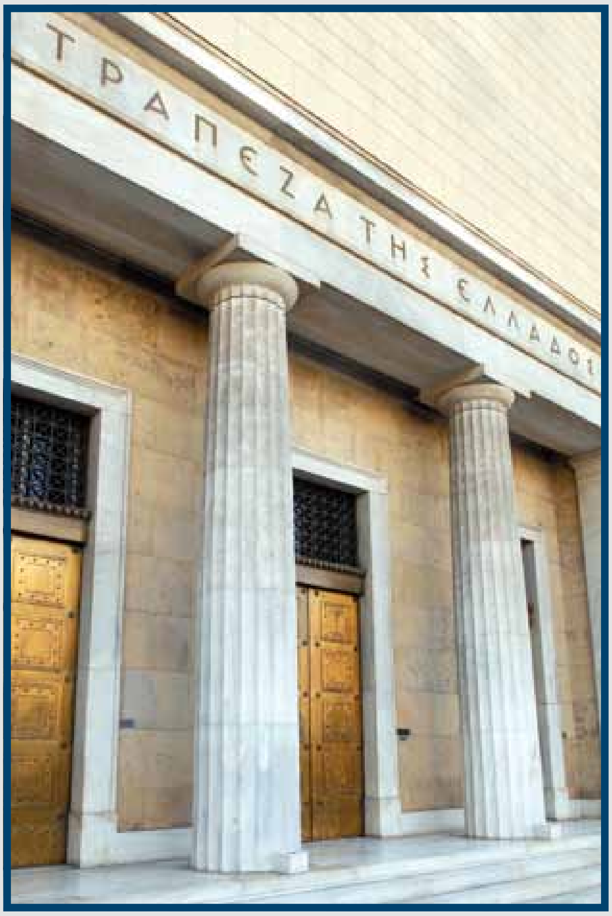
ANNUAL REPORT
2015

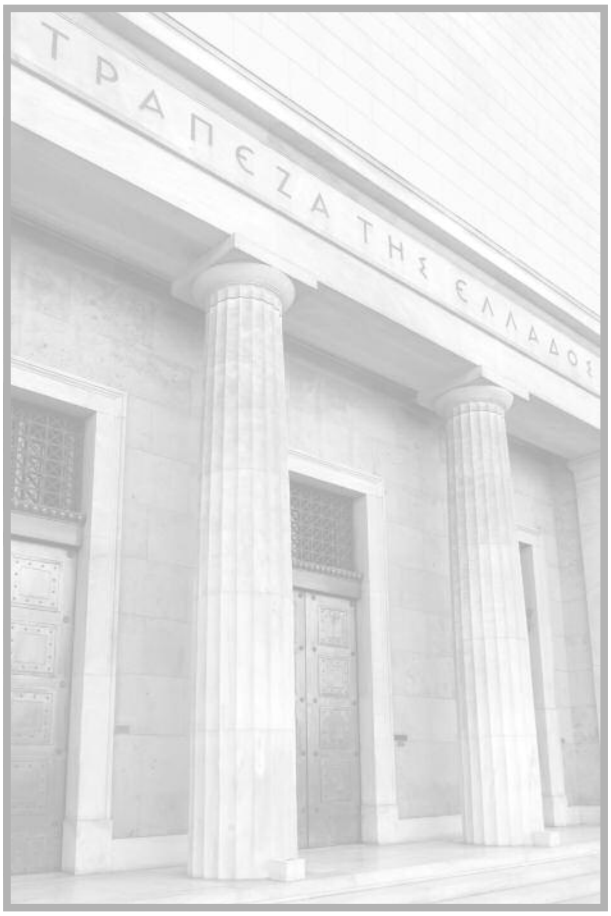


FEBRUARY 2016

BANK OF GREECE
EUROSYSTEM

ANNUAL REPORT
2015

Presented to the 83rd General Meeting of Shareholders
on 25 February 2016 by Governor Yannis Stournaras



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GENERAL COUNCIL

Yannis Stournaras	**Chairman – Governor**	
John (Iannis) Mourmouras	**Deputy Governor**	
Theodoros Mitrakos*	**Deputy Governor**	
Ilias Plaskovitis	Member of the MPC and Member	
Charalampos Stamatopoulos	»	
Georgios-Spyros Tavlas	»	
Andreas Andreadis	Member	
Dimitrios Asimakopoulos	»	
Evangelos Geraniotakis	»	*Term of office expires in 2016***
Georgios Mylonas	»	
Nikolaos Skorinis	»	
Michael Chandris	»	
Attending		
Stavroula Miliakou	General Commissioner of the State	

* By Presidential Decree 120/10.3.2015 (Government Gazette YODD 120/10.3.2015), Mr. Theodoros Mitrakos was appointed Deputy Governor of the Bank of Greece for a six-year term, in accordance with Article 29 of the Bank's Statute.
** The term of office of Mr. Evangelos Geraniotakis, elected by the Annual Ordinary General Meeting of Shareholders of 25.2.2013, expires at the Annual Ordinary General Meeting of 2016, in accordance with Article 21 of the Bank's Statute.

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I OVERVIEW OF ACTIVITIES IN 2015

1 FINANCIAL RESULTS FOR 2015

The profits of the Bank of Greece in 2015 came to €1,162.8 million, up from €654.5 million in 2014.

The Bank's total net income amounted to €1,897.5 million in 2015, compared with €1,118.2 million in 2014. Total expenses came to €734.7 million in 2015, from €463.7 million in 2014.

In accordance with Article 71 of the Bank's Statute, the General Council has decided to propose to the General Meeting of Shareholders that the profits of 2015 be allocated as follows: €13.3 million, or 12% of the Bank's capital, to be distributed as dividend, with the balance (€1,149.5 million) to be transferred to the State.

In greater detail, the Bank's income and expenses in financial year 2015 were as follows:

Income

The Bank's total net income from Eurosystem monetary policy operations, ELA operations, interest and commission fees, and other revenue from domestic and foreign operations increased by 69.7% to €1,897.5 million, from €1,118.2 million in 2014.

Specifically:

Net interest income and income from financial operations and the reallocation of Eurosystem monetary income totalled €1,763.8 million, up by 75.8% from €1,003.5 million in 2014.

Net income from fees and commissions increased by 22.2% to €89.8 million, from €73.5 million in 2014.

Income from equity shares and participating interests rose by €2.6 million to €31.6 million, from €29.0 million in 2014.

Finally, other income increased by 1.7% to €12.3 million, compared with €12.1 million in 2014. The bulk of this amount is income from operations carried out by the Printing Works Department (IETA) on behalf of the Greek State.

Expenses

Total expenses increased by €271.0 million to €734.7 million in 2015, from €463.7 million in 2014, mainly on account of the need for increased provisioning (€408.5 million in 2015, compared with €130.1 million in 2014).

In particular:

Operating expenses excluding provisions (staff costs, pensions, depreciation and other expenses) decreased by €7.4 million (-2.2%) to €326.2 million, from €333.6 million in 2014. This decrease can mainly be attributed to lower consultancy fees for the auditing of the banking system.

Staff costs and pension benefits fell by €1.9 million (-0.7%) to €256.8 million, from €258.7 million in 2014.

In the year under review, consultancy fees for the auditing of the banking system decreased by a substantial €7.7 million to €6.3 million, from €14.0 million in 2014.

Other administrative expenses increased by €2.7 million to €49.7 million in 2015, from €47.0 million in 2014.

Depreciation during the year decreased by €0.5 million to €13.4 million, from €13.9 million in 2014.

Provisioning remained high in 2015, with the setting aside of an additional €408.5 million.

High provisioning is in line with the principle of prudence followed by the ECB and the national central banks (NCBs) of the Eurosystem. This practice aims both to strengthen the financial position of the Bank of Greece, thereby enabling it to fulfil its duties in the best way possible, and to enhance its ability to address risks.

Cumulative provisions as at 31 December 2015 came to €7,198.5 million.

2 BANK OF GREECE ORGANISATION AND OPERATION

Organisational issues

As part of the reorganisation of the Bank's network, the outlets in Drama and Xanthi were shut down on 30 November 2015 and their business was transferred to the Bank's branch in Kavala. On the same date, the "notes held to order" (NHTO) schemes at the respective branches of the National Bank of Greece also ceased operating. Additional steps have been taken to enable the shutdown of Bank of Greece outlets in Rethymno (Crete) and Argostoli (Cephallonia), scheduled for early 2016.

Meanwhile, changes were made to the Bank's organisational structure in response to evolving needs. More specifically, organisational changes were made to the Human Resources and Organisation Department, the Department of Private Insurance Supervision, the Legal Department, as well as to the Bank Resolution Unit which was upgraded into a Department.

Buildings and technical works

In 2015, the Technical and Administrative Support Department continued its extensive maintenance and remodelling programme on the Bank's buildings and premises in Attica and other regions (branches and outlets). Meanwhile, a programme was launched for the study and execution of the following specific works:

- the regular upgrading of building and premises security;

- meeting the growing needs of the Bank's Departments and enabling them to function better;

- the study and implementation of an energy management plan for the Bank's major buildings, aimed at achieving greater energy- and cost-efficiency, better working conditions and at enhancing the Bank's social role through its own corporate social responsibility. The current legal framework (Directive 2002/91/EC, Law 3661/2008 and Joint Ministerial Decision D6/B/14826/2008) encourages institutions like the Bank of Greece to draw up and implement improved energy performance schemes.

Audit Committee

In 2015 the Audit Committee, in accordance with its mandate, assisted the General Council of the Bank in fulfilling its responsibilities by:

- reviewing the Bank's annual accounts to ensure data and information completeness and accuracy, in conformity with the applicable regulatory framework and legislation;

- submitting a report to the General Council on the preparation and audit of the Bank's annual accounts;

- evaluating the performance of the external auditors, especially as regards their auditing of the annual accounts and their independence;

- updating the policy for the selection and rotation of the external auditors for the auditing of the Bank's annual accounts;

- supervising the internal control system, including the Internal Audit Department and the Risk Management Unit;

- monitoring and evaluating the independence, efficiency and effectiveness of the Internal Audit Department.

