1. Projections for the Portuguese economy 2017-2020[1]

1.1. Introduction

According to the projections in this *Economic Bulletin*, the Portuguese economy will continue to expand in the years ahead. After an increase of 2.6% in 2017, economic activity will maintain a growth profile over the projection horizon, albeit at a gradually slower pace (2.3%, 1.9% and 1.7% in 2018, 2019 and 2020 respectively) (Table 1.1). At the end of the projection horizon, GDP will stand approximately 4% above the level seen prior to the international financial crisis. Projected growth rates are above the average estimates of potential growth of the Portuguese economy and will translate into a positive output gap in coming years (Special issue 'Potential output: challenges and uncertainties'). GDP growth in Portugal will be close to the euro area average over the projection horizon. In terms of GDP *per capita*, the real convergence process towards the euro area is expected to continue moderately in the next few years, partly reflecting the decline in population in Portugal. Therefore, this trend will be insufficient to offset the real divergence accumulated until 2013 (Chart 1.1).

Table 1.1 • Projections of Banco de Portugal for 2017-2020 | Annual rate of change, in percentage

	Weights 2016	EB December 2017					EB October 2017	EB June 2017		
		2016	2017(p)	2018(p)	2019(p)	2020(p)	2017(p)	2017(p)	2018(p)	2019(p)
Gross domestic product	100	1.5	2.6	2.3	1.9	1.7	2.5	2.5	2.0	1.8
Private consumption	66	2.1	2.2	2.1	1.8	1.7	1.9	2.3	1.7	1.7
Public consumption	18	0.6	0.1	0.6	0.4	0.2	0.3	0.4	0.6	0.3
Gross fixed capital formation	15	1.6	8.3	6.1	5.9	5.4	8.0	8.8	5.3	5.5
Domestic demand	99	1.6	2.7	2.5	2.2	2.1	2.5	2.6	2.2	2.1
Exports	40	4.1	7.7	6.5	5.0	4.1	7.1	9.6	6.8	4.8
Imports	39	4.1	7.5	6.7	5.5	4.8	6.9	9.5	6.9	5.2
Contribution to GDP growth, net of imports (in p.p.) (a)										
Domestic demand		0.7	1.2	1.2	1.0	1.0	1.0	0.8	0.8	0.8
Exports		0.9	1.5	1.2	0.9	0.7	1.5	1.8	1.2	0.9
Employment (b)		1.6	3.1	1.6	1.3	0.9	3.1	2.4	1.3	1.3
Unemployment rate (in % of the labour force)		11.1	8.9	7.8	6.7	6.1	9.0	9.4	8.2	7.0
Current plus capital account (% of GDP)		1.7	1.5	2.3	2.2	2.2	1.8	2.1	2.4	2.4
Trade balance (% of GDP)		2.2	1.8	1.6	1.6	1.5	1.7	2.0	2.2	2.0
Harmonized index of consumer prices		0.6	1.6	1.5	1.4	1.6	1.6	1.6	1.4	1.5

Sources: Statistics Portugal and Banco de Portugal.

Notes: (p) – projected, (p.p.) – percentage points. For each aggregate, this table shows the projection corresponding to the most likely value, conditional on the set of assumptions considered. (a) The demand aggregates net of imports are obtained by subtracting an estimate of the imports needed to meet each component. The import content calculations were based on 2013 data. For more information, see the Box 2 of this Bulletin 'The import content of global demand in Portugal'. (b) Total employment, in number of persons according to the national accounts concept.

The Portuguese economy will further benefit from a favourable external environment over the projection horizon. In effect, the current economic expansion cycle extends to all euro area countries, where Portugal's main trading partners are located, with both growth and inflation dispersion reaching their troughs.[2] Outside the euro area, a sustained expansion is also expected in activity and trade. Monetary and financial conditions will also remain favourable. Monetary policy will also continue to be characterised by high accommodation levels in most developed economies. In turn, the technical assumptions of the projection exercise imply an additional appreciation of the effective exchange rate of the euro in 2017 and 2018, which contributes to moderate the growth of commodity prices in euros, which will be significant in 2017 (Box 1: 'Projection assumptions').

Compared with previous cycles, the current recovery shows a GDP profile very close to the recovery started in 2003 (Chart 1.2). However, the 2003 recovery was interrupted by the international financial crisis, whereas, according to the projection assumptions, the current overall expansion is expected to continue into 2018-2020. In addition, the recovery of activity shows differences in composition between the two cycles, with corporate GFCF and tourism exports showing a more favourable behaviour in the current recovery compared with 2003.

Turning to developments in global demand, GFCF is expected to be the most dynamic component over the projection horizon. Nevertheless, in 2020 GFCF will stand still 11% below the level observed in 2008. Exports will also maintain robust growth over the projection horizon, explained by developments in external demand and continued gains in market share. In 2020, exports are projected to reach a level exceeding by 68% that recorded in 2008 (Chart 1.3).

Private consumption growth will continue to be relatively stable and lower than GDP growth over the projection horizon. This profile reflects the unwinding of pent-up demand effects, as well as developments in real disposable income, influenced by the moderate growth of real wages and the continued recovery of the labour market, albeit at a gradually slower pace. As a result of these developments, and with very limited growth of the labour force, the unemployment rate is projected to maintain a downward trend.

Inflation will increase significantly to 1.6% in 2017, in a context of recovery in the import deflator and slight acceleration in unit labour costs. In the remaining projection horizon, inflation projections will remain relatively unchanged, with gradually lower rates of change in energy prices being offset by a moderate acceleration in the HICP excluding energy goods. In average terms, in the projection period, these developments point to inflation developments broadly in line with that projected by the Eurosystem for the euro area.

The Portuguese economy is expected to maintain a net lending position as a percentage of GDP over the projection horizon. The current and capital account surplus as a percentage of GDP is expected to remain relatively stable in 2017 and increase moderately in the 2018-2020 period. These developments comprise a slight decline in the goods and services account balance as a percentage of GDP, with a reallocation which is unfavourable for the goods balance, albeit partially offset by the services account, where tourism developments stand out. The increase in net lending in 2018-2020 reflects favourable assumptions regarding public debt interest and, in 2018, the profile of structural funds received from the European Union.

1.2. Recent information

Projections for the Portuguese economy in this Bulletin are an integral part of the projections for the euro area recently published by the ECB. In this context, projections include the information available up to 28 November 2017 and the technical assumptions underlying the Eurosystem projection exercise (Box 1 'Projection assumptions'). In particular, they include a GDP

flash estimate for the third quarter of 2017, but information on the breakdown of these developments into the main GDP components was only published after the cut-off date of this Bulletin. Therefore, the analysis of developments in GDP aggregates in the third quarter of 2017 is based on recent short-term indicators and qualitative information included in the press release on the flash estimate.

Slowdown in economic activity in year-on-year terms in the third quarter of 2017 after robust growth in the first half of the year

In the third quarter of 2017, according to the flash estimate published by Statistics Portugal (INE), economic activity grew by 2.5% from the same period in the previous year (2.9% in the

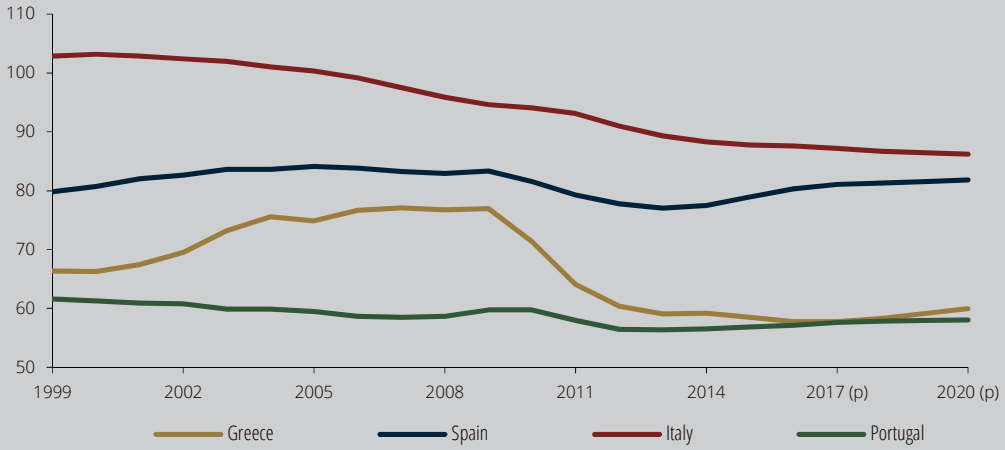
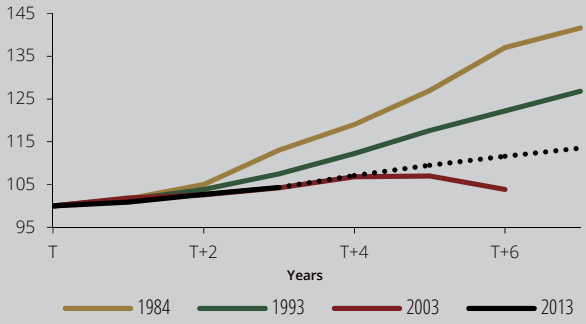


Chart 1.1 • GDP *per capita* | In percentage of the euro area GDP *per capita*

Sources: Banco de Portugal, ECB and European Commission.

Notes: (p) – projected. Population figures correspond to the Autumn 2017 projections of the European Commission for 2018-2019. The underlying assumption for 2020 was the rate of change projected for 2019.

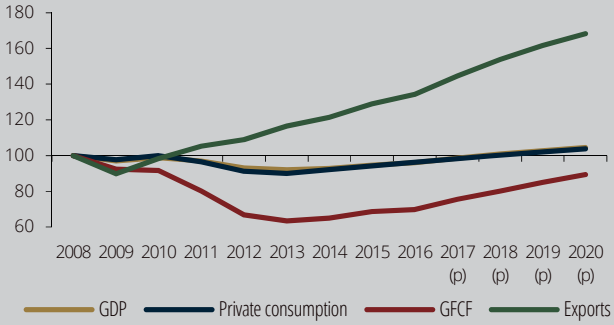
Chart 1.2 • Developments in GDP in different economic recoveries | Index T=100



Sources: Banco de Portugal and Statistics Portugal.

Notes: The economic recoveries considered were determined on the basis of the Portuguese business cycle and had their turning point (T) in 1984, 1993, 2003 and 2013. The 2009 recovery was not considered due to its limited duration. The dotted line corresponds to the projection period.

Chart 1.3 • GDP breakdow | Index 2008=100



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected.

first half year) and 0.5% from the previous quarter. These developments reflect a slowdown in activity, in year-on-year terms, after the marked upward profile between the third quarter of 2016 and the second quarter of 2017.

The deceleration in economic activity in the third quarter, in year-on-year terms, is reflected in developments of a range of short-term quantitative indicators, but was not broadly based. Exports decelerated, in both goods and services, after the high buoyancy observed in the first half of the year. As regards domestic demand, private consumption accelerated and GFCF slowed down, although maintaining a strong pace of growth.

Net of imports, i.e., subtracting from each demand component an estimate of the imports needed to meet such demand (Box 2, 'The import content of global demand in Portugal'), the contribution of domestic demand is estimated to remain close to that observed in the first half of the year, while that of exports declined. For the fourth quarter, GDP is expected to decelerate, year on year, reflecting a smaller contribution of domestic demand and exports (Chart 1.4).

In the first three quarters of 2017, economic activity developments in Portugal translated into a positive growth differential *vis-à-vis* the euro area, interrupting a long period of negative annual average differentials observed from 2000 to 2016 (only excluding 2009). In effect, the year-on-year growth of Portuguese GDP exceeded the euro area's in the first half of 2017 (by 0.8 p.p.) and was close to the euro area's in the third quarter of the year (Chart 1.5).

Information on the labour market for the third quarter of 2017, obtained from monthly estimates on employment and unemployment, point to continued favourable developments, after the improvement observed in the first half of the year. Year-on-year employment growth in the third quarter was 3%, only slightly below that observed in the first half of the year (3.3%) and the unemployment rate declined to 8.8%, after 9.6% in the first half of 2017 (Chart 1.6). The labour force recovered, with accumulated year-on-year growth of 0.7% in the first three quarters of the year, in contrast with the negative annual rates of change observed from 2011 to 2016.

