of some households and an increase of indebtedness of other households. The households that early totally repaid their loans may have relatively low indebtedness ratios because they are on average older.

Box 3 • Consumer loans granted by resident credit institutions: an analysis of market participation dynamics

After a number of years of very low growth rates, since 2015 there has been a sharp recovery in the stock of consumer loans granted to households by resident credit institutions. This box explores two dimensions in the behaviour of this credit type – the market participation dynamics and the relationships with the credit institutions – which have different implications for access to financing and changes in the indebtedness level.

Total consumer loans may vary as a result of changes in the loan amount of households who already had consumer credit relationships with some financial institution in the prior period (intensive margin), or due to the creation and destruction of credit relationships (extensive margin).

This analysis uses information available in Banco de Portugal's Central Credit Register¹⁷ between 2009 and 2017. It examines outstanding loans granted to households with regular, overdue or renegotiated loans.¹⁸ Three products make up total consumer loans: credit cards, consumer credit and car credit.¹⁹ The exit of a household from the consumer credit market in year *t* is defined by his/her absence from the Central Credit Register in that year. The entry of a household is identified by the first year of reporting consumer credit to the Central Credit Register, or by the year in which he/she reappears after having left.

Chart 3.1 presents the change in total consumer loans granted by resident credit institutions and the contributions made by the intensive and extensive margins to that change. In each year, the extensive margin is calculated as the difference between the loan amount of households entering the credit market and the amount of those leaving the market in that year.²⁰ The intensive margin is given by the difference between the outstanding amounts in two consecutive years of the households remaining in the market.



Chart C3.1 • Intensive and extensive margins contributions for consumption loans year-onyear rate of change | Percentage and percentage points

Source: Banco de Portugal | Note: The year-on-year rate of change is based on the average of the last three month outstanding amounts.

- 17. The Central Credit Register covers loans granted by the resident credit institutions (banks, savings banks (caixas económicas), mutual agricultural credit banks, credit financial institutions, financial leasing companies, factoring companies, credit securitisation fund management companies, mutual guarantee companies and other entities that grant credit designated by Banco de Portugal).
- 18. Excluding potential credit and write-offs.
- 19. Any other product is designated by other credit categories.
- 20. Note that a household's exit of the market does not necessarily imply that their credit amounts have been repaid or recognised as an impairment loss. A market exit may be explained by the sale of credit portfolios to the rest of the world or to other Portuguese institutions that do not report to the Central Credit Register, or by the securitisation of credit.

In the years between 2011 and 2014, the negative year-on-year rate of change on consumer loans is driven mainly by developments in the intensive margin, i.e. by a reduction of the loans to households who already have access to credit. The extensive margin is never negative (although in 2012 and 2013 it came close to zero), i.e. the contribution from new consumer credit debtors (those entering the market) offset the contribution from full repayments and recognitions of losses²¹ (those leaving the market) in all the periods analysed.

Between 2015 and 2017, the extensive margin made an increasing contribution, above that of the intensive margin. Chart C3.2 presents separately the contributions to the change in consumer loans made by those entering and those leaving the market. With the contribution made by those leaving holding relatively constant in the period under review, those entering are dictating developments in the extensive margin.





Source: Banco de Portugal. | Note: The year-on-year rate of change is based on the average of the last three month outstanding amounts.

For the years 2016 and 2017, the positive contribution from the intensive margin suggests a greater indebtedness among households who remained in the credit market.

To understand this change in the contribution made by the intensive margin, Chart C3.3 presents the contribution to consumer loans' intensive margin in terms of relationships. Since a household may establish a relationship with more than one financial institution, it is possible to distinguish the contribution to the intensive margin made by new relationships, already existing relationships and the termination of relationships. The chart shows that the contribution made by the existing relationships is always negative, due to which the positive value of the intensive margin in 2016 and 2017 is explained by households who already have consumer credit and establish a new relationship to obtain more credit. This results suggests greater dynamism in the market in the latest period.

Turning now to those entering the market, Chart C3.4 distinguishes the contribution made by households that did not participate in the credit market from those that already had other products (for example,

21. And possible sales of credit portfolios to institutions that do not report to the Central Credit Register.

housing credit).²² It shows that households with no debt contribute the most to total market entrants, always representing more than two thirds of the total throughout the period under review. In turn, the contribution made by those that had other categories of credit in the prior period may be analysed in terms of the relationship creation dynamic, distinguishing the contributions made by already existing household/credit institution relationships from the contributions made by new relationships (Chart C3.5). The results suggest that the contribution made by households that already had other categories of credit was driven by the new relationships established with other institutions.





Source: Banco de Portugal. | Note: The year-on-year rate of change is based on the average of the last three month outstanding amounts.



Chart C3.4 • Consumption credit entrants: contribution of households with and without other credit products | Percentage points

Source: Banco de Portugal. | Note: The year-on-year rate of change is based on the average of the last three month outstanding amounts.

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22. Housing credit, current account credit, overdrafts on deposit accounts, among others.



Source: Banco de Portugal. | Note: The year-on-year rate of change is based on the average of the last three month outstanding amounts.

In 2016 and 2017, growth in consumer credit was driven primarily by the new debtors in this market, especially those that did not have other debts. The recent developments in consumer credit thus reflect substantial dynamism in this market, from the capture of new customers entering the market for the first time and from customers moving between institutions.

Box 4 • Distribution of Portuguese households' debt and income

This box analyses the relationship between the distribution of Portuguese households' debt and the distribution of their income, based on data in the Household Finance and Consumption Survey of 2013.²³ Although these data do not reflect the most recent developments, the conclusions presented relate to structural aspects that are expected to continue to define the relationship between debt and income.

Households' debt has a more concentrated distribution than income (Gini indexes of 78 and 44 respectively).^{24,25} This is largely because 54% of Portuguese households have no debt. Analysing just indebted households, the debt concentration falls sharply, but is still higher than the concentration of income (Gini indexes of 53 and 38 respectively). Also, the concentration of the income's distribution falls when only households with debt are considered.

The households with debt (46% of the total number of households) have an average income level above the others and earn 57% of total households' income in aggregate terms. This reflects the fact that the number of indebted households increases with the income level. While in the bottom income guintile around 20% of households have debt, in the top guintile the percentage of indebted households is around 70%.²⁶

Analysing the relationship between debt and income in more detail, Table C4.1 includes a set of indicators for households with debt, grouped into different combinations of debt and income quintiles.27

Table C4.1- Panel a) includes the distribution of households with debt. In line with that previously mentioned, most households with debt are located in the highest income quintiles (over 50% are in the top two quintiles and about 30% in the top quintile) (column on the right of Panel a). These data show that although there is a positive correlation between the debt and income amounts per household, it is not a perfect correlation, as there are households with debt in all the combinations of debt and income quintiles. The positive relationship between the two variables is clearer at the distributions' extremes, and, in particular, at the upper extreme. Indeed, the households with high income levels are more concentrated in the top debt quintile and are the largest income group in this debt class. In turn, the households with lower income levels are more concentrated in the lower debt quintiles.

The fact that the correlation between debt and income is positive but not particularly strong means that there is significant dispersion in the debt-to-income ratio among households (Table C4.1 - Panel b). As would be expected, the indebtedness ratios increase with the debt quintiles and reach very high levels in households that have low income while also having high

- 23. The HFCS corresponds to the Portuguese version of the Eurosystem's Household Finance and Consumption Survey. In Portugal, the survey is conducted by Banco de Portugal and Statistics Portugal. The survey has been conducted three times to-date (2010, 2013 and 2017), with the 2017 survey data slated for release in 2019.
- 24. Income is measured in gross terms (i.e. before tax and workers' mandatory contributions to social protection schemes) and includes all the types of income received by the members of the household (namely, income from work, pensions, regular public sector transfers, regular private transfers and income from assets). Debt includes the amounts from loans collateralised by real estate owned by the households, loans not collateralised by real estate, as well as bank overdrafts, credit lines or interest-bearing credit cards.
- 25. The Gini index measures the concentration of the distribution of a given variable, with zero representing the minimum concentration (i.e. where all households have the same income) and 100 representing the maximum concentration (i.e. where all income is owned by one household).
- 26. For an analysis of the characteristics of indebted households based on the 2013 HFCS, see Costa, S. (2016) "Financial situation of the households in Portugal: an analysis based on the HFCS 2013", Banco de Portugal Economic Studies, Vol. II No. 4, October 2016.
- 27. The quintiles of a population are the five groups of 20% of the elements of the population, obtained by ordering them according to a given attribute. Thus the first income quintile of a population of households is the set of 20% of households with the lowest income, and so on.

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debt amounts. However, these households represent a very small percentage of households with debt. Among the groups with a larger number of households, those with higher indebtedness ratios are the ones with intermediate or high debt and income levels. It is also interesting to observe that the indebtedness ratios show a growth trend along the square's diagonal (which generally includes groups with a higher number of households), suggesting that, in households with intermediate or high income and debt levels, the indebtedness ratio is typically higher than that of households with low debt and income levels.

This behaviour of the indebtedness ratios seems to be related to the debt type held by the households. Indeed, the percentage of households that do not have any debt collateralised by real estate falls along the diagonal (Table C4.1 - Panel c), which shows that the higher indebtedness ratios are typically associated with the existence of collateral. The percentage of households that do not hold mortgage debt is dominant in the bottom debt quintile, but falls very sharply when the debt levels increase. This reduction is particularly large in the lowest income quintile, suggesting that high debt levels in low income households are collateralised by real estate in most cases.

Finally, Table C4.1 – Panel d) gives the median age of the reference person for each group of households.²⁸ The higher debt levels are typically associated with households with younger individuals, which reflects the fact that the loans for house purchases are in most cases taken by younger age groups. By income quintile, ages show quite low dispersion. A comparison of this age profile of households with debt with that of the set of all households shows that in all income quintiles, the households with debt are typically younger than those without, with a particularly sharp difference in the lower income quintiles (Chart C4.1).

To sum up, the households with debt typically have a higher income level than that of the other households in the population. In terms of amounts, the relationship between debt and income per household is positive but not very strong. This is reflected in a sharp dispersion of the debt-to-income ratios. The highest indebtedness ratios are found in low-income households which have intermediate or high debt amounts. These households represent a very small percentage of households with debt. Among the groups with a larger number of households, the indebtedness ratios are typically higher when the income and debt levels are both relatively high. Households with higher indebtedness ratios have debt collateralised by real estate and are younger than the other indebted households. In general, the households with debt are younger than the households with the same income level in the population, with the difference of ages particularly notable in the lower income levels.

28. For the definition of the reference person, see Costa, S. (2016) "Financial situation of the households in Portugal: an analysis based on the HFCS 2013", *Banco de Portugal Economic Studies*, Vol. II No. 4, October 2016.



Monetary and financial conditions

Source: HFCS 2013. | Note: Income quintiles for all households.

q2

All households

qЗ

Income quintiles

q4

Households having debt

q5

q1

55

50

45

40

45

4 Fiscal policy and situation

Reduction in the general government deficit excluding the effect of the recapitalisation of Caixa Geral de Depósitos

In 2017, the general government deficit reached 3.0% of GDP, a year-on-year increase of 1.0 p.p. (Table I.4.1). This largely reflected the capital injection into Caixa Geral de Depósitos (CGD), which took place in the first quarter of the year, with an impact of 2.0% of GDP. Excluding the total effect of temporary measures,²⁹ the deficit reached 1.0% of GDP, falling 1.5 p.p. of GDP compared to the previous year.

	2012	2013	2014	2015	2016	2017	2017-2016 ^(a) change (in p.p.)
Overall balance (1)	-5.7	-4.8	-7.2	-4.4	-2.0	-3.0	-1.0
Temporary measures (2)	0.0	0.3	-3.6	-1.4	0.4	-2.0	-2.4
Overall balance excluding temporary measures $(3) = (1) - (2)$	-5.6	-5.2	-36	-3.0	-24	-1.0	15
Cyclical component (4)	-1.7	-2.4	-1.6	-0.8	-0.3	0.3	0.6
Structural balance ^(a) (5) = (3) - (4)	-3.9	-2.8	-2.0	-2.2	-2.1	-1.3	0.8
Interest expenditure (6)	4.9	4.9	4.9	4.6	4.2	3.9	-0.3
Structural primary balance $(7) = (5) + (6)$	1.0	2.1	2.9	2.3	2.1	2.6	0.5
Structural revenue (in percentage of trend GDP) ^(a)	43.1	44.9	44.9	43.9	42.4	42.7	0.3
Structural primary expenditure (in percentage of trend GDP) ^(a)	42.1	42.9	42.1	41.7	40.4	40.1	-0.3
Public debt	126.2	129.0	130.6	128.8	129.9	125.7	-4.2
Change in public debt (in p.p.)	14.8	2.8	1.6	-1.8	1.1	-4.2	-5.3
(-) primary balance	0.8	0.0	2.3	-0.2	-2.2	-0.9	1.3
Differential between the effects of interest and of GDP growth	10.0	3.5	2.8	-0.3	0.2	-1.2	-1.4
Deficit-debt adjustments	4.0	-0.6	-3.5	-1.4	3.1	-2.1	-5.1

Table I.4.1 • Main fiscal indicators | Percentage of GDP

Source: Statistics Portugal (computations by Banco de Portugal). | Notes: (a) Structural figures are adjusted for the impact of the cycle and temporary measures. The cyclical component and temporary measures are computed by Banco de Portugal in line with the methodologies adopted in the Eurosystem. For further details, refer to Braz (2006), "The Calculation of Cyclically Adjusted Balances at Banco de Portugal: An update", *Economic Bulletin – Winter 2006*, Banco de Portugal.

The reduction of the general government deficit corrected for temporary measures resulted from an improvement in the structural primary balance (0.5 p.p. of GDP), a positive contribution from developments in economic activity (0.6 p.p. of GDP), and a reduction in public debt interest expenses (0.3 p.p. of GDP) – Table I.4.1 and Chart I.4.1. In structural terms,³⁰ that is, correcting for the impact of the economic cycle and temporary measures, the deficit stood at 1.3% of GDP,

^{29.} According to the definition adopted in the Eurosystem, temporary measures with an impact on the fiscal balance of 2017 include the capital injection into CGD (-2.0% of GDP) and the proceeds from the partial recovery of a guarantee granted by the State to Banco Privado Português (0.04% of GDP). In 2016, the effect of temporary measures corresponds to the revenue obtained from full payments made within the scope of a special programme for the settlement of overdue tax and social contributions (*Programa Especial de Redução do Endividamento ao Estado – PERES*) and the refund by the European Financial Stability Facility (EFSF) of amounts previously paid by Portugal under the Economic and Financial Assistance Programme. Jointly, these measures contributed 0.4 p.p. of GDP to the reduction of the 2016 general government deficit.

^{30.} The structural values (adjusted for the cycle and temporary measures) are calculated using the methodology adopted in the Eurosystem. In terms of cyclical adjustment, each of the revenue and expenditure items assumed to be affected by the economic cycle is adjusted by applying a constant elasticity to the deviation between the respective macroeconomic base, defined in real terms, and its trend. For more information, see Braz, C. (2006), "The Calculation of Cyclically Adjusted Balances at Banco de Portugal: an Update", *Economic Bulletin – Winter 2006*, Banco de Portugal.

falling 0.8 p.p. from 2016.³¹ In turn the structural primary surplus reached 2.6% of GDP after standing at 2.1% in 2016.



Chart I.4.1 • Breakdown of the change in the general government balance | Percentage points of trend GDP

Sources: Statistics Portugal and computations by Banco de Portugal.

In 2017, total general government revenue was 42.9% of GDP while total expenditure stood at 45.9% (43.8% excluding the impact of the CGD recapitalisation – Chart I.4.2). In structural terms, revenue increased and primary expenditure fell as a ratio to nominal trend GDP.³²



Chart I.4.2 • General government revenue and expenditure | Percentage of GDP

Sources: Statistics Portugal and computations by Banco de Portugal.

Increase in the structural revenue arising from developments in revenue from taxes and social contributions

Actual revenue from taxes and social contributions increased by 5.0% in 2017.³³ This was partly due to favourable macroeconomic developments, which more than offset the unwinding of the effect of

33. Revenue from taxes and social contributions includes, aside from the revenue from tax and actual social contributions, the imputed social contributions relating to the civil servants' scheme, which are also recorded on the expenditure side.

^{31.} In order to fulfil the recommendations of the Council of the European Union in July 2016, the structural balance had to improve by 0.6 p.p. of GDP in 2017, as part of the process of convergence towards the Medium-Term Budgetary Objective of a structural surplus of 0.25% of GDP. According to the European Commission's 2018 Spring Forecast, the structural balance improved by 0.9 p.p. of potential GDP in 2017.

^{32.} The nominal trend GDP corresponds to the product between the real trend GDP (estimated by applying the Hodrick-Prescott filter) and the GDP deflator. The obtained figures differ from potential GDP estimates calculated by other institutions.

the temporary component of the special programme for the settlement of overdue tax and social contributions (*Programa Especial de Redução do Endividamento ao Estado – PERES*) implemented at the end of 2016. In structural terms, receipts from taxes and social contributions grew 4.2% in 2017, an increase of 0.5 p.p. when measured as a ratio to trend GDP (Chart I.4.3). This increase is explained by the collection of taxes on firms' income, VAT, and to a lesser extent, social contributions (Box 5). Revenue from taxes on households' income declined as a share of trend GDP, partly as a result of the remaining impact of the elimination of the Personal Income Tax surcharge.



Chart I.4.3 • Contributions to the change in structural revenue | Percentage points of trend GDP

Sources: Statistics Portugal and computations by Banco de Portugal. | Notes: (a) Other revenue encompasses "other current revenue", including sales of goods and services, and "capital revenue".

Actual non-tax revenue fell 2.4% in 2017, with a reduction both in other current revenue and in capital revenue (2.0% and 7.8% respectively). Interest and other current revenue declined, more than offsetting the increase in dividends distributed by Banco de Portugal to the State. In the case of capital revenue, the developments were influenced by the recording in 2016 of the refund by the European Financial Stability Facility (EFSF) of previously paid commissions (associated with the first tranches received under the Economic and Financial Assistance Programme) and, to a lesser extent, by the revenue arising from the recovery in 2017 of part of a guarantee granted by the State to Banco Privado Português in 2010. Excluding these operations, which correspond to temporary measures according to the definition adopted in the Eurosystem, capital revenue would have recorded a 33.8% increase in 2017 as a result of the growth of capital transfers from the European Union corresponding to expenditure in the year.

Reduction in structural primary expenditure as a ratio to trend GDP despite a sharp growth in public investment

In 2017 primary expenditure growth (7.2%) was chiefly affected by the capital injection in CGD. Excluding this impact, primary expenditure increased by 2.0%, which corresponds to a drop by 0.3 p.p. of trend GDP in structural terms (also excluding the effect of the business cycle). This fall resulted from the evolution of the main components of current expenditure, which as a whole declined by 0.7 p.p. of trend GDP (Chart I.4.4). Box 6 frames this evolution, analysing how changes in primary expenditure since the outset of the crisis are driven by developments in the different operating areas of general government.

Expenditure on social benefits in cash made a considerable contribution to the reduction in current expenditure, having declined by 0.2 p.p. of trend GDP in structural terms. Total pension expenditure grew by 1.4%, corresponding to a fall as a ratio to trend GDP. In the general Social Security scheme, expenditure on pensions increased by 2.2%, in spite of a slight drop in the number of pensioners. In fact, the average pension rose considerably, reflecting an extraordinary increase in the lowest pensions from August 2017 onwards and the impact of the application of the pension growth formula based on past GDP and inflation developments. Regarding expenditure on pensions under the responsibility of the Civil Service Pension Fund (Caixa Geral de Aposentações – CGA), the increase in the average pension is almost offset by a reduction of the number of retirees, leading to the near stabilisation of this aggregate in nominal terms. Expenditure on unemployment benefits declined by 13.1% in 2017, partly as a result of improved labour market conditions (Chapter 5). Adjusting for the favourable impact of the business cycle, this expenditure component declined by 6.0%.



Chart I.4.4 • Contributions to the change in structural primary expenditure | Percentage points of trend GDP

Sources: Statistics Portugal and computations by Banco de Portugal. | Notes: (a) Other primary expenditure includes social payments excluding pensions, social contributions paid by the general government, subsidies, and other current and capital expenditure.

Compensation of employees and intermediate consumption jointly declined by 0.2 p.p. of trend GDP in 2017. Expenditure on wages and salaries grew by 1.9%, reflecting an increase in the number of civil servants (1.0% in quarterly average terms) and the remaining effect of a gradual reversal of the wage reduction introduced in 2011. Intermediate consumption grew by 0.5% in 2017, decelerating from the previous year (4.2%). This was significantly influenced by a decline in expenses related to road sector public-private partnerships, although the deceleration persists even excluding their contribution. As a whole, other current primary expenditure components (subsidies, social benefits in kind and other current expenditure) declined by 0.3 p.p. of trend GDP.