Research activities

The Bank of Greece continued its active contribution to ongoing research on issues pertaining to the Greek and European economy, as part of the Eurosystem's research activities. Researchers from the Bank of Greece were involved in the Household Finance Consumption Survey and in the re-established Wage Dynamics Network, within the framework of which a business survey was conducted to assess labour market responses to the crisis. The results of the survey on Greece and its EU counterparts will be available to researchers shortly.[1]

Bank of Greece publications in 2015 included twelve Working Papers and two issues of the Economic Bulletin, with analyses of the Greek economy and articles on topical issues, as well as abstracts of the Working Papers published during the year.[2]

Research collaboration activities continued, with studies jointly conducted by experts from the Bank of Greece and domestic and/or foreign academic institutions with the participation of post-graduate students. The areas focused on include: (1) macro-sector model calibration and simulation for an analysis of the impact of the crisis in Greece; (2) saving and investment in the euro area; and (3) the growth challenges for an exit from the economic crisis in Central Greece.

Finally, a number of events including seminars, lectures and workshops with speakers from Greece and abroad were held to keep the economists of the Bank of Greece and of the broader academic community abreast of current research developments.

Centre for Culture, Research and Documentation

The Museum continued to provide financial education to the public. Since opening at end-2010, the Museum has had over 20,000 visitors, mostly from secondary schools and universities. At the end of 2015, a temporary exhibition, entitled "Michael Axelos (1877-1965) – Between two worlds", was unveiled on the occasion of 50 years from the passing of the first Greek designer of banknotes and coins, also a renowned artist.

Climate Change Impacts Study Committee (CCISC)

The Climate Change Impacts Study Committee (CCISC) of the Bank of Greece – under the Memorandum of Understanding signed in December 2014 by the Bank of Greece, the Ministry of Environment, Energy and Climate Change and the Biomedical Research Foundation of the Academy of Athens – played a vital part in the drafting of the "National Climate Change Adaptation Strategy (NCCAS)", subject to open consultation in December 2015.[3]

Also, in the context of the 21st Conference of the Parties (COP21) in Paris, the CCISC held the Greek part of the largest ever global citizen consultation on the environment (Athens World Wide Views on Climate and Energy) in collaboration with the Mariolopoulos-Kanaginis Foundation for the Environmental Sciences and the post-graduate programme "Environment and Health – Management of Health-Impacting Environmental Issues" of the Faculty of Medicine of the National and Kapodistrian University of Athens.

3 CHANGES IN THE COMPOSITION OF THE GENERAL COUNCIL

As the term of office of Bank of Greece Deputy Governor, Mr Ioannis Papadakis, was to end on 2 March 2015, the General Council of the Bank of Greece decided on 25 February 2015, under Article 29 of the Bank's Statute, to recommend to the Cabinet the appointment

1 For further information, see https://www.ecb.europa.eu/pub/economic-research/research-networks/html/index.en.html.
2 For further information, see http://www.bankofgreece.gr/Pages/en/Publications/Papers.aspx?Filter_By=13 and http://www.bankofgreece.gr/Pages/en/Publications/EcoBulletin.aspx?Filter_By=1, respectively.
3 For details, see Chapter X.

of Mr. Theodoros M. Mitrakos for the position of Deputy Governor for a six-year term. The recommendation was adopted by the Cabinet and the appointment of Mr. Mitrakos was finalised with the publication of the Presidential Decree of 9 March 2015 in the Government Gazette.

The term of office of Mr. Evangelos D. Geraniotakis, elected by the Annual Ordinary General Meeting of Shareholders of 25 February 2013, expires at today's Annual Ordinary General Meeting, in accordance with Article 21 of the Bank's Statute. The General Meeting will therefore be called upon to elect a new General Council member for a three-year term in his place.

The outgoing General Council member is eligible for re-election.

II THE COMPLETION OF THE REVIEW IS ESSENTIAL FOR AN EXIT FROM THE CRISIS

1 2016: A YEAR OF PRAGMATISM AND ADJUSTMENT

According to Bank of Greece estimates included in the present report, the conditions shaping the path of the Greek economy in 2016 appear to be more favourable than they did a year ago. It is therefore reasonable to anticipate that the recession will bottom out and that the economy will see a slight recovery during the second half of this year, provided that political stability is maintained and uncertainty, which hurts investor confidence, is eliminated.

This outlook is subject to strong uncertainties and high risks, associated both with international developments and with the pace at which the Greek economy will return to normality and adjust to the new conditions.

Risks from the international environment relate to: the refugee crisis and the manner in which the European Union (EU) as a whole will address it; the possibility of a British exit from the EU; the rise in terrorist attacks; a slowdown of global economic growth; and perhaps a new Asian crisis. These international developments could reinforce centrifugal trends in the EU and undermine European cohesion.

On the domestic front, the prospect of recovery hinges crucially upon a number of prerequisites, including reaching an agreement on the first review of the programme, credible commitment to implementing the programme, and action to restore political and economic stability and foster a return to normality. In order to respond and adjust to the fast changing global environment, the Greek economy, integrated into a globalised economy and exposed as it is to international competition, must first of all consolidate its position by effectively addressing its own problems. Any country that fails to keep up with European developments and lags behind is bound to be the one hardest hit in the event that the global environment should take a turn for the worse.

2 2015 SAW RISKS OF DEFAULT AND EXIT FROM THE EURO AREA, AVERTED IN THE END

The conditions prevailing at the start of 2015 augured poorly for economic developments. Economic uncertainty, already widespread since end-2014, increased further and peaked with the proclamation of the referendum, the launching of the bank holiday and the imposition of capital controls in late June. By that time, the risk of a devastating downslide had come into view, confirming the repeated warnings from the Bank of Greece, international organisations and the global community.

The worst was avoided with the agreement reached at the Euro Summit of 12 July 2015, with the Greek authorities committing to a set of measures as prior actions for negotiating a new programme with the European Stability Mechanism (ESM). The agreement confirmed the will to keep the country on its European path. At a political level, this was expressed through two major developments. First, in signing the agreement, the government signalled that it was opting for a path of cooperation and mutual understanding over one of confrontation with our partners. Second, the agreement was backed by the overwhelming majority of the opposition. This effective alignment on the common goal of keeping Greece in the euro area and the EU is unprecedented in Greece's recent political history, so often riven by acute confrontation and sharp division. If this broad alignment can be maintained despite the differences in approaches and views between the political parties, it could guarantee the political stability that Greece so drastically needs in order to break free of the crisis, return to normality and implement growth-conducive reforms.

Macroeconomic developments in 2015

Between 2008 and the end of 2013, the Greek economy lost a cumulative 26% of its Gross Domestic Product (GDP). After a short-lived rebound in 2014, it fell back into recession in the third quarter of 2015 (-1.9%). The rate of change in GDP remained negative (-1.9%) in the fourth quarter, coming to -0.7% for 2015 as a whole. Underlying this new downturn were political instability from the end of 2014 onwards, the protracted negotiations with our creditors in the first half of 2015, the bank holiday and the imposition of capital controls, as well as the new fiscal adjustment measures under the new Financial Assistance Facility Agreement, considered necessary to achieve the revised fiscal targets. The strengths of the Greek economy and of the domestic banking system were put to the test. However, the economy showed remarkable resilience, with the negative impact proving more moderate and shorter-lived than initially expected.

This resilience is associated with the implementation of the adjustment programmes since 2010, which —in spite of several delays and missteps— have succeeded in sharply reducing the major macroeconomic and fiscal imbalances. More specifically, the high fiscal deficit has been reduced, covering three quarters of the adjustment path towards the ultimate fiscal target (for a primary surplus of 3.5% of GDP by 2018, compared with a primary deficit of 10.1% of GDP in 2009).

The current account deficit and the loss of competitiveness have been addressed, while labour market rigidities and constraints have been reduced, leading to an increase in exports. There have also been signs of sectoral reallocation towards tradable goods and services and, more generally, towards the more productive businesses across economic sectors.

As opposed to the substantial progress made in recent years with fiscal adjustment, there have been delays with privatisations and the implementation of growth-enhancing reforms to the functioning of the public sector as well as the products and services markets. As a result, the beneficial effects on growth and employment were also slow in making themselves felt and only emerged in the course of 2014, with GDP growth returning to positive territory for the year as a whole (+0.7%), and in the first two quarters of 2015. The recovery would have gained traction and the overall outcome for 2015 and 2016 would have undoubtedly been positive and stronger, in line with the projections, if it had not been undercut by heightened uncertainty from the last months of 2014 until a new agreement was reached with our partners at the Euro Summit of 12 July 2015.

After a primary surplus of 1.2% of GDP in 2013, well above the target for a balanced primary budget, Greece's fiscal position deteriorated in 2014, on the back of political and economic uncertainty in the late part of the year, even though the primary balance remained positive, albeit small and falling considerably short of the targeted 1.5% of GDP. In the course of 2015, fiscal aggregates showed strong fluctuations, reflecting developments in tax revenue, public investment expenditure and government arrears. Following a downward revision of the primary balance target to a deficit of 0.25% of GDP (from an earlier target for a 3.0% surplus) and the adoption of additional fiscal measures, the primary budget in 2015 is expected to have been balanced or slightly in surplus.

Moderate GDP growth in the first half of 2015, back into recession in the second half

The performance of the Greek economy in the first half of last year was driven mainly by a rise in private consumption and an improvement in the external sector with an increase in goods exports and tourism and a decline in imports. By contrast, investment demand dropped further amid a worsening economic and financial environment. Meanwhile, employment rose reflecting sustained positive growth in certain sectors of the economy and buoyant tourism. Other factors that supported job creation were the restructuring of the labour market towards more flexible forms of employment and the maintenance of unit labour costs at low levels. As a result of the above, the unemployment rate fell to 24.6% in November 2015, still the highest in the EU.

Inflation, at -1.1%, remained in negative territory for the third consecutive year, although the general level of prices has been showing positive changes since December 2015 for the first time in 33 months, mainly on account of the increase in VAT rates.

Positive growth in the first half of 2015 can be attributed to continued momentum from the 2014 rebound. However, the adverse developments that unfolded in the first half of the year fuelled conditions of extreme economic uncertainty, putting Greece's growth course on hold and sending the economy back into recession from the third quarter onwards.

Nevertheless, the growth prospects for Greece remain positive. Key macroeconomic indicators tracking the economy's fundamentals suggest that the output losses, mainly arising from the negative impact of economic instability prevailing last year, may have been smaller than initially expected.

3 THE MAJOR CHALLENGE OF 2015: SAFEGUARDING FINANCIAL STABILITY

Against the background of uncertainty that prevailed in the first half of 2015, it became crucially important to safeguard financial stability under threat from a pick-up in deposit outflows, a spike in non-performing loans (reversing the picture that had begun to emerge in the course of 2014), the non-eligibility of Greek securities as collateral in Eurosystem monetary policy operations and, above all, the heated debate over a possible Greek exit from the euro area.