Acceleration of private consumption and deceleration of GFCF

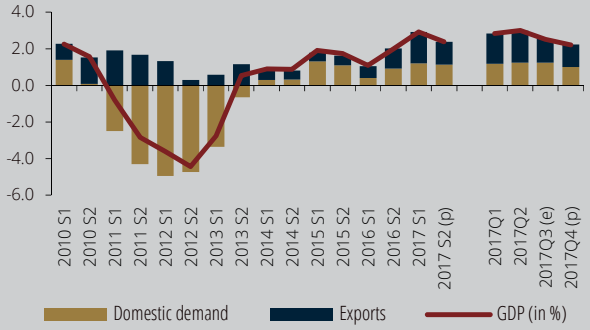
In the context of an increase in real disposable income, gradual improvement in labour market conditions and maintenance of favourable financing conditions, consumer confidence levels maintained the upward profile, after a marked increase in the first half of the year. Against this background, private consumption showed higher growth in the third quarter of 2017 than that observed in the first half of the year, particularly in the durable goods component. The indicator for private consumption of vehicles, although maintaining growth rates well below those observed in the 2014-2016 period, accelerated in the third quarter of 2017 from the first half year and more significantly from the second quarter (Chart 1.7). According to the turnover index in retail trade of durable goods, the buoyancy of expenditure in the other durables continued to be high in the third quarter of 2017.

As regards consumption of non-durable goods, consumption indicators in the national territory[3] point to a deceleration in the third quarter of 2017. This is suggested by developments in the deflated turnover index of retail trade of non-durable goods, in the turnover index in services (considering the items more directly related to final consumption) and in the ATMs withdrawals and payments. This deceleration in the indicators, however, is probably associated with developments in tourism of non-residents. Tourism exports slowed down in the third quarter after very strong growth in the first half of the year, especially in the second quarter (Chart 1.11). Growth of consumption by residents in non-durable goods and services is

estimated to stand slightly above that observed in the first half of 2017.

GFCF maintained robust growth, although below that observed in the first half of the year. In the first half of 2017, however, GFCF showed strong year-on-year growth (approximately 10% after 3.9% in the second half of 2016), reflecting the high buoyancy of its main components (construction, machinery and equipment and transport material). The slowdown in the third quarter seems to have been broadly based across the main types of investment, and may be seen in the indicators

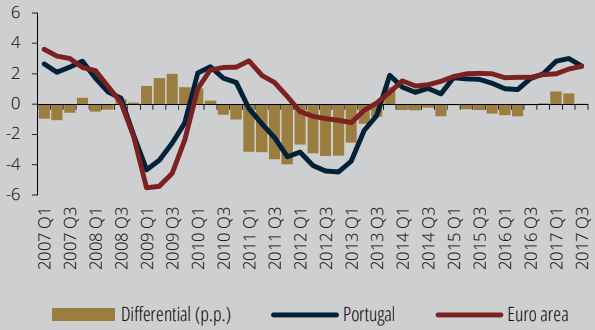
Chart 1.4 • Net contributions to GDP growth, in year-on-year terms | In percentage points



Sources: Statistics Portugal and Banco de Portugal.

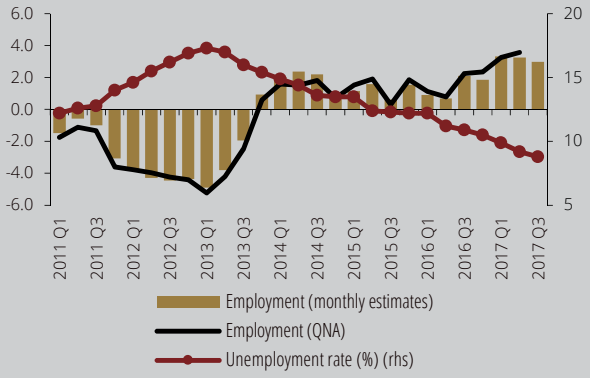
Notes: The demand aggregates net of imports are obtained by subtracting an estimate of the imports needed to meet each component. The calculation of import content was based on data for 2013. For more information, see the Box entitled 'The import content of global demand in Portugal', in this *Economic Bulletin*. (p) – projected. (e) – The GDP decompostion for 2017 Q3 is estimated by Banco de Portugal.

Chart 1.5 • Gross domestic product in Portugal and in the euro area, in real terms | Year-on-year rate of change, in percentage



Sources: Statistics Portugal, Eurostat and Banco de Portugal.

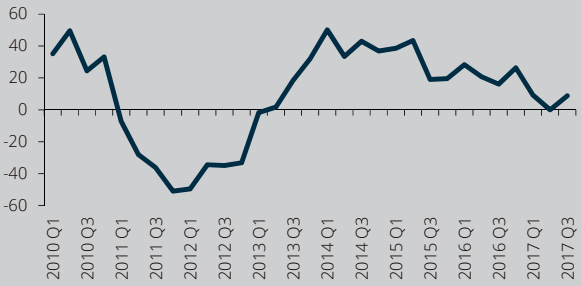
Chart 1.6 • Employment and unemployment rate | Year-on-year rate of change, in percentage



Note: Data for unemplomet rate (15-74 years) are seasonally adjusted.

Sources: Statistics Portugal (QNA and Monthly Employment and Unemployment Estimates).

Chart 1.7 • Private consumption of automotive vehicles indicator | Year-on-year rate of change, in percentage



Sources: ACAP and Banco de Portugal.

for imports of machinery and equipment and cement sales (Charts 1.8 and 1.9). Notwithstanding this deceleration, GFCF continued to show high growth rates in the third quarter of 2017.

In the fourth quarter, domestic demand is expected to maintain robust growth, although lower than that observed in the previous quarter with private consumption and investment projected to decelerate in year-on-year terms.

Deceleration of exports

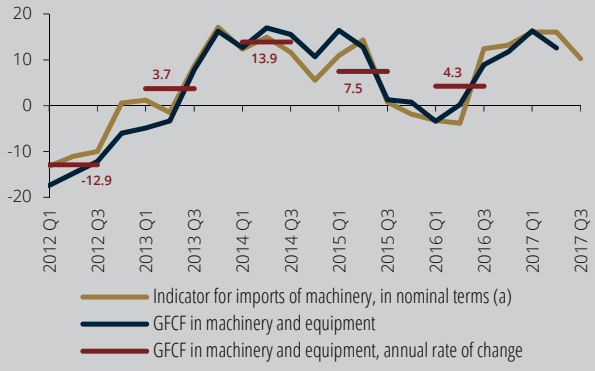
In the third quarter of 2017, exports in volume decelerated from the first quarter of the year, but maintained significant growth. Deceleration was common to goods (especially energy goods, which had grown very strongly in the first half of the year) and services.

Considering the nominal values of international trade in goods (Chart 1.10), the deceleration in goods was relatively broad-based, and the main contribution to that development was made by consumer goods and fuels. The nominal deceleration of fuels reflected the slowdown in oil prices. As regards consumer goods, there was a marked deceleration, in nominal terms, in food and other consumer goods (excluding motor vehicles). In turn, passenger cars grew strongly in the third quarter, partly associated with a rise in the productive capacity of an industrial unit in the motor vehicle sector (this effect is expected to translate into a more significant impact on exports in the fourth quarter).

Tourism exports decelerated in the third quarter from the first half year, but maintaining high buoyancy (Chart 1.11). As regards nominal exports of services excluding tourism, data from the services account show that the deceleration in the third quarter from the first half year was largely due to the behaviour in exports of transports. These developments were the result of a slowdown in passenger transport by air, after very strong growth in the first half year (the nominal year-on-year change was 11.9% in the third quarter, after 22.2% in the first half of the year).

In the fourth quarter, exports are expected to maintain high buoyancy, although with smaller year-on-year growth than in the previous quarter, with special reference to the positive contribution of exports in the motor vehicle sector

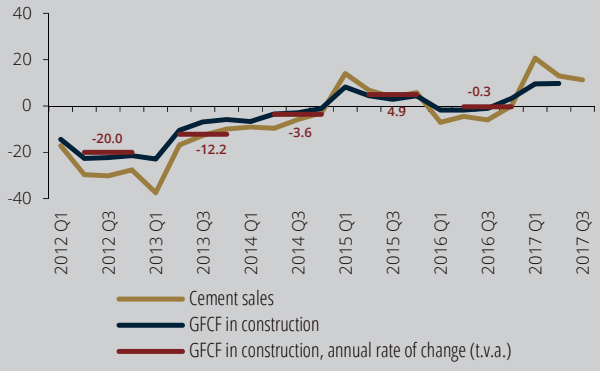
Chart 1.8 • GFCF in machinery and equipment, in real terms | Year-on-year rate of change, in percentage



Souces: Statistics Portugal and Banco de Portugal.

Note: (a) Proxy to GFCF corresponding to the aggregation of machinery and equipment items related to investment.

Chart 1.9 • GFCF in construction,in real terms | Year-on-year rate of change, in percentage



Sources: Cimpor, Statistics Portugal, Secil and Banco de Portugal.

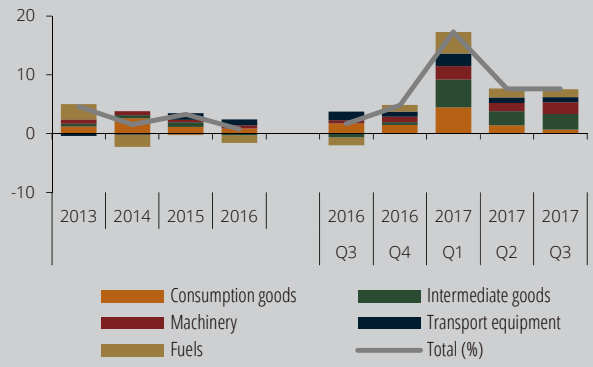
and the continued high pace of growth of tourism exports.

Imports in volume decelerated also slightly on year-on-year terms in the third quarter from the first half of the year, although accelerating from the previous quarter. This reflected the slower pace of growth of non-tourism goods and services, while tourism imports grew at a rate similar to that recorded in the first half of the year. As regards imports of goods, the energy component is estimated to have decelerated significantly, whereas the other goods accelerated. Indications from international trade data in nominal terms are qualitatively similar, in spite of a more marked deceleration in goods, resulting from the additional effect of a deceleration in energy prices.

Imports in volume are projected to decelerate in the fourth quarter, in line with the deceleration expected for global demand weighed by import content.

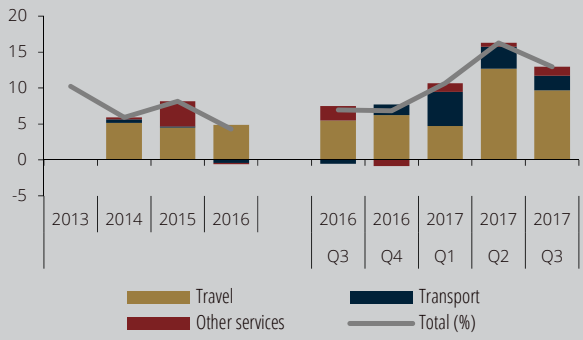
In the three first quarters of 2017 as a whole, the current and capital account surplus as a percentage of GDP declined slightly from 2016, reflecting a fall in the goods and services account surplus. The fall in the goods and services account balance was due to an increase in the goods account deficit which was not fully offset by the favourable developments of the services account. The deterioration in the goods account was largely the result of the unfavourable developments in terms of trade (particularly in the first half year) associated with the strong growth of the energy component prices. The current and capital account balance is projected to improve as a percentage of GDP in the fourth quarter, assuming a significant recovery of the allocation of Community funds to beneficiary institutions, after the fall observed in the first months of the year.

Chart 1.10 • Nominal exports of goods
| Contributions to the year-on-year rate of change, in percentage points



Source: Statistics Portugal.

Chart 1.11 • Nominal exports of services
| Contributions to the year-on-year rate of change, in percentage points



Source: Statistics Portugal.

Box 1 | Projection assumptions

The projections released in this Bulletin are based on a range of assumptions for the external framework of the Portuguese economy, consistent with the Eurosystem's projection exercise published on 14 December. The main technical assumptions can be found in Table C.1.1. and the cut-off date was 28 November.

As regards the international framework, world activity is expected to accelerate in the 2017-2018 period, followed by a slight deceleration in 2019 and 2020. World trade is projected to maintain robust growth over the projection horizon, but slowing down from 2018 onwards. After the significant improvement observed in 2017, external demand for Portuguese goods and services may accelerate slightly in 2018 (to 4.9%, after 4.8% in 2017), followed by a downward profile. In comparison to the assumptions published in previous projection exercises, both world activity and external demand were revised upwards in 2017 and 2018. The deceleration projected for 2018 onwards will be more marked in extra-EU markets, which also saw a sharper aceleration in 2017. On average, in the 2018-2020 period, external demand from intra and extra-EU markets will show similar growth rates (4.1% in the euro area and 4.3% in extra-EU markets).

Considering information implied in the futures market as at the cut-off date, in annual average terms, the oil price (in USD and in euros) will grow more than 20% in 2017 from the previous year, discontinuing the downward trend observed in the 2013-2016 period. Subsequently, the oil price in USD will increase moderately, to stand on average at USD 59 between 2018 and 2020. Compared with previous projection exercises, oil prices are revised upwards when expressed both in USD and euros, although in the latter case at a lower magnitude, due to the upward revision of the euro exchange rate.