Capital expenditure adjusted for the temporary effect associated with the capital increase in CGD went up by 0.4 p.p. of trend GDP, reflecting public investment growth. Indeed, after a significant fall in 2016, public investment rose by 24.9% in 2017, especially as a result of an upturn in local and regional government (34.0%). In turn, other capital expenditure adjusted for temporary measures increased by 23.7%. This was mainly accounted for by the extraordinary expenditure related to the conversion of deferred tax assets and to financial support granted to STCP and CARRIS to accommodate costs related to swap contracts. In 2017, these operations, which according to the definition adopted within the Eurosystem are not classified as temporary measures, had a one-off impact on general government capital expenditure amounting to 0.1% of GDP.

Reduction in the debt ratio associated with the primary surplus, a nominal growth rate of GDP exceeding the implicit interest rate, and a reduction in the stock of deposits

At the end of 2017 general government debt stood at 125.7% of GDP, i.e. 4.2 p.p. below the value recorded at the end of the previous year (Table I.4.1).^{34,35} This decrease occurred in a context where the growth of nominal GDP exceeded the implicit interest rate on debt, and therefore the differential between the debt service burden and output growth was negative (Chart I.4.5). Moreover, the general government primary balance contributed to reduce the debt ratio for the second consecutive year, although to a lesser extent than recorded in 2016, given the impact of the capital injection in CGD on the national accounts deficit.

Deficit-debt adjustments gave a considerable contribution to the reduction of the debt ratio (2.1 p.p. of GDP), chiefly as a result of a decline in the stock of general government deposits. This largely reflected the use of deposits driven by CGD's capital injection in 2017, which appears, however, to have been financed in the previous year. Hence, the decrease in the ratio of public debt net of general government deposits to GDP was more moderate (2.4 p.p. of GDP).

Over the course of 2017 Portugal benefited from relatively favourable financing conditions in sovereign debt markets, with a narrowing of the yield differential between Portuguese and German public debt (Chapter 3). The average rate of auctions of Treasury Bonds with a maturity of 10 years stood at 2.9%, compared to 3.1% in 2016 (Chart I.4.6). With regard to short-term issues, there was a further reduction in the average interest rate of Treasury Bill auctions from 0.02% to -0.25% (Chart I.4.7).





Sources: Banco de Portugal and Statistics Portugal.

35. Following the abrogation of the excessive deficit procedure on the basis of the 2016 outturn, Portugal entered a three-year transition period during which the evolution of the debt ratio should be compatible with compliance with the debt rule as of the end of 2019.

^{34.} The 2016 public debt ratio was recently revised from 130.1% to 129.9% due to an upward revision in the nominal value of GDP compiled for that year.





Chart I.4.7 • Yields on Treasury Bills issued in 2017 | In percentage



Source: IGCP. | Notes: For each maturity bucket, the average coupon rate refers to the stock outstanding at the end of 2016 with the same residual maturity. Information referring to the yield of Treasury Bonds with maturity exceding 10 years is excluded from the chart.

Source: IGCP.

Against this backdrop, in 2017 general government expenditure on debt service declined from 4.2% to 3.9% of GDP, remaining nonetheless at a higher level than recorded in the period prior to the economic and financial crisis (Chart 1.4.8). Conversely, the implicit interest rate on debt³⁶ stood at a historically low level and remained on a downward trend. In 2017 there was a further reduction from 3.3% to 3.1%. This reflected, on the one hand, a decline in interest expenditure on loans received under the Economic and Financial Assistance Programme, given the partial early repayment of debt to the IMF (by an amount equivalent to 5.2% of GDP). On the other hand, it also benefited from the rollover of a considerable amount of Treasury bonds with higher rates than those obtained in new issues.



Chart I.4.8 • Interest expenditure and implicit interest rate on public debt | In percentage

Sources: Banco de Portugal and Statistics Portugal.

Broadly neutral fiscal policy stance in the euro area as a whole

Similarly to Portugal, in 2017 the general government balance improved in most euro area countries. With the exception of Spain, in 2017 all Member States recorded a higher nominal balance than the reference value

36. The implicit interest rate results from the ratio of interest expenses to the simple average of the debt stock at the end of the current and the previous years.

of -3% of GDP. As for France, this will likely allow for the correction of the excessive deficit within the timeframe established under the EU budgetary surveillance mechanism. Spain is currently subject to an excessive deficit procedure and 2018 is its deadline for correction. In the majority of Member States the structural primary balance calculated according to the methodology adopted by the European Commission recorded an increase. In the cases of Malta, Slovakia and Portugal the increase exceeded 0.5 p.p. of potential GDP. Similarly to the past few years, the euro area structural primary balance remained almost constant in 2017 (Chart I.4.9). As regards economic activity, the European Commission estimates that actual output growth was higher than potential growth. As such, the output gap continued to close, a trend that had started in 2014. Nevertheless, in 2017 the output gap is estimated to have remained negative.





Source: European Commission. | Notes: The cyclical position of the economy is assessed as the change in the output gap, which broadly corresponds to the difference between the actual and potential GDP growth rates. The chart depicts the figures computed by the European Commision in line with its methodologies for cyclical adjustment and computation of potential output. These do not coincide with the metholodogy used in the context of the Europystem projection exercises.

In 2017 the public debt ratio in the euro area as a whole decreased from 91.1% to 88.8% of GDP (Chart I.4.10). This reflects reductions in most Member States, especially in the cases of Cyprus, Malta, Austria and the Netherlands. Nevertheless, at the end of 2017 the public debt-to-GDP ratio stood below the reference value of 60% of GDP in only seven out of the 19 euro area countries.



Chart I.4.10 • Public debt in the euro area | In percentage of GDP

Source: European Commission.

Box 5 • Structural developments in revenue from taxes and social contributions

This box analyses the determinants of structural revenue from taxes and social contributions in 2017, i.e. revenue from taxes and social contributions adjusted for the effects of the business cycle and temporary measures. The theoretical framework corresponds to the disaggregated approach used in the Eurosystem, according to which each item is adjusted by applying a constant elasticity to the deviation of the respective macroeconomic base, defined in real terms, from its trend. This methodology makes it possible to assess the contribution from different factors to changes in structural tax revenue: (i) permanent changes in tax policy; (ii) impact of the discrepancy between the trend nominal change in the relevant macroeconomic base and GDP; (iii) effect of budgetary elasticity and (iv) a residual component. The residual component corresponds to the part of the structural change that is not explained by the remaining effects. The structural levels of each item are expressed as a percentage of nominal trend GDP,³⁷ ensuring consistency with the cyclically adjusted values in the numerator.

In 2017 revenue from taxes and social contributions rose by 5.0% (Chart C5.1). It grew by 4.2% in structural terms, which translates into a 0.5 p.p. increase as a ratio to trend GDP, after having declined in the two previous years (Charts C5.1 and C5.2). These structural developments are essentially accounted for by the residual component of the disaggregated approach, particularly because the total impact of tax legislation changes in the 2017 outturn was low.



Chart C5.1 • Recent evolution of revenue from taxes and social contributions | In percentage

Source: Statistics Portugal and computations by Banco de Portugal.

Structural revenue from taxes on income and wealth remained constant as a ratio to trend GDP, reflecting symmetric developments in the collection of taxes on households' and corporate income (Chart C5.3). Revenue from taxes on households declined by 0.3 p.p. in structural terms, partially reflecting the remaining effect of the elimination of the personal income tax surcharge introduced in 2013. In addition, this evolution is driven by a decline in revenue from withholding taxes stemming from a reduction in interest rates on financial investments, particularly deposits. Given that this sort of income is not captured by the macroeconomic base considered, this contribution shows up as a negative effect on the residual. The increase in personal income tax refunds seems to have been offset by a rise in payments also related to the 2016 income. Taken together, they had no impact on the residual. In the case of revenue from corporate income taxes, the structural increase of

37. Defined as the product between real trend GDP, estimated by applying the Hodrick-Prescott filter with a smoothing parameter (λ) equal to 30, and the GDP deflator. Figures differ from the potential GDP estimates produced by other institutions.

0.3 p.p. of trend GDP in 2017 is almost fully captured by the residual. Part of this component is accounted for by the fact that corporate income tax refunds excluding the effect of the conversion of deferred tax assets have declined as a ratio to trend GDP.³⁸ The remainder should reflect the usual difficulties in undertaking the cyclical adjustment of revenue from this tax, which typically presents pro-cyclical residuals. In addition, corporate income tax collection in Portugal is usually affected by one-off factors, often associated with transactions carried out by large corporations.





Source: Statistics Portugal and computations by Banco de Portugal.





Sources: Statistics Portugal and computations by Banco de Portugal. | Note: Part of the residual of social contributions reflects the actual and imputed social contributions referring to the civil servants' regime, both of which are also recorded on the expenditure side.

In structural terms, the ratio of revenue from taxes on production and imports to trend GDP rose by 0.4 p.p., chiefly reflecting positive developments in VAT collection. In fact, structural revenue from VAT increased by 0.2 p.p. of trend GDP in 2017, despite the drop in receipts that could have resulted

38. On a public accounts basis the effect of the conversion of DTA is recorded in the amount of corporate income tax refunds, negatively affecting net revenue from this tax. On a national accounts basis this effect is treated as capital expenditure.

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from the reduction in the VAT rate applicable to some restaurant services as of the second half of the previous year and the strong increase in refunds. In this context, the fact that the macroeconomic base considered does not capture the overall consumption expenditure made in the territory should also be taken into account, as well as the possibility of some overestimation of the loss in revenue resulting from the reduction in the VAT rate applicable to restaurant services. As regards the other taxes on production and imports, the structural increase in revenue by 0.1 p.p. of GDP is almost fully accounted for by the effect of tax policy measures introduced by the State budget for 2017. In particular, it reflects a rise in taxation on sweetened drinks within the scope of the tax on alcoholic beverages, as well as a rise in the tax on oil products with a focus on diesel.

Finally, the ratio of structural revenue from social contributions to trend GDP increased by 0.1 p.p. This result is due to the fact that the private sector's trend wage bill grew, in nominal terms, above trend GDP. Conversely, actual social contributions of the civil servants' scheme and imputed contributions, also recorded on the expenditure side and whose effect is captured in the residual, declined as a ratio to trend GDP. Hence, the magnitude of the residual component adjusted for the effects associated with the civil servants' scheme is greater than illustrated in chart C5.3. This suggests gains associated with efficiency in collection, similarly to previous years.

Box 6 • Recent developments in public expenditure: Portugal in the context of the euro area

An analysis of recent developments in public expenditure in Portugal is particularly important in a context where high general government indebtedness continues to require a containment and rationalisation of this aggregate. This box aims to investigate the contribution from different operating areas of the general government to explain the change in primary expenditure since the outset of the international financial crisis. For this purpose, this box uses information from national statistical institutes of euro area Member States compiled according to the functional classification of government expenditure (COFOG), within the framework of ESA 2010.³⁹

Since the start of the Monetary Union, public expenditure in the euro area represents on average approximately 50% of GDP, assuming a greater magnitude than in other advanced economies (Chart C6.1). Notwithstanding the consolidation efforts observed in various Member States during the sovereign debt crisis, the ratio of public expenditure to GDP in the euro area increased between 2000 and 2016. In Portugal, in the years running up to the request for economic and financial assistance, particularly in 2009, public expenditure increased significantly, making an important contribution to the rise in the general government deficit. This was only partially accounted for by the deterioration of the Portuguese economy's cyclical position and the impact of one-off effects (Chart C6.2). By contrast, as of the beginning of the Assistance Programme public expenditure adjusted for these contributions and for the debt service burden recorded a cumulative decline of close to 7.0 p.p. of trend GDP.

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^{39.} For analytical purposes, the usual COFOG classification items were rearranged into the following categories: (i) economic affairs, which includes, inter alia, expenditure on investment in infrastructures and subsidies; (ii) health; (iii) education; (iv) pensions, including old-age and survivors'; (v) other social benefits; (vi) defence, security and public order; and (vii) other categories. The latter encompasses expenditure on general public services, environmental protection, housing and collective development services, and recreational, cultural and religious services. The 'economic affairs' category includes the amounts spent on banking system's support operations. Finally, the analysis excludes public debt interest expenditure (recorded under the residual category 'other expenditure').



FR – France; IT – Italy; CY – Cyprus; LV – Latvia; LT – Lithuania; LU – Luxemburg; MT – Malta; NL – Netherlands; AT – Austria; PT - Portugal; SI - Slovenia; SK - Slovakia; FI - Finland; UK - United Kingdom; USA – United States of America; JP – Japan.



In 2007 the composition of public expenditure by function in Portugal was generally close to the euro area's, only differing in the higher share of expenditure on education and the lower contribution of expenses on social benefits excluding pensions (Chart C6.3). The latest data for the euro area as a whole, referring to 2016, show some stability in the composition of public expenditure. In the case of Portugal there was a reallocation in the same period, owing in particular to an increase in the share of expenditure on pensions (from 25% to 34% of primary expenditure). Among euro area countries, only Greece experienced a sharper increase in the share of expenditure on pensions between 2007 and 2016.



Chart C6.3 • Composition of government primary expenditure by function | In percentage

Source: Eurostat and computations by Banco de Portugal.

In Portugal expenditure on pensions was the only category that did not decline in the most recent period, increasing both before and after the start of the Assistance Programme (Chart C6.4). This largely reflected a rise in the number of pensioners. In the other COFOG categories, there was an increase in the public expenditure-to-GDP ratio up to 2010, and a subsequent decrease. The decline in expenditure between 2011 and 2016 is chiefly accounted for by a decrease in outlays on gross fixed capital formation and compensation of employees. By function, there was in this period an overall decline by 7.4 p.p. of trend GDP in expenditure on economic affairs, education and, to a lesser extent, health. Overall, these developments were common to other euro area countries, but only in Ireland there was a sharper reduction in expenditure on education, economic affairs and health than in Portugal.

The reduction in the economic affairs category between 2011 and 2016 stems chiefly from a decrease in investment in transport infrastructures. According to a recent IMF report,⁴⁰ in Portugal the stock

40. IMF Country Report No. 17/278, September 2017.

of public capital compares favourably to that of the other EU Member States. In addition, the general government capital stock did not decline in the recent period (Box 10). Still, international institutions have been emphasizing the need for Portugal to keep a minimum level of public investment that guarantees the maintenance of installed capacity.

The decline in expenditure on education in Portugal between 2011 and 2016 stemmed from a decrease in compensation of employees, gross fixed capital formation and intermediate consumption. The main contribution to the reduction in expenditure on education concerns tertiary education (associated with a fall in compensation of employees and intermediate consumption). However, in basic and secondary education the decline in expenditure was also non-negligible. In parallel, the number of teachers and schools declined in this period.⁴¹ This may reflect not only measures to rationalise the school network, but also population ageing, since there was also a decline in the number of students enrolled in most school levels (including tertiary education). A number of studies show that expenditure on education has positive effects on long-term economic growth via its contribution to human capital accumulation. However, these effects are particularly important in the case of non-tertiary education levels and, on the other hand, depend crucially on the quality of expenditure and the efficiency of policies.⁴²



Chart C6.4 • Change in government expenditure by function | In percentage points of trend GDP

Sources: Statistics Portugal and computations by Banco de Portugal.

Recent developments in public expenditure in Portugal expose important challenges for the conduct of fiscal policy in the next years. Costs associated with population ageing are expected to continue to exert strong pressure towards an increase in expenditure on pensions and health. In addition, it will be necessary to ensure a public investment level that at least does not compromise the economy's potential growth. Finally, recent increases in public expenditure, particularly via general government employment growth, inherently represent more lasting commitments.

These pressures will coexist with a need for fiscal consolidation, as the structural balance still stands significantly below the medium-term objective (corresponding to a surplus of 0.25% of GDP). In addition, under the preventive arm of the Stability and Growth Pact, this effort will co-exist with the need to comply with an expenditure benchmark, which establishes a maximum change for primary public expenditure net of the effect of discretionary measures on the revenue side, given the economy's average potential growth.⁴³ According to European Commission's calculations, the real change in this aggregate could not exceed -1.4% in 2017, corresponding to a nominal reduction of 0.1%. In 2018 compliance with the expenditure rule will require nominal growth below 0.1%.

41. In line with the statistics published by the Directorate-General for Education and Science Statistics of the Ministry of Education.

42. Johansson, Åsa, (2016), "Public Finance, Economic Growth and Inequality: A Survey of the Evidence", OECD Economics Department Working Papers, No. 1346; Fournier, Jean-Marc and A. Johansson (2016), "The effect of the size and the mix of public spending on growth and inequality", OECD Economics Department Working Papers, No. 1344; and Ormaechea, Santiago Acosta and A. Morozumi (2013), "Can a Government Enhance Long-Run Growth by Changing the Composition of Public Expenditure?", IMF Working Papers 13/162.

43. For more details on the expenditure benchmark and its underlying expenditure aggregate, see Box 5 in the June 2017 issue of the Economic Bulletin.

5 Supply

Acceleration of GVA in 2017

In 2017, the gross value added (GVA) increased by 2.2% in real terms, compared to 1.2% in 2016 (Table I.5.1). This increase continues to follow the growth trend that started at the end of 2013 and corresponds to the highest growth rate recorded since 2008. This is overall consistent with the economic sentiment indicator that generally reflects the perception and expectations of consumers and business-owners inquired on a monthly basis in various sectors of activity (Chart I.5.1).

The main sectors of activity made a positive contribution to the growth of the economy's total GVA (Table I.5.1). The services sector, which accounts for 76.5% of the total, increased by 1.8% in 2017, maintaining the growth trend that started in 2014 (Chart I.5.2). The growth of GVA in services chiefly reflected the increase in activity in the trade and repair of motor vehicles, and accommodation and food service activities subsectors, which as a whole grew by 3.7% (3.7% in trade and repair of motor vehicles and 3.9% in hotels and restaurants) and the transportation and storage, and information and communication subsectors, whose GVA increased by 2.1%.

Manufacturing, which has a share of 14.3% in total GVA, increased by 4.3% in 2017, against 1.3% in 2016 (Chart I.5.2). This was the highest increase recorded since 2010.







Sources: European Commission, Statistics Portugal and Banco de Source: Statistics Portugal. Portugal.

Table I.5.1 • GVA and GVA per worker | Year-on-year rate of change and contributions

	2015	2016	2017
GVA (YoY)	1.6	1.2	2.2
Sectoral contributions to YoY variation of GVA (pp)			
Agriculture, forestry and fishing	0.1	-0.2	0.1
Industry	0.4	0.2	0.6
Construction	0.0	-0.1	0.3
Services	1.0	1.2	1.4
GVA per worker (YoY)	0.3	-0.4	-1.0

Source: Statistics Portugal. | Note: The data referring to the number of workers has been obtained from the Quarterly National Accounts published by Statistics Portugal.

In 2017 there was also a 6.7% increase of GVA in construction, although this sector has a relatively low weight in total GVA (4.1%). The contribution to GVA from the construction sector was positive for the first time since 2007.

The agriculture, forestry and fishing sector reversed the negative growth recorded in 2016. GVA in this sector, with a share of 2.1% in the total, rose by 3.2% in 2017, after a reduction of 7.4% in 2016.

The fall in GVA per worker observed at the aggregate level in 2017 seems to result, similarly to previous years, from declines in productivity within each sector. In turn, between 2014 and 2017 the contribution from the intersectoral component was positive, suggesting that in the current period of economic recovery employment flows appear to be moving towards the economy's sectors with greater productivity, notably those more exposed to international competition.⁴⁴

Decline of the resident population and increase of the labour force

In 2017 resident population declined by 0.2%, maintaining the trend observed since 2011 (Chart I.5.3). In contrast, the labour force grew by 0.8% year on year, after falling for six consecutive years. In cumulative terms since 2008 the resident population and the labour force declined by about 268 and 208 thousand individuals respectively, and the activity rate also decreased (from 52.4% in 2008 to 50.8% in 2017).

By age group, the resident population declined in the 15-44 years group and increased in the 45-64 years group. In turn, the rise of the labour force occurred especially in the 15-24 and 45-64 age groups (Chart I.5.4).

2%

1%

0%

-1%

-2%

-3%

2012



Chart I.5.3 • Population and employment | Index 2008Q1 =100



2013

15 to 24 years

and contributions by age group,

in percentage and percentage points

Chart I.5.4 • Labour force | Annual rate of change

2014

2015

2016

25 to 34 years 35 to 44 years

55 to 64 years — Labour force

2017

Source: Statistics Portugal (Labour Force Survey).