At these most difficult of times, the Bank of Greece fulfilled its primary duty arising from its participation in the Eurosystem and from its Statute, namely to safeguard monetary stability and support liquidity in the domestic banking system. To this end, the Bank provided funding to the banking system through the emergency liquidity assistance (ELA) mechanism. The bank holiday and the capital controls succeeded in containing the deposit outflows and the capital flight, but not without creating new problems. The ensuing distortions in the capital market, as well as in the goods and services markets, have had indirect repercussions that cannot be gauged as yet. On a positive note, however, the capital controls have encouraged the use of electronic money. There is already strong evidence that the widespread use of e-money has supported private consumption and tax revenue, by reducing the informal economy. Thus, one first policy implication is that the use of e-money needs to be strengthened further, through appropriate incentives, mainly tax-related.

Once the agreement was reached on 12 July, steps were taken to relax the capital controls as soon as possible and decentralise decisions, in an aim to minimise the inevitable impact on the real economy. Meanwhile, the Bank of Greece contributed decisively to the successful recapitalisation of banks, necessary after the new challenges posed by the mass deposit withdrawals and rising non-performing loans.

In these dire circumstances, the Bank of Greece took a number of additional actions aimed foremost at safeguarding financial stability. More specifically, the Bank (i) ensured the unobstructed and prompt supply of banknotes to the banking system in response to the marked increase in cash withdrawals in the first half of 2015; (ii) has participated in and housed the Committee for the Approval of Bank Transactions, staffed mostly with Bank of Greece personnel, and continues to work closely with the European Central Bank and the relevant ministries on the gradual lifting of the capital controls; (iii) conducted stress tests on those banks that are outside the scope of the Single Supervisory Mechanism (SSM); (iv) imposed stricter reporting requirements on banks with regard to non-performing loans and activated the Code of Conduct for the management of such loans; (v) remained a source of reliable information for international investors, thereby contributing to the successful recapitalisation of banks. Furthermore, the Bank of Greece assisted private insurance companies with preparations ahead of the entry into force of the Solvency II framework as from January 2016.

With regard to the formulation and implementation of macroprudential policy, the Bank of Greece defined a policy strategy for the exercise of its macro-prudential tasks. The objective of this strategy is to enable the timely identification of systemic risks and the use of appropriate macro-prudential instruments for their prevention and mitigation. In this context, the Bank of Greece developed a methodology to define the capital buffer rate for Greece. This macro-prudential instrument needs to be countercyclical, i.e. it should help to smooth out the business cycle, so as to mitigate the risks from excessive credit growth, typically observed during upturns, and encourage lending during downturns.

4 THE INTERNATIONAL AND EUROPEAN ENVIRONMENT

Despite maintaining its growth momentum, the world economy recorded a weaker performance in 2015 relative to the previous year and to initial projections. This modest performance stemmed mainly from a slowdown in emerging market economies and notably China. Growth in the advanced economies as a whole picked up, driven by higher real disposable income of households and private consumption, as well as by lower unemployment. The continued downward trend in international oil prices also had a positive impact on world economic growth, by drastically containing energy costs. Inflation in the advanced economies declined significantly to nearly zero (0.3%). The existence of a sizeable output gap at the global level and the drop in oil prices were the main factors behind very low inflation.

The economic recovery in the euro area picked up pace in 2015. For the third consecutive year, GDP growth in the euro area was positive (1.5%) and significantly higher than in 2014 (0.9%). The recovery was supported by a strengthening in private consumption and an increase, albeit small, in investment. These favourable developments are attributable to continued monetary policy accommodation from the ECB and to the launch of a quantitative easing programme in March 2015, designed to steer inflation closer to 2% in the medium term and to boost economic growth in the euro area, as well as to the ensuing weakening of the euro.

The outlook for 2016 is positive on the whole, although subject to significant risks. Economic activity is expected to pick up slightly in both the advanced and the emerging market economies, while world trade is projected to increase on the back of progress with further trade liberalisation. More optimistic are the growth forecasts for the US and euro area economies. However, increasing income inequalities in advanced economies remain a source of concern.

On the other hand, considerable uncertainties arise from macroeconomic and financial interactions, the potential negative economic repercussions of the refugee-migrant flows to Europe, the possibility of a British exit from the EU, the risk of a greater slowdown of the Chinese economy and an escalation of geopolitical tensions among the Asian oil-producing countries, a surge in global terrorist attacks and a gradual tightening of monetary policy in the US, although the latest indications suggest that this is likely to be pushed back.

5 THE SINGLE MONETARY POLICY

In 2015, the Eurosystem's asset purchase programme was expanded to include bonds issued by euro area central governments, agencies and European institutions. Through this shift to a more accommodative stance, the single monetary policy had a favourable impact on monetary and credit dynamics, inflation expectations and inflation.

During the first months of the programme's implementation, the downward trend of medium to long-term inflation expectations was halted, bank interest rates and the exchange rate of the euro fell, money and credit growth strengthened further and inflation returned to positive territory.

More specifically, the implementation of the expanded asset purchase programme as of March 2015 served to contain the cost of borrowing from banks and relax the non-interest rate terms and conditions applicable to loans. Differences in bank financing costs across euro area Member States narrowed, and the availability of bank credit to businesses and households increased.

Furthermore, the downward trend of inflation expectations in the euro area was halted. Market-based measures of medium to long-term inflation expectations followed a slightly upward path through almost all of 2015.

In December 2015, the Governing Council of the ECB, seeing that the return of inflation to levels consistent with price stability in the medium term had slowed, decided to increase the degree of monetary accommodation. In this context, the duration of the expanded asset purchase programme (APP) was extended until the end of March 2017 or beyond, in conjunction with the decision to reinvest the principal payments on the securities purchased under the APP, and the interest rate on the deposit facility, already in negative territory, was further lowered.

6 FINANCIAL SYSTEM

Capital markets

During the first half of 2015, developments in Greek government bond yields reflected the dragging-on of the government's negotiations with our international creditors. The surrounding uncertainty drove Greek government bond yields sharply upward, especially in shorter maturities, despite the favourable European environment arising from the adoption by the Eurosystem of a quantitative easing policy. With the agreement of 12 July 2015, uncertainty receded and the yields on Greek government bonds gradually fell back to the levels prevailing at end-2014.

Corporate bond yields also trended sharply upwards in the first half of the year, more a reflection of the climate of uncertainty than of a worsening of issuers' fundamentals. Once the agreement was reached, corporate bond yields declined in the second half of 2015, but still remain high. Stock valuations were particularly volatile, especially in the banking sector, while the stocks of manufacturing firms showed resilience.

However, the situation started to deteriorate since the beginning of the current year. The delays in reaching a completion of the first review of the stabilisation programme triggered a new bout of investor uncertainty, as reflected in sharp drops in valuations both for shares, especially those of banks, and government bonds whose yield spread once again widened to over 1,000 basis points.

A stronger banking system in the wake of recapitalisation

The main developments in the banking system in 2015 were the strengthening of banks' capital base through capital increases with a strong private investor uptake, the bank holiday and the imposition of restrictions on cash withdrawals, cross-border payments and capital movements and other bank transactions, and the smaller-than-anticipated impact of these restrictions on bank aggregates.

The recapitalisation of Greek banks was successfully completed in December 2015, with a substantial participation of private investors. Greece's four significant banks managed to cover the capital needs identified by the ECB's stress tests. The necessary funds came from: (a) foreign investors, who placed around €5.3 billion; (b) capital mitigating actions amounting to €0.6 billion; and (c) liability management exercises (voluntary bond swap offers to bank bondholders) that yielded about €2.7 billion.

For the two banks that did not fully cover their capital needs, based on the adverse scenario, from private sources (totalling about €5.4 billion), the necessary additional funds were drawn from the HFSF. Thus, the public resources used proved to be far less than the amount of €25 billion foreseen by the Eurogroup in August 2015.

Moreover, banks' reliance on ELA has decreased, and the ceiling has been reduced by about €18.5 billion since end-August. The lower ceiling reflects the improved liquidity situation of Greek banks amid easing uncertainty and a stabilisation of private sector deposit flows, as well as, to a large extent, progress with the recapitalisation of Greek banks.

The gradual restoration of confidence resulted in an, albeit small, return of deposits. More than €2.5 billion returned to the banking system from 20 July 2015 onward, date on which banks reopened, with the restrictions on the banking system and on capital movements remaining in force to this day.

An effective management of non-performing loans is urgently needed

2015 saw a halt in the decline of new NPL formation. Non-performing exposures as a percentage of total exposures (NPE ratio) rose to 43.6% by end-September 2015 (December 2014: 39.9%). This deterioration was visible and similar in size (roughly 4 percentage points) across all loan categories. In particular, the NPE ratio reached 55.4% for consumer exposures, 43.3% for business exposures and 39.8% for housing exposures. This can in part be attributed to the postponement of the implementation of the Code of Conduct on the management of NPLs and to the less active loan portfolio management on the part of banks, which seemed to focus mostly on short-term solutions. However, from the third quarter onwards, especially after recapitalisation, banks appeared to step up their efforts towards more active NPL management. The effort towards long-term solutions to this major problem, tailored to the profile of borrowers, should benefit from the high-level operational targets for NPL resolution to be set by the Bank of Greece, in consultation with banks, applicable as from June 2016 and subject to monitoring on a quarterly basis. The requirement on banks to achieve these targets, coupled with the newly enacted legal and institutional framework, concerning, among other things, the establishment of a secondary market for NPLs, the speeding-up of judicial proceedings and the streamlining of the real estate collateral liquidation process, is expected to contribute to a gradual decline in the NPL ratio. In any event, the banks need to continue to pursue prudent provisioning policies and maintain capital adequacy ratios safely above the regulatory minimums.

Turning to the private insurance market, 2015 was marked by efforts from companies to adjust their governance systems and infrastructures to the requirements of the operational and supervisory framework for insurance and reinsurance undertakings, known as Solvency II, applicable as from 1 January 2016.

7 THE OUTLOOK FOR 2016

The completion of the first review will enhance the prospect of recovery

Contrary to 2015, 2016 could mark the beginning of a way out of the crisis and onto a path of sustainable growth. As mentioned previously, however, there are a number of major challenges, arising not only from unpredictable developments in the international environment but also, more importantly, from potential risks to the domestic macroeconomy, such as delays in the completion of the first review of the new stabilisation programme or failure to implement the programme's actions.

Real GDP growth is expected to be negative, at least during the first half of 2016, largely reflecting a carry-over effect from 2015. However, as already mentioned, the objective conditions are in place for Greece to exit recession and come closer to positive growth from the second half of the year. This is also conditional on a number of steps that will help to avert risks and strengthen the prospect of recovery.