Table C.1.1 • Projection assumptions

		EB December 2017					EB October 2017	EB June 2017		
		2016	2017	2018	2019	2020	2017	2017	2018	2019
International environment										
World GDP	tva	3.0	3.5	3.7	3.6	3.5	3.5	3.3	3.6	3.5
World trade	tva	1.5	5.0	4.7	4.3	3.8	5.3	4.5	3.9	4.0
External demand	tva	2.0	4.8	4.9	4.0	3.6	4.5	4.5	3.9	4.0
Oil prices in dollars	vma	44.0	54.3	61.6	58.9	57.3	51.8	51.6	51.4	51.5
Oil prices in euros	vma	39.8	48.2	52.5	50.2	48.9	46.0	47.6	47.0	47.1
Monetary and financial conditions										
Short-term interest rate (3-month EURIBOR)	%	-0.3	-0.3	-0.3	-0.1	0.1	-0.3	-0.3	-0.2	0.0
Implicit interest rate in public debt	%	3.3	3.1	3.0	3.0	3.0	3.2	3.2	3.1	3.1
Effective exchange rate index	tva	2.9	2.3	2.2	0.0	0.0	2.5	0.3	0.4	0.0
Euro-dollar exchange rate	vma	1.11	1.13	1.17	1.17	1.17	1.13	1.08	1.09	1.09

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

Notes: yoy – year-on-year rate of change, aav – annual average value. An increase in the exchange rate corresponds to an appreciation of the euro. The technical assumption for bilateral exchange rates assumes that the average levels observed in the two weeks prior to the cut-off date will remain stable over the projection horizon. The technical assumption for oil prices is based on futures markets. Developments in the three-month Euribor rate are based on expectations implied in futures contracts. The implicit interest rate on public debt is computed as the ratio of interest expenditure for the year to the simple average of the stock of debt at the end of the same year and at the end of the preceding year. Assumptions for the long-term interest rate on Portuguese public debt are based on an assumption for the implicit rate, which includes an assumption for the interest rate associated with new issuances.

Interest rate levels have not been substantially revised from those assumed in previous exercises. Reflecting the conduct of the ECB's accommodative monetary policy, the short-term interest rate level will remain low and slightly negative in the 2017-2019 period, reaching a positive value (0.1%) only at the end of the projection horizon. In turn, the long-term interest rate of Portuguese public debt, for which the calculation methodology is based on an estimate of the implied rate that adopts an assumption for the interest rate of new issues, indicates a slight and gradual decline over the projection period, to stand at 3% at the end of the period.

The technical assumption for exchange rates assumes that the average levels seen in the two weeks prior to the cut-off date will remain stable over the projection horizon, which is reflected in higher appreciation of the foreign exchange rate in 2018 than that implied in previous projections. In annual average terms, a similar appreciation is assumed for 2017 and 2018 (2.3% and 2.2% respectively). The euro exchange rate against the USD is also above that implied in the projection of the June issue of the *Economic Bulletin*, reflecting recent developments.

In line with Eurosystem rules, the projections for public finance variables include the policy measures that have already been approved (or are highly likely to be approved) and that have been specified with sufficient detail in official fiscal documents. Therefore, among the measures included in the State Budget for 2018, special reference should be made to the incorporation of the effect of the gradual unfreezing of salary progressions in the general government, the change in in the personal income tax brackets, and the extraordinary update of pensions in August 2018. In addition, the measures previously announced were taken into account, including the elimination of the surcharge on the personal income tax, the update of lower pensions in August 2017, the introduction of social inclusion benefits, and relaxed penalties for early retirement in the case of workers with long contributory careers.

The current estimate for real growth of public consumption in 2017 stands at 0.1 per cent. Underlying these developments is the assumption of an increase in the number of public employees which is only partly offset by the effect of a reduction in the number of hours worked in the general government from 40 to 35 in mid-2016. As regards expenditure in the acquisition of goods and services, it is projected to decline slightly, in real terms, in part due to the decrease in expenditure associated with public-private partnerships in the road sector in 2017. In 2018, the rate of change of public consumption will no longer be affected by the effect of the decline in working hours. On the other hand, lower savings are projected from public-private partnerships in the road sector (in line with the State Budget for 2018). Therefore, in 2018, public consumption in real terms is expected to accelerate. In coming years, in a context of gradual convergence towards the stabilisation of the number of public employees, real public consumption is projected to decelerate gradually.

A positive change is expected for the public consumption deflator over the projection horizon. In 2017 these developments derive from the remaining impact of the reversal of wage cuts previously in force in the general government and, from 2018 onwards, they will be due to the above-mentioned effect of the gradual unfreezing of salary progressions. In the last two years of the projection horizon, wages in the general government are updated in line with price development expectations.

As regards public investment, after the strong fall in 2016, it is expected to recover in 2017 and 2018, although less markedly than projected in the State Budget for 2018. In the other years of the projection horizon, public investment is forecast to evolve in line with nominal GDP.

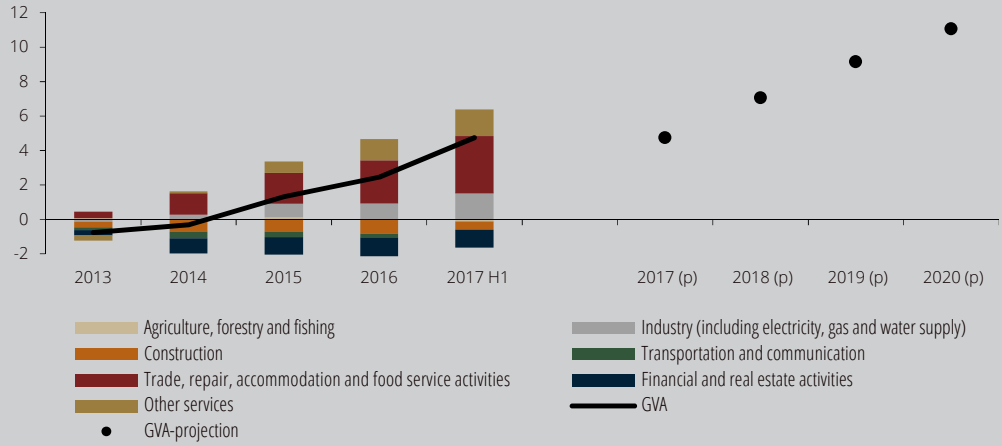
1.3. Demand, supply and external accounts

The current cycle of expansion of the Portuguese economy will extend into the projection horizon, with activity growth rates exceeding the average available estimates for potential GDP growth. According to current projections, GDP is expected to increase by 2.6% in 2017, decelerating gradually to 2.3% in 2018, 1.9% in 2019, and 1.7% in 2020. This pace of growth implies that GDP will resume by mid-2018 its level prior to the international financial crisis, to stand around 4% above that level in 2020.

As regards developments in the supply side of the economy, the recovery has been broadly-based across the main sectors of activity. In construction, the Gross Value Added (GVA) only started to recover at the end of 2016, after the previous declines, while in agriculture the GVA has shown a very volatile behaviour. Reference should be made to the contribution to the ongoing recovery made by the components of services more directly related to tourism (Chart 1.12). In the first half of 2017, construction and industry were the sectors with the highest GVA growth, but most sectors had higher year-on-year rates of change than in the second half of 2016, with the inter-sectoral dispersion levels of GVA growth standing at very low levels. Over the projection horizon, GVA in industry and construction is expected to slow down, in line with developments projected for investment and exports, while services are projected to maintain relatively stable growth.

The labour market is expected to carry on the recovery trend seen in recent years (Chart 1.13). Following very expressive growth in excess of GDP's in 2017 (3.1%), employment is expected to show a growth trend slightly below that of activity, more in line with the historical relationship between those two variables in recovery stages (Chart 1.14). Employment gains derive essentially from developments in private employment. Public employment is also expected to recover, albeit more moderately. At the end of the projection horizon, the employment level is projected to stand at levels approximately 2% below those observed prior to the international financial crisis. Slightly positive rates of change are projected for the labour force during the projection horizon, considering that the cyclical recovery of the economy will lead some inactive individuals, such as discouraged workers, back to the labour market,[4] a trend already observed in recent years. However, the maintenance of the recent population dynamics, characterised by negative natural and migratory balances, may not allow the active population to resume the levels observed prior to the

Chart 1.12 • GVA Breakdown | Cumulative contributions to the GVA rate of change, in percentage points



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected. The dots indicate GVA projections.

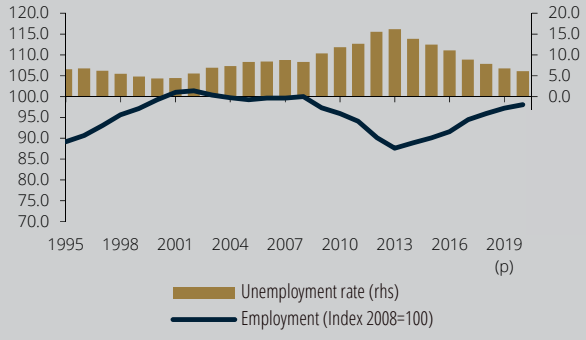
international financial crisis. The combination of these factors implies that the downward trend of the unemployment rate initiated in 2014 will continue, to reach 6.1% in 2020, which is slightly higher than the average observed up to the early 2000s, when the unemployment rate started to increase.

The employment growth in the most recent years, which was fast when compared with activity growth, has resulted in a decline in labour productivity since 2014, a trend that will continue into 2017. Weak productivity developments in this recovery cycle extend to other euro area countries, although the determinants of this phenomenon may differ across countries. In the Portuguese case, evidence available suggests that the source of that phenomenon is predominantly intra-sectoral,[5] which may be based on an allocation of resources short of that required to reach the production-possibility frontier. Among the factors to be taken into account in this context are the capital levels per employee, which are low when compared with those of the euro area,[6] and were severely affected by the recessive period started in 2008.

In effect, the capital stock is projected to maintain a marginally positive contribution to GDP *per capita* growth in 2017-2020, similarly to that observed in 2011-2016 (Chart 1.15). Compared with developments in previous recoveries, the contribution of this production factor has been very modest, reflecting the magnitude of the investment decline during the recession. The levels projected for investment only make it possible to offset capital depreciation (Chart 1.16). However, growth in the stock capital aggregate in the economy as a whole reflects different trends among its components. Whereas the component relating to the private sector excluding housing is expected to exceed, in the projection horizon, the level observed prior to 2008, this will not be the case for the components relating to the public sector and housing, which reflects different investment dynamics across institutional sectors, detailed later in this section.

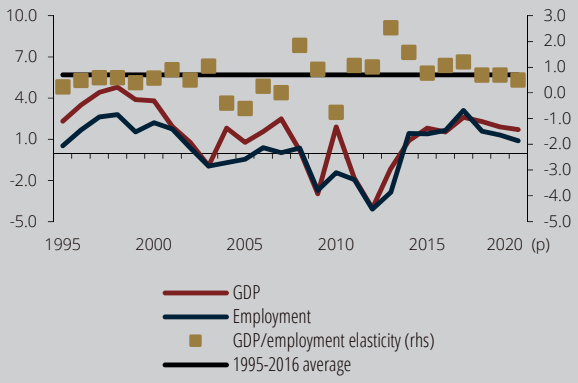
Based on a growth accounting exercise, it may be concluded that the labour factor is the main determinant behind average growth of GDP *per capita* over the projection exercise (approximately 1 p.p.). Human capital will maintain a positive contribution to GDP *per capita* growth, and is expected to be the factor with largest contribution by the end of the projection exercise (0.6 p.p.). These developments fall within a structural trend of increase in the average qualification of the Portuguese population, which is still relatively low, when compared with European standards (Special Issue 'Potential output: challenges and uncertainties' in this

Chart 1.13 • Labour market developments | Index 2008=100 and percentage of the labour force



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

Chart 1.14 • GDP and employment | In percentage



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

Bulletin). Finally, total factor productivity, obtained as a residual in this exercise, points to a marginally positive contribution during the projection exercise, after a negative average change since the start of the euro area. This should be the result of better allocation of resources in the economy, following a process of reorientation towards sectors more exposed to international competition.

Rebalancing of domestic demand, with more buoyant investment

Chart 1.17 illustrates the shift in expenditure seen over the past few years taking into account aggregates net of average import content, computed with reference to the year 2013. Since 2010 the share of domestic demand in GDP has decreased, particularly in the case of investment. This downward trend in the GFCF share, which started in the beginning of the decade, was reversed in 2014, but the fall during the crisis was strong enough to impact on the supply-side of the economy as of today. The share of private and public consumption in GDP has also followed a downward path in recent years, reflecting the need for fiscal adjustment and the household deleveraging process. In turn, the share of exports in GDP has increased markedly, with this buoyancy extending to the various components of exports of goods and services, most notably tourism. Overall, these trends should persist over the projection horizon, which points to a pattern of more sustainable growth for the Portuguese economy in the medium run.