Source: Statistics Portugal (Labour Force Survey).

Higher employment growth than the euro area average

Employment increased by 3.3% in 2017, which corresponds to the highest annual growth since the start of the euro area (Table I.5.2). The employment growth rate differential between Portugal and the euro area is positive since 2014 and recorded the highest value in 2017, i.e. 1.6 p.p. (Chart I.5.5).



Chart I.5.5 • Employment in Portugal and in the euro area | Anual rate of change, in percentage

Source: Statistics Portugal and Eurostat | Note: Statistics Portugal quarterly national accounts data.

The employment dynamics reflects the growth of paid employment (4.3%) and a decline in self-employment (0.4%). With respect to general government employment, according to information from the Directorate General for Administration and Public Employment, the number of civil servants increased by 1.0% year on year (0.9% in 2016).

Employment grew in all age groups, with the exception of the 35-44 years group. In 2017 the highest growth rates were recorded in the 15-24 (7.7%) and 55-64 (9.2%) age groups, whose weight in employment was 5.9% and 16.3%, respectively (Chart I.5.6). By educational level, employment increased in all segments, especially in secondary education (26.5%) and nine years of schooling (25.5%) (Chart I.5.7). Developments in the Portuguese society's qualifications structure have been positive, but still show some weaknesses when labour productivity in Portugal is analysed and international comparisons are made regarding the labour force's schooling level (Box 7).

	Thousands of	2015		2017 -	20	2016		2017	
	individuals in 2017		2016		S1	S2	S1	S2	
Population Population 25-34 years	10,285 1,149	-0.5 -2.8	-0.3 -2.5	-0.2 -2.7	-0.3 -2.7	-0.3 -2.4	-0.2 -2.7	-0.2 -2.7	
Labour force Labour force 25-34 years Participation rate 15-64 years (in % of population)	5,219 1,033	-0.6 -3.1 73.4	-0.3 -2.7 73.7	0.8 -2.0 74.7	-0.7 -2.9 73.4	0.1 -2.4 74.0	0.9 -2.6 74.2	0.7 -1.5 75.1	
Total employment Employees Self-employment	4,757 3,949 786	1.1 2.8 -5.7	1.2 2.0 -3.2	3.3 4.3 -0.4	0.6 1.7 -5.0	1.8 2.4 -1.3	3.3 4.0 1.4	3.3 4.6 -2.2	
Total unemployment Unemployment rate (in % of the labour force)	463	-11.0 12.4	-11.4 11.1	-19.2 8.9	-10.0 11.6	-12.8 10.5	-17.9 9.5	-20.7 8.3	
Unemployment rate 25-34 years (in % of the labour force)		13.1	12.5	9.7	13.4	11.6	10.5	8.9	
Long-term unemployment (in % of total unemployment)		63.9	62.6	57.9	62.0	63.1	59.3	56.6	
Discouraged inactives (in % of the labour force)		5.0	4.6	4.1	4.5	4.7	4.1	4.1	

Table 1.5.2 Population, Employment and Unemployment |Annual rate of change in percentage, unless otherwise stated

Source: Statistics Portugal. | Note: 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.

Reduction in the unemployment rate, with very long-term unemployment remaining at high levels

In 2017 the unemployment rate stood at 8.9%. The total number of unemployed declined by 19.2%, after the 11.4% fall recorded in 2016 (Table I.5.2). The reduction in the total number of unemployed was considerable in all age groups (Chart I.5.8). The share of unemployed receiving unemployment benefits in 2017 stood at 24.6%, against 25.5% in 2016 (Chart I.5.9).







Source: Statistics Portugal (Labour Force Survey).



Chart I.5.8 • Unemployment | Year-on-year rate of change and contributions by age groups, in percentage and percentage points



Source: Statistics Portugal (Labour Force Survey).





Source: Statistics Portugal (Labour Force Survey).

The sharp fall in long-term unemployment was one of the most remarkable features of the evolution of the Portuguese labour market in 2017 (Chart I.5.10). The number of unemployed seeking work for more than 12 months fell by 25% in 2017, after a 13.3% fall in 2016. Long-term unemployment as a share of total unemployment remained at a high level, i.e. 58.1%, corresponding to a total of approximately 269 thousand individuals. Of these, 72.1% are very long-term unemployed, i.e. they have been seeking work for 24 months and over. Very long-term unemployment declined by 28.5% in 2017, after dropping by 12.1% in 2016, significantly contributing to a fall in unemployment in the year as a whole (Box 8).

The evolution of unemployment also compared favourably to that observed in the euro area. The differential between the unemployment rate in Portugal and in the euro area was positive between 2006 and 2016, ranging from a minimum of 0.5 p.p. in 2006 to a maximum of 4.4 p.p. in 2012 and 2013. In 2017 this differential was negative for the first time in over a decade, at -0.1 p.p. (Chart I.5.11).



Chart I.5.10 • Unemployment rate by duration | In percentage

Source: Statistics Portugal (Labour Force Survey).



5

4

3

2

1

0

2017

Source: Statistics Portugal and Eurostat.

2007

2008

Difference PT-EA (r.h.s; pp)

2009

2010

2006

÷ Moderate job creation and sharp reduction in job destruction

2011

2012

Unemployment rate (EA)

2013

2014

2015

2016

Unemployment rate (PT)

The flows of individuals who in each period transition between employment, unemployment and inactivity give a better illustration of the labour market dynamics over the course of a given period. In 2017 changes across the different labour market stages were equivalent on average to around 14% of the labour force, i.e. close to the value recorded in 2016 (15%).

In 2017 there was a positive net average flow toward employment, slightly higher than in 2016. An analysis of quarterly flows towards employment shows a high segmentation between the types of contract existing in the Portuguese labour market. Job creation focused on fixed-term contracts. Of total transitions to employment originating in unemployment and inactivity recorded in 2017, only 15% concerned permanent contracts. The number of permanent contracts grew by about 3.3% in 2017 (2.6% in 2016), and the number of fixed-term contracts by around 4.7% (1.6% in 2016). The net average flow towards unemployment was negative, i.e. the number of individuals transitioning

from unemployment to other situations was higher than those who transitioned to unemployment. This chiefly reflected a reduction in transitions from employment and inactivity to unemployment. A breakdown of unemployment into its short, medium and very long-term components shows that the average flows of short and medium-term unemployment towards inactivity and employment remained close to the levels observed in 2016 and that the average flows of very long-term unemployment towards inactivity and employment declined vis-à-vis 2016 (Figure I.5.1).

From 2011 onwards the annual averages of job creation and destruction as a percentage of the labour force show a downward trend. However, the reduction in annual average job creation has been evolving more slowly than the reduction in annual average job destruction (Chart I.5.12). The increase in 2017 of the net average flow of employment (job creation less job destruction) was chiefly a consequence of lower job destruction, in a context of slight decline in job creation (Chart I.5.12). Annual average job creation as a percentage of the labour force was 5.5% in 2017 (5.6% in 2016), while annual average job destruction as a percentage of the labour force was 4.7% in 2017 (5.1% in 2016).



Figure I.5.1 • Labour market flows in 2016 and 2017 (based on the average of quarterly flows) | As a percentage of the labour force

Source: Statistics Portugal and Banco de Portugal. | Note: The flows are computed using the common component of the sample of quarters t and t-1 and the population weights of quarter t. Values for 2016 in parentheses. STU, MTU and VLTU refer to short-, medium-and very long-term unemployment, respectively.

E Improved labour market conditions amid moderate wage growth

Labour market developments in 2017 continued to register an improvement initiated in the second quarter of 2013. In this context, there was a rise in employment and a significant decline in the unemployment rate, still in a context of wage moderation. According to data provided by the Ministry of Solidarity, Employment and Social Security, in 2017 average wages declared to Social Security grew by 1.9%, i.e. accelerating slightly from the previous year, when they had increased by 1.6%. This evolution of wages declared to Social Security seems to be associated with an increase

in the national minimum wage early in the year, from \leq 530 to \leq 557, with higher labour market pressures – stemming from a significant decline in unemployment – and to a lesser extent with the gradual restoring of civil servants' wages over the course of 2016. Wage dynamics also reflects a considerable increase in the number of collective bargaining instruments. In 2017 it was 226, covering 820 thousand workers, translating into 51 new instruments more than in 2016 and 70 thousand more workers covered.



Chart I.5.12 • Job creation and destruction (annual averages) | In percentage of the labour force

Source: Statistics Portugal and Banco de Portugal. | Note: Job creation refers to the average flows from unemployment and inactivity to employment, and job destruction to the average flows from employment to unemployment and inactivity.

Box 7 • Evolution of labour force qualifications in Portugal

Improving labour force qualifications in Portugal remains an important challenge, in a context where the Portuguese economy seeks to increase its productivity levels. According to economic theory, a more educated workforce is potentially more productive, for example due to its increased ability to adopt new production methods, innovate and perform tasks in new sectors. Other theories suggest that education signals an individual's productivity, becoming an important determinant in the employer's decision-making.

This box presents the evolution of the employed population's qualifications by age category, using Labour Force Survey data for the period 1998-2017, and compares the schooling levels of Portuguese workers with those of the other European Union countries. Finally, a relationship is established between gross value added (GVA) by worker (apparent labour productivity) and the average qualifications of workers in the different sectors of activity.

Over the last two decades, the Portuguese labour market has undergone important transformations, especially a considerable increase in the schooling levels of all workers from all age groups (Chart C7.1). As expectable, in the context of a rise in the levels of compulsory schooling, this increment was more marked among younger workers.



Chart C7.1 • Employment structure by age and educational attainment | In percentage

Source: Labour Force Survey (1998-2017) and Banco de Portugal calculations. | Notes: Each segment in the chart represents the proportion of workers who, belonging to a given age group in that year, have the referred educational level.

In 2017 of the group of workers aged 15-34, most completed secondary education (40.8%) or tertiary education (31.1%). The reduction in the proportion of young people who only completed the third cycle of primary education is also evident. This path reflects a progressive change in compulsory schooling⁴⁵ and a growing willingness of households to invest in formal education.⁴⁶

Despite this trend, in 2017, 72.8% of the group of workers aged 55 and over had a schooling level less than secondary education. The major differences in terms of worker qualifications also explain a

The most recent change raised compulsory schooling from nine to 12 school years or until the student turns 18 (Law No 85/2009 of 27 August 2009).
 For a wider discussion, see for example, Portugal, P., Raposo, P. and Reis, H. (2018). "The distribution of wages and wage inequality." *Banco de Portugal Economic Studies*, Banco de Portugal, 4(1), 1-13.





Source: Eurostat.

Source: Eurostat.

Portuguese workers are still at a disadvantage in educational terms compared with the average of the European Union countries (Chart C7.2). In spite of the very positive trend, in 2016, the schooling level of most Portuguese workers was lower than secondary education (44.1%), compared with 16.9% in the European Union average.

Portugal was the European Union country with the highest share of workers with qualifications below secondary education in 2016 (Chart C7.3). In addition, it was the second country with the lowest share of workers with completed secondary and post-secondary education and the eighth country with the lowest share of the employed population with completed tertiary education.

Chart C7.4 presents the structure of the employed population in Portugal by sector of activity. In 2017, the services sector stood out as the main employer (45.2%). Next, the public administration, education, health and social activities sector employed 23.7% of workers in 2017, also growing vis-à-vis 1998. Conversely, manufacturing, construction, and agriculture, forestry and fishing as a share of employment declined from 1998. Finally, the electricity and mining and quarrying sectors employed a small fraction of Portuguese workers in 2017, with shares of 1.1% and 0.3%, respectively.

Chart C7.5 presents the structure of workers' average qualifications by sector of activity. This variable has been created on the basis of a composite index for each schooling level. This index assumes the value of 1 should the worker not have any completed level of education, of 2 for a completed first or second cycle of primary education, of 3 for a completed third cycle of primary education, of 4 for completed secondary education, and the value of 5 should the worker have completed tertiary education.

For each year and sector of activity, average qualifications have been obtained by weighing each level of education by its respective weight in terms of number of workers.

47. For a wider discussion, see for example, Carneiro, P. (2014). "A educação em Portugal numa perspetiva comparada: factos e prioridades de política" in A Economia Portuguesa na União Europeia: 1986-2010 (pp. 313-327), Conjuntura Atual Editora.



In 2017 all sectors of activity had workers with higher average qualifications than recorded in 1998 (Chart C7.5). Workers in the public administration, education, health and social activities sector had the highest average qualifications (4.1 in 2017). Next were the services (3.6 in 2017) and electricity (3.5 in 2017) sectors. The agriculture, forestry and fishing sector employed the least qualified workers throughout the whole series (2.3 in 2017).

The increase in the Portuguese workers' average schooling level was still not sufficient to solve the low productivity problem (Chart C7.6). In 2016 labour productivity in Portugal was 22.4% lower than the European Union average, standing in the lowest segment of this indicator's distribution in the EU28 member countries as a whole.

The ratio of productivity to worker qualifications is one important issue for the Portuguese economy (Chart C7.7). The availability of longitudinal databases makes it possible to analyse variables that are not available in the Labour Force Survey's sample data, such as the characteristics of workers and their respective firm.⁴⁸ However, aggregate data are equally useful, helping to identify which sectors of activity raised their productivity the most and the average qualifications of their workers over time (Chart C7.8).



Chart C7.6 • Labour productivity | European Union 28 = 100

48. For a wider discussion, see for example, Portugal, P., Raposo, P. and Reis, H. (2018). "The distribution of wages and wage inequality." *Banco de Portugal Economic Studies*, Banco de Portugal, 4(1), 1-13.



Source: Statistics Portugal and Banco de Portugal calculations. | Notes: The size of each circle represents the contribution of the respective activity sector to the real GVA in 2015. The real GVA was calculated using 2011 as the base year. The analysis of the GVA per worker for the Public Administration sector is not represented due to statistical and methodological constraints. The electricity sector is not represented in Charts C7.7 and C7.8 due to high values assumed, both in the real GVA per worker (375.1 thousand euros in 2015) and in its change (108.4% between 1998 and 2015).

Chart C7.7 shows a positive correlation between average qualifications and labour productivity. Between 1998 and 2015 there was an overall positive evolution in the main sectors (Chart C7.8). For example, although workers in agriculture, forestry and fishing are the least qualified, their schooling level recorded progress, albeit small (the index rose by 0.54 between 1998 and 2015). In this context, labour productivity in this sector showed a clearly positive trend, increasing by 46.1% between 1998 and 2015.

The construction sector showed a decline in productivity in real terms (-8.6% from 1998 to 2015)⁴⁹ and limited progress in its workers' qualifications (the index rose by 0.67 between 1998 and 2015).

In sum, the upward trend of the workers' schooling level, more marked in the younger age categories, is still insufficient compared to other European Union countries. In addition, widening access to education will not be sufficient, and it will be necessary for the educational system to maintain quality standards and help achieve the skills that are important for the labour market.⁵⁰

In a global economy, where knowledge plays an increasingly more important role and growth relies on technologically advanced industries and innovation, the low qualifications of the Portuguese workforce should be addressed. In addition, it is proven that qualifications are beneficial not only for economic growth, but also individually, in terms of income, access to employment, better healthcare and the improved ability to live in society.⁵¹

49. In nominal terms this sector increased its productivity by 57% between 2000 and 2015 (Chart C.10.10).

50. For a wider discussion, see for example, Teixeira, P., Cerejeira, J., Simões, M., Sá, C. and Portela, M. (2014). "Educação, economia e capital humano – notas sobre um paradoxo" in *A Economia Portuguesa na União Europeia: 1986-2010* (pp. 329-355), Conjuntura Atual Editora.

51. For a wider discussion, see for example, Figueiredo, H., Portela, M., Sá, C., Cerejeira, J., Almeida, A. and Lourenço, D. (2017), *Benefícios do Ensino Superior*, Fundação Francisco Manuel dos Santos.

Box 8 • Recent developments in very long-term unemployment in Portugal

One of the most negative aspects of the Portuguese labour market in recent years has been the high levels of long-term unemployment, which originate a marked depreciation in human capital, with adverse effects on the economy's potential growth. In this context, the substantial fall in long-term unemployment in 2017 is of particular importance. This was primarily noticeable for individuals unemployed for two or more years (very long-term unemployment), whose number fell by 28.5%, in annual average terms, thus making a substantial contribution (-13.2 p.p.) to a 19.2% fall in total unemployment in the year as a whole (Chart C8.1).



Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal calculations. | Note: Short-term unemployment (STU) includes individuals calculations. | Note: Short-term unemployment includes individuals unemployed for less than 12 months; medium-term unemployment (MTU) unemployed for less than 12 months; medium-term unemployment includes those unemployed for 12 months or more but less than 24 months; includes those unemployed for 12 months or more but less than very long-term unemployment (VLTU) includes those unemployed for 24 24 months; very long-term unemployment includes those unemployed months or more.

for 24 months or more.

Following a marked increase in the period 2011-13, the incidence of very long-term unemployment remained high up to the first quarter of 2017, despite the downward path followed by total unemployment that started in mid-2013. This contributed to an increase in the median duration of unemployment, which stood at 23 months at the end of 2016. Chart C8.2 compares developments in very long-term unemployment with short-term (individuals unemployed for less than 12 months) and medium-term unemployment (individuals unemployed for 12 months or more but less than 24 months) since 2011. Both short-term (in early 2012) and medium-term unemployment (early 2013) started on a downward path considerably before very long-term unemployment, standing at the end of 2016 at levels well below those seen in early 2011. In turn, very long-term unemployment only started to fall markedly as of mid-2015. At the end of 2016, very long-term unemployment was still above the levels seen in early 2011, accounting for approximately half of total unemployment. The declining pattern of very long-term unemployment became particularly marked in the second quarter of 2017, which led, inter alia, to a very sizeable reduction in the median duration of unemployment.

It is particularly important to pinpoint the main features of unemployment duration segments, given that they may be associated with different transition rates to employment. Compared

with short-term and medium-term unemployment, very long-term unemployment has a lower percentage of individuals in the under-35 age bracket (Chart C8.3), as well a higher percentage of individuals with no schooling or with primary education (Chart C8.4). These features are typically associated with lower transition rates to employment which, may have contributed to the fact that very long-term unemployment remained high up to early 2017.



Chart C8.4 • Breakdown of each unemployment duration, by schooling in 2016 | Percentage of the number of unemployed in each duration cohort



Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal for 24 months or more.

calculations. | Note: Short-term unemployment includes individuals calculations. | Note: Short-term unemployment includes individuals unemployed for less than 12 months; medium-term unemployment unemployed for less than 12 months; medium-term unemployment includes those unemployed for 12 months or more but less than includes those unemployed for 12 months or more but less than 24 months; very long-term unemployment includes those unemployed 24 months; very long-term unemployment includes those unemployed for 24 months or more.

Figure C8.1 illustrates changes in the number of very long-term unemployed individuals as a percentage of labour force based on quarterly flows, with a constant sample, i.e. taking into account the 5/6 of respondents to Statistics Portugal's Labour Force Survey that remain in the sample for two consecutive quarters. Looking at the inflows of unemployed individuals from medium-term unemployment, as well as the outflows of individuals to employment or inactivity, the number of very long-term unemployed individuals has dropped in 2017. Compared with 2016, both inflows and outflows were smaller.

Typically, the composition of these flows differs somewhat in terms of age, sex and schooling. Chart C8.5 shows that inflows into long-term unemployment of individuals from medium-term unemployment in 2017 largely comprised individuals aged between 35 and 54 and with below secondary level schooling. However, over the past few years, the weight of individuals with low education levels in inflows has declined, by contrast to an increase in the percentage of individuals with higher education, as well as a very marked increase in the flows of individuals aged over 54. In turn, the outflows of very long-term unemployed to inactivity (Chart C8.6) also included a substantial percentage of individuals with below secondary level schooling and aged over 54, as well as greater weight of female unemployed individuals compared to their male counterparts. By contrast with 2016, flows in 2017 were characterised by a reduction in the percentage of individuals with higher education and by an increase in the weight of individuals aged over 54.


Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal calculations. | Note: Based on average quarterly flows, with a constant sample (individuals who remain in the sample for two consecutive quarters). The 2016 flows are in brackets. The short-term unemployment corresponds to individuals who are unemployed for less than 12 months; the medium-term unemployment to individuals who are unemployed for a period of 12 or more months but less than 24 months; and very long-term unemployed to individuals unemployed for 24 or more months.

Chart C8.5 • Flows from medium-term to very long-term unemployment in 2017 – age, schooling and gender breakdown | As a percentage of the total flow (constant sample)



Chart C8.6 • Flows from very long-term unemployment to out-of-labour force in 2017 – age, schooling and gender breakdown | As a percentage of the total flow (constant sample)



Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal calculations. | Note: Short-term unemployment includes individuals unemployed for less than 12 months; medium-term unemployment includes those unemployed for 12 months or more but less than 24 months; very long-term unemployment includes those unemployed for 24 months or more.

Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal calculations. | Note: Short-term unemployment includes individuals unemployed for less than 12 months; medium-term unemployment includes those unemployed for 12 months or more but less than 24 months; very long-term unemployment includes those unemployed for 24 months or more.

Turning to the flows of very-long term unemployed individuals to employment (Chart C8.7), the percentage of individuals in the under-35 age bracket was relatively high. Compared with 2016, the weight of women and individuals in the under-35 age bracket and aged over 54 in these flows increased, while the percentage of individuals with low schooling decreased. It should be noted that in 2017 the flows of very long-term unemployed to employment included individuals with an unemployment duration median of 49 months (44 months for similar flows in 2016). This is lower than for instance the median unemployment duration for individuals that moved to inactivity over the same year (52 months). Furthermore, most individuals that were unemployed for two years or more and that moved to employment in 2017 signed a fixed-term contract (Chart C8.8). Indeed, the weight of fixed-term contracts in such flows has increased over the past two years, mostly due to a reduction in the weight of contracts for the provision of services.

The marked fall in very long-term unemployment was one of the most striking features of Portuguese labour market developments in 2017. Nonetheless, the weight of very long-term unemployment in total unemployment is still substantial (42% in 2017). The decrease in the high incidence of very longterm unemployment should remain in the foreground when making unemployment-reducing policies, on account of the well-known impact of very protracted unemployment duration on poverty rates, the risk of social exclusion, the incidence of health problems and the economy's potential output.





calculations. | Note: Short-term unemployment includes individuals unemployed for less than 12 months; medium-term unemployment unemployed for less than 12 months; medium-term unemployment 24 months; very long-term unemployment includes those unemployed 24 months; very long-term unemployment includes those unemployed for 24 months or more.





Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal Sources: Statistics Portugal (Labour Force Survey) and Banco de Portugal calculations. | Note: Short-term unemployment includes individuals includes those unemployed for 12 months or more but less than includes those unemployed for 12 months or more but less than for 24 months or more.

6 Demand

Slightly higher GDP growth than in the euro area in 2017

In 2017 economic activity in Portugal grew by 2.7% in volume, following 1.6% growth in 2016 (Table I.6.1). Despite a recovery since 2013, economic activity in Portugal is still 1.3% below the levels recorded in 2008.

The current momentum of the Portuguese economy is similar to that seen in the euro area (which grew by 2.5% in 2017). Trade integration, job mobility, and geographical and cultural proximity foster the reduction in development differences across economies within a monetary union. Over the past decade, the cyclical synchronisation between Portugal and the euro area has remained high, when assessed in light of relative developments in the business cycle. The more marked impact of the most recent crisis in Portugal led to an increase in the dispersion of output gaps vis-à-vis the euro area. In 2017 this dispersion narrowed to levels similar to those seen at the monetary union inception (Box 9).

As a result of demographic changes, including migration flows, both in Portugal and other euro area countries over the past few years, comparisons based on GDP per capita developments are particularly relevant (Chapter 5). In 2017 this variable grew by 2.9% in Portugal (1.9% in 2016) compared with 2.2% in the euro area (1.4% in 2016) (Chart I.6.1).

In the year as a whole, GDP grew more than gross value added (GVA) (Chart I.6.2). This growth discrepancy is associated with developments in taxes net of subsidies, which increased by 6% in 2017 (after 4.6% in 2016).

	% of CDD			20	2016)17				
	in 2017	2016	2017	S1	S2	S1	S2	Q1	Q2	Q3	Q4
GDP	100.0	1.6	2.7	1.0	2.2	3.0	2.4	2.9	3.0	2.4	2.4
Domestic demand	98.9	1.6	2.8	1.1	2.1	2.7	2.9	2.7	2.8	3.4	2.4
Private consumption	65.4	2.1	2.3	1.7	2.4	2.2	2.3	2.4	2.0	2.6	2.1
Public consumption	18.0	0.6	-0.2	1.1	0.1	-0.5	0.1	-0.3	-0.6	0.2	0.0
Investment	15.5	0.8	8.5	-1.4	2.9	8.8	8.2	7.4	10.1	10.4	6.2
GFCF	15.3	1.5	9.1	-0.9	3.8	10.5	7.7	9.6	11.4	10.0	5.5
Change in inventories ^(a)		-0.1	-0.1	-0.1	-0.1	-0.3	0.1	-0.3	-0.2	0.1	0.1
Exports	40.1	4.4	7.8	2.7	6.2	9.1	6.7	10.1	8.1	6.2	7.1
Imports	39.0	4.2	7.9	2.8	5.6	8.1	7.6	9.0	7.3	8.4	6.9
Contributions of domestic demand net of imports ^(b)		0.7	1.2	0.4	0.9	1.3	1.1	1.2	1.3	1.4	0.9
Contributions of net exports ^(b)		1.0	1.5	0.6	1.3	1.7	1.2	1.7	1.7	1.0	1.5
Memo item:											
GDP - change over the previous period				0.5	1.7	1.2	1.1	0.7	0.3	0.6	0.7
Domestic demand (exc. change in inventories)	98.7	1.7	2.9	1.2	2.2	3.0	2.8	3.0	3.0	3.3	2.2

Table I.6.1 GDP and main components | Year-on-year rate of change, unless othwerwise stated

Sources: Statistics Portugal and Banco de Portugal calculations. | Note: (a) Contributions to the annual rate of change of real GDP, in percentage points. (b) Demand aggregates net of imports are obtained by subtracting an estimate by Banco de Portugal of the imports needed to meet each component. The computation of the import content was based on data for 2013. For more information, see the Box entitled "The import content of global demand in Portugal" in the December 2017 issue of the *Economic Bulletin*.







Sources: Statistics Portugal and Eurostat.

Source: Statistics Portugal.

Developments in activity based particularly on the acceleration of exports of goods and services and gross fixed capital formation

GDP developments reflected, to a greater extent, the acceleration in exports of goods and services and GFCF, particularly GFCF in construction and, to a lesser extent, private consumption (Chart I.6.3). Looking at the contributions to the annual rate of change in GDP, net of import content, exports made a larger contribution, moving from 1 p.p. to 1.5 p.p. in 2017. Investment, following a virtually zero contribution in 2016, made a positive contribution of 0.7 p.p. in 2017. In turn, private consumption made a contribution of 0.5 p.p. in the year as a whole, slightly below that seen in 2016 (Chart I.6.4).

Turning to the intra-annual profile, GDP followed a decelerating path in the second half of the year. In the first half of the year, GFCF and exports remained on an ascending path that had started in the second half of 2016. In the second half of 2017, exports slowed down, but continued to grow substantially.



Source: Statistics Portugal.

Chart I.6.4 • Net contributions to the annual rate of change of GDP in Portugal | In percentage and percentage points



Sources: Statistics Portugal and Banco de Portugal calculations. | Note: Demand aggregates net of imports are obtained by subtracting an estimate by Banco de Portugal of the imports needed to meet each component. The computation of the import content was based on data for 2013. For more information, see the Box entitled "The import content of global demand in Portugal" in the December 2017 issue of the *Economic Bulletin*. The acceleration in private consumption from 2.1% to 2.3% in 2017 (Chart I.6.5) was set against improvements in consumer confidence across income quartiles (Chart I.6.6), in addition to improvements in labour market conditions, most notably very buoyant growth in employment and the reduction in the unemployment rate, against a background of wage moderation (Chapter 5).



The savings rate stood at 5.4% of disposable income in 2017, i.e. 0.5 p.p. below that seen in 2016, reflecting an increase in private consumption, in nominal terms, slightly above that in disposable income (3.2% and 3.0% respectively) (Chart I.6.7).

Non-durables private consumption accelerated in 2017, from 1.2% to 1.9%, accounting for the largest contribution to private consumption growth. In turn, consumption of durable goods decelerated, but its weight in total consumption increased further, to stand close to its pre-crisis levels (Chart I.6.8). The decrease in the contribution from this component dropped from 0.7 p.p. to 0.4 p.p., amid a marked deceleration in the motor vehicle component compared with 2016. Consumer loans continued to increase significantly in the course of 2017, reaching in December its highest value since mid-2006 (Chapter 3).







Source: Statistics Portugal.



In 2017, GFCF grew by 9.1%, i.e. at a far greater pace than 2016 (1.5%). The various components made a positive contribution to this acceleration, but GFCF in construction (which increased by 9.2%, compared with -0.3% in 2016) made the largest (Chart I.6.9). The recovery of the construction sector followed a long period of structural adjustment in the sector, heightened by the crisis. Despite this strong momentum, GFCF in construction is well below its 2008 levels (Chart I.6.10).









Source: Statistics Portugal.

Source: Statistics Portugal.

In 2017 this momentum was due, on the one hand, to developments in residential construction, which remained on a recovery path, reflecting inter alia good financing conditions. In line with that seen since 2015, the amount of new bank loans granted to households for house purchase showed an upward trend in the course of 2017 (Chapter 3). On the other hand, the demand for housing by non-residents rose, tourism and related real estate activities grew markedly and the labour market improved gradually.

Also GFCF in machinery and equipment accelerated markedly in 2017 (from 4.3% in the previous year to 13.1%). In turn, GFCF in transport equipment moved up from 8.4% in 2016 to 14.1% in 2017. The higher growth of this type of investment reflected a more favourable outlook for overall demand developments, the maintenance of good financing conditions and the need to build up the capital stock. In this regard, however, capital per worker levels remained low, with direct effects on productivity and long-term potential growth in the economy (Box 10).

By institutional sector, all segments grew in 2017. While corporate GFCF has gradually come closer to the levels seen prior to the international financial crisis, public GFCF and residential GFCF are structurally below their 2008 levels (Chart I.6.11).

Exports of goods and services in volume grew by 7.8% in 2017 (4.4% in the previous year), reflecting an increase in the contribution from the main subcomponents, chiefly services exports, which posted an annual rate of change of 10.9%, after 4.3% in 2016 (Chart I.6.12). On the one hand, external demand for Portuguese goods and services resumed the pace of growth seen in 2014/15, mainly due to an acceleration in demand from euro area partners (Chapter 2). On the other hand, Portugal's share in external markets increased markedly, exceeding that seen in the previous year. This larger market share gain was largely associated with extraordinary growth in tourism exports, whose weight in GDP rose to approximately 7%, and other services related to tourism (Chart I.6.13). As regards the share of goods exports, gains in 2017 were below those seen in 2016, and were more concentrated in a number of product markets, most notably transport equipment. In this regard, there was a sizeable impact from the increase in production and exports of a major car manufacturing unit at the end of 2017.

Chart I.6.11 • Breakdown of GFCF by institutional sectors | Index 2008 = 100



Sources: Statistics Portugal and Banco de Portugal.





Source: Statistics Portugal.

Substantial market share gains in Portuguese exports over the past few years

Turning to the external market, Portuguese exporters have increased their market share as of 2008. This positive performance of Portuguese exports largely exceeded that seen in other euro area countries (Chart I.6.14). It should be noted that, in the case of Portugal, growth in goods and services exports led to cumulative gains of approximately 20% between 2008 and 2017.

These market share developments in Portuguese exports are structural in nature, on the basis of corporate restructuring that started prior to the international financial crisis and which included the closure of firms oriented towards the domestic market and the establishment of new firms geared towards exports, as well as the conversion of a number of firms. These processes contributed to the diversification of exported products – to incorporate greater value added – and geographical destinations (see the special issue in the October 2016 Economic Bulletin: "Portuguese international traders: some facts about age, prices and markets"). As such, non-price competitiveness factors have played a major role in the performance of Portuguese exports over the past few years.





Source: Statistics Portugal.





Sources: Statistics Portugal, ECB, Reuters and Eurostat. | Note: the change in the market share of exports of goods and services for each country is obtained by comparing the real growth of each country's exports with the growth of an indicator of foreign demand in that country. Each country's external demand indicator is calculated as the weighted average of the growth of imports of goods and services in volume from the country's main trading partners (where each partner is weighted according to its weight

in the country's exports).

Tourism has been one of the most dynamic sectors in Portugal. Nominal tourism services exports have shown a markedly upward profile, which accelerated in 2017 (Chart I.6.15). This path has also been followed by a number of trade partners – including in South Europe – albeit to a lesser extent. Furthermore, nominal services exports (excluding tourism) have accelerated in 2017, particularly transport services.



Chart I.6.15 • Nominal exports of tourism services | Index 2008 = 100

Source: Eurostat.

Nominal exports of goods excluding energy increased from 2.3% to 9.1% in 2017. These developments were broadly based across different types of goods, most notably intermediate goods and capital goods (Chart I.6.16). The extra-EU market made the largest contribution to an acceleration in nominal exports of goods excluding energy, particularly Angola. Likewise, trade partners such as Germany, the Netherlands and France were the main drivers of an acceleration in intra-EU trade flows in 2017 (Chart I.6.17).

Chart I.6.16 • Contributions of the main of nominal exports of goods excluding energy | In percentage and percentage points

Chart I.6.17 • Contributions of the main types of goods to the annual rate of change destinations to the annual rate of change of nominal exports of goods excluding energy | In percentage and percentage points



Source: Statistics Portugal.

Source: Statistics Portugal.

Imports grew by 7.9% in 2017 in real terms, compared with 4.2% in the previous year, chiefly reflecting the greater contribution from goods excluding energy (Chart I.6.18). The volume growth in exports exceeded developments in import-weighted overall demand, as has been the case since 2013, which led to an increase in import penetration (Chart I.6.19).



Source: Statistics Portugal.

Sources: Statistics Portugal and Banco de Portugal calculations. | Note: import penetration assesses the growth of imports of goods and services towards the growth of global demand. An increase indicates a gain in market share in domestic production by foreign producers.

In 2017, both the export and import deflators increased, following a period of consecutive decreases since 2013. Developments in 2017 were associated not only with the energy component but also with the other components, which led to close to zero changes in terms of trade in the course of that year (Box 11).

Box 9 • Cyclical synchronisation between Portugal and the euro area over the last decade

The synchronisation of business cycles is a key topic for economic analysis and a prerequisite for an optimum currency area.⁵² This box reviews the degree of synchronisation between the Portuguese and euro area cycles over the past decade, which has been marked by the international financial crisis and the sovereign debt crisis.⁵³

This review is based on indicators that allow assessing the co-movement of business cycles and on indicators gauging their relative amplitude, which help assess the Portuguese economy vis-àvis other euro area Member States, most notably as regards the joint developments in Portugal, Germany, Spain and France.

The business cycle is measured on the basis of the output gap, which corresponds to the percentage difference between gross domestic product (GDP) and potential output. The review uses annual data for the period between 1999 and 2017 from the European Commission (EC), the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD). These methodologies rely on a production function. Output gap results obtained with a methodology based on a multivariate statistical filter (Q Model) are also presented. The various gaps differ due to the different estimates for potential output.⁵⁴

Chart C9.1 shows correlation coefficients between output gaps in Portugal and the euro area, which may range from -1 to +1. Figures close to 1 illustrate situations where output gap increases are linearly associated with the widening output gap in the euro area, while negative figures close to -1 are associated, by contrast, with the narrowing output gap in the euro area. A zero value means that there is no association. In the decade that ended in 2017, the correlation stood above 0.7 in all databases. Overall, this suggests relatively synchronised developments. Compared with the decade that ended in 2008, results suggest an higher cyclical correlation, except in the IMF's database. Results for Q Model suggest high synchronicity. The correlation obtained on the basis of OECD estimates was particularly low in the decade that ended in 2008.

Chart C9.2 shows a cyclical concordance indicator, which can range from 0 to 1. A figure equal to 1 corresponds to a situation where output gaps, in sample, are always simultaneously positive, or negative, in both regions. The minimum value implies the absence of simultaneity.⁵⁵ Results suggest a high simultaneity of positive and negative gaps over the past decade, which, in some cases, reached the indicator's upper limit. As regards the period that ended in 2008, synchronicity increased across databases.⁵⁶

- 52. See Mundell, R., 1961, "A Theory of Optimum Currency Areas", American Economic Review, 51 (4), 657-665.
- 53. For an assessment focused on the period before 2007, see "Cyclical synchronization between Portugal and the euro area", Box 3.1 of the 2007 Annual Report of Banco de Portugal, pp. 80-83.
- 54. For the methodology underlying Q Model, see Maria, J. 2016, "Portugal: trends, cycles, and instability in output and unemployment over 2008-2012", Banco de Portugal Economic Studies, 2 (3), pp. 21-33. This methodology is significantly different from other methodologies (EC, IMF and OECD) due to the operational restrictions conditioning the calculation of output gaps. The gaps are estimated simultaneously for Portugal and the euro area and are subject to common restrictions in Maria (2016), including a single long-term real interest rate, similar long-term growth and a 2% inflation anchor established by the European Central Bank. Another distinguishing feature of this approach is the assumption that, operationally, the euro area gap conditions the law of motion for the output gap in Portugal, while this is not the case the other way around. The uncertainty surrounding estimates for potential output was reviewed in Banco de Portugal (2017), "Potential output: challenges and uncertainties", Special issue in the Economic Bulletin, December 2017, of Banco de Portugal, pp. 39-64.
- 55. The indicator is defined as $CONCOR_t = 1/T \sum_{t=1}^{T} [C_t^{PT} C_t^{AE} + (1 C_t^{PT})(1 C_t^{AE})]$, Where $C_t^{x} = 1$ if the output gap in country x is positive and $C_t^{x} = 0$ if it is negative. Regions x correspond to Portugal or the euro area. See Harding, D., and A. Pagan, 2002, "A Comparison of Two Business Cycle Dating Methods," *Journal of Economic Dynamics and Control*, 27 (9), pp. 1681-1690.
- 56. See Franks, J., B. Barkbu, R. Blavy, W. Oman and H. Schoelermann (2018), "Economic Convergence in the Euro Area: Coming Together or Drifting Apart?", *IMF Working Paper*, WP/18/10. The authors note an increase in average cyclical concordance in Portugal towards nearly all other euro area countries, more specifically between the first quarter of 1999 and the first quarter of 2007 and, on the other hand, the second quarter of 2007 and the first quarter of 2015. The business cycle is measured using the Christiano-Fitzgerald filter.

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Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal. | Note: Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal. | Calculations based in output gap of 10 years before 2008 and 2017.

Note: Calculations based in output gap of 10 years before 2008 and 2017.

Charts C9.3 and C9.4 illustrate the position of the Portuguese economy against other euro area countries in 2017. Chart C9.3 shows the correlation coefficient over the past decade between output gaps in each Member State and gaps in the euro area, while Chart C9.4 shows the correlation coefficient vis-à-vis the Portuguese case. Their results place Portugal close to countries that have also experienced substantial recessions, such as Cyprus, Spain and Italy.

The aforementioned indicators are suitable for gauging the co-movement of business cycles, but not necessarily developments in the relative amplitude of output gaps in Portugal and the euro area. The degree of simultaneous association or coincidence of positive or negative values may be very high, even without a similar amplitude of business cycles. This assessment requires the use of relative dispersion or cyclical discrepancy measures.









Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal calculations. | Note: Calculations based in output gap of 10 years before calculations. | Note: Calculations based in output gap of 10 years before 2017. The results are sorted by the results obtained with EC database. The 2017. The results are sorted by the results obtained with EC database. The countries are identified in the following way: Austria (AU); Belgium (BE); countries are identified in the following way: Austria (AU); Belgium (BE); Cyprus (CY); Germany (DE); Estonia (EŠ); Finland (FI); France (FR); Greece Cyprus (CY); Germany (DE); Estonia (EŠ); Finland (FI); France (FR); Greece (GR); Ireland (IE); Italy (IT); Latvia (LA); Luxembourg (LU); Malta (ML); (GR); Ireland (IE); Italy (IT); Latvia (LA); Luxembourg (LU); Malta (ML); Netherlands (NL), Portugal (PT); Slovakia (SK); Slovenia (SL) and Spain (SP). Netherlands (NL), Portugal (PT); Slovakia (SK); Slovenia (SL) and Spain (SP).

Chart C.9.5 shows a cyclical dispersion indicator, measured by the ratio between the standard deviation in the output gap in Portugal and the euro area. An increase in cyclical dispersion means that business cycle volatility has become more marked in Portugal than in the euro area,

which may be associated with either a more substantial increase in the standard deviation in the output gap in Portugal or a more significant decrease in the euro area.57 Results indicate that cyclical dispersion increased in the decade that ended in 2017, compared with the results obtained in the previous period. This is in line with the interpretation that the international financial crisis and the sovereign debt crisis have produced more sizeable effects on Portugal than on the euro area as a whole. Results obtained with Q Model illustrate the fact that a correlation close to the upper limit of the indicator does not necessarily correspond to a similar and constant dispersion across both regions.⁵⁸ The result obtained from the European Commission's estimates is an exception.