The first step, and the one with the most crucial bearing on future developments, is the successful completion of the first review of the programme, currently in progress. This, in an initial phase, will require the completion of the social security reform and the alignment of farmer income taxation. These are not just prior actions for the review of the programme. They are necessary to ensure the sustainability of the social security system and of public debt and to restore social and tax equity both across generations and across taxpayer groups.

A positive review would boost the real economy and open the way for discussions on debt relief

A positive completion of the review would benefit the real economy in a number of ways:

- by bringing about a major improvement in confidence, thereby contributing to a faster return of deposits to the Greek banking system;

- by enabling a decision to reinstate Greek securities as eligible collateral in Eurosystem monetary policy operations, providing Greek banks with access to lower-cost funding from the ECB;

- by allowing Greek government bonds to be included in the ECB's quantitative easing programme;

- by bringing forward the further relaxation and ultimately lifting of capital controls.

All of the above, coupled with the successful recapitalisation of banks and the more efficient management of non-performing loans, will restore normality to the banking system. The banks' higher funding capacity will in turn boost their capacity to lend to the real economy, translating into lower borrowing costs for businesses and households. These more favourable financing conditions will bolster growth.

Over the medium term, the successful completion of the first review will prove to be decisive, in that it will open the way for discussions with our partners on further debt relief measures. Such measures would ensure the sustainability of public debt in a manner that contains the government's annual financing needs at manageable levels. Among other beneficial effects, this would directly ensue in a relaxation of the ultimate fiscal target and free up funds for channelling into investment, thereby supporting output and employment.

For the first time in 33 months, the change in the general level of prices turned positive (0.4%) in December 2015, mainly on account of increases in indirect taxes, in particular VAT rates. These recent increases are expected to cause prices to rise in 2016 as well, owing mainly to a carry-over effect from 2015. On the other hand, the anticipated downturn in the first half of this year and, more importantly, the continuous drop in international oil prices should largely offset these increases. For 2016 as a whole, inflation is projected to turn out at positive levels, assuming that international oil prices partially recover.

Risks and uncertainties

The forecast of a recovery in the second half of this year is, at present, clouded by considerable uncertainty, which on the domestic front relates to the outcome of the long-pending first review. Any setback or extensive further delay in this area would weaken and, in a worst case scenario, even ruin the prospects outlined above. This would trigger a new cycle of economic destabilisation, financing constraints, even deeper recession and serious impasses, similar to the ones experienced in the summer of 2015.

A second set of uncertainties and risks relates to the refugee-migrant inflows and the manner this serious problem will be addressed not only by Greece, but more importantly by the EU as a whole. Should we, as a nation, fail to stay in sync with European policy choices and to promptly deliver on our commitments, there is no telling what the European reaction might be. Nor, for that matter, can we forecast what the stance of the EU Member States will be, even if Greece fully delivers on its commitments. In any event, the possibility of restrictions being imposed on the free movement of persons and goods cannot be ruled out, with the following serious implications for the Greek economy:

– For one, Greek tourism would be the first sector to suffer from a delay or, worse yet, failure to effectively manage the refugee crisis, with the refugee flows expected to continue and even intensify in the months ahead.

– Second, the possibility that large numbers of refugees could end up stranded on Greek soil calls for timely planning and preparations, in order to, among other things, address any social cohesion concerns. Furthermore, public expenditure would need to be increased to cover the costs of healthcare and provisional or more permanent housing for an increasing number of refugees and migrants.

– Third, moving goods from Greece would become much more costly, thereby hurting the country's international competitiveness.

– Fourth, foreign investors could be deterred from choosing Greece as a gateway for their goods into Europe.

The presence of these risks is all the more reason for the first review to be rapidly completed and for implementation of the programme to continue unobstructed.

8 PRECONDITIONS FOR AN EXIT FROM THE CRISIS AND FOR SUSTAINABLE GROWTH

An end to the recession and recovery from the second half of 2016 are within reach, provided that the problems and risks outlined above are effectively addressed. However, moving further along from recovery to sustainable growth will require long-term policies and strong commitment to implementing the new financial assistance agreement. The factors that will ultimately determine success are: acceptance and ownership of the programme; perseverance and consistency in implementing the necessary actions; open dialogue; and political and social consensus.

Over the past years, the Greek economy has been following an arduous road of adjustment, at great social cost, but also with tangible results. Little remains to be done, compared to the bulk of the effort already made. In order to cover the remaining ground, the following steps need to be taken:

• Acceleration of reforms

The programmes implemented over the past years were focused on fiscal adjustment and succeeded in sharply reducing the twin deficits. However, there were delays in the implementation of reforms, which, if made outright, would have reduced the extent and severity of the recession. This is the area on which we now need to focus. Specifically, the reforms needed in the services sector (transport, energy, telecommunications, trade) involve lifting restrictive regulations that stifle competition. In the labour market, as envisaged in the agreement, the reforms involve bringing the collective dismissal and industrial action frameworks and collective bargaining into line with best practices internationally and in the EU. They also involve legislating a modern quality framework for vocational education and training (VET)/apprenticeships, tackling undeclared work and streamlining existing labour laws and consolidating them into a Labour Law Code. Finally, in the field of public administration, a reform programme needs to be implemented, geared towards capacity-building and de-politicisation. Concrete steps need to be taken towards simplifying administrative processes, overhauling structures, expanding modern technology usage, optimising human resources, and strengthening transparency and accountability.

• Further strengthening of the banking system

The completion of the recapitalisation of Greek banks with strong participation of private investors was successful. As mentioned previously, the banks only used €5.4 billion of public funds, compared with an initially estimated €25 billion. Meanwhile, banks' reliance on Emergency Liquidity Assistance (ELA) decreased in the second half of 2015. Looking forward, a return to financial normality would help restore public confidence in the domestic banking system, thereby leading to a gradual return of deposits. Moreover, the new institutional framework for the management of non-performing loans (NPLs) will help banks to consolidate their assets, thereby enabling them to finance the real economy and contribute to a shift to a growth model that favours competitive and outward-oriented businesses. Furthermore, steps have been taken to clearly define the terms and conditions for the protection of primary residence, to streamline bankruptcy and insolvency procedures and to restore honest relations between creditors and debtors. All of the above have already been enacted, but need to be implemented without any faltering and wavering or parallel decisions that would undermine their effectiveness.

• Privatisations and utilisation of public real estate

The scaling-up and successful implementation of the privatisations and public real estate utilisation programme will have a multiplier effect, with long-lasting gains for the domestic economy. First, privatisation proceeds can be used to gradually pay off public debt, supporting fiscal adjustment. Furthermore, when accompanied by a strong commitment to future investment, privatisations enhance the inflow of funds for productive investments that stimulate employment and aggregate active demand.

In the field of privatisations, some progress has been made, but a number of decisions, still pending, need to be made without further delay. As estimated by the Bank of Greece, privatisations hold a huge potential, which, if properly exploited, could yield far more revenue than the quantitative targets. This points to the need for a strategic plan that will map out the targets, uses and forms of the desired investments and provide a stable and comprehensible framework for prospective investors. The development of this plan will be assigned to the Hellenic Republic Assets Development Fund, which according to the agreement must have been established by mid-2016. This is a commitment that must be adhered to, and, in this context, the objectives of this fund, which will be reorganising the privatisations and public real estate utilisation programme, need to be clearly outlined.

• Continued fiscal consolidation through a redefined fiscal policy mix

The revision of the primary surplus targets frees up resources for channelling into the real economy. However, the current policy mix remains a serious drag on growth. Without relaxing the efforts towards budgetary discipline, the focus of fiscal policy needs to be growth-friendly, i.e. on cutting taxes, reducing the consumption expenditure of the public sector and increasing public investment expenditure. The lopsided focus, so far, on increasing labour and business income tax rates, as well as social security contributions, provides incentives for tax and contribution evasion and encourages undeclared work, erodes the competitive advantages of Greek firms and discourages job creation. As a result, any improvement in the fiscal balance is only temporary and self-reversing, preventing a lasting reduction of the debt-to-GDP ratio. Instead, rationalising public administration and cutting non-productive operating costs would prove to be more effective fiscal consolidation tools.

• Encouraging business investment and protecting private investors

Greece has been plagued by serious investment inertia. Between 2007 and 2014, total investment expenditure as a percentage of GDP fell by half. Underlying this disinvestment are anaemic demand, political and economic uncertainty, as well as financing constraints. The prompt rebound of business investment expenditure is key to sustainable growth. The restoration of economic and political stability that would strengthen investor confidence and encourage aggressive business investment plans, a rapid shift of the domestic production model from non-tradable to tradable goods and services and an easing of financing constraints would be instrumental in stimulating business investment expenditure. Actions such as the enactment of a new development law with clear growth incentives, and initiatives from the financial system to ease financing constraints are deemed necessary. Furthermore, the Greek State must help restore investor confidence and protect private investors by ensuring a stable, business-friendly economic environment. This can be achieved through the establishment of a simple, clear-cut and stable tax and legal regime fostering healthy entrepreneurship.

• Improving competitiveness – increasing exports

The competitiveness gains achieved by the Greek economy at considerable social cost do not seem to have been fully exploited. These gains, together with improved labour market flexibility, are strong incentives for investment initiatives. Despite the recouping of losses in international competitiveness, mainly in unit labour cost terms, exports have yet to record the anticipated upward dynamics. This can in part be explained by the lack of financing, comparatively higher long-term borrowing costs, as well as the higher tax burden, which slows or even halts progress towards recovering overall competitiveness. However, it is also due in part to a number of inherent structural weaknesses that hamper the international market penetration of Greek products and involve non-cost aspects such as product quality, protected designation of origin and branding, red tape, etc.

• Combatting high unemployment

The gradual decline observed in unemployment and the continued recovery of the employment rate have been supported by the active employment policies implemented through programmes and actions using resources from the National Strategic Reference Framework (2014-2020).

In order to fight high unemployment, in particular long-term and youth unemployment, the active employment policies and the vocational training programmes in place need to be constantly improved and expanded; their effectiveness also needs to be increased, which requires results-based review and monitoring. Moreover, the enhancement of employment support schemes should go hand in hand with action against undeclared and uninsured work.