These developments result in a relatively stable contribution of domestic demand net of import content to GDP over the projection horizon, with similar average contributions of investment and private consumption. The contribution of exports will decrease slightly, to a level below that of domestic demand in the 2018-20 period (Chart 1.18).

Private consumption is expected to continue to grow by approximately 2.1% in 2017-18, slowing down to around 1.8% in 2019-20 and, as such, slightly below GDP rates of change during most of the projection period. At the end of the horizon projection, the share of private consumption in GDP should stand close to the levels seen prior to the financial crisis (Chart 1.17). On average over the projection horizon, private consumption growth should be broadly in line with that expected for real disposable income, indicating an overall stable savings rate (Chart 1.19).

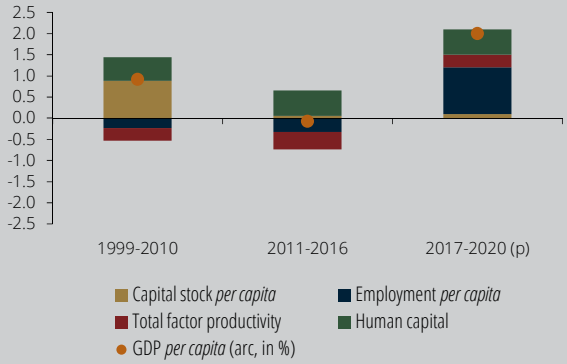
The projected profile includes a shift in private consumption, with a slowdown in consumption of durable goods associated with the unwinding of the pent-up demand effect that followed the recession period. However, rates of change in this consumption component should remain above those of non-durable consumption, which, according to projections, will grow at a relatively stable pace over the projection horizon. Underlying such developments is a slight acceleration in real disposable income in 2018, followed by a slowdown. Against a background of employment slowdown and moderate real wage growth, developments in this aggregate are favoured in 2018-19 by the public finance variables assumptions taken into account. Consumption should also benefit from the maintenance of favourable funding conditions, although a slight deterioration is expected at the end of the horizon, which will have a mild negative impact on disposable income (Box 3: 'Effect of the interest rate increase on household income: heterogeneity by age groups and income quartiles'). At the end of the projection horizon, the durable and non-durable components of consumption are expected to stand slightly above the levels seen prior to the international financial crisis (Chart 1.20).

Following a very substantial acceleration in 2017, to 8.3%, GFCF should continue to grow at a marked – albeit gradually more subdued – pace over the projection horizon, with a rate of change of approximately 6% in 2018-19 and 5.4% in 2020. This path means that, following slightly more dynamic developments than in previous cycles up to 2016, cumulative growth in GFCF will remain clearly above that seen in the recovery that started in 2003 (Chart 1.21). However, the fall in GFCF since the international financial crisis was unprecedented and resulted in a very substantial reduction in the share of this component in GDP,

only partly reversed at the end of the projection horizon. Notwithstanding, GFCF performed differently across institutional sectors (Chart 1.22).

The more buoyant GFCF compared with the recovery that started in 2003 reflects developments in corporate GFCF and, as of 2016, also residential GFCF. At the end of the projection horizon, corporate GFCF is expected to be approximately 5% higher than prior to the international financial crisis. Corporate investment developments benefit from a favourable macroeconomic environment, particularly as regards funding conditions, the maintenance of an expected growth outlook for demand, amid low uncertainty, as well as from

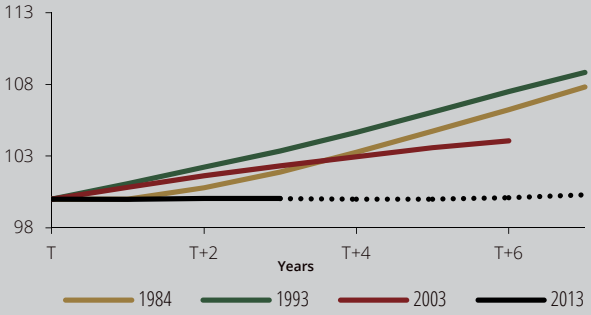
Chart 1.15 • Breakdown of the growth in real GDP *per capita* | Contributions in percentage points



Sources: Barro and Lee (2013), Banco de Portugal, Quadros de Pessoal and Statistics Portugal.

Notes: (p) – projected. The growth accounting exercise of GDP *per capita* is based on a Cobb-Douglas production function. The measures of human capital were constructed from the data of Barro and Lee (2013) 'A new data set of educational attainment in the world, 1950-2010', *Journal of Development Economics 104*, pp. 184-198. For Portugal, these series were annualized and extended using the profile of the average years of education of employment of Quadros de Pessoal (until 2012), the Labour Force Survey of INE (from 2013 to 2015) and the projections available in http://www.barrolee.com/.

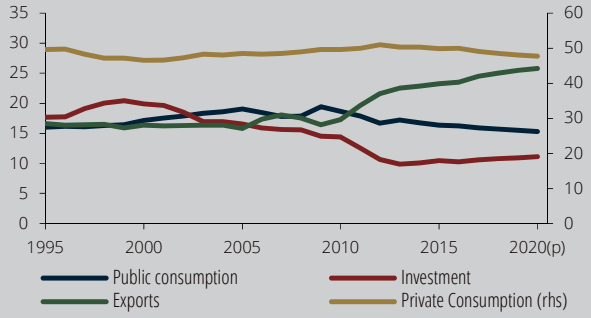
Chart 1.16 • Developments in the contribution of the capital stock *per capita* in different economic recoveries | Index T=100



Sources: Banco de Portugal and Statistics Portugal.

Notes: The economic recoveries considered were determined on the basis of the Portuguese business cycle and had their turning point (T) in 1984, 1993, 2003 and 2013. The 2009 recovery was not considered due to its limited duration. The dotted line corresponds to the projection period.

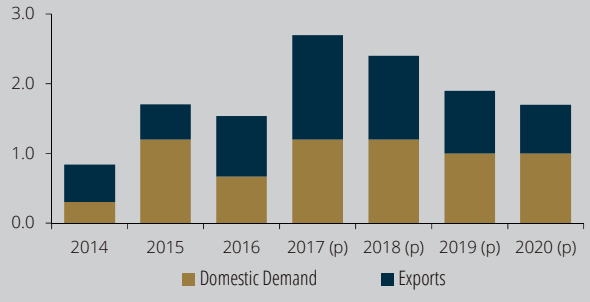
Chart 1.17 • Developments in GDP breakdown | In percentage



Sources: Banco de Portugal and Statistics Portugal.

Notes: (p) – projected. The expenditure components considered are net of imports, i.e., adjusted by the respective average import content.

Chart 1.18 • Net contributions to GDP growth | In percentage points



Sources: Banco de Portugal and Statistics Portugal.

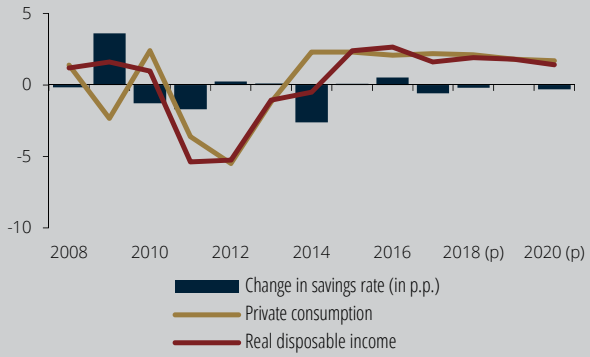
Notes: (p) – projected. The expenditure components considered are net of imports, i.e., adjusted by the respective average import content.

more structural factors, associated with the need to restore the levels and update the quality of productive capital following the recession. These developments also reflect a number of temporary effects, associated with investments by an automotive company in 2017 and the construction of major infrastructures in 2017-18.

Investment in housing, which had followed a downward path since the beginning of the 2000s, started to recover in 2015, with stronger growth projected for this component in 2017-20. Investment in this sector has benefited from increased demand from residents and non-residents, against a background of favourable funding conditions and greater attractiveness of these assets given the marked growth in house prices, which should persist over the projection horizon, albeit more moderately.

Following a very marked reduction in 2016, which led to the slowdown in total GFCF that year, public investment is expected to grow markedly in 2017 and 2018, decelerating to a pace of growth broadly in line with GDP over the remaining projection horizon (Box 1: 'Projection assumptions').

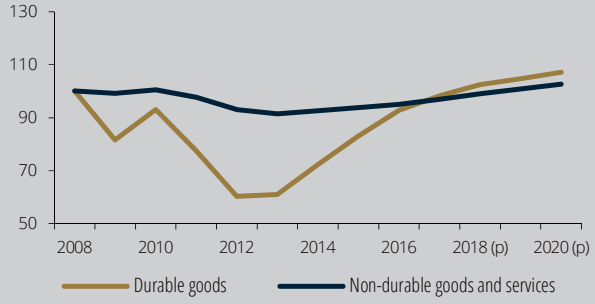
Chart 1.19 • Developments in private consumption, disposable income and saving | In percentage



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected.

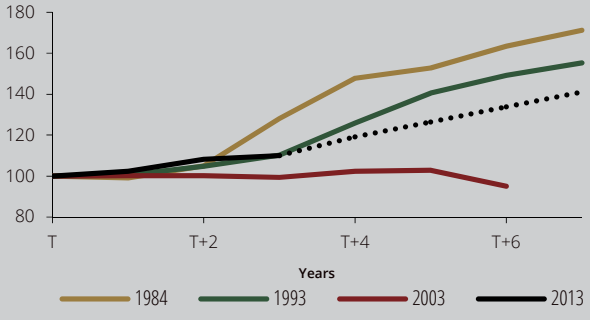
Chart 1.20 • Developments in the private consumption breakdown | Index 2008=100



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected.

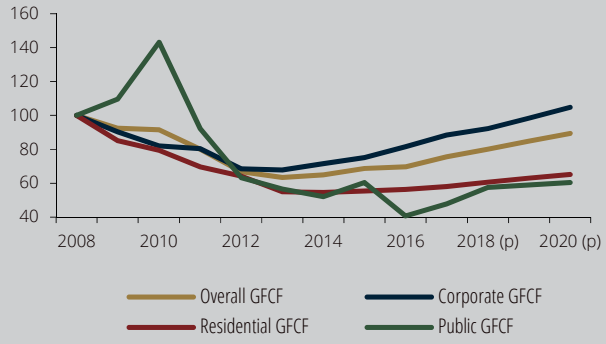
Chart 1.21 • Developments in GFCF in different economic recoveries | Index T=100



Sources: Banco de Portugal and Statistics Portugal.

Notes: The economic recoveries considered were determined on the basis of the Portuguese business cycle and had their turning point (T) in 1984, 1993, 2003 and 2013. The 2009 recovery was not considered due to its limited duration. The dotted line corresponds to the projection period.

Chart 1.22 • Breakdown of GFCF by institutional sectors | Index 2008=100



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected.

Projected developments in consumption and investment imply an increase in financial debt of households and firms over the projection horizon, in line with credit recovery, but at a slower pace than growth in disposable income and GDP (Chart 1.23).

Buoyant export growth, albeit slowing down

Following great buoyancy in 2017 (7.7%), exports of goods and services are expected to continue to grow strongly over the projection horizon, although with some moderation, from 6.5% in 2018 to 4.1% in 2020. This path reflects a slight moderation in growth in external demand for Portuguese goods and services in 2019-20, together with progressively lower market share gains (Chart 1.24). Developments in total and goods exports in the current recovery cycle have remained very close to those seen in the 2003 cycle, but have stemmed from a comparatively larger contribution from market share gains. In 2017 the very substantial market share gain has also been related with a number of base effects and, at the end of the year, with the impact of the increase in productive capacity in one specific automotive business unit, which will persist in 2018. Behind market share gains is also the contribution of tourism exports, which should continue to grow more than total exports and aggregate external demand for goods and services. Indeed, tourism has performed exceptionally well during the current recovery cycle compared with previous cycles (Chart 1.25). This sector has benefited from an improvement in the competitive position of the Portuguese market, as well as from exogenous factors such as geopolitical tensions in a number of competing destinations. Such exports have made an important contribution to the increase in the share of exports in GDP since 2010 (Chart 1.26).

The unwinding of the aforementioned temporary effects favourable to exports and, to a lesser extent, the possible negative impact on export competitiveness of the appreciation of the euro, is expected to result in gradually lower market share gains, although still positive at the end of the projection horizon.