Chart C9.6 shows the indicator for cyclical discrepancy between both regions, which is always zero or negative. If output gaps are equal in both regions, the value is zero. The more negative the indicator is, the greater difference between output gaps in the regions under review, in this case Portugal and the euro area.59 Results suggest lower synchronicity levels over the past decade, compared with the previous period. These developments are conditioned, in general, by more negative gaps in Portugal than in the euro area. Similarly to the cyclical dispersion assessment, the result obtained from the European Commission's estimates is an exception to this. Also, the annual figures between 1999 and 2017 are very volatile and conditional on the databases used.60

Chart C9.5 • Cyclical dispersion in relation with euro area



Chart C9.6 • Cyclical discrepancy in relation with euro area



Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal. | Note: Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal. | Note: Calculations based in output gap of 10 years before 2008 and 2017.

Calculations based in output gap of 10 years before 2008 and 2017.

Finally, dispersion developments in the euro area are assessed according to the behaviour of the standard deviation in gaps across Member States at a given moment.⁶¹

57. This indicator, defined as $DISP-T_t = \left[\sum_{t=1}^{T} \left(C_t^{PT} - \overline{C}_T^{PT}\right)^2 / \sum_{t=1}^{T} \left(C_t^{AE} - \overline{C}_T^{AE}\right)^2\right]^{1/2}$, is always positive and does not have an upper limit. It should be noted that C_t^{x} corresponds to the output gap in region x in year t, and that \overline{c}_T^{x} represents the average value.

58. See Belke et al., 2017.

- 59. This indicator is defined as $DISC_t = -1/T \sum_{t=1}^{T} |C_t^{PT} C_t^{AE}|$. See Franks *et al.* (2018) and Cesa-Bianchi, A., J. Imbs, and J. Saleheen (2015), "Finance and Synchronization," CEPR Discussion Paper No. DP11037. The authors calculated this indicator on the basis of GDP growth rates.
- 60. Belke et al. (2017) report empirical results that also suggest low synchronicity. The authors concluded that the group of euro area's periphery countries, including Portugal, have been less synchronized since 2008, compared with the so-called core countries (e.g. Germany and France). The business cycle is measured using the Hodrick-Prescott filter.
- , where C_t^n indicates the output gap in country n in period t, and \overline{C}_t^N represents 61. This indicator is defined as $DISP-N_t = \left[\sum_{n=1}^{N} \left(C_t^n - \overline{C}_t^N\right)\right]$ the sample average of the N countries under review (in year t)

Chart C9.7 shows the standard deviation of output gaps in all euro area countries, excluding Greece, which is calculated for each year.⁶² Results indicate that dispersion rose very markedly up to 2013 in all databases, partly reflecting the differences in the impact of the international financial crisis and the sovereign debt crisis, as well as the mixed ensuing recovery pace. In 2017, however, dispersion returned to levels similar to those seen in 1999.

Chart C9.8 focuses exclusively on the dispersion between output gaps in Portugal and its main trade partners in the euro area, most notably Germany, Spain and France.⁶³ By contrast with the results obtained in Chart C9.7, the dispersion reached a peak in 2007 across databases, i.e. in the period prior to the international financial crisis. Nevertheless, results obtained for 1999 and 2017 are relatively close.









Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal Sources: EC, Statistics Portugal, IMF, OECD and Banco de Portugal calculations. | Note: Standard-deviation of output gaps of euro area calculations. | Note: Standard-deviation of output gaps of Germany, France, countries (excluding Greece).

Spain and Portugal.

The results presented in this box are based on estimates for potential output and the output gap, whose quantification is surrounded by uncertainty. However, the review brings to light a number of robust features. The synchronicity between the Portuguese economy and the euro area economy has remained relatively high over the past decade. This interpretation stems from joint developments in output gaps and the simultaneous presence of positive and negative gaps in Portugal and the euro area. In turn, the greater volatility and amplitude of the business cycle in Portugal over the past decade had a negative impact on the dispersion and discrepancy indicators under review. Nevertheless, in 2017 the dispersion of output gaps decreased to levels similar to those seen in 1999, both between all Member States (excluding Greece), and between Germany, Spain, France and Portugal.

62. Results exclude Greece due to the very diverse behaviour of this country's business cycle. In 2017, the OECD, the European Commission and the IMF estimated negative output gaps of -11%, -8% and -4% respectively.

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63. In 2017, these countries accounted for approximately 50% of exports and 53% of imports of goods in Portugal.

Box 10 • Capital stock in the Portuguese economy

Capital stock developments are a key issue for the Portuguese economy. This variable is affected by the dynamics of gross fixed capital formation and, as established in economic growth models, impacts on labour productivity levels. In November 2017, Statistics Portugal released, for the first time, the series on the capital stock in the Portuguese economy over the period 2000-15. This box presents some descriptive statistics on the capital stock structure by type of asset, institutional sector and sector of activity. Furthermore, this box makes a comparative analysis of the stock of fixed assets per worker (coefficient of capital intensity) and gross value added (GVA) per worker (apparent labour productivity) in the various sectors of activity.

The stock of fixed assets in the Portuguese economy was of approximately \leq 616 billion in 2015, which corresponds to close to 343% of GDP, following nominal growth of 55.9% between 2000 and 2015. However, this change was not linear (Chart C10.1). Up to 2010, the stock of fixed assets increased continuously, to stand at approximately 358% of GDP that year. Between 2011 and 2013, investment did not offset the depreciation in installed capital, which contracted by 7.2%. Finally, in the period 2014-15, there was a slight recovery, of 1.5%, per year.





Sources: Statistics Portugal and Banco de Portugal calculations. | Notes: The values of the stock of fixed assets as a percentage of GDP were computed as the ratio between the stock of fixed assets and GDP, both at current prices.

Chart C10.2 illustrates the structure of the stock of fixed assets by type of asset in the Portuguese economy. The weight of construction (dwellings, and other buildings and structures) stands out markedly, which reflects the greater longevity of these assets. Between 2000 and 2015, the weight of this aggregate in the total increased by around 1.6 p.p., but featured substantial changes in the weight of each subcomponent. While dwellings decreased by 9.7 p.p., other buildings and structures rose by 11.3 p.p. between 2000 and 2015. The predominance of construction in the stock of fixed assets is common to most countries for which data are available in Eurostat. In 2015, Portugal was the country with the largest weight of construction in the stock of fixed assects, with 91.7% (41.5% associated with dwellings and 50.2% associated with other buildings and structures). France ranks second, with an 85.7% ratio in 2015 (59% associated with dwellings and 26.8% associated with other buildings and structures). The smaller weight of construction in the stock of fixed assets in 2015 was posted by Sweden, with 75.3% (37.2% associated with dwellings and 38% associated with other buildings and structures). As such, Portugal compares unfavourably with other European countries. Overall, profitability in construction, as measured by the value of services provided, is lower than in machinery or other assets with a greater

technological component. In this respect, intellectual property products, which are related to innovation processes and to research and development results, accounted for only 2.2% of total fixed assets in the Portuguese economy in 2015.⁶⁴ Of the 22 countries for which there is data available in Eurostat, the median value for the weight of intellectual property products in the stock of fixed assets in 2015 was 3.2%. The countries with the greatest weight in the total stock of fixed assets were Sweden (8.1%) and Denmark (7.5%), while the country with the lowest weight was Latvia (1.2%). Portugal had the fourth lowest weight of intellectual property products in the stock of fixed assets in 2015, standing below average (3.9%).

Chart C10.3 shows the structure of the stock of fixed assets in the Portuguese economy by institutional sector. Despite its downward trend, the households had the largest relative weight with 39.7% in 2015, corresponding to 9.8 p.p. below that seen at the beginning of the series. In 2015 the weight of households in the dwellings and other buildings and structures segment stood at 92.9%, with nearly all of it being accounted for by dwellings. Moreover, households held 64.9% of the stock of cultivated biological resources in 2015. The weight of non-financial corporations in capital stock followed an upward path throughout the series, to reach 33.1% in 2015, compared with 27.5% in 2010. In 2015 this institutional sector held 83% of the stock of transport equipment, 75.9% of the stock of other machinery, equipment and weapons systems, and 57.8% of the stock of intellectual property products. General government also held a substantial share of the stock of fixed assets in the Portuguese economy, with 22.8% in 2015. The weight of this sector was 44% as regards the stock of construction (37.1% associated with other buildings and structures) and 32.5% as regards the stock of intellectual property products in 2015.





assets by institutional sector | In percentage of the economy's stock of fixed assets



Sources: Statistics Portugal and Banco de Portugal calculations.



The third part of the analysis considers the distribution of the stock of fixed assets across sectors of activity (Chart C10.4). The real estate activities sector presents the highest value, due to its specific characteristics. Given that this sector provides dwelling services, the entire stock of housing in the economy is included here. This situation is similar to that observed in most countries for which information is available. Second, the sector that includes public administration, education, health and social activities held 21.1% of the stock of fixed assets in the economy in 2015.

As might be expected, the sectors of activity associated with the provision of services have the lowest weight in capital stock, given that the fixed assets associated with them have a much shorter lifespan than dwellings and infrastructure used in activities such as education, health, manufacturing and production of energy.

64. For more details, see Statistics Portugal's (INE) press release entitled "Capital stock corresponded to 343% of GDP - 2015", 24 November 2017.

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In the industry as a whole, the manufacture of rubber, plastic products and other non-metallic mineral products, as well as food, beverage and tobacco processing had the largest relative weight in the total stock of fixed assets in the Portuguese economy in 2015, with values close to 1.3% (Chart C10.5).









Sources: Statistics Portugal and Banco de Portugal calculations.



Chart C10.6 illustrates the stock of fixed assets as a percentage of GDP for some EU countries, including Portugal. However, the international comparison requires substantial precaution. In the case of Portugal, Statistics Portugal's estimates for the stock of fixed assets are based on the weighted sum of past investment flows and operate on the assumption that the annual depreciation of assets is constant, i.e. that the value of assets is fully depreciated when they reach the end of the considered lifespan.⁶⁵

Portugal stands at the upper distribution segment of the stock of fixed assets as a percentage of GDP (Chart C10.6). Furthermore, the capital per worker levels in the Portuguese economy are low (Chart C10.7), standing at close to 135 thousand euros in 2015, which corresponds to an increase of approximately €56 thousand from 2000. The Portuguese economy's standing in Charts C10.6 and C10.7 is due to the fact that Portugal is one of the six (out of 20) countries with the lowest GDP per worker in 2015.

Indeed, the high weight of dwellings and the low level of capital per worker constrain productivity and limit the output level, i.e. the share of the stock of fixed assets in GDP is relatively high, largely due to the small denominator.

The positive relationship between the stock of fixed assets per worker and GVA per worker is noticeable when looking at the various sectors of activity (Chart C10.8). However, the sector that made the largest contribution to GVA of the Portuguese economy in 2015 (transportation, storage, accommodation and food service activities) does not have the largest stock of fixed assets and GVA per worker. Across industry sectors, the positive correlation between the coefficient of capital intensity and apparent labour productivity is also noticeable (Chart C10.9), while there is a higher probability of finding firms with higher productivity levels than those with higher capital intensity.

65. For more details, see Statistics Portugal's (INE) press release entitled "Capital stock corresponded to 343% of GDP - 2015", 24 November 2017.



Sources: Eurostat and Banco de Portugal calculations. | Notes: These Sources: Eurostat and Banco de Portugal calculations. | Notes: These values were computed as the ratio between the stock of fixed assets and GDP, both at current prices.

Chart C10.8 • GVA and stock of fixed assets per worker and activity sector in 2015 | In thousands of euros, current prices



Sources: Statistics Portugal and Banco de Portugal calculations. in the chart due to the high values assumed: 9018.2 thousand euros euros of GVA per worker. of fixed assets per worker and 685.3 thousand euros of GVA per worker. Moreover, the energy sector, with a weight of 2.9% in GVA, is not represented due to the high values assumed: 2982.8 thousand euros of fixed assets per worker and 528.3 thousand euros of GVA per worker.

current prices and the number of workers.

values were computed as the ratio between the stock of fixed assets at

Chart C10.9 • GVA and stock of fixed assets per worker and industry sector in 2015 | In thousands of euros, current prices



Sources: Statistics Portugal and Banco de Portugal calculations. Notes: The size of each circle represents the contribution of the Notes: The size of each circle represents the contribution of the respective activity sector to the nominal GVA in 2015. The analysis respective industry sector to the nominal GVA in 2015. The industry of the GVA per worker for the Public Administration sector is not of refined petroleum products, with a weight of 0,4% in GVA, is not represented due to statistical and methodological constraints. The represented in the chart due to the high values assumed: 923.9 real estate sector, with a weight of 12.3% in GVA, is not represented thousand euros of fixed assets per worker and 344.1 thousand

Furthermore, there is a positive correlation between changes in the stock of fixed assets per worker and changes in GVA per worker in the period 2000-15 (Chart C10.10). Industry was one of the sectors of activity with a greater boost in both productivity (62.4%) and capital intensity (167.9%). In services, smaller increases in productivity, for instance, in transportation, storage, accommodation and food service activities (38%) and financial and insurance activities (42.3%) corresponded to smaller increases in capital intensity (68.2% and 85.2%, respectively). As regards the various industry sectors, which account for 14.3% of GVA of the Portuguese economy in 2015, the positive correlation between changes in the coefficient of capital intensity and changes in apparent labour productivity is somewhat less clear (Chart C10.11).

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Sources: Statistics Portugal and Banco de Portugal calculations. Notes: The size of each circle represents the contribution of the of the GVA per worker for the Public Administration sector is not industry of refined petroleum products, with a weight of 0,4% represented due to statistical and methodological constraints. The in GVA, is not represented in the chart due to the high values real estate sector, with a weight of 12.3% in GVA, is not represented assumed: 134.7% of the stock of fixed assets change per worker in the chart due to the high values assumed: 30.6% of the stock and 313.5% of GVA change per worker. of fixed assets change per worker and 124.7% of GVA change per worker. Moreover, the energy sector, with a weight of 2.9% in GVA, is not represented due to the high values assumed: 225.3% of the stock of fixed assets change per worker and 257.4% of GVA change per worker.

Sources: Statistics Portugal and Banco de Portugal calculations. | Notes: The size of each circle represents the contribution of respective activity sector to the nominal GVA in 2015. The analysis the respective industry sector to the nominal GVA in 2015. The

Bringing GDP per worker levels in Portugal closer to the average in EU countries is particularly challenging, against a background where the Portuguese economy aims for the average European income levels. This process involves capital accumulation, larger productive investment in tradable sectors, with higher rates of domestic savings and greater ability to attract foreign direct investment.

Box 11 • Analysis of developments in Portuguese terms of trade in the recent period

Terms of trade are the relationship between export and import prices. They represent the purchasing power of domestically produced goods and services, i.e. the quantity of goods and services that a country may import in exchange for one unit of exported goods and services. When terms of trade increase, it is possible to transform the export volume into more imports, corresponding in practice to an increase in the country's purchasing power. As a result, changes in terms of trade affect the trade balance and have implications on domestic expenditure and welfare.

In 2017, there was a slight reduction in Portuguese terms of trade (-0.4%), interrupting the trend increase recorded since 2012. This rising trend in terms of trade was quite similar considering only trade in goods (Chart C11.1), being also seen in other euro area countries. However, gains in terms of trade were more significant in Portugal (Chart C11.2).



Source: Statistics Portugal (Annual and quarterly national accounts). Source: OECD.

This box aims to characterise developments in Portuguese terms of trade in recent years, considering a longer period and making a disaggregation by groups of products, applying the methodology used in Cardoso and Esteves (2008).⁶⁶

Terms of trade tend to be strongly affected by the high volatility of oil prices in international markets, particularly in an economy like the Portuguese, in which oil has a relatively large weight in imports and considering the low price-elasticity of demand for this commodity. The energy component made a negative contribution, on average, to developments in terms of trade in the period 2006-17. Considering that the price of oil is rather volatile and its developments are exogenous to the Portuguese economy, it is important to analyse developments in the indicator excluding energy.

Developments in terms of trade considering export and import prices of goods excluding energy show a significant cumulative gain in the period 2006-14, but some stabilisation in the last three years (Chart C11.1). The pattern in the period 2015-17 reflects some stabilisation of the deflator of exports and imports excluding energy in this period. These developments contrast with those observed in the period from 2006 to 2014, which recorded a cumulative increase in the deflator of merchandise exports excluding energy by 8.4% and a reduction in the corresponding import deflator by 4.5% (Chart C11.3).

66. Working Paper Banco de Portugal, No 5, 2008.

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It is useful to analyse developments in merchandise terms of trade, using the breakdown by products followed in Cardoso and Esteves (2008). According to this methodology, the change in terms of trade can be broken down into the contributions by the different types of products i as follows:

$$\Delta T o T_t = y o y_t^X - y o y_t^M = \sum_i (y o y_{i,t}^X \cdot \omega_{i,t}^X - y o y_{i,t}^M \cdot \omega_{i,t}^M)$$

Where $y_0 y_{i,t}^X \in \omega_{i,t}^X (y_0 y_{i,t}^M \in \omega_{i,t}^M)$ is the year-on-year rate of change in the price and the weight in total exports (imports) of each product *i* in *t*.

Through the reparametrisation of the above equation, the change in terms of trade can be presented as the sum of two effects, the structural effect and the relative price effect, respectively.

$$\Delta ToT_t = yoy_t^X - yoy_t^M = \sum_i (\omega_{i,t}^X - \omega_{i,t}^M) \cdot yoy_{i,t}^* + \sum_i (yoy_{i,t}^X - yoy_{i,t}^M) \cdot \omega_{i,t}^*$$
$$yoy_{i,t}^* = \frac{yoy_{i,t}^X + yoy_{i,t}^M}{2}; \omega_{i,t}^* = \frac{\omega_{i,t}^X + \omega_{i,t}^M}{2}$$

The structural component measures the impact on terms of trade of the economic specialisation by sector. The country tends to have gains in terms of trade if it is more specialised in products whose prices grow faster. The relative price component measures the effect of relative developments in export and import prices for the same product, making it possible to assess the position of domestic production in the different market segments and the country's capacity to import from low-cost markets.

Charts C11.4 and C11.5 illustrate the change in total terms of trade of goods excluding energy throughout the period 2006-17 and their breakdown into the two effects described above. Turning to total goods trade, overall the relative price effect was positive, albeit partially offset by a negative

structural effect in some years, associated with rising oil prices. However, over the past three years, the relative price effect was negligible. In turn, regarding the change in terms of trade of goods excluding energy, the contribution of the structural effect was dominant and always positive until 2014, becoming virtually nil in the more recent years.







Sources: Statistics Portugal and Banco de Portugal calculations.

Table C11.1 contains detailed information on developments in export and import prices by groups of products as well as the contribution of each group to the change in goods terms of trade. Two sub-periods are considered (2006-14 and 2015-17) and the figures presented are annual averages for each sub-period. The analysis of these two sub-periods helps to understand, by groups of products, developments shown in the preceding charts. Note that results obtained with this breakdown depend on the level of disaggregation by the groups of products considered.

The annual average change of Portuguese terms of trade in external trade of goods was similar in both periods (0.7% and 0.9% respectively in 2006-14 and 2015-17). In the period 2006-14, energy goods made a negative contribution, in annual average terms, of -0.7 p.p. to the change in terms of trade. This contribution results from the structural effect, associated with the large weight of this type of goods in Portuguese imports and the sharp rise in oil prices in the period under review. By contrast, in the more recent period, the annual average contribution of this component was positive (0.9 p.p.), due to the fall in oil prices.

Trade in goods excluding the energy component, recorded a gain in terms of trade of 1.5% on average in the period 2006-14 – chiefly accounted for by the relative price effect – and a zero change in the more recent period. This reflects, on the one hand, a more subdued annual average increase in export prices in the more recent period (1.5% in 2006-14 versus 0.6% in 2015-17) and, on the other, an annual average increase in import prices after a zero annual average change in the previous period (0.0% in 2006-14 versus 0.6% in 2015-17).

The improvement in terms of trade excluding energy in the first period was relatively broadly based across the different groups of products considered, with major contributions from machinery and equipment, textiles, clothing and footwear, and transport equipment.

Sources: Statistics Portugal and Banco de Portugal calculations.