• Education reform

The road to growth entails knowledge, research, innovation and lifelong learning. The exit of Greek society from the crisis can only be achieved through its transformation into a society of creative citizens, capable of preserving and expanding its human capital stock. In this context, the education reform currently being debated, which forms an integral part of the national growth strategy, must be based on five pillars: (a) evaluation of the Greek education system at all levels with a view to enhancing innovation and entrepreneurship; (b) rationalisation of curricula across all educational levels, as well as of the functioning and governance of higher education institutions, while enhancing the efficiency and autonomy of public educational units; (c) breaking the hold of corporatist interests on the education system; (d) increasing funding, which still remains low; and (e) transparency at all levels.

• Halting the brain drain

Soaring unemployment and the deep economic recession have caused part of Greece's human resources to leave the country, with alarming implications for the country's demographics, public finances, pension system and, to the extent that those who leave are highly-skilled, the quality of the remaining labour force. In order to reverse this brain drain, the Greek State must take measures aimed at: (a) redefining the types and forms of academic and vocational specialisation needed to improve skill matching for the young generations; (b) supporting business start-ups; (c) combatting mediocracy, the lack of transparency and nepotism; (d) promoting excellence; (e) expanding apprenticeship and internship schemes; and (f) fostering a business-friendly environment.

• Supporting social cohesion and tackling poverty

Sustainable growth hinges upon social cohesion, under threat at present from rising poverty, income inequality and social exclusion. Although based on the results of the latest EU-SILC survey (2014), both indices, namely the poverty gap and the relative risk of poverty in Greece, decreased somewhat, the relative risk of poverty is still the third highest in the EU-28. Moreover, the number of households living below the poverty line has increased. Public debate should therefore focus on the need to redesign both the policy of social transfers, in order to increase their effectiveness in tackling poverty, and the education system, to ensure that it provides equal learning opportunities at all levels of education to those facing social exclusion. Under the agreement with our partners, Greece has committed to improving the planning of its social welfare system, to launching a complete revision of the existing system with support from the World Bank, in order to set up a genuine social safety net. This will include the gradual national roll-out of a Guaranteed Minimum Income (GMI) as of 1 April 2016.

* * *

The Greek economy has already come a long way, and there is only a short distance from here to an exit from the crisis. In order to avert any setbacks and obstacles on the path towards growth, all existing potential must be fully exploited, avoiding past mistakes that only led to vicious circles and impasses.

Today, the exit from the crisis is within sight, but remains subject to prerequisites. In order to get there, we must remain committed to honouring the terms of the agreement, which must not be seen as imposed on us by our creditors, but as fundamental and necessary reforms that should have been implemented years ago. The Greek side must take ownership of the programme as a necessary means towards adjustment and reform. In addition, however, the changes which must be incorporated into a national growth plan, are geared towards supporting (a) output; (b) investment; (c) the "knowledge triangle" (education, research, innovation); and (d) the new generation. This national plan must be both a new growth and a social pact for the creation and mobilisation of resources to support productivity, new businesses and jobs. These are the orientations that will enable the Greek economy to exit the crisis once and for all and return to a virtuous circle of growth and employment.

III THE INTERNATIONAL AND THE EUROPEAN ECONOMIC ENVIRONMENT[1]

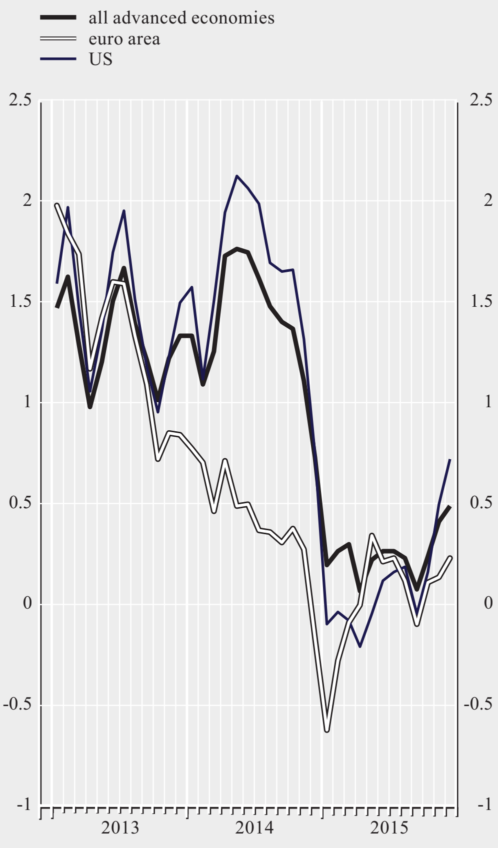
In 2015, the ***world economy*** *is estimated to have grown at a rate of 3.1%, the lowest since the deep recession of 2009. This modest performance is mainly attributed to a slowdown of growth in emerging economies. Economic developments in 2015 were marked by a considerable fall in world oil and other commodity prices, which brought inflation rates in the advanced economies to very low levels (see Chart III.1). The outlook for 2016 appears positive, as a small acceleration of GDP growth is expected in both advanced and emerging and developing economies, along with an increase of world trade volumes. However, serious challenges remain, such as smoothly absorbing the shift in US monetary policy towards a less accommodative stance, managing the impact of the high public and private debt legacy of the economic crisis, as well as addressing the poor performance of investment and productivity growth.*

Growth in the ***euro area*** *is estimated at 1.5% in 2015 and projected to slightly pick up to 1.7% in 2016. Inflation stood at very low levels in 2015 (0.0%), and is expected to gradually rise in the course of 2016. The accommodative monetary policy of the ECB had a positive contribution to the recovery of the euro area economy and is expected to continue working towards a gradual normalisation of financial market conditions, particularly after the enhancement of quantitative easing measures in early December 2015. The effect of fiscal policy is expected to be neutral to slightly favourable following the considerable fiscal consolidation in recent years. There remains however considerable uncertainty, linked to the impact of the slowdown in emerging economies, especially China (see Box III.1), as well as potential economic implications of the refugee crisis and geopolitical tensions, while the effects of the lower world oil prices and exchange rate of the euro may be less favourable in 2016.*

The countries of ***SE Europe*** *continued to record positive growth rates in 2015. GDP is expected to grow at relatively high rates (3%), also on account of the gradual recovery in the euro area.*

Chart III.1 Consumer Price Index in advanced economies (January 2013-December 2015)

(annual percentage change, monthly data)



Source: IMF.

1 DEVELOPMENTS AND PROSPECTS IN THE WORLD ECONOMY AND THE EURO AREA – POLICY RESPONSES[2]

World economy

The growth of **world economic activity**, having remained unchanged at around 3.4% for three consecutive years, is estimated to have decelerated to 3.1% in 2015, reflecting the persist-

1 The cut-off date for information and data used in this Chapter is 12 February 2016.

2 Main sources of data: European Commission, *European Economic Forecast, Winter 2016*, February 2016; OECD, *Economic Outlook No. 98 Prelim. Version*, November 2015; International Monetary Fund, *World Economic Outlook Update*, January 2016 and *World Economic Outlook*, October 2015; and European Central Bank, "Eurosystem staff macroeconomic projections", December 2015.

Table III.1 Key macroeconomic aggregates of the world economy

	Number of countries	Share in GDP[1] (%)	Output (annual percentage changes in real GDP)			Inflation[2] (annual percentage changes)			Fiscal balance[3] (% of GDP)			Gross government debt (% of GDP)			Current account balance (% of GDP)		
			2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
World total	**189**	**100.0**	**3.4**	**3.1**	**3.6**												
1. Advanced economies	*36*	*42.9*	*1.8*	*1.9*	*2.1*	*1.4*	*0.3*	*1.1*	*-3.4*	*-3.1*	*-2.6*				*0.4*	*0.5*	*0.3*
United States		15.9	2.4	2.5	2.6	1.6	0.1	1.1	-4.1	-3.8	-3.6	104.8	104.9	106.0	-2.2	-2.6	-2.9
Japan		4.4	0.0	0.6	1.0	2.7	0.7	0.4	-7.3	-5.9	-4.5	246.2	245.9	247.8	0.5	3.0	3.0
United Kingdom		2.4	2.9	2.3	2.1	1.5	0.0	0.8	-5.7	-4.4	-3.1	88.2	88.6	89.1	-5.1	-5.0	-4.7
Euro area	19	12.2	0.9	1.5	1.7	0.4	0.0	0.5	-2.6	-2.2	-1.9	94.5	93.5	92.7	3.0	3.7	3.6
2. Emerging and developing economies	*153*	*57.1*	*4.6*	*4.0*	*4.3*	*5.1*	*5.5*	*5.6*	*-2.6*	*-4.3*	*-4.0*				*0.5*	*-0.1*	*-0.2*
China		16.6	7.3	6.9	6.3	2.0	1.5	1.8	-1.2	-1.9	-2.3	41.1	43.2	45.9	2.1	3.1	2.8
Russia		3.3	0.6	-3.7	-1.0	7.8	15.8	8.6	-1.2	-5.7	-3.9	17.8	20.4	21.0	3.2	5.0	5.4

Sources: IMF, *World Economic Outlook Update*, January 2016 and *World Economic Outlook*, October 2015, and for the euro area and the United Kingdom: European Commission, *European Economic Forecast, Winter 2016*, February 2016.
Note: Estimates for 2015 and forecasts for 2016.
1 Percentage share in world GDP in 2014, based on purchasing power parities.
2 HICP for the euro area and the UK. CPI for the other countries. Year averages.
3 Of general government.

ent five-year-long slowdown in emerging and developing economies (see Table III.1).

Advanced economies maintained a satisfactory rate of GDP growth in 2015 (1.9% in 2015, 1.8% in 2014, and just 1.1% in 2013), although still standing below its long-term average (in 1980-2008 the average annual GDP growth of advanced economies was 2.8%). Recovery in advanced economies was considerably supported by the stronger real disposable income and private consumption (2.3%, compared with 1.7% in 2014), resulting from lower global commodity prices and unemployment rates. However, despite continued expansionary monetary policies by the central banks and very low interest rates, real fixed capital formation remained subdued and indeed decelerated (2.6%, from 2.9% in 2014). As regards developments in individual countries, GDP growth accelerated slightly in the euro area, turned positive in Japan and continued at a satisfactory pace in the United States.

In more detail, GDP growth in the **United States** is estimated to have picked up a little (2.5%, from 2.4% in 2014), as the considerable fall in fuel prices and the further decline in unemployment strengthened disposable income and private consumption. In **Japan,** the rate of change in real GDP is estimated to have turned positive (0.6%, from 0.0% in 2014), while the fiscal deficit as a percentage of GDP kept narrowing in spite of higher public expenditure. However, inflation remained in positive territory but was lower than the targeted 2%, leading the Bank of Japan to adopt new accommodative monetary policy measures in January 2016. Satisfactory but slower growth was observed in the **United Kingdom** in 2015 (2.3%), and the same is expected for 2016 (2.1%), compared with 2014 (2.9%).