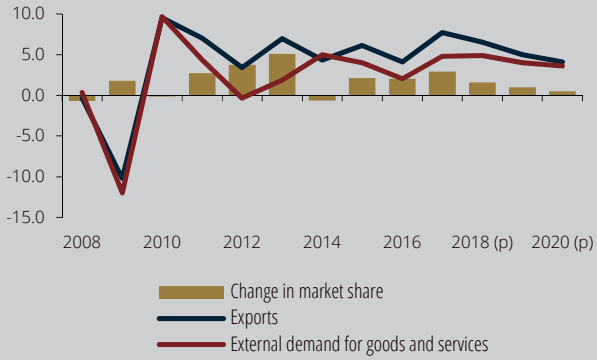
Following a marked acceleration in 2017 (7.5%), imports are expected to progressively decelerate

Chart 1.23 • Debt of the non-financial private sector in Portugal | End of period figures in percentage of GDP and disposable income

Sources: Banco de Portugal and Statistics Portugal.

Notes: (p) – projected. Consolidated values. (a) It includes loans granted to non-financial corporations by other institutional sectors; commercial paper and bonds issued by non-financial corporations held by other sectors and trade credits received from other sectors. (b) The debt of households corresponds to loans and debt securities issued by the sector and trade credit and advances.

Chart 1.24 • Exports and external demand | Annual rate of change, in percentage



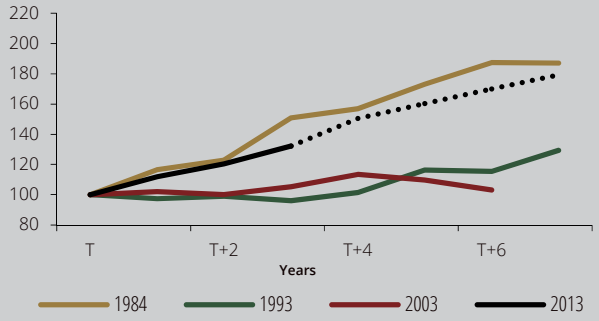
Sources: Banco de Portugal, ECB and Statistics Portugal.

Notes: (p) – projected.

throughout the 2018-20 period, reaching 4.8% growth at the end of the projection horizon. The projected dynamics extend to goods and services components and point to developments broadly in line with the average import-content-weighted global demand elasticity seen in the past. This leads to a greater penetration of imports over the projection horizon (Chart 1.27). The slowdown in imports in 2018-20 – taking into account the average import content of the expenditure components, i.e. the counterpart of Chart 1.18 – chiefly results from the projected profile for exports and, to a lesser extent, from the shift in private consumption towards lower growth in the durable goods component, which has greater import content (Chart 1.28).

Strengthening of the economy's net lending position

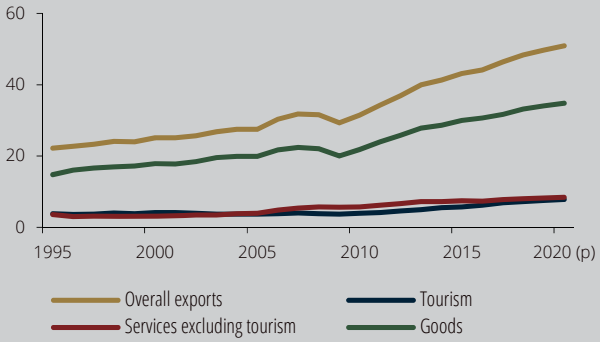
Chart 1.25 • Developments in tourism exports in different economic recoveries | Index T=100



Sources: Banco de Portugal and Statistics Portugal.

Notes: The economic recoveries considered were determined on the basis of the Portuguese business cycle and had their turning point (T) in 1984, 1993, 2003 and 2013. The 2009 recovery was not considered due to its limited duration. The dotted line corresponds to the projection period.

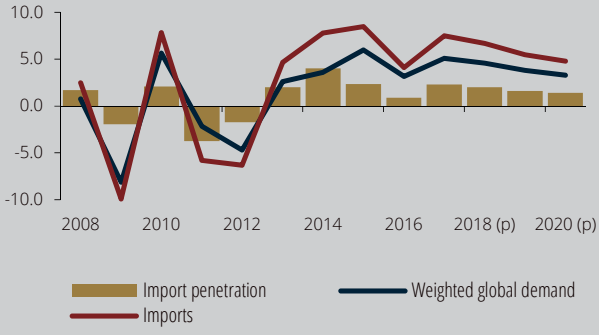
Chart 1.26 • Weight of exports on GDP | In percentage



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected.

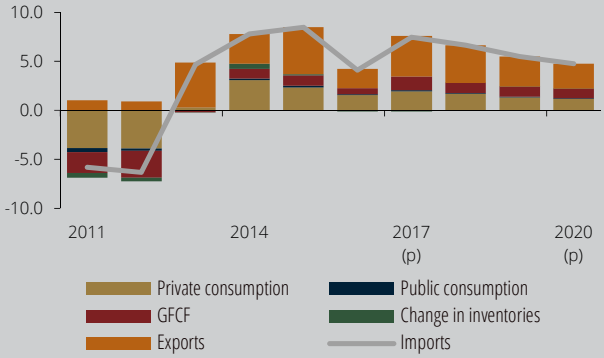
Chart 1.27 • Imports and import-content weighted global demand | In percentage



Sources: Statistics Portugal and Banco de Portugal.

Note: (p) – projected.

Chart 1.28 • Breakdown of imports by global demand components | Contributions in percentage points



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected.

The Portuguese economy is expected to maintain a net lending position over the projection horizon, similarly to that seen since 2012. Following a slight reduction in the current and capital account balance as a percentage of GDP in 2017 (1.5%), net lending is expected to increase in 2018, remaining at around 2.2% of GDP up to 2020.

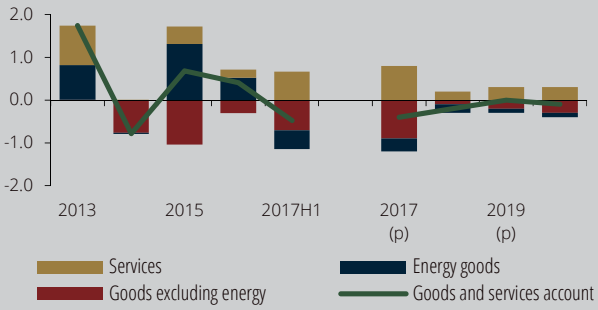
The goods and services account balance as a percentage of GDP should gradually decrease in 2017-20, although slightly. This reduction, already recorded in the first half of 2017, comprises a shift, with an increase in the services account balance, favoured by very dynamic developments in tourism exports, partly offsetting a deterioration in the goods account deficit (Chart 1.29). The increase in the goods account deficit is largely due to a negative volume effect (Chart 1.30), which, in 2017, is exacerbated by a negative terms of trade effect, given that the marked upturn in oil prices tends to hamper an economy with a deficit energy account, such as the Portuguese economy. Also in 2017 there was a negative price effect, stemming from the recovery in the goods exports and imports deflator.

The primary income account deficit as a percentage of GDP is expected to fall gradually in 2017 and 2018, benefiting from the expected path for interest on public debt and the normalisation of inflows from EU structural funds in 2018, after a relatively low degree of implementation in 2016 and 2017. The second factor also explains the projected improvement in the capital account balance in 2018. In 2019-20 the capital and primary income accounts balance is projected to stabilise as a percentage of GDP. The secondary income account balance, in turn, is expected to be relatively stable as a percentage of GDP over the projection horizon, following an increase in 2017.

Projections for GDP revised upwards from previous issues

The projection for GDP growth in 2017 is revised slightly upwards from that released in the two previous issues of the *Economic Bulletin*, with an also marginal upward revision in domestic demand. Compared with the October exercise, the upward revision mainly reflects the incorporation of the flash GDP estimate for the third

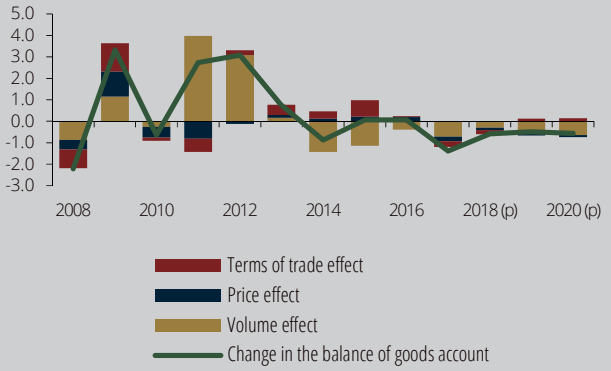
Chart 1.29 • Decomposition of the change in the goods and services account balance | In percentage points of GDP



Sources: Banco de Portugal and Statistics Portugal.

Note: (p) – projected. The 2017H1 change is with reference to the same period of the previous year.

Chart 1.30 • Decomposition of the change in the goods account balance | In percentage points of GDP



Sources: Banco de Portugal and Statistics Portugal.

Notes: (p) – projected. For a description ot the underlying methodology, see Box 4.2 "Change in the goods account balance in the first half of 2012", Banco de Portugal *Economic Bulletin, Autumn 2012*.

quarter of 2017 and recent conjunctural data, with more favourable than expected developments. Compared with the June *Economic Bulletin*, projections of more subdued growth in exports and imports result from the incorporation of National Accounts information for the first half of the year. Such revisions produce dynamic effects with an impact that extends into the following year, which, however, are offset by stronger domestic demand growth in 2018 and 2019. This growth reflects updated public finance assumptions (Box 1: 'Projection assumptions') as well as, in 2018, the positive effects stemming from the incorporation of more recent conjunctural information. This rebalancing in global demand implies an upward revision of GDP growth projected for 2018 and 2019 from the June *Economic Bulletin*.

1.4. Prices and wages

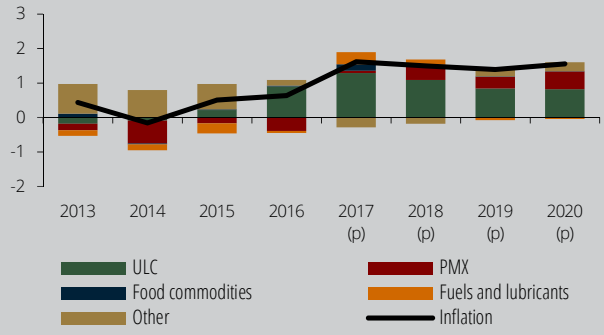
Inflation, as measured by the rate of change in the HICP, rose markedly in 2017, and an annual rate of 1.6% is projected, after a 0.6% increase in 2016. The acceleration in prices in 2017 stemmed from both the energy and the non-energy components. Energy prices are expected to grow by approximately 4% in 2017, following a 1.8% decrease in 2016. Behind price developments in the non-energy component (up by 1.4% from 0.9% in 2016) was, most notably, the substantial growth in services prices, which was considerably influenced by an acceleration in prices of tourism-related activities. In terms of determinants, the acceleration in prices in 2017 reflected the increase in import prices of energy and non-energy goods and an increase in unit labour costs, largely stemming from a reduction in productivity (Chart 1.31).

Compared with the euro area, inflation in Portugal is expected to stand close to projected inflation in the euro area, with a virtually nil differential, on average.

> Relatively stable inflation over the projection horizon, after an increase in 2017

During the 2018-20 period, inflation is expected to stabilise at around 1.5% (Table 1.1). The inflation rate is projected to decline slightly in

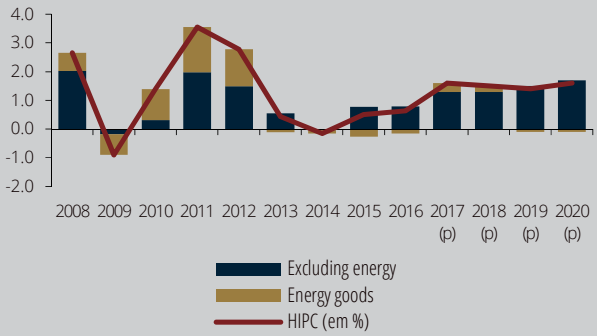
Chart 1.31 • Inflation rate disaggregation in its determinants using MIMO model | Contributions to the annual rate of change, in percentage points



Sources: Eurostat and Banco de Portugal.

Notes: ULC – unit labour costs; PMX – import prices excluding energy; other – includes the effects of indirect taxes, the admnistered prices and the residuals. (p) – projected. MIMO – Monthly Infation Model: for more details see Felix *et al.* (2007) – 'MIMO – A Montly Inflation Model', *Economic Bulletin Winter*, Banco de Portugal.

Chart 1.32 • Harmonised index of consumer prices | Contributions to the annual rate of change, in percentage points



Sources: Eurostat and Banco de Portugal.

Note: (p) – projected.