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	Avera	ʒe weight	Avera	ge annual gro	wth (%)	Average and	ual contribu	tion (pp)	Averag	e annual grov	vth (%)	Average a	nual contribu	tion (pp)
	Exports	Imports	Export prices	Import prices	Terms of trade	Structural effect	Relative price effect	Total effect	Export prices	Import prices	Terms of trade	Structural effect	Relative price effect	Total effect
griculture, hunting hd fishing	2.2	5.3	2.4	3.7	-1.3	-0.1	0.0	-0.1	1.2	1.0	0.2	0.0	0.0	0.0
ining and Jarrying	1.3	0.2	3.0	1.3	1.7	0.0	0.0	0.0	3.8	1.1	2.6	0.0	0.0	0.0
anufacturing	89.7	79.0	1.5	-0.2	1.7	0.0	1.5	1.5	0.5	0.5	0.0	0.1	-0.1	0.0
Food and beverages	8.3	9.3	1.9	1.3	0.7	0.0	0.1	0.0	2.1	2.6	-0.5	0.0	0.0	-0.1
Rubber and plastic produtes	5.1	2.9	2.4	1.0	1. U	0.0	0.1	0.1	0.1	-1.3	1.3	0.0	0.1	0.0
Textiles, clothing and footwear	13.6	7.4	2.2	 U	3.5	0.0	0.4	0.4	0.2	-0.1	0.4	0.1	0.0	0.0
Textiles	4.1	2.6	1.7	-1.0	2.7	0.0	0.1	0.1	-0.1	-1.0	0.9	0.0	0.0	0.0
Clothing	5.8	3.5	1.8	-2.2	4.0	0.0	0.2	0.2	0.6	-0.8	1.4	0.0	0.1	0.1
Footwear and leather products	3.7	1.3	3.5	0.0	3.5	0.0	0.1	0.1	0.0	5.1	-5.1	0.1	-0.1	0.0
Wood, cork, pulp and paper products	8.1	3.1	1.0	0.6	0.4	0.0	0.0	0.1	2.0	0.0	2.0	0.0	0.1	0.1
Machinery and equipment	16.1	17.9	0.9	-2.1	2.9	0.0	0.5	0.5	1.3	0.7	0.6	0.0	0.1	0.1
Transport equipment	12.7	12.3	1.3	0.1	1.2	0.0	0.2	0.2	0.5	2.1	-1.6	0.0	-0.2	-0.2
Mineral and metal oroducts	13.0	9.3	1.9	ci U	9.0	0.0	0.1	0.1	0.2	0.4	-0.2	0.0	0.0	0.0
Chemical products	7.5	13.2	2.3	0.5	1.9	-0.1	0.2	0.1	-1.3	-1.5	0.2	0.1	0.0	0.1
Other	5.3	3.6	0.8	-0.7	1.5	0.0	0.0	0.0	-0.7	1.1	-1.7	0.0	-0.1	-0.1
on-energy	93.2	84.5	1.5	0.0	1.5	0.0	1.4	1.4	0.6	0.6	0.0	0.1	-0.1	0.0
iergy	6.8	15.5	8.4	8.5	-0.2	-0.7	0.0	-0.7	-8.9	-9.5	0.6	0.8	0.1	0.9
Total	100.0	100.0	1.8	1.1	0.7	-0.7	1.4	0.7	-0.5	-1.5	6.0	6.0	0.0	6.0

The contribution of textiles, clothing and footwear to overall developments in terms of trade was of 0.4 p.p., in annual average terms, in the period 2006-14. These gains were common to the three subsectors, reflecting a substantial increase in export prices in all of them and a marked fall in import prices in the former two cases. This increase in terms of trade seems to be associated, on the one hand, to deeper structural changes in these export sectors and, on the other, to the persistence of the impact of globalisation on import prices.⁶⁷ As to the structural changes in these sectors, there is some evidence that the rise in export prices was associated to an improvement in quality, innovation and differentiation.⁶⁸ In the more recent period, the contribution of this group of products to the change in overall terms of trade was nil, with the respective import and export prices recording changes close to zero, in average terms.

In the case of machinery and equipment, the annual average contribution to the overall change in terms of trade dropped from 0.5 to 0.1 p.p. between 2006-14 and 2015-17. This smaller contribution reflected different developments in import prices, which declined by approximately 2% in annual average terms in the period 2006-14 and increased by 0.7% in the past three years.

Transport equipment made a positive contribution to the change in terms of trade in the first subperiod (by 0.2 p.p., in annual average terms). This contribution became negative in the more recent period, resulting from a far higher average increase in import prices than in the preceding period.

The analysis in this box points to a change in the behaviour of Portuguese terms of trade in the recent period. This change can be seen in trade excluding energy, which recorded an interruption in the last three years of a long rising path of terms of trade. These developments, combined with the recent rise in oil prices in international markets (Box 1), translated into a loss in terms of trade in 2017 with a negative impact on the real income of the economy and on the goods and services account balance.

67. See evidence presented in Cardoso and Esteves (2008).

68. See Box 6.1 entitled "Developments in unit values of Portuguese goods exports". *Economic Bulletin*, May 2017.

7 Prices

Inflation rose in 2017 driven by energy and tourism-related services prices

In 2017 the inflation rate in Portugal, as measured by the annual rate of change in the Harmonised Index of Consumer Prices (HICP), stood at 1.6% (Table I.7.1 and Chart I.7.1), corresponding to an increase of 1 p.p. from 2016 (0.6%).

This figure, which was the highest in the last five years, reflected an acceleration in the prices of the energy industrial goods and of the services aggregates – in particular those related to tourism activity – and, to a smaller extent, in processed food prices (Chart I.7.2).

Within the monetary union, inflation in Portugal moved closer to the value recorded in the euro area in 2017.

Table I.7.1 • HICF	– Main components	As a percentage
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	Weights	Annua	I rate of o	change	Year	nange		
	2017	2015	2016	2017	Q1	Q2	Q3	Q4
Total	100.0	0.5	0.6	1.6	1.4	1.7	1.3	1.8
Total excluding energy	91.7	0.8	0.9	1.4	0.9	1.7	1.2	1.6
Total excluding unprocessed food and energy	81.4	0.7	0.8	1.3	0.6	1.7	1.4	1.6
Goods	57.7	-0.1	-0.1	0.9	1.6	0.7	0.3	1.0
Food	23.4	1.5	0.9	1.7	2.3	1.7	0.9	2.0
Unprocessed food	10.3	1.9	1.6	1.8	3.6	2.0	-0.2	1.8
Processed food	13.1	1.2	0.4	1.6	1.2	1.4	1.8	2.2
Industrial	34.3	-1.3	-0.9	0.3	1.1	0.0	0.0	0.2
Non-energy	26.0	-0.7	-0.1	-0.8	-0.7	-0.6	-0.8	-0.9
Energy	8.3	-3.7	-3.1	3.7	7.0	1.8	2.4	3.6
Services	42.3	1.4	1.5	2.5	1.3	3.2	2.7	2.9
Memo items:								
Contribution of administered prices (in p.p.)	-	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Contribution of taxes (in p.p.)	-	0.2	-0.1	-0.2	-0.5	-0.6	0.1	0.1
Consumer Price Index (CPI)	-	0.5	0.6	1.4	1.4	1.4	1.1	1.5
HICP - Euro Area	-	0.0	0.2	1.5	1.8	1.5	1.4	1.4

Sources: Eurostat and Statistics Portugal.

Increase in the inflation rate underpinned by developments in unit labour costs and in import prices

According to the MIMO model used by Banco de Portugal⁶⁹ for inflation forecasts, the increase in the inflation rate recorded in 2017 was underpinned, on the one hand, by higher growth of unit labour costs and, on the other, by an acceleration of non-energy goods import prices (Charts I.7.3 and I.7.4). Fuel prices made a smaller contribution to the increase in inflation in Portugal.

Chart I.7.1 • Harmonized index of consumer prices | In percentage



Chart I.7.2 • Contributions to the annual growth rate of the HICP | In percentage points



Source: Statistics Portugal.

Chart I.7.3 • Evolution of unit Labour costs and import prices excluding energy goods | Annual average rate of charge, in percentage



Sources: Statistics Portugal and Banco de Portugal. | Notes: ULC - Unit Labour costa; PMX - import prices excluding energy goods. Unit Labour costs per unit produced were calculated based on Statistics Portugal's Quarterly National Accounts. The non-energy goods imports deflator was calculated based on information from Statistics Portugal.



Source: Statistics Portugal.



Sources: Eurostat and Banco de Portugal. | Note: The chart breaks down the year-on-year inflation rate into the contribution of each of the HICP components according to Banco de Portugal's analysis and projection model for inflation, called MIMO (Monthly Inflation Model). ULC - unit Labour costs; PMX - import prices excluding energy goods; IT - indirect taxation; ADM - administered prices. Indirect taxation on fuels is included under the IT & ADM heading.

The differential between the inflation rate in Portugal and the euro area became virtually nil

In the euro area, the inflation rate recorded higher growth than in Portugal (increasing from 0.2% in 2016 to 1.5% in 2017), with the inflation rate differential narrowing virtually to zero. This occurred after a period with a positive differential started in early 2015 (Chart I.7.5).

The positive contribution of services prices to the inflation differential increased from 0.2 p.p. in 2016 to 0.5 p.p. in 2017. The energy goods differential, which had been positive in the previous two years, became negative in 2017, particularly in the first half of the year (Chart I.7.6). These developments led to the narrowing of the inflation differential with the euro area.

The prices of non-energy industrial goods recorded a smaller change than in the euro area and their contribution to the differential dropped to -0.3 p.p. (-0.2 p.p. in 2016).

Chart I.7.5 • HICP - Portugal and euro area | Year-on-year rate of change, in percentage and percentage points



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Sources: Eurostat and Statistics Portugal.

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Sources: Eurostat and Statistics Portugal.

This reduction of the inflation differential between Portugal and the euro area is also seen in expectations of economic agents. Expectations for 2018, formed in the course of 2017, indicate a similar value for inflation in Portugal and the euro area, around 1.4%. (Chart I.7.7).



Euro area



Source: Consensus Economics.

Acceleration of consumer prices in 2017 reflected the increase in the contribution of energy and services prices and to a smaller extent of (processed) food prices

Turning to developments in the main components of the HICP, services prices accelerated to 2.5% in 2017 after 1.5% growth in 2016. This component continued to make the most important contribution to the inflation rate in Portugal (1.1 p.p.). In this context, price dynamics of the activities strongly boosted by tourism, namely accommodation services (1.1 p.p. contribution to the annual rate of

change in services prices) and restaurants and cafés (0.4 p.p. contribution to the same aggregate) continued to stand out.

Energy prices, which had dropped by 1.8% in 2016, increased by 3.7% in 2017, in particular in the first quarter of the year. Conversely to the previous four years, this increase led to a positive contribution (0.3 p.p.) from the change in the prices of this type of goods to the inflation rate in 2017.

The increase in energy prices reflected higher growth of fuel prices, which moved in line with developments in oil prices (Chart I.7.8). The rise in the tax on oil products in early 2018 also contributed to an increase in the price of diesel, being negligible in the case of petrol. The rise in the price of fuel was partly offset by negative contributions from the prices of electricity and gas to the change in energy prices (with contributions of around 0.2 p.p. each, compared to 0.5 p.p. and -1.0 p.p. in 2016 respectively).





Sources: ECB and Direção Geral de Energia e Geologia.

The acceleration of processed food prices from 0.3% in 2016 to 1.6% in 2017 also added to the increase in inflation in 2017. Unprocessed food prices rose by 1.8%, after 1.6% growth in 2016.

Finally, the prices of non-energy industrial goods continued to fall (-0.8%), more markedly than in 2016 (-0.3%). In 2017 this item was the only one to make a negative contribution to the annual inflation rate.

Growth of the GDP deflator converges with that of the domestic demand deflator, amid deteriorating terms of trade in 2017

In 2017 the GDP deflator recorded an annual rate of change of 1.4%, down from 1.5% in 2016. These developments represented a convergence of the domestic demand deflator, reversing the trend recorded since 2012 (Chart I.7.9). The deterioration in terms of trade, which was particularly marked in the first quarter of 2017, is related to a recovery in oil prices. ⁷⁰ In the second half of 2017 there was a rise in terms of trade, which was smaller than that recorded between 2013 and 2015. Thus, the GDP deflator rose again above the domestic demand deflator.

^{70.} As Portugal is a net importer of energy goods, the rise in oil prices leads to a positive gap between the rates of change in the domestic demand deflator and the GDP deflator. While the former is directly affected by developments in import prices, the latter only reflects the price dynamics of domestically produced goods.



Chart I.7.9 • GDP deflator, domestic demand deflator and terms of trade | Year-on-year rate of change, in percentage

Source: Statistics Portugal.

8 Balance of payments

Increase in the Portuguese economy's net lending in 2017

In 2017 the Portuguese economy's net lending increased to 1.4% of GDP, after 1.0% in 2016 (Chart I.8.1). This reflected an increase in domestic saving as a percentage of GDP slightly higher than the increase in investment.



Chart I.8.1 • Net lending / net borrowing of the economy | As a percentage of GDP

Source: Statistics Portugal. | Note: (a) Includes the net acquisition of non-produced assets.

By sector, there was an increase in net lending by financial corporations to 4% of GDP, which however is affected by the recapitalisation operation of CGD, worth 2 p.p. of GDP (Chart I.8.2). This operation is reflected in the general government accounts, whose borrowing requirements increased to 3% of GDP, after 2% in 2016 (Chart I.8.3).









Source: Statistics Portugal.



Households' net lending dropped from 2.0% of GDP in 2016, to 1.5% of GDP in 2017. Households' savings declined to 3.7% of GDP, down from 4.1% of GDP in 2016, while investment increased marginally (Chart I.8.4). The net borrowing of non-financial corporations (NFCs) went up (from -0.9% of GDP in 2016 to -1.2% of GDP in 2017) with a slightly higher increase in investment than in saving (Chart I.8.5).

Chart I.8.4 • Net lending/net borrowing of the Chart I.8.5 • Net lending/net borrowing of the economy - households | As a percentage of GDP

economy - non financial corporations | As a percentage of GDP



Source: Statistics Portugal.

Source: Statistics Portugal.

Slight reduction in the current and capital account surplus with an increase in the goods account deficit and the widening of the services account surplus

According to the balance of payments, in 2017 the current and capital account surplus amounted to 1.4% of GDP, 0.2 p.p. down from the figure recorded in previous year (Table I.8.1).⁷¹ This reduction of the surplus was shared between the current account and the capital account.

Table I.8.1 • Balance of payments | As a percentage of GDP

	2014	2015	2016	2017
Current and capital accounts	1.4	1.3	1.6	1.4
Current account	0.1	0.1	0.6	0.5
Goods and services account	1.1	1.7	2.1	1.8
Goods	-5.5	-5.3	-5.2	-6.3
Energy	-3.6	-2.4	-1.7	-2.1
Other goods	-1.9	-3.0	-3.5	-4.2
Services	6.6	7.0	7.3	8.1
of which:				
Travel and tourism	4.1	4.4	4.8	5.6
Primary income account	-2.0	-2.4	-2.3	-2.5
Secondary income account	0.9	0.9	0.9	1.2
of which:				
Emigrants / immigrants remittances	1.5	1.6	1.5	1.6
Capital account	1.3	1.2	1.0	0.9
Financial Account	1.6	1.3	1.6	1.6
Errors and omissions	0.2	0.0	0.0	0.2

Sources: Banco de Portugal and Statistics Portugal. | Note: The current and capital account balance and the financial account balance should be identical. In practice, that does not happen due to imperfect sources of information and compilation systems. Therefore, the unbalances that arise from this situation are designated errors and omissions and explain, in 2017, the different evolution of the economy net lending given by the current and capital account or by the financial account.

Turning to the current account, there was a deterioration in the goods balance (worth 1.1 p.p. of GDP) and in the primary income account balance (worth 0.2 p.p. of GDP). By contrast, there was an increase in the surpluses of the services balance and the secondary income account balance (worth 0.8 p.p. and 0.3 p.p. respectively) (Chart I.8.6).

71. Note that the combined current and capital account calculated in the balance of payments statistics may differ from net lending calculated on a national accounts basis due to methodological differences between the two bases. It is namely 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.

The deterioration of the goods balance reflected developments in the components of the energy and non-energy goods. The contribution of the change in the energy goods balance was of -0.4 p.p. of GDP, after two years with positive contributions, which is largely explained by oil price developments in international markets (Chart I.8.7). The change in the non-energy goods balance stood at -0.6 p.p. of GDP, remaining virtually unchanged from 2016.

The tourism sector continued to be the main determinant of the services account dynamics

The services account surplus widened further, standing at 8.1% of GDP, up from 7.3% of GDP in 2016. There was an acceleration in exports (13.3% increase compared with 6.3% in 2016) and imports (10.5% growth after an increase of 5.1% in 2016).

The acceleration in services exports reflected mainly the buoyancy in the travel and tourism item, resulting in 19.5% growth over the year (10.7% in 2016).

The slight narrowing of the surplus of the goods and services account reflected chiefly the deterioration in terms of trade, contrasting with recent years (Chart I.8.8). These developments in terms of trade are associated with a sharp rise in oil prices in 2017 after successive falls (Box 11). The contribution of the changes in volume in exports and imports again was close to zero, reflecting similar growth of the two aggregates.









Sources: Statistics Portugal and Banco de Portugal.

Sources: Statistics Portugal and Banco de Portugal.

The primary income account balance posted a higher deficit in 2017 (-2.5% of GDP compared with -2.3% of GDP in 2016), due to lower inflow of Community funds, recorded under subsidies. As regards investment income, the deficit narrowed by 0.1 p.p. of GDP, reflecting an improvement in the direct investment income account balance and in the other investment account balance. As to the former, the improvement reflected higher inflows of income associated with an increase in the profitability of the investments. Developments in the other investment income account balance, in turn, were influenced by the reduction of liabilities in the form of deposits and loans, namely those related to the early repayment of loans granted to Portugal under the Economic and Financial Assistance Programme (Portuguese abbreviation PAEF).



Chart I.8.8 • Decomposition of the change in goods and services account balance | Million of euros

Sources: Statistics Portugal and Banco de Portugal.

The widening of the surplus of the secondary income account balance was due, on the one hand, to the smaller contribution paid to the Community budget and, on the other, to the higher surplus in the emigrant/immigrant remittances account. Emigrant remittances grew 6.3% in 2017 compared with 0.8% growth in 2016. This acceleration was associated with the recovery in remittances originating in Angola and Switzerland, which had recorded a fall in 2016. Remittances from the United Kingdom also contributed to this result, accelerating from 11.8% in 2016 to 22.8% in 2017.

Portuguese economic agents' investment in assets continued to be higher than financing obtained

In 2017 net lending by the Portuguese economy, in terms of the financial account, translated into net acquisition of assets issued by non-residents which was higher than the financing obtained from non-resident entities (7.0% and 5.4% of GDP respectively). Both flows were higher than in the previous year (4.0% and 2.4% of GDP respectively) (Chart 1.8.9).

The sectors that stood out in terms of the net acquisition of external assets were Banco de Portugal, whose purchases amounted to 5.9% of GDP, and non-monetary financial institutions (NMFIs), with purchases totalling 2.5% of GDP (Chart I.8.10). In the case of Banco de Portugal, investment was chiefly concentrated on debt securities recognised under portfolio investment, of which the most relevant was the acquisition of debt securities issued by supranational entities, under the Eurosystem's asset purchase programme (Box 12). By contrast, Banco de Portugal disinvested in assets issued by residents outside the euro area and denominated in foreign currencies. NMFIs, in turn, purchased external assets, while in 2016 they had made significant disinvestments. This investment reflected chiefly the purchase of securities by investment funds and insurance corporations, amid a pick-up in demand by households for financial products issued by these entities.





Sources: Statistics Portugal and Banco de Portugal. | Notes: (1) The net acquisiton of assets corresponds to buys less sells of foreign assets by residents. A plus sign represents a net outflow of funds from the Portuguese economy. (2) The net incurrance of liabilities corresponds to the increase less redemptions of national liabilities with non-resident entities. A plus sign corresponds to a net inflow of funds in the Portuguese economy.

Inflows of funds into the Portuguese economy channelled by Banco de Portugal and by non-financial corporations

Funds raised abroad by resident entities also increased to 5.4% of GDP in 2017 (Charts I.8.9 and I.8.11). These inflows of funds into the Portuguese economy continued to be made by Banco de Portugal and by NFCs, whose net liabilities rose by 5.6% and 4.6% of GDP respectively.

In the case of Banco de Portugal, these developments continued to reflect TARGET account liabilities, arising from the implementation of the Eurosystem's non-standard monetary policy measures.

Financing abroad by NFCs continued to favour the channel created by a direct investment relationship between a resident company and a foreign entity. Furthermore, the purchase of real estate by non-residents continued to be significant, accounting for 18.1% of the total external financing obtained by NFCs (see the Special Issue).⁷²

General government external financing continued to decline, by 4% of GDP, particularly on account of the early repayment of IMF loans granted under the PAEF, to the amount of 5.2 p.p. of GDP. This reduction was lower than in the previous year (equivalent to 8.3% of GDP), as the purchase of public debt securities from non-residents by Banco de Portugal decreased.