Inflation declined significantly in advanced economies in 2015, to nearly zero (0.3%), from 1.4% in 2014. The persistence of a large output gap, albeit smaller than in the previous year, combined with the sharp drop in both world crude oil prices (down by 47.1% in average annual terms against 2014) and other commodity prices had a negative effect on the level of prices in the euro area, in spite of upward price pressures from the downward path of the euro.

In **emerging and developing economies**, GDP growth decelerated further in 2015, to 4.0% from 4.6% in 2014, mainly due to the recession in the economies of the Commonwealth of Independent States (-2.8%) and Latin America (-0.3%). Some large commodity-exporting emerging economies (e.g. Russia, Brazil) were particularly hit by the sharp drop in the international prices of crude oil, metals and other commodities.

In **China,** GDP growth has been slowing down since 2011; it is estimated to have stood at 6.9% in 2015 and is expected to decline further to 6.3% in 2016. The economy is going through a change in its production model, with a shift from investment and manufacturing to consumption and services, which inevitably entails a gradual adjustment to lower but still high and sustainable rates of growth in exports, credit expansion and investment. Following the depreciation of the renminbi by the central bank of China in the summer, which resulted in considerable capital outflows and caused a turmoil across money markets in Asia and beyond, the moves of the central bank seem to have achieved a stabilisation of the exchange rate. Nevertheless, in late 2015 investor expectations of a further depreciation of the renminbi brought about a sharper drop of stock market indices and stronger capital outflows, leading to a new and intensified turmoil mainly in foreign exchange markets in early 2016. For the impact of these developments on the economies of the euro area, see Box III.1.

The uncertainty surrounding the renminbi in foreign exchange markets is also associated with the gradual transition to a market-determined exchange-rate-setting framework, a transition that is also linked with the decision to **include** the Chinese currency in the Special Drawing Rights (SDRs) basket of the IMF.[3] This decision is expected to strengthen the process of China's integration in the global monetary and financial system and render its monetary and exchange rate policy more predictable. Still, the transition to a new framework for setting the exchange rate poses considerable challenges for the Chinese authorities, which is also signalled by responses in capital markets.

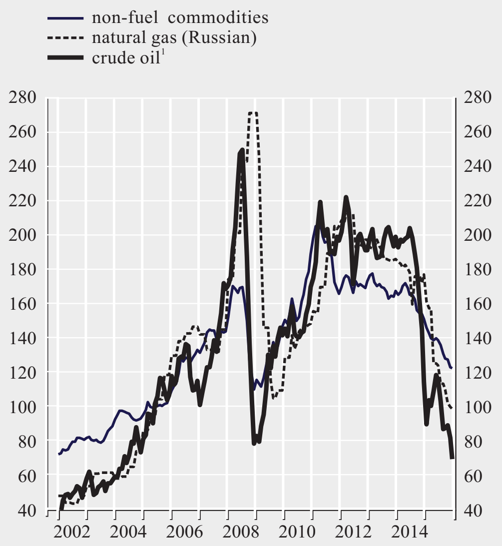
The **growth in the volume of world trade in goods and services** declined significantly in 2015, to 2.6% compared with 3.4% in 2014, instead of picking up by 3.2% as was expected even as late as in October 2015. World trade was negatively affected mainly by the anaemic imports demand from emerging and developing economies, particularly China, a trend that was partly offset by an acceleration in export volumes in some of these countries, possibly due to lower commodity prices. In 2016, world trade is projected to grow by 3.4%. In recent years world trade has been characterised by low rates of growth, clearly below those recorded before the economic crisis. In other words, a reduction attributable to both cyclical and structural factors is observed in world trade elasticity to global GDP.[4]

World crude oil prices have been declining since mid-2014, and in 2015 their average annual levels fell by 47.1% in US dollar terms (after a 7.5% decrease in the previous year), and by 35.9% in euro terms (see Chart III.2), as lower than expected global demand coincided with higher total supply of crude oil, due to increasing competition over global market shares, mainly between the Arab OPEC countries and the US. The latter, after introducing new technologies for shale gas extraction, has reduced

3 The decision was made by the IMF Board of Governors on 30 November 2015, but will enter into force on 1 October 2016 so as to allow SDR users enough time to adjust their transactions. With this decision, the relative weights of currencies in the SDR basket will stand as follows: US dollar 41.73%; euro 30.93%; Chinese renminbi 10.92%; Japanese yen 8.33%; and pound sterling 8.09%.
4 See Special Feature II.1 "The slowdown of global trade: causes and prospects", Bank of Greece, *Monetary Policy 2014-2015*, June 2015.

Chart III.2 Global commodity prices (January 2002-December 2015)

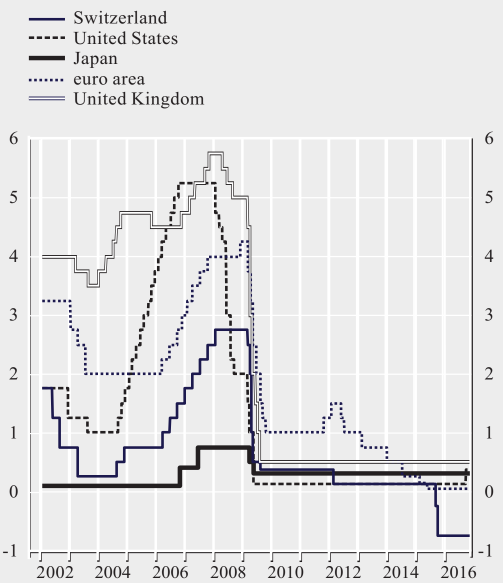
(market prices, monthly averages, 2005=100)



Source: IMF.
1 Average global price of three types of crude oil (UK Brent, West Texas Intermediate and Dubai).

Chart III.3 Key central bank rates (1 January 2002 - 31 January 2016)

(percentages per annum; daily data)



Sources: Euro area: European Central Bank, interest rate on main refinancing operations; United States: Federal Reserve Bank, federal funds target rate; Japan: Bank of Japan, official discount rate; UK: Bank of England, repo rate; Switzerland: Swiss National Bank, average target range for three-month Libor.

in recent years its energy dependence from abroad. In fact, in January 2016, the US started exporting crude oil.

The **international prices of non-fuel commodities** fell in 2015 by 17.4% in US dollar terms (compared with a 4.0% decrease a year before), and by 0.7% in euro terms, with the individual metal and food commodity indices declining by 23.1% and 16.0%, respectively.

The **monetary policy** stance in advanced economies has not been uniform after the Federal Reserve System decision of 16 December 2015 to raise its target rate by 0.25 percentage points. The US monetary policy stance is expected to remain restrictive in 2016. The other advanced economies maintained extremely accommodative monetary policies. In fact, in early 2015 the Swiss National Bank set negative key interest rates in an effort to discourage the observed large capital inflows and curb the ensuing appreciating pressures on the Swiss franc (see Chart III.3). The Bank of Japan decided in January 2016 to complement its quantitative and qualitative easing measures with a negative interest rate (-0.1%) on deposits held with it by financial institutions, in a move similar to the setting of a negative deposit facility rate by the ECB.

The **improvement in the fiscal position** continued in the larger advanced economies as a whole and **gross government debt as a percentage of GDP started to decline in 2015**. The higher GDP growth and the narrowed output gap supported government efforts in this direction. Following the considerable correction of excessive fiscal imbalances in **current account terms** (deficits) after the big recession of 2009, priority is now shifted to the correction of the large imbalances in **terms of stocks** (public and private debt), so as to weaken systemic risks for the global economy.

Prospects for 2016 remain positive, as world GDP growth and world trade are projected to progressively recover. In 2016, both advanced and emerging and developing economies are expected to contribute to a pick-up of **world GDP growth** to 3.6%. However, the US Federal Reserve System's raised target rate is accompanied by a risk of capital outflows and increased (mainly private) debt burden in US dollars for developing and emerging economies.[5] Moreover, challenges for the world economy in 2016 include the risk of further decelerated growth rates and competitive depreciations in emerging economies, low productivity and a low growth rate of potential output. Geopolitical risks in the Middle East remain a significant factor of a possible slowdown.

5 For the effect of the slowdown in these economies on the euro area, see Box III.1.

Box III.1

DEVELOPMENTS AND PROSPECTS IN CHINA AND OTHER EMERGING ECONOMIES: IMPACT ON THE EURO AREA

1 Economic developments

In light of the continued moderation in China's growth and the rebalancing of its economy, the increased volatility of its currency's exchange rate, the adjustment of its stock market indices, as well as the monetary and foreign exchange market interventions carried out by the Chinese authorities in summer 2015 and early 2016, refuelled discussions over possible effects of the country's slowing economic growth on the world and particularly the European economy.

The contribution and impact of emerging and developing economies on global economic developments is quite important, since it has been steadily growing for almost two decades. The share of these economies in global GDP, which in terms of purchasing power parity (PPP) stood at 36.8% in 1999, has gradually risen to 45.4% in 2004 and 57.1% in 2014. China in particular, the largest emerging economy, accounted for 16.6% of global GDP and carried out 10.5% of global exports of goods and services in 2014, whereas ten years earlier it had produced 13.2% of global GDP and had carried out 5.9% of global exports.

However, in the past five years the Chinese economy has been going through a phase of deceleration and rebalancing, of a rather structural nature, as can be seen among other things in the level and composition of its imports. GDP growth in China in 2015, despite its deceleration for the fifth consecutive year, remained high and is estimated to have stood at 6.9%, compared with an average of 9.2% in the period 1996-2011. Currently a further deceleration of GDP growth is projected, to 6.3% in 2016 and 6.0% in 2017. The slowdown observed so far was mainly due to reduced investment activity, both residential and industrial. The real estate market has been going through a phase of correction since 2014, while subdued global demand has curbed exports and investment, more than offsetting the satisfactory course of private consumption.

The consecutive reductions of the Chinese key interest rates in the course of 2015, as well as the interventions in the exchange rate of the renminbi by the country's monetary authorities (depreciation against the US dollar by 2% last August and by 0.5% in January 2016), added to uncertainty, as they were seen as partly confirming market concerns about a potentially more abrupt slowdown. With the markets anticipating a further weakening of the economy and the exchange rate, but also with the authorities' interventions in order to prevent a larger decline of the exchange rate, net capital outflows and a decrease in the country's reserve assets were already observed since mid-2014. Foreign reserve assets, after reaching an all-time high in June 2014 ($3.99 trillion), have since been almost steadily decreasing, standing at $3.33 trillion in December 2015.