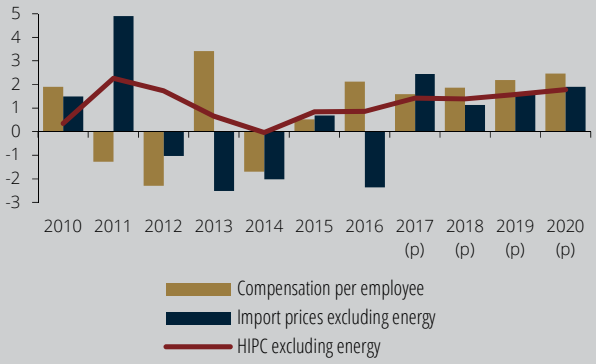
2018, influenced by developments in the energy component, with a subdued price increase below that seen in 2017. In 2019 and 2020, contributions of energy prices to inflation should be virtually nil, in line with the assumptions for oil prices. Non-energy prices are expected to make a positive and increasingly greater contribution in the 2018-20 period (Chart 1.32), chiefly reflecting the acceleration in non-energy industrial goods prices, after falls in prices since 2012. Compared with the June and October issues of the *Economic Bulletin*, inflation levels for the 2017-19 period have remained virtually unchanged.

Underlying the slightly upward developments expected for inflation excluding energy goods in the 2017-20 period is a favourable domestic and external environment, with the protraction of an upturn in activity, the continued impact of monetary policy measures implemented by the ECB, and the maintenance of favourable financing conditions. At domestic level, nominal wages per employee are expected to grow moderately, against an improvement in labour market conditions, via an increase in employment and the maintenance of the downward profile in the unemployment rate and a slight rise in productivity (Chart 1.33).

Import prices have accelerated markedly in 2017, reflecting a strong increase in oil and other commodity prices. Developments in the export deflator were similar, but growth was more muted (given the greater share of oil products in the case of imports), which led to a decrease in terms of trade in 2017. During the 2018-20 period, these deflators are expected to grow at a moderate and relatively stable pace, amid a lack of pressure from the energy component. Export prices should grow slightly more than those in imports, which would result in a slight improvement in terms of trade.

The GDP deflator is expected to follow a slightly upward path between 2017 and 2020. Unit labour costs should decelerate in 2018 – chiefly due to the recovery in productivity growth – and subsequently maintain relatively stable growth, reflecting the combined effect of an acceleration in nominal wages and greater productivity growth. Gross operational surplus per unit of output is expected to increase moderately between 2018

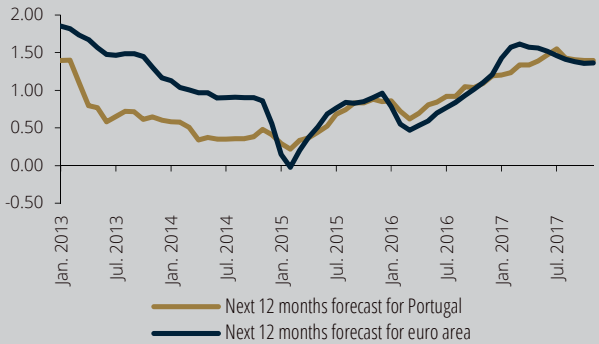
Chart 1.33 • HICP excluding energy | Annual rate of change, in percentage



Sources: Statistics Portugal and Banco de Portugal.

Note: (p) – projected.

Chart 1.34 • Inflation forecasts for Portugal and the euro area | Annual rate of change, in percentage



Source: Consensus Economics.

and 2020 after a decline in 2017, partly reflecting adverse developments in terms of trade.

Higher inflation expectations in 2017

Inflation expectations for the next 12 months, calculated on the basis of Consensus Economics data, point to an increase in 2017 in Portugal and the euro area. Available information indicates that inflation expected in the first half of 2017 has followed an upward path, decelerating somewhat in recent months (up to November). In 2017 and compared with the previous year, projected figures were closer, although still below, the ECB's price stability objective of a rate of change in HICP close to, but below, 2% in the medium term (Chart 1.34). Additionally, inflation expectations for Portugal and for the euro area have converged in recent months.

1.5. Uncertainty and risks

Downside risks to activity and upside risks to inflation in the medium run

Over the projection horizon, a number of risk factors may affect the most likely scenario reflected in the current projections. Risks to activity are mostly external. Downside risks to activity include a possible deterioration in geopolitical tensions at international level, most notably developments in Catalonia (Box 4: 'Macroeconomic impact of the crisis in Catalonia'). The possibility that advanced economies may adopt protectionist measures in the medium run, including the possibility of a more adverse impact of the UK's exit from the EU, may also add to global political uncertainty. Finally, a more substantial economic adjustment in a number of highly indebted emerging market economies, particularly China, cannot be ruled out. In addition to the negative downside impact on external demand for Portuguese goods and services, these risks may also have repercussions on the confidence of economic agents, commodity prices and on a possible further appreciation of the euro. The possibility of an upsurge in financial market tensions may make the monetary and financial environment less favourable than anticipated, with an impact on developments in consumption and investment, taking into account the possible increase in funding costs. In the euro area, the persistence of vulnerabilities in the banking system of some countries may amplify this risk.

However, these risks may be mitigated by the possibility that the current cyclical moment will turn out to be stronger than anticipated at global and domestic level, taking into account the continued improvement in economic agents' confidence and the potential impact of the announced US fiscal policy measures. Moreover, at domestic level, it must also be considered that the recent house price dynamics may have a greater-than-expected impact on investment in this sector and on private consumption.

Turning to inflation, upside risk factors are associated with possible further increases in the minimum wage in 2018 and 2019 and, to a lesser extent, with the aforementioned possibility of a more protectionist trade policy. These risks are partially offset by the possibility that non-energy industrial goods prices maintain the downward path seen since 2012.

As a result of this analysis, there is a low probability that external demand will post more adverse developments than those considered in the most likely scenario in 2018-19 (for 2017, the aforementioned risk factors are considered to cancel out) (Table 1.2). The possibilities of an appreciation of the euro and marginally higher long-term interest rates in 2018-19 were also taken into account.

At domestic level, a probability of 55% was considered that private consumption and investment may grow above projections for 2017, due to more marked cyclical dynamics. In the medium term, however, this effect is more than compensated by downside factors that may affect consumer and entrepreneurs' confidence. As such, there is a marginal probability

that these aggregates show more muted developments in 2018-19. Furthermore, a probability of 55% was considered that real wages grow more than projected for 2018-19, as well as a marginal probability that inflation is above projections for 2018-19.

This analysis points to slightly upside risks to activity in 2017 and downside risks in 2018-19. Upside risks to nominal wages result in a marginally upside risk to inflation in 2018-19.

Table 1.2 • Risk factors – Probability of an outcome below the implicit in the projections | In percentage

	2017	2018	2019
Projection assumptions			
Long-term interest rate	50	51	51
Exchange rate	50	46	44
External demand	50	53	51
Endogenous variables			
Private consumption	45	51	52
GFCF	45	53	53
Wages	50	45	45
HICP	50	49	49

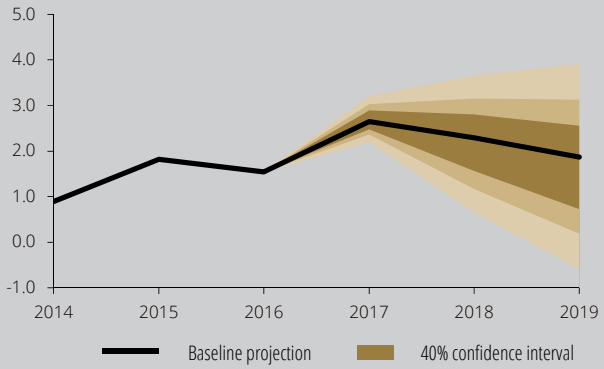
Source: Banco de Portugal.

Table 1.3 • Probability of an outcome below the projections | In percentage

	Weights	2017	2018	2019
Gross domestic product	100	47	54	55
Private consumption	66	40	51	54
GFCF	15	43	54	55
Exports	40	50	53	53
Imports	39	45	53	55
HICP		51	47	45

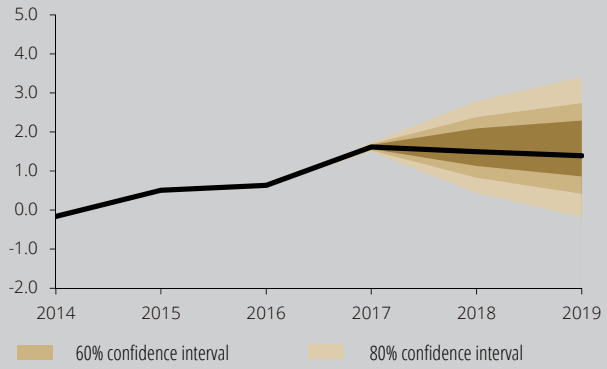
Source: Banco de Portugal.

Chart 1.35 • Gross domestic product | Rate of change, in percentage



Sources: Banco de Portugal and Statistics Portugal.

Chart 1.36 • Harmonized index of consumer prices | Rate of change, in percentage



Sources: Banco de Portugal and Statistics Portugal.

1.6. Conclusions

The global economy is undergoing a cyclical recovery that should extend into the projection horizon. In the euro area, this recovery is synchronised across Member States, with growth and inflation dispersion levels falling to historical lows. The Portuguese economy should continue to be favoured by this dynamic, through a strong behaviour of exports, particularly tourism. The economy has also benefited from particularly favourable monetary and financial conditions, which should continue over the projection horizon, increasing incentives to investment and private consumption. Private consumption has also benefited from the upturn in the labour market, where employment is growing more markedly than activity. Following these developments, GDP growth in 2017-20 is expected to stand above potential and approximately in line with the euro area. This growth should be consistent with the maintenance of major macroeconomic equilibria, particularly as regards the current and capital account surplus.

Over the past few years, there has been increasing reallocation of resources to the tradable goods and services sector, which led to an increase in potential growth of the Portuguese economy. However, some structural fragilities must be taken into account, as they result in the projected slow pace for real convergence of the Portuguese economy. The current cyclical moment should be seized to correct major macroeconomic imbalances, more specifically, to reduce public and private indebtedness. Investment should be increasingly channelled to areas that enhance potential output, via an increase in capital per worker levels and better resource allocation. Another challenge is related with the labour market, given that, despite progress made since 2013, the reintegration of a share of long-term unemployed into the labour market remains challenging. Between 2011 and 2016, labour force has declined, partly due to negative migration flows, which should only be partially offset in the projection horizon. Amid a negative natural balance, demographic developments are, therefore, a constraint to potential growth of the Portuguese economy. An integrated approach to these various dimensions is key to an increase in productivity and economic well-being in the long run.

Box 2 | The import content of global demand in Portugal

This box analyses the import content of the main global demand aggregates, using data recently published by Statistics Portugal. This is an important analysis, notably for assessing the impact of changes in demand components on other macroeconomic variables, such as GDP and the balance of payments. In particular, this information is used to calculate the contribution from each global demand component, less the respective imports, to GDP growth, and to calculate global demand weighted by import content, which is an important indicator for forecasting imports.

Typically, each final demand unit – final consumption, investment or exports – can be met with recourse to domestic output or imports. These imports may be direct or – in the case of imports of intermediate goods needed to domestically produce a good or service – indirect. The calculation of import content by product is based on symmetric matrices of domestic output (at basic prices) and imports containing information both from intermediate consumption (by product and homogeneous branch of production) and final uses by product.[7] These matrices correspond to a breakdown of national accounts data, but are not available with the same frequency, and are expected to be updated every five years. In September 2017 the content of primary inputs for final demand components by product (with a disaggregation of 82 products) for 2013 was released on Statistics Portugal's website.[8] Previously the most recent matrices available were for 2008, calculated by the Department of Prospective and Planning (DPP).[9]

Total import content by major global demand component: 2013 vs 2008

Table C.2.1 presents the total import content (i.e. the sum of direct and indirect imports needed to meet each demand unit) for the main global demand components in 2013 and 2008.[10] The import content presented in this box correspond to values per unit of demand at purchase prices, and thus the non-import content reflects domestic value added and taxes less subsidies. The global demand components with the highest import content are exports and investment (at 45% and 32% respectively in 2013) and the component with the lowest import content is public consumption (9%). Imports needed to meet private consumption are equivalent to 22%.

From 2008 to 2013 the import content of global demand did not undergo considerable changes, although the import content of exports was higher and there was a decline in the import content of domestic demand. Given that data for the import content at the elementary product level were relatively stable over time (Cardoso, Esteves and Rua, 2013), changes in total demand components are generally associated with changes in the disaggregated structure of that component at product level. In addition, the available information by product, even considering the greater detail calculated by Statistics Portugal (82 products), in itself corresponds to a product aggregation. As such, an increase (decrease) in the import content of each category of products might only reflect an increase (decrease) in expenditure on products within that category with greater import content. The shift to base 2011 and the change in the European system of national accounts (entry into force of ESA 2010), which occurred in national accounts data between 2008 and 2013, should also be taken into account. It implied some changes in concepts, with an impact on the expenditure structure, and therefore in the aggregate values of import content. Two of the most important changes were a considerable increase in the level of private consumption of rents and the inclusion of the value of research and development (R&D) expenditure in GFCF, previously considered as intermediate consumption. These two cases, for corresponding to products with very low import content, might partly account for the reduction of import content in total private consumption and GFCF. In turn, the slight increase in the import content of exports is partly associated with a positive structure effect resulting from a rise in the relative importance of some products with higher import content, such as energy.