^{72.} In the balance of payments statistics, the purchase of land or real estate in Portugal by a non-resident is recorded in the item direct investment under liabilities and the respective stock of real estate is a direct investment liability in the international investment position. The registration implies the creation of a resident notional entity, for statistical purposes that holds the land or real estate, which in turn, is acquired by the non-resident entity. Thus, when real estate operations involve a non-resident entity they are not recorded as investment, in terms of the national accounts, but as a financial operation.

Chart I.8.10 • Net acquisiton of assets (1) | As a percentage of GDP



Sources: Statistics Portugal and Banco de Portugal. | Notas:(1) The net acquisiton of assets corresponds to buys less sells of foreign assets by residents. A plus sign represents a net outflow of funds from the portuguese economy.





Sources: Statistics Portugal and Banco de Portugal. | Notas: (2) The net incurrance of liabilities corresponds to the increase less redemptions of national liabilities with non-resident entities. A plus sign corresponds to a net inflow of funds in the portuguese economy. Central Bank (CB), Other Monetary Financial Institutions (OMFI), General Government (GG), Non Monetary Financial Institutions (NMFI), Non Financial Private Sector (NFPS).

Improvement in the international investment position as a result of net lending by the economy and of GDP growth

The international investment position (IIP) of the Portuguese economy stood at -105.7% of GDP at the end of 2017. At end-2016 this figure reached -106.1% of GDP (Chart I.8.12).

Net lending generated by the Portuguese economy in 2017, which was reflected in a positive financial account balance of 1.6% of GDP, added to an improvement of the IIP. Likewise, GDP growth, in nominal terms, enabled a 4.2 p.p. reduction of the IIP ratio as a percentage of GDP.

Price and exchange rate changes and other adjustments worked in the opposite direction. Exchange rate changes and other adjustments, amounting to 1.5% of GDP, reflected developments in the exchange rate of the euro against the US dollar. As to price changes, the negative contribution to developments in the IIP, of 3.9% of GDP, was due to a valuation of resident entities' liabilities. Notable among these is the valuation of Portuguese Treasury bonds, associated with falling interest rates and, to a smaller degree, the valuation of Portuguese companies' capital.

Developments in the IIP in 2017 show the continuation of the external adjustment process of the Portuguese economy, which was one of the most striking features of recent developments and which translated during a first phase into a reduction of the Portuguese economy's external financing needs and, subsequently, into the emergence and maintenance of net lending. In terms of balance of payments statistics, this adjustment was reflected in an improvement in the current and capital account balance and, more recently (since 2014) in a reduction of the IIP liability position (Chart I.8.13).



Chart I.8.13 • Current and capital account and IIP | As a percentage of GDP



Sources: Statistics Portugal and Banco de Portugal.



Box 12 • Impact of the non-standard monetary policy measures of the Eurosystem on the international investment position of the Portuguese economy

In the past few years, in response to the economic and financial crisis, the monetary policy of the Eurosystem was marked by the implementation of unconventional measures, notably the expanded asset purchase programme, comprising also sovereign debt securities.⁷³ This box aims to explain the statistical impact of this programme on the international investment position (IIP) of the Portuguese economy.

One of the consequences of these measures was the widening of the debtor and creditor positions in the TARGET payment system⁷⁴ between the countries that are part of the Monetary Union.⁷⁵ This resulted from the decentralised implementation of the asset purchase programme and from the fact that the assets purchased were recorded in the balance sheet of each national central bank. Banco de Portugal made significant purchases of Portuguese public debt securities, most of which held in the portfolio of non-residents, with their majority being purchased in 2015 and 2016.⁷⁶

Figure C12.1 presents in schematic form the effect of the purchase of Portuguese public debt securities on the balance sheet of Banco de Portugal and of the non-resident entities involved in the purchase. In this case, the non-resident entity that sells the securities increases the deposits with one bank, which in turn increases the reserves in the respective national central bank, this assuming that the bank receiving the deposits is of the same country. This central bank thus holds a creditor position in TARGET against Banco de Portugal that purchased the securities.

In terms of the external accounts, there was a shift in liabilities, with no change in the IIP balance:

- On the one hand, there was an increase in external liabilities of Banco de Portugal in TARGET, recorded under "Other investment" in the financial account and in the IIP;
- On the other hand, there was a reduction in external liabilities of the general government, in the form of debt securities.⁷⁷

Considering that the Eurosystem's asset purchase programmes only comprise debt securities (rather than equity securities) and TARGET account liabilities are recorded in Other investment, these operations do not alter the total external debt of the country, only changing the composition by debt instrument and institutional sector.⁷⁸

Naturally, these conclusions abstract from the macroeconomic impact resulting from the adoption of the non-standard monetary policy measures. Available evidence suggests that these measures made a substantial contribution, through various transmission channels, to the improvement of the macroeconomic framework in the euro area as a whole, including Portugal.

- 75. The countries with higher creditor position are Germany, Luxembourg, Netherlands and Finland. The countries with higher debtor position are Italy, Spain, Greece and Portugal. Data refer to the position as at end-January 2018.
- 76. Up to the end of January 2018, the Eurosystem had purchased €31,524 million of Portuguese public debt securities (book value).
- 77. It should be recalled that in terms of the statistical registration of securities operations, the counterparty sector is the sector issuing/holding the security and not the sector selling the security. In this case, the sale by a non-resident to Banco de Portugal of securities issued by the general government implies a reduction in general government liabilities to non-residents (this operation is recorded in the balance of payments) and an increase in liabilities to Banco de Portugal.
- 78. Where the purchase of securities includes shares, the purchase of shares of national companies by Banco de Portugal that were held in the portfolio of non-resident entities, would not change the IIP, but would imply an increase in external debt. This is explained by the fact that the decrease in external liabilities, recognised in capital items, would not be included in external debt, conversely to the increase in Banco de Portugal liabilities.

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^{73.} See the Special Issue entitled "ECB's unconventional monetary policy: what has been done and did it work?", Economic Bulletin of Banco de Portugal, June 2015.

^{74.} TARGET stands for "Trans-European Automated Real-time Gross settlement Express Transfer system". In May 2008 TARGET2 replaced the former TARGET system as the real-time payment system owned and operated by the Eurosystem. For the sake of simplicity, TARGET refers to the cumulative balances of both TARGET and TARGET2.



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In terms of the balance sheet of Banco de Portugal, the impact of the non-standard monetary policy measures was chiefly reflected, on the assets side, on the governmental securities portfolio, and, on the liabilities side, on external deposits (Chart C12.1).

Since the beginning of 2015 Banco de Portugal increased significantly the portfolio of Portuguese public debt securities from 0.6% of GDP at end-2014 to 14.1% of GDP at end-2017. This change in assets was offset, on the liabilities side, chiefly by an increase in external deposits, where TARGET liabilities are recorded. This shows the fact that the securities purchased by Banco de Portugal were chiefly sold by non-resident entities. By contrast, liabilities to resident Other monetary financial institutions (OMFIs) (reserves) recorded a much smaller increase.

It should be noted that the nature of this increase in Banco de Portugal's external indebtedness is different from the one recorded in 2010 (Chart C12.2). In this year, the banking sector increased substantially the recourse to Eurosystem financing – through Banco de Portugal – amid strong constraints regarding financing from international financial markets. Since 2015 the increase in TARGET liabilities has mainly reflected the implementation of the expanded asset purchase programme. As these purchases have been mostly made from non-resident entities, liquidity injected with the implementation of the programme, in the case of Banco de Portugal, has been mainly channelled abroad.









Sources: Statistics Portugal and Banco de Portugal.



Chart C12.1 also shows that securities other than shares vis-à-vis non-residents also increased in 2016 and 2017 as a whole by more than 5 p.p. of GDP. This change, in addition to illustrating the usual management of reserves by the central bank, reflects, in particular in the last year, the purchase of securities issued by supranational entities also in the context of the non-standard monetary policy measures.

Impact of the non-standard monetary policy on the IIP

Considering the external position of the Portuguese economy vis-à-vis abroad, as measured by the IIP, the monetary policy operations analysed in this box led to a shift in its composition by sector and functional category (Charts C12.3 and C12.4).

By sector, there was an increase in external liabilities of Banco de Portugal, offset by a reduction in external liabilities of the general government.

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Turning to the functional category, there was a reduction in liabilities of portfolio investment (where liabilities in the form of general government debt securities are recorded), offset by an increase in TARGET liabilities.

Chart C12.3 • Sectoral evolution of external liabilities of the Portuguese economy | In percentage of GDP



Chart C12.4 • Evolution of functional classification of external liabilities of the Portuguese economy | In percentage of GDP



Sources: Statistics Portugal and Banco de Portugal.

Sources: ECB, Statistics Portugal and Banco de Portugal.

In sum, the non-standard monetary policy measures adopted by the Eurosystem in the past few years imply an expansion of Banco de Portugal's balance sheet, a sectoral change in the financing flows of the economy and a shift in the composition by sector of both the IIP and the external debt.

II Special Issue

Financing decisions of Portuguese companies: stylized facts and recent developments

Financing decisions of Portuguese companies: stylized facts and recent developments

Introduction

The last ten years were marked by the widespread consequences of the global financial crisis and, later, by the sovereign debt crisis in the euro area. These events transformed the global financial system and the financing of economies, exposing vulnerabilities associated with the risks assumed by the financial system and the indebtedness of families and firms. The reinforcement of banking regulation and the implementation of initiatives to improve the way debt markets operate in Europe will contribute to changes in some dimensions of corporate finance. In this context, this Special Issue analyzes the evolution of access to external financing of Portuguese companies over the last decade through different debt instruments. To this end, a wide range of information on the financial debt of Portuguese companies is explored in an integrated manner, in particular with regard to bank loans and debt securities issued.

Most of the analyses on this topic, both in Portugal and in Europe, discuss the gradual deleveraging process of firms. In other words, constraints on demand and supply of credit have made companies become less indebted, in aggregate terms. However, not all companies use debt instruments. In fact, for firms operating in Portugal in 2016, only 56% (representing 87% of firms' total assets) had debt outstanding.1

When a firm considers resorting to financial debt, there are conceptually two main alternatives: asking for a loan, typically from a bank, or issuing a debt security in the market. However, for most companies, this is not really a choice. Smaller companies generally do not have the scale to consider financing in the debt securities markets. In fact, even in the US, where capital markets have a more significant dimension, only a small percentage of firms has access to the debt securities market. Even among listed companies, only about 20% turn to debt markets.² In the euro area, only 3% of large companies had issued bonds in 2017.³ For SMEs, as expected, this percentage is even lower (1%). For Portugal those figures are exactly the same as those observed for the euro area as a whole.4

- 1. Based on the percentage of firms that reported non-zero amounts in the item "obtained funding" in the Central Balance Sheet Database of Banco de Portugal, which covers all firms operating in Portugal. This item includes, among others, funding from banks, the markets, equity participants, subsidiaries, associates and joint ventures, and other debtholders.
- 2. This estimate refers to the year 2000 mentioned in an article by Faulkender and Petersen (2006), "Does the Source of Capital Affect Capital Structure?", Review of Financial Studies, 19, issue 1, p. 45-79. This figure refers to the percentage of companies in Compustat (a database with listed US firms) with assigned rating, which is considered as a proxy to capture a firm's ability to issue debt in the financial market.
- 3. According to the replies to SAFE (Survey on the Access to Finance of Enterprises), conducted by the European Central Bank and the European Commission. The answers refer to the first half of 2017 and are weighted.
- 4. For large Portuguese firms this figure is obtained as the percentage of companies in the Central Balance Sheet Database of Banco de Portugal with information in the Integrated System of Securities Statistics (SIET) at the end of 2016, since SAFE does not include a representative number of large Portuguese firms. Thus, the values may not be entirely comparable. For SMEs, the value obtained is the same in both sources. Under the European Commission Recommendation of May 6, 2003 (2003/361/ EC), micro-firms are defined as those with less than 10 employees and less than EUR 2 million turnover; small firms are those with less than 50 employees and less than EUR 10 million turnover; medium firms are those with less than 250 employees and a turnover of less than EUR 50 million. All other companies are considered as large companies.

In recent years a number of initiatives have been developed at both European and national levels to promote access to finance in debt securities markets. Some evidence suggests that market financing may be less cyclical than bank financing.⁵ In addition, the diversification of funding sources, in terms of instruments and geographies, enables firms to reduce their exposure to idiosyncratic shocks that affect bank lending. This diversification may also have a positive outcome for banks due to the lower concentration of their exposures.

The goal of this Special Issue is to characterize the financing decisions of Portuguese firms, taking into account the various instruments available. Is there an increase in the use of market funding? Which companies are exploiting access to market funding? Under what conditions is this financing being carried out? What challenges persist? Through an analysis of several complementary sources of statistical information, we seek to answer these questions.⁶

The data suggest a gradual process of domestic financial disintermediation, with Portuguese companies reducing funding from Portuguese banks and, on the other hand, increasing loans and debt securities from abroad. However, only a very small number of companies, especially large ones, have access to these financing alternatives. The rest have been balancing their financing structure through the build up of equity, mainly through the accumulation of results, contributing to the Portuguese companies' gradual process of deleveraging.

What has changed in the last decade?

The global financial crisis and the euro area sovereign debt crisis have left their mark on the financing structure of Portuguese companies. One of the most visible consequences was a gradual reduction in corporate indebtedness, particularly in recent years. The persistent contraction of loans granted by Portuguese banks over the last decade contributed significantly to this gradual process of deleveraging. However, when considering the total credit granted to companies - which includes not only loans but also securities, credit granted by other sectors, and trade credit, the observed contraction is substantially smaller (Chart 1). Some of the difference between the evolution of total credit and loans granted by resident banks is explained by the evolution of credit from abroad. As shown in Chart 2, the financing obtained from non-residents contributed positively to the variation of credit granted to Portuguese companies in all years except for 2014. In contrast, financing from residents has contributed negatively to the variation of credit since 2010.

^{5.} Fiore and Uhlig (2015), "Corporate Debt Structure and the Financial Crisis", Journal of Money, Credit and Banking, 47(8), 1571-1598.

^{6.} This Special Issue will not analyze the access to alternative funding sources, such as crowd-funding, peer-to-peer lending or micro-funding. The magnitude of these forms of financing is much lower and, in addition, the available statistical information is more dispersed, making a coherent analysis difficult. The main sources of information considered in this Special Issue are Financial Accounts, Central Balance Sheet Database, Integrated System of Securities Statistics, Central Credit Register and information for the compilation of Monetary and Financial Statistics, all available at Banco de Portugal. Due to the diversity of sources of information, it is not possible to ensure full consistency in the periods under analysis. The most recent information for each database is always presented and attempts are made to cover, whenever possible, at least the last 10 years.



Chart 1 • Total credit and loans granted by resident banks to non-financial corporations | Year-on-year rate of change, percentage

Source: Banco de Portugal.

Chart 2 • Total credit granted to non-financial corporations by counterparty | Year-on-year rate of change and contributions, percentage and percentage points



Source: Banco de Portugal.

The substitution of intermediated financing through resident banks by direct financing from nonresidents has as underlying a gradual process of domestic financial disintermediation (Box 1 -"Direct and intermediated financing to non-financial corporations"). Before the global financial crisis, Portuguese banks financed themselves significantly abroad, channeling the funds obtained to grant credit in Portugal. Bank financing abroad has been reduced during this period. The resident banks decreased their role in financing Portuguese companies, which started to meet part of their financing needs directly from non-residents. This is consubstantiated in the aforementioned process of financial disintermediation at the domestic level.

However, the increase in direct financing from non-residents was smaller than the contraction of bank loans from residents, resulting in a gradual deleveraging process of Portuguese companies. This process does not only reflect potential constraints on credit supply, but is also influenced by a contraction in credit demand during the last decade (in particular by less risky companies), by the exit of companies from the market and by a gradual correction of imbalances in the capital structure of some companies which, as a whole, continue to position themselves within the most

indebted ones in Europe. Box 2 "Evolution of corporate indebtedness in Portugal", in this Special Issue, illustrates the adjustment mechanisms of companies during the deleveraging process between 2011 and 2016. This process, which was particularly significant in 2015 and 2016, was associated with a build up of equity (mainly through the accumulation of positive net profits). The contraction of financial and non-financial debt was also relevant, albeit not so significantly⁷. Thus, as discussed in Box 2, companies have been converging to capital structures less dependent on external financing, through the accumulation of results.⁸

The concept of total credit encompasses three financing instruments: loans, debt securities and trade credits. The component that stands out the most to explain the contraction of total credit as of 2013 are bank loans (Chart 3). The issuance of debt securities contributed to counteract this effect only in a few years. Debt securities' contribution was positive until 2013. In the following years this contribution was overall negative and only became positive in 2017. In turn, trade credits have reduced contributions almost every year.





Source: Banco de Portugal.

Given that lending from residents and non-residents has almost diametrically opposed contributions (Chart 2), it is important to understand which financing instruments explain this substitution. The negative evolution of the residents' contribution is mainly explained by the contraction of loans granted by resident banks and, to a much lesser extent, by debt securities held by resident investors. Chart 4 shows the breakdown of the contributions of non-residents. Trade credits were responsible for a positive contribution only in the last three years, assuming a lower magnitude than the other two instruments. The relative contribution of securities and loans financed abroad varied significantly over the period, with a positive contribution almost every year, with the exception of 2014. Thus, financing obtained from non-residents increased significantly, with debt securities accounting for 40% of this increase and loans for 60%.

All in all, the contraction of loans granted by Portuguese banks was accompanied, to a lesser extent, by an increase in the use of debt securities and loans from non-residents. Trade credit obtained from non-residents had a minor contribution. Given this lower contribution and the impossibility of exploring

^{7.} There is another important factor behind this deleveraging process: the closure of a significant number of companies with debt (Box 3.2.1 | Market dynamics and the deleveraging of Portuguese firms, Economic Bulletin May 2017, Banco de Portugal).

^{8.} This evolution is consistent with the increase in corporate savings, analyzed in the Special Issue "Saving and investment dynamics of Portuguese firms", Economic Bulletin June 2017, Banco de Portugal.

granular information at the corporate level on this latter instrument, the Special Issue will focus primarily on the choice between loans and debt securities, both with resident investors and abroad.



Chart 4 • Total credit granted to non-financial corporations by counterparty and debt instrument | Year-on-year rate of change and contributions, percentage and percentage points

Source: Banco de Portugal.

If we consider only these two instruments, we find that securities have been representing, in relative terms, an increasingly important part on firms' financing (Chart 5). When considering firms' total financial debt in the form of loans and securities at the end of 2017, it can be seen that19% of the financing of Portuguese companies was obtained in the capital markets. For the euro area as a whole, this figure is substantially lower: only 12% of the financial debt referred to debt securities in the same period.⁹ Based on these figures, Portuguese companies are less dependent on bank financing than European companies, in aggregate terms. However, it is important to note that a portion of this securities financing includes commercial paper held by Portuguese banks and that there is some volatility associated with the issuance of securities.



Chart 5 • Debt securities share in total debt granted to non-financial corporations | Percentage

9. In the United States, around 48% of financial debt is related to debt securities.

These trends have been extensively documented in previous publications by Banco de Portugal. In this Special Issue, we seek to explore several complementary sources of information that allow us to better understand this structural change in the financing of the Portuguese economy.

Which companies were responsible for this change?

In the previous section it was established that the financing of Portuguese companies with residents, in particular via bank loans, has contracted significantly over the last decade. This contraction was accompanied by an increase in financing abroad, mainly through loans and securities. This section will use Portuguese firms' micro data to better understand these changes, particularly in terms of firm size and sectors of activity.

First of all, it is important to bear in mind that only about half of Portuguese companies are financed by debt. This value has not changed visibly over the last decade. However, there is great heterogeneity in access to financial debt. In the universe of micro-enterprises, which represent almost 90% of Portuguese companies, only 53% report having obtained external funding in 2016.10 For small companies, this figure rises to 82%, which is not much different from the 87 and 88% reported, respectively, for medium and large firms. This heterogeneity underlies the aggregate changes in the financing of the economy, given the significant weight of medium and large companies (56% of total value of obtained funding).

Debt securities financing

At the end of 2017, debt securities accounted for about 19% of corporate loans and securities financing (Chart 5). Moreover, debt securities are distributed unequally between companies. Only a small percentage of firms issues debt securities (0.12% of firms, 1% if micro companies are excluded).¹¹ These figures compare with 4% for medium-sized companies and 14% for large companies.