2 Impact on economic activity

The potential impact of a possibly more abrupt slowdown in China and other emerging economies on the EU economy are various and complex. First of all, it should be noted that the problem revolves mainly around the projected weaker growth in China, given that emerging economies as a whole, as well as the largest of them individually, are expected to either pick up in 2016 (India, Mexico) or record a more moderate recession (Russia, Brazil).

Direct effects through the external trade are negative, but limited, and seem unable to notably weaken the euro area's recovery pace. China absorbs roughly 3.7% of euro area exports and is the second most important destination market (the US stand first with 6.3%). However, the export shares of Germany, Finland, France and Malta to China stand above the euro area average.

The **structure of euro area export trade** is such that, despite the anticipated slowdown in China's GDP growth, the rate of increase in the volume of euro area exports in 2015-2017 is expected to stand higher than in 2012-2014, remaining nevertheless lower than before.

According to European Commission's simulations, the **direct impact** of a 1% lower than the baseline scenario GDP growth in China in 2016 and 2017 would lead to a 0.2% and 0.3% lower euro area GDP in 2016 and 2017 respectively, compared with the baseline scenario. In addition, according to OECD's simulations, a possible further slowdown in the growth rate of domestic demand in China by 2% in the years 2016-2017 would result in a 0.3% slower global GDP growth per annum.

But **trade spillover effects** through the impact on other emerging as well as advanced economies may prove to be more significant for euro area total exports, since China's import volumes are decelerating considerably (projected average annual increase in import volumes 2.7% in 2015-2017, compared with an average annual increase of 8.4% in the previous three years). More specifically, the subdued world trade in goods already negatively affects international transports and, combined with the increased total cargo capacity, lowers sea transport freight rates (mainly dry cargo), and consequently shipping receipts in certain countries such as Greece.

The effects **through the financial markets and the banking sector** are limited. Direct financial links between the euro area and China are small, mainly due to existing limitations on cross-border transactions and financial activities. European banks have a low direct exposure to China, while the EU28 countries, unlike the US, have small shares of foreign direct investment in China, less than 2% of the respective totals.

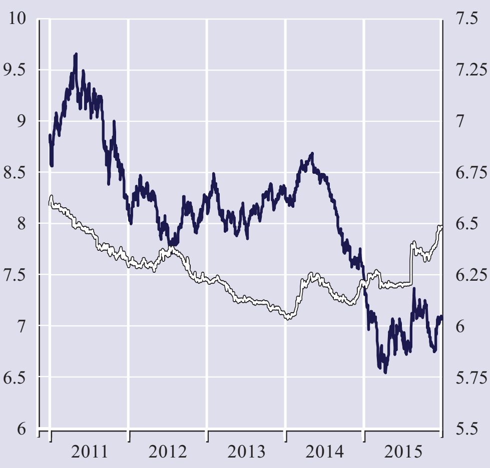
However, the impact **through confidence** may prove to be more serious. High volatility and synchronised investment risk aversion, leading to lower stock prices and higher risk premia, may have a larger impact in case more adverse scenarios materialise, mainly via increased borrowing costs. The OECD estimates that such a scenario, involving a larger decline of domestic demand in China over two years accompanied by a decline in confidence, would lead to a 15% reduction in stock prices worldwide and an increase in risk premia in all economies by 50 basis points. The potential negative effect on the euro area GDP in this case rises to 0.6% for 2016 and 0.8% for 2017. According to these estimates, the impact on the economies of the US, Japan, Russia and India will be stronger.

At the same time, China is among the largest consumers of energy and metals (11% and 50% of the respective global totals). Direct effects **on the level of prices** in the euro area attributable to a lower demand for commodities by China are already visible and have a positive impact on real disposable income and corporate profits in the EU economies. In the event the adverse scenario materialises in China, the drop in international prices will be larger, as will also be the positive effects on these aggregates.

So far, **exchange rate developments** had no clear effect on euro area's external trade. As the renminbi is pegged to the US dollar, which has been appreciating, mainly since 2014, the real effective exchange rate of the Chinese currency has appreciated substantially in recent years (up 40% in 2005-2014 in nominal effective exchange rate terms). Initially in early August, and then since November 2015, the Chinese currency has been losing ground in foreign exchange markets, remaining nevertheless considerably stronger than in previous years. The depreciation of the renminbi against the US dollar in 2015 had no adverse effect on the euro area, as the euro depreciated more vis-à-vis the US dollar, and thus appreciated to an extent against the Chinese currency.

Bilateral exchange rates of the Chinese renminbi (CNY)

(monthly data, indices: 2005=100)



Source: ECB.

3 Conclusions

The turmoil in Chinese capital and foreign exchange markets since summer 2015, together with the economic slowdown, are expected to have both direct and indirect effects on the EU economy, which are estimated to be **limited**. The spillover effects of a generalised investor response to potential risk, via the confidence channel, are expected to be more important than the direct impact through a weaker growth of world trade or financial transactions. But such effects seem unable to notably weaken the euro area's recovery pace.

Sources: OECD, *Economic Outlook*, No 98, Nov. 2015, Box 1.2 "The global impact of weaker demand growth in China";
EC, *European Economic Forecast, Autumn 2015*, Nov. 2015, Box I.2 "Spill-overs from the slowdown in China on the EU economy – channels of contagion";
IMF, *World Economic Outlook*, October 2015, Scenario Box 1, "A Structural Slowing in Emerging Market Economies".

Euro area

Economic recovery in the euro area continued for a third consecutive year in 2015 and GDP growth is estimated to have picked up to 1.5%, from 0.9% in 2014. Recovery relied more on domestic demand and mainly private consumption, which grew by 1.7%, from 0.8% in 2014, while investment growth also accelerated. Economic activity was strengthened by the fall of oil prices, the expansionary monetary policy of the ECB, and the relatively weaker euro. These positive factors more than offset the negative effect of the continuing slowdown in emerging economies and world trade.

All economies in the euro area and the EU28, including those that are or were under an economic adjustment programme, recorded positive and increasing growth rates, except for Greece and Finland, where (according to the

European Commission) growth was zero in 2015. GDP growth remained broadly unchanged in Germany, picked up in France and Spain, and turned positive in Italy after three years of recession.

Inflation in the euro area continued to decline and reached zero in 2015 (from 0.4% in 2014), while it is expected to gradually rise and stand, according to the European Commission, at 0.5% in 2016. The main driver of developments in the general level of prices was the decline in import prices, which were shaped by the large fall of international prices, mainly of fuel, metals and other commodities. The quantitative easing programmes of the ECB and the fall of the effective exchange rate of the euro are expected to continue supporting demand and to exert upward pressures on the general level of prices, partly offsetting the effect of the continuous drop of commodity prices.

The **rate of unemployment** increased significantly during the crisis period, but then started to decline, following developments in economic activity with a certain time lag. In 2015 it came down to 11%, from 11.6% in 2014. In the euro area economies that experienced an acuter crisis and had the most serious internal and external imbalances and structural weaknesses before the crisis, the rate of unemployment, although declining, remains particularly high. It is estimated that in 2015 the highest unemployment rates in the euro area were recorded in Greece (25.1%), Spain (22.3%), Cyprus (15.5%), Portugal (12.6%) and Italy (11.9%). According to surveys and analyses,[6] a considerable part of high unemployment in euro area countries is structural and attributable to delays in structural reforms, mainly the deregulation of markets for goods and services.

The **monetary policy of the ECB** became more accommodative in 2015. The ECB adopted a series of standard and non-standard monetary policy measures in order to prevent the development of deflationary conditions in the euro area, as well as support the subdued investment activity. The ECB decided to launch a **quantitative easing programme** in the first quarter of 2015, expanding the asset purchase programme with the addition of purchases of securities issued by public sector entities in the euro area up to a monthly ceiling of €60 billion. In late 2015 the ECB announced that the asset purchase programme would be extended by six months, i.e. will run at least until March 2017, with a view to bringing inflation rates close to 2% and further increasing the credit supply achieved in 2015.[7]

The **fiscal deficit** in the euro area as a whole fell to 2.2% of GDP in 2015, from 2.6% in the previous year. However, the structural balance, i.e. the deficit net of cyclical factors and temporary measures, is estimated to have remained virtually unchanged. The neutral effect of fiscal policies after the considerable adjustment in recent years is estimated to have facilitated economic recovery in the euro area countries. The euro area **gross government debt** is estimated to have slightly declined, for the first time after several years, to 93.5% of GDP in 2015, from 94.5% in 2014. In Ireland and Portugal gross government debt as a percentage of GDP fell in 2015, while it continued to increase in Greece, Cyprus, Spain and Italy.

The even more accommodative monetary policy in the euro area, coupled with the announcement of the intention of the US Federal Reserve to gradually change its very accommodative monetary policy in the course of 2015, pushed down the **exchange rate of the euro** vis-à-vis the US dollar and the pound sterling by 16% and 10%, respectively, compared with 2014 (average levels of the period).

The **outlook for the euro area** remains positive, as the factors that had a positive effect in 2015 will continue to be favourable in 2016 as well, albeit to a lesser extent. The European Commission forecasts that GDP growth will accel-

6 See, e.g., ECB, *Monthly Bulletin*, October 2014; European Commission, *Quarterly Report on the Euro Area*, Vol. 14, No 3, October 2015; and *OECD Economic Surveys: Euro Area*, April 2014.

7 For details, see Chapter IV, "Single monetary policy and monetary developments in the euro area".

erate to 1.7% in 2016 and 1.9% in 2017. Factors that will continue to restrain growth include the low growth rate of potential GDP after the crisis, demographic developments and the low total factor productivity, as well as the high private and public sector levels of borrowing. A significant challenge for the European institutions and the EU economy is to successfully address the refugee crisis.[8]

8 A recent IMF study analyses some economic dimensions of the refugee crisis (see IMF, "The refugee surge in Europe: Economic challenges", January 2016).

Box III.2

POLICY MEASURES IN THE EU AND THE EURO AREA

1 Developments in the new financial assistance facility programme for Greece

On 14 August 2015 the **Eurogroup approved a new Financial Assistance Facility** for Greece through the European Stability Mechanism (ESM). The programme's funding ceiling was set at €86 billion, while so far €16 billion have been disbursed to cover financing requirements. Also, the ESM made available, through the Financial Stability Fund, €5.4 billion for the recapitalisation of the Greek banks, which was successfully concluded in December 2015 with a considerable participation of foreign private investors, as well as of the World Bank and the European Bank for Reconstruction and Development.