Some disaggregation of import content by product in 2013

Table C.2.1 shows the import content for the main groups of GFCF products. Investment in construction incorporates relatively low import content (16%), while investment in transport equipment and machinery and equipment contains high shares of import per demand unit (71% and 75% respectively). Public consumption expenditure has a high share of non-tradable services, such as education and health, and thus its import content is comparatively lower.

Given the high share of private consumption and exports in global demand, it is interesting to analyse in greater detail the import content of these demand components by product.[11] Chart C.2.1, shows the import content of private consumption for the main groups of products. Firstly, durables have much higher import content (50%) than non-durables (21%). The consumer products with the highest import content are transport equipment, machinery, chemicals and fuels, while those with the lowest import content are generally services, particularly real estate and education services.

In the case of exports it is also evident (Table C.2.1) that the import content of exports of services (22%) is much lower than that of exports of goods (51%). Chart C.2.2 shows the import content of exports of goods. The highest import content is observed in fuels, transport equipment, chemicals and machinery (all above 40%), while exports of products of wood and cork, other mineral products and fishing products are among those with the lowest import content.

It is interesting to note that both fuels and transport equipment – which in the case of exports essentially corresponds to cars – have very high import content per exported unit (93% in the former and 68% in the latter), which translates into a lower domestic value added compared with other products.

Table C.2.1 • Import content of demand at purchasers' prices | By unit of demand of each component

	2008	2013
Private consumption	**0.26**	**0.22**
Durable	0.53	0.50
Non-durable	0.24	0.21
Public consumption	**0.10**	**0.09**
GFCF	**0.38**	**0.32**
Machinery and equipment	0.68	0.71
Transport equipment	0.76	0.75
Construction	0.22	0.16
Other products	0.19	0.15
Domestic demand	**0.26**	**0.21**
Exports	**0.44**	**0.45**
Goods	0.49	0.51
Services	0.24	0.22
Global demand	**0.28**	**0.27**

Sources: Dias (2016) (see endnote 9), Statistics Portugal and Banco de Portugal.

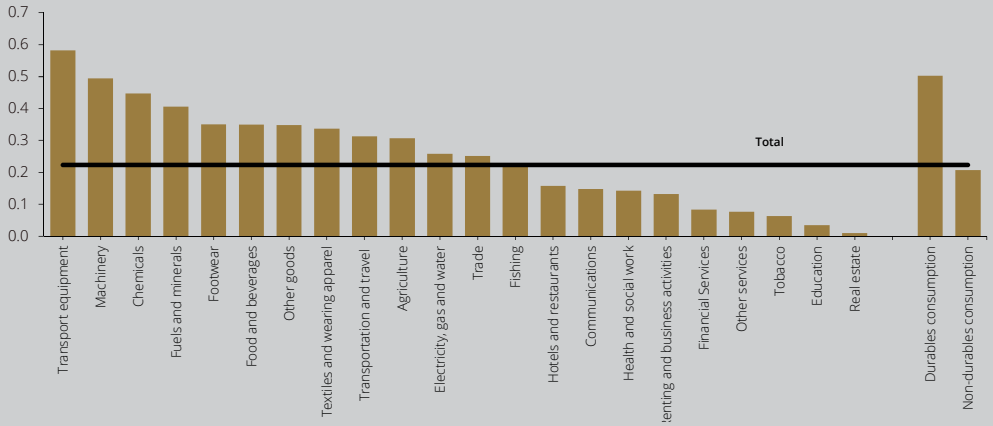
Calculation of net contributions from imports to the rate of change in GDP

The information on the import content of global demand is important to assess the actual contribution from each demand component to GDP growth. Each demand component less its import content equals the so-called net contributions from demand components, which add up to the GDP value.

The calculations of net contributions from the import content to the GDP rate of change presented in this Bulletin are based on the 2013 import content, as shown here for the various components (Table C.2.1). The contribution from each component to GDP growth roughly results from a change in each component weighted by its non-import content, which corresponds to its domestic content.

For 2013 the sum of nominal contributions from demand components less imputed imports equal nominal GDP exactly. For those years when no calculation of import content is available there may be small discrepancies between total imports and the sum of imports deducted from each demand component, assuming said import content is maintained. These discrepancies reflect short-term changes in the degree of import penetration, as well as changes in the components' relative prices.

Chart C.2.1 • Import content of private consumption by products | 2013

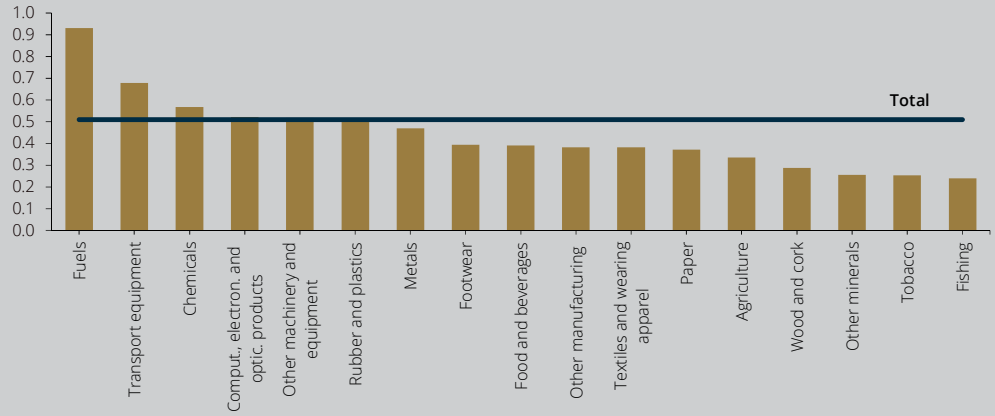


Sources: Statistics Portugal and Banco de Portugal.

The calculation of net contributions assumes that percentage changes in the degree of import penetration are the same for all global demand components.

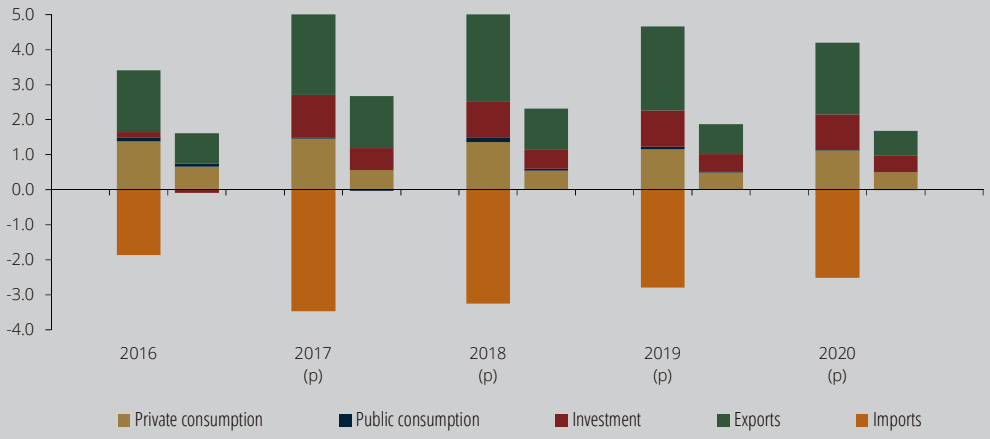
Chart C.2.3 shows the gross and net contributions from demand components to GDP growth implied in this *Economic Bulletin*'s projections. In gross terms, an increase in the contribution from both domestic demand (mainly investment) and exports is expected for 2017, against an increase in the negative contribution from imports. It is also possible to observe that in net terms, given the high import content of investment and exports, these components' contribution is positive, but much lower than in gross terms. For the next few years the net contribution from exports to GDP growth will remain positive, but lower than projected for 2017. Over the course of the projection horizon, the net contribution from exports to GDP growth will continue to be higher than that of private consumption and investment.

Chart C.2.2 • Import content of goods exports | 2013



Sources: Statistics Portugal and Banco de Portugal.

Chart C.2.3 • Gross and net contributions to GDP growth | In percentage points



Sources: Statistics Portugal and Banco de Portugal.

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

Box 3 | Effect of an interest rate rise on household income: heterogeneity by age class and income quartiles

This box presents an exercise simulating the effect on household income of a 1 p.p. increase in the short-term market interest rate. Data from the 2013 Household Finance and Consumption Survey (HFCS)[12] were used in order to calculate differentiated effects for households with different characteristics, specifically according to the level of income and age of the reference person.[13]

The exercise is conducted assuming that the change in the interest rate does not affect the composition of household wealth and debt. In addition, the increase in the market interest rate is assumed to pass through to the interest rates on new saving accounts and that households replace all saving accounts with deposits with the new rate.[14] In the case of loans, a total pass-through to interest rates on adjustable interest rate contracts is considered, given that most loans in Portugal are indexed to short-term market rates. Consequently, the exercise calculated, for each household, the effect of a 1 p.p. increase in the interest rate on income through a change in interest on saving accounts and loans with an adjustable interest rate.[15]

Table C.3.1 shows the results of the simulation broken down by income quartiles.[16] The results either considering all households or only the subset with adjustable interest rate debt are presented separately. The effects, measured as a percentage of income, are the average of the individual effects weighted by income. The aggregate impact of the 1 p.p. increase in the interest rate stands at -0.7% of income. The effect is negative for all income quartiles, and is less pronounced in the two lower quartiles, where only a small share of households have adjustable interest rate debt (13% in the first quartile and 23% in the second quartile, compared with 35% for all households). When only households with adjustable interest rate debt are taken into account, the aggregate effect is -2%. The impact is still negative in all income quartiles, albeit more pronounced in households with lower income, partly reflecting the high average level of debt compared with that of deposits.

Table C.3.2 shows the results broken down by age class. When all households are taken into account, the effect on income is positive in age classes where the reference person is aged over 65 and negative for classes with persons aged under 55. The latter have a much higher share of indebted households than the remaining classes and the amount of debt is also higher. Considering only households with adjustable interest rate debt, the interest rate rise has a negative effect on income in all age classes, except in the class where the reference person is aged over 75. The negative effect is particularly pronounced in the two youngest age classes.

To sum up, according to the results and under the assumptions of this exercise, the 1 p.p. increase in interest rates on saving accounts and loans with an adjustable interest rate has differentiated results for households with different characteristics. The effect on income is negative for households with adjustable interest rate debt, in particular younger households and those in lower income quartiles. For all households, i.e. also taking into account households without debt, the aggregate effect is -0.7% of income. This effect may be more pronounced in the case of only partial pass-through of the interest rate rise to deposit rates. In any case, the effect on aggregate consumption is expected to be damped by the fact that in lower income classes, where the propensity to consume is higher, the share of households affected by the increase in interest rates on loans is small.

Table C.3.1 • Results by income quartiles

	% of households	Income	Saving accounts	Debt with adjustable interest rate	Effect of a 1 p.p. increase in the interest rate on:		
					Interest received	Interest paid	Income
		average value in thousand EUR			average change in % of income		
				All households			
q1	25.0	5.9	5.3	6.3	0.9	1.1	-0.2
q2	25.0	12.2	8.7	12.6	0.7	1.0	-0.3
q3	25.0	20.1	11.5	30.3	0.6	1.5	-0.9
q4	25.0	48.0	24.3	58.0	0.5	1.2	-0.7
Total	**100.0**	**21.5**	**12.5**	**26.8**	**0.6**	**1.2**	**-0.7**
				Households having debt with adjustable interest rate			
q1	9.4	6.6	5.2	34.5	0.8	5.2	-4.4
q2	16.5	12.7	3.3	42.2	0.3	3.3	-3.1
q3	32.4	20.3	6.3	59.0	0.3	2.9	-2.6
q4	41.7	46.6	16.7	92.1	0.4	2.0	-1.6
Total	**100.0**	**27.5**	**9.7**	**65.9**	**0.4**	**2.4**	**-2.0**

Memo

	% of households having:		Consumption/Income – average value in %	
	Saving accounts	Debt with adjustable interest rate	All households	Households having debt with adjustable interest rate
q1	30	13	91	100
q2	43	23	65	66
q3	53	45	52	52
q4	68	58	33	34
Total	**48**	**35**	**46**	**43**

Source: HFCS 2013.