However, contrary to what could be expected based on the evidence presented so far, the number of issuers has not increased in the last decade. In fact, the number of companies with outstanding debt securities decreased from around 800 companies in 2008 to less than 500 in 2014. Subsequently, there has been a gradual recovery. By the end of 2017, there were more than 600 issuers with debt securities outstanding. Debt securities include two main instruments: bonds and commercial paper. In conceptual terms, the main distinction between these two instruments is their maturity, typically longer in the case of bonds. However, in Portugal it is common for the commercial paper issued by the companies to be held primarily by the banks, thus being a close substitute for bank loans. The number of bond issuers is substantially lower, and by the end of 2017 there were just over 100 issuers in Portugal (Chart 6).

^{10.} Based on the information reported for the purposes of Simplified Corporate Information (IES), which information is included in the Central Balance Sheet Database of Banco de Portugal.

^{11.} These figures are obtained based on the number of issuers in the Integrated System of Securities Statistics (SIET) and the number of companies that report on Simplified Corporate Information (IES), which information is integrated in the Central Balance Sheet Database of Banco de Portugal. According to SAFE data, a survey conducted by the ECB and the European Commission for firms, this figure is similar: 0.9% of Portuguese SMEs had access to the capital market by mid-2017.



Chart 6 • Number of non-financial corporations debt issuers | Units

Source: Banco de Portugal.

When the issuers are disaggregated by size, it is noted that most issuers are not large companies, but rather medium-sized companies (Chart 7). They are in fact behind the decrease in the number of issuers until 2014. This evolution is essentially associated with commercial paper issuers. Nevertheless, the number of large issuers has also declined, albeit less dramatically, over the last decade. There has been some increase in the number of micro and small issuers in recent years. This may reflect difficulties in classifying newly created head offices.¹²



Chart 7 • Number of non-financial corporations debt issuers by firm size | Units

Source: Banco de Portugal.

Evaluating the average amounts of debt securities per issuer allows companies to be ranked by size as expected: the largest average amounts are associated with large companies and head offices and these are increasing (Chart 8). The average amounts associated with micro, small and medium-sized enterprises are not very expressive and are globally stable. To assess the representativeness of debt financing in companies' debt structure, the information in Chart 5 is broken down by company size (Chart 9). There is a profound heterogeneity between large

^{12.} The head offices include holding companies (SGPS) integrated into the non-financial corporations sector. SGPS are classified based on the activity sector, taking into account the declared SIC code (CAE). However, there are other companies that operate as SGPS but that are included in other sectors of activity. Based on the analysis of the accounting information, it is possible to classify them subsequently as SGPS.

companies and the rest. When considering financing through bank loans and securities, only 6% of the debt of micro, small and medium-sized companies is in the form of securities. For large companies and head offices, this figure stands at 35%.



Chart 8 • Average amount of debt securities by firm size | EUR millions

In aggregate terms, it was concluded that the weight of debt securities in total financing by bank loans and debt securities increased from 15% to 19% between 2007 and 2017. This increase was also not transversal to all companies, as shown in Chart 9. However, in this case the increase was not due to the largest companies. Debt securities financing of large companies and head offices has declined slightly over the past decade from 37 to 35 percent. On the other hand, its importance has more than doubled for smaller companies. For micro, small and medium-sized enterprises, financing using debt securities increased from 2.4% to 6%. This increase was particularly significant in the last three years. Thus, although not very expressive, SME financing through debt securities has contributed to a positive aggregate evolution¹³.



Chart 9 • Debt securities share in total debt granted to non-financial corporations by firm size | Percentage

13. Again, the evolution in recent years may be due to difficulty of classifying newly created social headquarters as large companies.

Source: Banco de Portugal. | Note: Outstanding amount. Average amount computed as the ratio bewteen total amount and number of issuers by firm size.

Source: Banco de Portugal.

However, this aggregate picture hides significant differences between the electricity sector and the rest (Chart 10). For companies in the electricity, gas and water sector there is a substitution of a large amount of commercial paper for bonds. In addition, it was in this sector that there was a more significant increase in financing through securities. In fact, when this sector is excluded, debt securities do not increase during the last decade.





A detailed analysis by sector of activity confirms that there are significant differences between sectors (Chart 11). When analyzing the variation between 2007 and 2017, the electricity sector stands out not only in terms of the increase in financing through securities but also through loans. There is another sector where there is an increase in funding in the last decade through these two instruments: manufacturing. However, the magnitude of this increase is much smaller than in the electricity sector and the weight of bank loans is substantially higher than that of the debt securities. The increase in manufacturing is not linearly related to the size of the companies, and has been larger for small and large companies. Head offices also saw a positive change in funding, but only through bank loans (such as in the trade, accommodation and restaurant sector, and in companies classified as other sectors). In the remaining sectors considered (construction and real estate activities, transport and storage) there was a decrease in credit, mainly through the contraction of bank loans.

Financing via securities increased only for electricity companies and, to a lesser extent, for transport and storage companies and for manufacturing firms.

In short, the evolution of debt securities issued by non-financial corporations in the last decade is characterized by an increase in non-resident financing coupled with a slight decrease in resident financing. Although there are changes in the instruments (bonds vs. commercial paper), this evolution is mainly determined by the electricity, gas and water sector.

Source: Banco de Portugal. | Note: Outstanding amount.





Source: Banco de Portugal. | Note: For each sector of activity, the contribution to the evolution of total financial debt of non-financial corporations between 2007 and 2017 is calculated. The sum of the two contributions is equal to the total variation of the financial debt for a given sector of activity. The share of the sector in total financial debt is calculated as the ratio of total debt in a given sector to total debt of all sectors.

Loan financing

Overall, the evolution of loans reflects mainly a reduction in funding from resident banks, accompanied by increased funding from non-residents. If this decrease is mainly explained by the construction sector and real estate activities (it represents about 60% of the decrease in financing with resident banks), the increase again highlights the electricity, gas and water sector, as well as the sectors head offices, manufacturing and others (particularly in the field of consulting, scientific, technical and similar activities).

To understand the evolution of loans obtained from non-residents, it must be borne in mind that these can be obtained through direct investment¹⁴ or other investment. Direct investment in loans to non-financial corporations essentially reflects loans from non-resident companies to resident companies where there is significant control or degree of influence on the management of one company on the other. Other investment in loans to non-financial corporations may result from any other type of loan, although it is mostly determined by loans obtained from non-resident financial institutions.

The figures in Chart 12 show that the increase in loan financing abroad is fully explained by direct investment. However, it is important to consider the maturity of these loans, given their nature and different evolution. In the case of short term loans, *cashpool* operations are often involved. In these operations there is some degree of compensation between assets and liabilities. This is not the case for long-term loans. Growth was mainly driven by an increase in short-term loans.

For other investment, the figures involved remained broadly stable in recent years (Chart 12) and are mainly associated with long-term loans. As in debt securities, only a small percentage of the companies are financed through non-resident banks. At the end of 2016, based on available

^{14.} Direct investment is a category of cross-border investment through which an investor residing in an economy has control or a significant degree of influence over the management of a company resident in another economy.

information, only 0.14% of the companies had a bank loan with non-resident financial institutions. Once again, this value hides a significant heterogeneity based on the size of the companies. At least 2% of medium-sized companies and 13% of large companies had a banking relationship with a non-resident bank, values very close to those observed for the percentage of companies issuing debt securities.¹⁵ Thus, despite the significant positive contribution of non-resident loan financing, only a very limited set of companies has direct access to bank loans abroad.





Source: Banco de Portugal.

In sum, the increase observed in financing abroad through loans in Chart 4 should reflect essentially the financing between companies of the same group abroad. Nevertheless, it is important to bear in mind the relevance of financial vehicles of resident companies. If, on the one hand, Portuguese companies do not appear to be increasing debt securities issued in Portugal or to be financed directly from non-resident credit institutions, the financial vehicles of resident companies may be issuing securities abroad or borrowing from these non-resident credit institutions, and then channeling the obtained funding to Portuguese companies through loans.

Which are the associated financing conditions?

One of the main conclusions of the analysis carried out so far is that the increase in the relative importance of debt securities conceals significant heterogeneity among Portuguese companies. As might be expected, only a limited number of large and medium-sized enterprises are able to access securities issuance markets or bank loans abroad. This heterogeneity in terms of the funding structure has a parallel in relative funding costs. Larger companies are typically financed at lower costs (given their scale and lower risk, on average). Debt markets generally have lower financing costs than those of bank financing, especially since the end of 2013 (Chart 13). It should be noted that this comparison does not take into account the costs associated with bond issuance operations. If this information was considered, it is possible that the differential was not so large. The costs underpinning these issues require a scale of operation which will usually only be affordable for larger companies.

^{15.} These figures are based on the information reported by Central Credit Registers with information sharing agreements with the Portuguese Central Credit Register. They refer mainly to loans obtained in Spain and Germany. However, these values are minimum thresholds, for two reasons. First, this information is reported only by a limited set of countries. Secondly, unlike the Portuguese Center Credit Register, its coverage is not universal, essentially covering loans with high amounts.

The significant decrease in borrowing costs in debt securities markets, which is close to zero or even negative since mid-2016, should reflect in part the ECB's asset purchase program, in particular the corporate sector purchase program (CSPP). Under this program, the ECB has been acquiring directly securities issued by non-financial euro area companies that meet certain eligibility criteria. There is evidence that this has contributed to a significant decline in yields in these markets for both the eligible and the ineligible companies.



Chart 13 • Cost of funding of non-financial corporations in loans and debt securities, real terms | Percentage

Sources: Banco de Portugal, Barclays, Consensus Economics and Thomson Reuters. | Notes: The cost of financing with bank loans, short-term debt securities and long-term debt securities is measured, respectively, by the interest rates on new loans granted by resident banks, interest rates on commercial paper and the yield implicit in the Barclays index for bonds issued by Portuguese corporations. Consensus Economics' inflation expectations for horizons comparable with the maturities of the different instruments were used to deflate the nominal values.

The differentiated evolution of financing costs through debt markets or resident banks may reflect the different types of firms being financed in these two universes. In order to overcome this limitation in the analysis, the average interest rate of new loans obtained from resident banks by the group of companies issuing debt securities, compared to the rest, is shown in Chart 14. These companies have access to lower interest rates on bank loans than the others, reflecting their lower average risk and higher bargaining power, associated with their size and possibly also due to the diversification of funding sources. However, these interest rates are still higher than those of debt issuance, revealing difficulties for Portuguese banks to offer competitive financing conditions to companies that can be financed in international debt markets.







Conclusions

In this Special Issue we analyze changes in the choice of financing instruments of Portuguese companies over the last decade. In general, there is a gradual process of financial disintermediation at the domestic level, i.e., Portuguese companies are progressively less dependent on financing from Portuguese banks, even though this remains their primary source of financing. The decrease in financing from resident banks was partially offset through two routes: financing of loans abroad (mainly from companies in the same economic group abroad and, to a lesser extent, from foreign banks) and debt securities, placed mainly with non-residents. In the case of financing from companies of the same economic group, a part may reflect financing obtained by those companies abroad by means of securities or loans from non-resident banks that are subsequently channeled to the domestic companies through intra-group loans.

Still, only a very small set of medium and large companies has access to these financing alternatives. Thus, adjustments to the balance sheet of companies under the ongoing deleveraging process take different forms, depending on the size and the sector of the companies. Companies without access to alternatives to bank loans in Portugal have been balancing their financing structure through the build up of equity capital, in particular by accumulating results.

In recent years a number of national and international initiatives have emerged to stimulate access to the debt market, notably the Capital Markets Directive, the ECB's asset purchase program (CSPP), the Capitalize Program and Euronext Access. However, while debt market financing has become proportionately more relevant in the last decade in Portugal, in the context of a sharp contraction in bank lending, access to these markets continues to be available only to a very limited set of companies. The aggregate growth of this source of financing reflects only an increase in the value of the issues of a group of companies, which has remained relatively unchanged in recent years.

Box 1 • Direct and intermediated financing to non-financial corporations

Financial institutions¹⁶ play a key role as holders of debt securities and loans from non-financial corporations. As financial intermediaries, financial institutions are a means for other sectors and counterparties to hold those securities and loans indirectly¹⁷ (Figure C.1.1).



Figure C1.1 • Direct and intermediated financing to NFC

Note: Non-financial corporations receive direct financing from three counterparties – rest of the world, financial institutions and other residents. Financial institutions receive direct funding from two counterparties – other residents and the rest of the world. Non-financial corporations receive intermediated financing from two counterparties – rest of the world and other residents. The total of intermediated financing, i.e., the sum of the intermediated financing of other residents and the rest of the world is equal to the direct financing of financial institutions.

Chart C.1.1 shows the share of direct financing (loans and debt securities) to non-financial corporations (NFCs), by counterparty, at three points in time.¹⁸ Between 2007 and 2017, there was a significant decrease in the share of financial institutions in total funding from 65 to 53%, followed by an increase in the share of non-residents (by 10 percentage points). This result suggests a greater dependence of non-financial corporations on the rest of the world.



Chart C1.1 • NFC direct financing weights by counterparty \mid In percentage

Source: Banco de Portugal. | Note: Unconsolidated data. Other residents include households, public administrations and non-financial corporations.

However, since financial institutions are investment channels for other residents or the rest of the world, each of these counterparties is indirectly financing non-financial corporations.

- 16. The concept of financial institutions refers to all financial corporations excluding the Central Bank.
- Financial institutions channel the financing obtained from households, non-financial corporations, public administrations and the rest of the world. The financing of financial institutions with the Central Bank was considered as financing from the rest of the world since the Central Bank is part of the Eurosystem.
 2007Q4, 2012Q1, 2017Q4

Using the share of each counterparty in the liabilities of financial institutions¹⁹, it is possible to carry out an exercise in which the intermediated financing of these counterparties is calculated (Chart C.1.2).²⁰ Intermediated financing of a counterparty j is simply the product of direct financing of financial institutions and the share of counterparty *j* direct financing on the total financing of financial institutions. For example, in the first quarter of 2012, other residents contributed directly to 22% of the total financing of non-financial corporations and indirectly to 34% (other residents held about 58% of the total liabilities of financial institutions whereas financial institutions contributed directly to around 59% of the total financing of non-financial corporations: 0.34 = 0.58 * 0.59).

Chart C.1.3 shows the share of total direct and intermediated financing per counterparty. Throughout the period under analysis, resident financial institutions have decreased their exposure to the rest of the world, so that the share of non-residents in the intermediated financing of non-financial corporations has decreased (from 29 to 15%) This decrease is so significant that it compensates for the increase in the direct financing of this counterparty.²¹ Given the trend of resident financial disintermediation, this result suggests that non-financial corporations did not increase their financing with the rest of the world, but there is a substitution of intermediated for direct financing.



Chart C1.2 • NFC intermediated financing weights by counterparty | In percentage

Source: Banco de Portugal. | Note: Unconsolidated data. Residents include households, public administrations and non-financial corporations.



Chart C1.3 • NFC direct and intermediated financing weights by counterparty | In percentage

Source: Banco de Portugal. | Note: Unconsolidated data. Residents include households, public administrations and non-financial corporations.

19. Through cash and deposits, debt securities, loans, shares or units of investment funds and insurance schemes, pensions and standardized guarantees. Unconsolidated data.

20. Assuming that the allocation of investment is independent of the funding source.

21. This evolution is consistent for consolidated and non-consolidated data.

Box 2 • Deleveraging of Portuguese firms

The assets of a company can be financed with internal resources, by their shareholders (equity) or by debt. The concept of leverage measures to what extent assets are financed by debt. Although more leverage allows for higher expected shareholder returns, it also increases the company's liabilities to third parties, which contributes to a higher risk of default. In addition, in aggregate terms, an economy with more leverage is more exposed to the risk of episodes of financial instability with perverse effects on the way resources are allocated.

The purpose of this box is to analyze the evolution of the leverage of non-financial corporations²² in Portugal for the period from 2010 to 2016, using data from the Banco de Portugal's Central Balance Sheet Database. The analysis focuses on the leverage ratio, defined as the ratio between total debt and total assets. Taking into account that total assets correspond to the sum of equity and debt, the following is obtained²³:

$$Leverage Ratio = \frac{Debt}{Equity + Debt}$$

The average leverage ratio for Portuguese firms was 70% in 2010. Between 2010 and 2016, there was a decline of 2.2 percentage points in this ratio (Chart C.2.1). This decline was concentrated in the last two years under analysis, 2015 and 2016, and is mainly reflecting the evolution of the leverage ratio of micro and small enterprises.



Chart C2.1 • Evolution of the leverage ratio, by year and size | In percentage

Source: Banco de Portugal.

In order to better understand this evolution of the leverage ratio, its change was broken down into: contributions related to the change of equity and debt of companies that maintain their activity in two consecutive years; and the net contribution of entry and exit of firms.²⁴ Chart C.2.2

22. Head offices are excluded from this analysis.

23. Another frequently used leverage measure is the ratio of debt to equity.

24. Contributions were estimated on the basis of the first and second order terms of the second-order Taylor series expansion of the leverage ratio.

presents this decomposition for the aggregate of non-financial corporations. Positive (negative) contributions indicate an increase (decrease) in the leverage ratio. Once the effect of the entry/exit of companies is taken into consideration, equity contributed to an increase in the leverage ratio in 2011 and 2012 and contributed to its reduction from 2013 onwards. Debt has a small contribution to the evolution of the leverage ratio over the period. With the exception of 2014, the net inflow of companies contributed significantly to the reduction of leverage.





Source: Banco de Portugal.

In order to better understand the dynamics suggested by the previous graph, the contributions of equity and debt are divided into their main components (Chart C.2.3). The change in equity (ΔE) is attributed to three components: i) net income for the year (NI), ii) changes in the revaluation account, adjustments in financial investments and other comprehensive income (ΔRev); and iii) other changes in capital (OCC).²⁵ This last component can be interpreted as a proxy for the net capital injection into the company by the shareholders. Dividends and stock purchases contribute to a negative net injection of capital, and therefore to a higher leverage, while capital increases through the issuance of new shares contribute to a positive net capital injection, and therefore, to a lower leverage. Debt contributions are divided into i) financial debt and ii) non-financial debt. Financial debt is subject to the payment of interest and includes bank loans and bonds. Non-financial debt corresponds to all other liabilities of the company to third parties, namely debts to suppliers and provisions.

Net income contributed positively to the reduction of corporate leverage except in 2012. On the other hand, the net capital injection component contributed to the increase in leverage, which means that shareholders withdrew more capital than they invested in the company. This contribution was especially high in 2011 and 2016.

25. Consider $E_t = NI_t + Rev_t + OC_t$ where OC_t corresponds to capital, reserves and other equity instruments. Hence $\Delta E_t = NI_t + \Delta Rev_t + OCC_t$ where $OCC_t = OC_t - OC_{t-1} - NI_{t-1}$. The subtraction of NI_{t-1} in the change of OC is due to the fact that net income is a flow.

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Source: Banco de Portugal.

Chart C.2.1 shows that the evolution of the leverage ratio was heterogeneous across companies with different size. While large companies have increased leverage, micro, small and medium-sized companies have decreased it.²⁶ The evolution of this ratio for the different company size cohorts results from different contributions of capital and debt (Chart C.2.4). The largest difference occurs when comparing large and micro firms. Large companies had positive net income and negative net capital injection (corresponding to positive dividends) of similar magnitude throughout the period, which resulted in a small contribution of equity to the change in the leverage ratio. On the other hand, micro firms had successive capital increases since 2013. These increases, in particular in 2015, partially offset the effect of the negative net income recorded between 2011 and 2014. Of the four size classes, micro firms were the only one having significant increases in capital (negative contribution of the net capital injection). The entry/exit of companies contributed significantly to the reduction of leverage only in micro and small enterprises, which should be related to the fact that exiting companies have higher leverage ratios than the average.

Chart C.2.5 shows the change in the leverage ratio for some selected sectors of activity. All the selected sectors deleveraged over the period under review, albeit in quite different forms and magnitudes. The electricity, gas and water sector, where large companies predominate, presents a small reduction in the leverage ratio following both high net income and dividends of similar magnitude. The manufacturing sector deleveraged through an increase in equity mostly due to the high net income, especially since 2014. The construction and real estate sectors deleveraged significantly, though very negative net income was observed between 2011 and 2013. An important driver for the deleveraging of the construction sector was the large number of companies with a high leverage ratio that went bankrupt. In the real estate sector, the decrease in the leverage ratio was related to a significant capital increase by the shareholders. The high share of these two sectors in micro enterprises (51% of assets) helps to understand the evolution of the leverage ratio and of its components for these smaller firms.

26. The increase of the leverage ratio for large firms in the period between 2010 and 2014 is mainly associated to specific cases in the sectors "information and communication" and "transports and storage".







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