Table C.3.2 • Results by age classes

	% of households	Income	Saving accounts	Debt with adjustable interest rate	Effect of a 1 p.p. increase in the interest rate on:		
					Interest received	Interest paid	Income
		average value in thousand EUR			average change in % of income		
				All households			
< 35	11.2	20.6	7.4	50.3	0.4	2.4	-2.1
35-45	20.8	23.8	10.0	54.8	0.4	2.3	-1.9
45-55	20.1	24.9	10.6	32.7	0.4	1.3	-0.9
55-65	18.0	23.9	13.4	13.7	0.6	0.6	0.0
65-75	**15.2**	**18.7**	**17.0**	**4.1**	**0.9**	**0.2**	**0.7**
>=75	**14.7**	**14.6**	**16.4**	**0.5**	**1.1**	**0.0**	**1.1**
Total	**100.0**	**21.5**	**12.5**	**26.8**	**0.6**	**1.2**	**-0.7**
				Households having debt with adjustable interest rate			
< 35	15.3	23.9	6.8	88.4	0.3	3.7	-3.4
35-45	38.3	26.1	10.0	77.1	0.4	2.9	-2.6
45-55	27.1	30.3	9.6	62.1	0.3	2.0	-1.7
55-65	14.4	31.3	11.8	40.1	0.4	1.3	-0.9
65-75	4.4	24.7	5.7	28.3	0.2	1.1	-0.9
>=75	0.4	20.5	30.8	14.0	1.5	0.7	0.8
Total	**100.0**	**27.5**	**9.7**	**65.9**	**0.4**	**2.4**	**-2.0**

Memo

	% of households having:		Consumption/Income – average value in %	
	Saving accounts	Debt with adjustable interest rate	All households	Households having debt with adjustable interest rate
< 35	45	48	45	41
35-45	53	64	46	45
45-55	44	47	44	41
55-65	48	28	45	41
65-75	51	10	51	43
>=75	49	1	49	50
Total	**48**	**35**	**46**	**43**

Source: HFCS 2013.

Box 4 | Macroeconomic impact of the crisis in Catalonia

The political crisis in Catalonia represents a relevant downward risk to the Portuguese economy, given the importance of Spain in Portugal's international economic relations and the potential repercussions at European level. The growth outlook for the Spanish economy remains positive, although, as Banco de España recently pointed out,[17] protracted political tensions in Catalonia, and the associated uncertainty, may affect consumer and business confidence. This would have a negative impact on economic growth in Spain, with consequences on the demand for the goods and services of its trade partners. If the crisis in Catalonia were to deepen, political uncertainty might increase in Europe as a whole, and the discussion of the potential independence of Catalonia might trigger similar tensions in other countries. The empirical literature points to a negative impact on economic activity from an increase in uncertainty.[18]

The purpose of this box is to provide a quantified estimate of the potential impact on the Portuguese economy of an increase in uncertainty associated with political tensions in Catalonia.

The analysis is conducted on the basis of estimates by Banco de España of the impact of two potential scenarios on the Spanish GDP, specifically a scenario of a temporary increase in uncertainty and a scenario where this increase is more protracted. The impact of these scenarios on the Portuguese economy was assessed taking into account two transmission channels: a more direct one, associated with external trade with Spain, and a more indirect one, arising from greater uncertainty in Europe, partly reflecting contagion phenomena.

According to the analysis of Banco de España, the increase in uncertainty associated with the situation in Catalonia may have a significant impact on economic growth and financial stability in Spain. The first scenario, considering a temporary and limited increase in tensions and uncertainty, implies a cumulative negative impact of 0.3 p.p. on GDP growth in Spain, from the fourth quarter of 2017 to the end of 2019. The second scenario, assuming a marked and protracted increase in uncertainty associated with tensions in Catalonia, results in a more pronounced impact on GDP growth rates, reaching cumulative -2.5 p.p. by 2019.

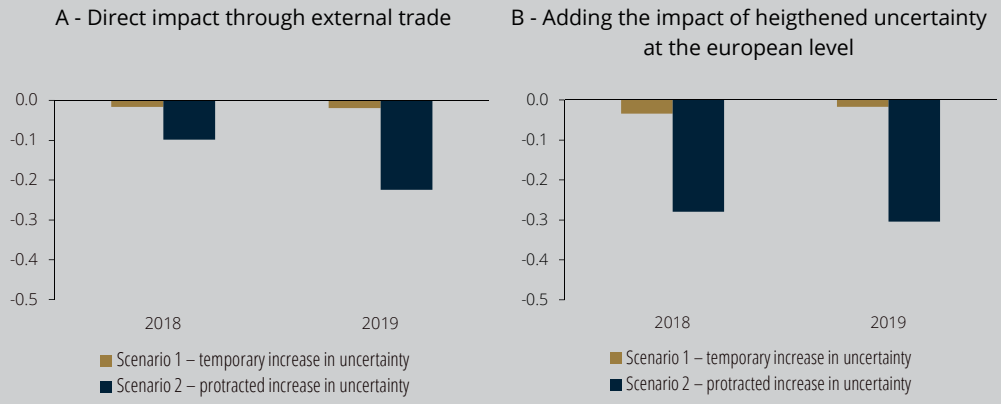
The impact on the Portuguese economy of lower growth in economic activity in Spain was estimated for the two alternative scenarios considered by Banco de España. In a first exercise, only direct repercussions from lower growth of Spanish economic activity and imports were taken into account, while other potential second-round effects were not considered.[19] Implementation of the scenarios considered required a number of working assumptions, specifically an estimate of the impact on Spanish imports, as the analysis conducted by Banco de España only shows the impact on GDP. The impact on imports was obtained using the average elasticity of imports to GDP underlying the macroeconomic projections produced by Banco de España for 2017-19.[20] Lower growth in Spanish imports results in lower growth in the indicator of external demand for Portuguese producers (Spain's share in this indicator is approximately 25%). Lastly, the elasticities implied in the main macroeconomic model for Banco de Portugal projections were used in order to assess the impact on GDP of the decline in external demand. The results obtained are summarised in Chart C.4.1A. In the first scenario, the impact on the rate of change in GDP is negligible, standing below 0.1 p.p. In the second scenario, the impact is of around 0.1 p.p. and 0.2 p.p. in annual GDP growth rates in 2018 and 2019 respectively.

In addition to the direct effect of the increase in uncertainty in Spain, an indirect effect may be considered arising from a simultaneous increase in uncertainty in Europe, in particular in the scenario

of protracted tensions in Catalonia. In order to estimate the impact of this increase in uncertainty at the European level on the Portuguese economy, a BVAR (Bayesian Vector Autoregression) model was used, which includes, in addition to a measure of uncertainty, GDP, employment, the interest rate and inflation.[21] Uncertainty is assessed through Banco de Portugal's Composite Indicator of Financial Stress for Portugal.[22] The modelling strategy for the shock closely follows the analysis carried out by Banco de España. Two alternative scenarios for an increase in uncertainty were estimated and compared with estimates for a scenario where the uncertainty indicator remains unchanged at the level observed in Q3 2017, in the period from Q4 2017 to Q4 2019.[23] The results for each of the alternative scenarios that had been previously considered, plus the effect of an increase in uncertainty at European level – including in Portugal – are shown in Chart C.4.1B.. These scenarios imply a more substantial decline in GDP growth relative to the direct effect scenario. In the scenario of a protracted increase in uncertainty, this impact reaches -0.3 p.p. in 2018 and 2019. However, the shock on uncertainty at European level may not be considered as fully independent from the shock on Spain, given the importance of the Spanish economy on a European scale.

Estimates shown must be interpreted with caution, as they depend on the assumptions considered when preparing the scenarios, as well as on the forecasting tools used. Nevertheless, this analysis illustrates the potential economic impact on the Portuguese economy from developments in the situation in Catalonia, which is a risk factor for projections shown in this *Economic Bulletin*.

Chart C.4.1 • Impact on the Portuguese GDP of alternative scenarios for the situation in Catalonia | Diferences vis-á-vis the baseline rates of change, in percentage points



Source: Banco de Portugal.

Notes

1. All values referring to the projection period included in this chapter are rounded to the first decimal place, and therefore the contributions to an aggregate may not add up.

2. Projections for the euro area and member countries mentioned in this article correspond to the Eurosystem's projection exercise, which also includes the projections for Portugal published in this *Economic Bulletin*. The results of the Eurosystem's projection exercise were published by the ECB on 14 December.

3. The relevant national account concept relating to private consumption is the resident concept, i.e., it refers to expenditure by residents in Portugal, whereas most short-term indicators relating to private consumption (ATM withdrawals/payments, turnover indices in services and retail trade) refer to expenditure made in the territory and therefore include expenditure made by tourists, which in the national accounts are registered as exports.

4. 'Discouraged' individuals are inactive workers who are available for work but not actively seeking a job, possibly because they do not believe the labour market offers jobs with the desired conditions.

5. Box 6 'The evolution of GVA, employment and productivity in the ongoing recovery: sectoral contributions', *Economic Bulletin*, October 2017 and Box 5.3 'Productivity and job reallocation in Portugal', *Economic Bulletin*, October 2016.

6. Box 5.1 'Capital per worker and productivity', *Economic Bulletin*, May 2017.

7. For the methodology used to calculate import content, as well as an analysis of its respective developments over time, see Cardoso, F., Esteves, P. and Rua, A. (2013) 'The import content of global demand in Portugal', Banco de Portugal, Autumn issue of the *Economic Bulletin*.

8. Import content was calculated from the symmetric matrices previously published in the Statistics Portugal's press release: 'Input-output matrices' of 29 December 2016.

9. Dias, A. and Domingos, E. (2011), 'Sistemas integrados de matrizes input-output para Portugal, 2008', *Documento de Trabalho n.º 7*, DPP (Departamento de Prospetiva e Planeamento). In addtion, the corresponding import contents detailed by product and by demand component were published in Dias (2016) "Evolução dos conteúdos importado, de valor acrescentado e de impostos da procura final em Portugal entre 1995 e 2015, com apresentação detalhada para 2008", Documento de Trabalho, Divisão de Estratégia, Planeamento e Estatística dos Serviços de Prospetiva e Planeamento (DEPE/SPP), Secretaria-Geral do Ministério do Ambiente.

10. In the press release on National Accounts for 2015 Statistics Portugal presented estimates of the 2015 import content only for total demand components, obtaining by weighing the 2013 import content by product with the expenditure structure of each final demand component in 2015 (the most recent year for which annual national accounts are available). These aggregated values for 2015 are similar to those for 2013 presented in this box.

11. The import content of 82 products for each (final) global demand component can be seen on Statistics Portugal's website (tables C.6.4 of the national accounts database).

12. 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.

13. For a definition of the reference person and a detailed analysis of the results of 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. 2, No 4, October 2016.

14. Given the assumptions for saving accounts, the positive impact obtained through interest on these deposits may be considered as an upper limit. Indeed, the pass-through of money market interest rates to interest rates on deposits tends to be partial (see Box 4.1, 'The impact of money market interest rates on Portuguese households' disposable income', Banco de Portugal, *Economic Bulletin*, Autumn 2012).

15. According to data from the 2013 HFCS, loans with an adjustable interest rate account for around 95% of the number of loans collateralised by real estate and around 25% of remaining loans.

16. The quartiles of a population, according to a given attribute, are the four groups comprising 25% of the elements of a population, obtained by listing the population in increasing order of this attribute. Consequently, the first income quartile of a population of households is the set of 25% of households with the lowest income and so on.

17. Banco de España, *Financial Stability Report*, November 2017.

18. For evidence on Portugal, see Manteu and Serra (2017), 'Impact of uncertainty measures on the Portuguese economy', *Banco de Portugal Economic Studies Vol. III/2*.

19. The crisis in Catalonia may also have a number of positive effects on the Portuguese economy, associated with phenomena of diversion of trade, tourism and investment flows from this region to Portugal. However, the intensity of this type of effect is very difficult to predict and was not taken into account in this analysis.

20. Banco de España, *Macroeconomic projections for the Spanish economy (2017-2019)*, September 2017.

21. This model and the uncertainty indicators used for Portugal are described in greater detail in Manteu and Serra (2017), 'Impact of uncertainty measures on the Portuguese economy', *Working Paper*, Banco de Portugal.

22. Braga, J. P., Pereira, I. and Reis, T. B. (2014), 'Composite Indicator of Financial Stress for Portugal', *Financial Stability Papers*, No. 1. In Manteu and Serra (2017) this indicator is considered the best proxy to assess the impact of uncertainty on GDP.

23. For scenario 1, the shock on the uncertainty indicator for Portugal assumes an increase in its level in the fourth quarter of 2017, corresponding to the 55th percentile in the distribution of the indicator (standardized). For scenario 2, this increase corresponds approximately to the 60th percentile of the indicator distribution. This increase in uncertainty is lower than that considered by Banco de España for the Spanish economy. In the first scenario, the shock on uncertainty is fully reversed in the following quarter. In the second scenario, the shock is linearly reversed over a period of two years, with the uncertainty indicator returning to the levels of the baseline scenario in the fourth quarter of 2019. The impact on Portuguese GDP growth is obtained as the difference between the conditional projections for developments in this aggregate in the alternative and baseline scenarios. These conditional projections also consider developments in the interest rate in line with the ECB's assumptions included in the projection exercise (Box 1).