2 Policy measures and legislative proposals

The initiatives of the European Commission geared towards a deeper Economic and Monetary Union (EMU) continued in 2015 and are expected to intensify in the course of 2016. These initiatives are based on the **"Report of the five Presidents"** (of the European Commission, the Euro Summit, the Eurogroup, the European Central Bank and the European Parliament) which was published in June 2015 and lays down an action plan for the completion of a "genuine EMU" by 2025. The measures envisaged relate to promoting the economic, financial, fiscal and political integration of the EU in three stages. The first stage, which extends until 2017 and shall rely on existing means for making best possible use of the Treaties in force, will be aimed at increasing competitiveness, completing money market integration, maintaining responsible fiscal practices and enhancing democratic accountability. In the second stage, the convergence process would be made more binding and adherence to standards would be among the conditions for a Member State to participate in a shock absorption mechanism. In the final stage, at the latest by 2025, a genuine, stable and prosperous EMU would be in place.

Among the European Commission's recommendations in 2015 is the review of the European Semester, the establishment of national competition councils, the unified representation of the euro area vis-à-vis international organisations such as the IMF, the establishment of a European Deposit Insurance Scheme[1] and the creation of a European Fiscal Board (EFB), which will be advising the Commission on fiscal issues. On 22 December 2015 the European Council confirmed the commitment for EMU integration, setting as priority areas over the next period a more effective economic and fiscal governance, the external representation of the euro area and the Banking Union.

On 26 November 2015 the European Commission published its **Annual Growth Survey (AGS)**, which focuses on the policy priorities of the European Union for 2016 in the areas of investment, structural reforms and responsible fiscal policies, including stronger emphasis on employment and

1 See Proposal for a Regulation in order to establish a European Deposit Insurance Scheme, COM(2015) 586, final, 24 November 2015.

social performance. In the spirit of the above, relating to a strengthened EMU, and in the context of improving economic governance, the 2016 AGS separates the European Semester into two phases. The first, extending until February each year, pertains to the analysis of the financial, social and fiscal situation of the euro area as a whole, while the second phase (February to June) focuses on individual national conditions and policies.

The 2016 AGS is also accompanied by a Commission proposal for the establishment of a **Programme for Structural Reform Support** for all Member States requesting assistance in the adoption and implementation of structural reforms, either under the European Semester or an economic adjustment programme, or on their own initiative in order to achieve sustainable investment, growth and job creation. Assistance will also be provided for an effective and efficient use of structural fund resources. This programme will cover, through technical assistance, the financing of training programmes, analyses, impact assessment and estimations, experts' missions, the organisation of on-site operating structures in areas such as asylum and immigration, etc.

2 THE ECONOMIES OF SOUTH-EASTERN EUROPE

In 2015 all South-Eastern European economies[9] are estimated to have recorded **positive growth rates**. In the majority of these countries, GDP growth is expected to be considerably improved compared with the previous year, standing at 3.0% on average in 2015, against 1.8% in 2014. The Serbian economy appears to overcome the strong shock it experienced in 2014 (due to the spring floods), recovering with a positive sign (0.8%). According to the latest projections,[10] the growth momentum of the past two years seems to be picking up in the course of 2016 in almost all SE European economies and average annual growth is projected to exceed 3.0%. The underlying factors supporting this trend are numerous and differ across countries. Common factors, such as a rebound in foreign demand from euro area countries, strengthened by the quantitative easing policy of the ECB, as well as the rapid fall of global energy and raw material prices, seem to have a beneficial effect on the export performance of most countries. In fact, in some economies increased foreign demand from EU countries plays an offsetting role against anaemic domestic markets.

In the third quarter of 2015, **average annual GDP growth** in the four Western Balkan countries, i.e. Albania, Montenegro, FYROM and Serbia, was 3.2%, which is one percentage point stronger than in the previous quarter, whereas growth in Bosnia and Herzegovina slowed down to 3.1%, from the high 4.3% in the second quarter. In Montenegro and Serbia this positive course was largely based on solid investment developments combined with continued strong performance of their export sectors (tourism for Montenegro). By contrast, the part of demand related to (public and private) consumption continued to record negative signs also in the third quarter. In Albania consumption rebounded in the third quarter, contributing positively to growth, again supported by the strong rate of investment activity (+12.6%), which was nevertheless lower than in the previous quarter (+18.5%). The growth rates in all five countries of the Western Balkans are expected to stand stronger in 2015 (2.9% on average). Also, projections for 2016 seem to exceed 3.0%, definitely leaving behind the "meagre" 1.4% of 2014.

In the third quarter of 2015 the economy of **Bulgaria** showed signs of fatigue despite the strong performance of its export sector,[11] as

9 Albania, Bosnia and Herzegovina, Bulgaria, Montenegro, Former Yugoslav Republic of Macedonia (FYROM), Romania, Serbia and Turkey.
10 European Commission and IMF.
11 Exporters in Bulgaria took advantage of higher demand from the recovering euro area, as well as from third, non-EU countries, due to the depreciation of the euro-pegged Bulgarian currency.

Table III.2 Key macroeconomic and banking indicators in South-Eastern European countries

Country	GDP (annual percentage changes)						
	2013	2014	2015e	2016f	Q1 2015	Q2 2015	Q3 2015
Albania	1.1	2.0	2.7	3.2	2.8	3.0	3.0
Bosnia-Herzegovina[2]	2.4	1.4	4.0	-	2.3	4.3	3.1
Bulgaria	1.3	1.5	2.2	1.5	2.3	2.4	1.3
FYROM	2.9	3.5	3.3	3.3	3.2	3.3	3.5
Montenegro	3.5	1.8	3.9	4.0	3.2	3.7	4.2
Romania	3.5	3.0	3.6	4.2	4.3	3.3	3.6
Serbia	2.6	-1.8	0.8	1.6	-2.0	0.9	2.2
Turkey	4.2	2.9	3.1	3.4	2.5	3.8	4.0

Country	Inflation (averages, annual percentage changes)						
	2013	2014	2015e	2016f	Sept. 2015	Oct. 2015	Nov. 2015
Albania	1.9	1.6	1.9	2.3	2.2	2.1	2.1
Bosnia-Herzegovina[2]	-0.1	-0.9	0.6	-	-	-1.8	-1.9
Bulgaria	0.4	-1.6	-1.1	-0.1	-0.1	-0.6	-0.4
FYROM	2.8	-0.3	-0.3	0.7	-0.2	-0.5	-0.3
Montenegro	1.8	-0.5	1.5	1.9	2.4	1.9	1.7
Romania	3.2	1.4	-0.4	-0.2	-1.7	-1.6	-1.6
Serbia	7.9	2.1	1.2	2.4	1.4	1.4	1.3
Turkey	7.5	8.9	7.7	9.0	8.0	7.6	8.1

Country	Balance of payments (% of GDP)[1]							Fiscal balance (% of GDP)			
	2013	2014	2015e	2016f	Q1 2015	Q2 2015	Q3 2015	2013	2014	2015e	2016f
Albania	-10.5	-12.9	-10.9	-11.9	-12.3	-10.8	-10.9	-5.0	-5.1	-3.5	-2.3
Bosnia-Herzegovina[2]	-5.5	-7.8	-9.0	-	-	-6.9	-6.5	-2.1	-2.0	-	-
Bulgaria	-0.5	0.7	1.9	2.2	0.7	0.8	2.6	-0.8	-5.8	-2.5	-2.3
FYROM	-1.6	-0.8	0.2	0.2	0.1	0.3	0.4	-3.9	-4.2	-3.8	-3.5
Montenegro	-14.5	-15.2	-12.9	-13.4	-	-16.2	-12.6	-5.2	-2.8	-7.0	-6.6
Romania	-0.6	-0.4	-1.0	-2.1	-	-	-	-2.2	-1.4	-1.1	-3.0
Serbia	-6.1	-6.0	-5.1	-4.9	-6.2	-5.4	-5.2	-5.5	-6.6	-3.8	-3.7
Turkey	-7.8	-5.8	-4.8	-4.4	-5.8	-5.8	-5.4	-1.3	-1.5	-1.4	-1.7

Country	Capital Adequacy Ratio (%)					Loans/Deposits (%)		NPLs (%)				
	2013	2014	Q1 2015	Q2 2015	Q3 2015	2014	Sept. 2015	2013	2014	Q1 2015	Q2 2015	Q3 2015
Albania	18.0	16.8	15.8	16.0	17.6	55.5	55.0	24.0	23.9	22.8	20.9	25.0
Bosnia-Herzegovina[2]	15.1	15.5	15.1	15.0	-	115.2	107.0	14.5	15.1	14.2	14.1	13.8
Bulgaria	16.9	20.6	22.0	22.3	22.3	80.2	85.6	17.2	17.2	17.2	17.2	17.2
FYROM	16.8	15.6	16.0	16.2	16.2	94.7	92.2	10.9	11.6	11.3	11.2	11.5
Montenegro	14.4	-	-	-	-	115.1	97.0	18.4	16.8	16.7	16.5	14.7
Romania	15.0	17.3	18.6	18.1	18.7	90.6	92.7	21.9	13.9	13.9	12.8	12.3
Serbia	19.9	19.4	20.2	21.4	21.2	113.7	112.3	21.1	21.1	22.6	22.8	22.0
Turkey	15.3	14.0	13.3	13.1	12.0	117.9	116.7	3.0	3.0	2.8	2.9	2.9

Sources: European Commission, *European Economic Forecast*, February 2016, *EU Candidate & Pre-accession Countries Economic Quarterly*, January 2016, International Monetary Fund (IMF) and national central banks.
1 Four-quarter moving averages.
2 IMF forecasts for Bosnia-Herzegovina.
e=estimate, f=forecast.

GDP grew by only 1.3%, down from 2.4% and 2.3% in the first two quarters of the year. On the other hand in **Romania** domestic demand (private consumption and investment) continued to drive the economy's strong growth rate, with the annual GDP growth in the third quarter of 2015 standing close to 3.6%, against 3.3% and 4.3% in the previous two quarters. In both countries, GDP growth rates are expected to improve in 2015 as a whole. Especially in Romania, the annual growth rate is projected to stand at 3.6% in 2015 and exceed 4% in 2016, up from 3.0% in 2014. In **Turkey**, the largest economy of the region, growth maintained high levels, with the annual GDP growth rate in the third quarter of 2015 standing at 4%, driven in this quarter by consumption (public and private, +3.4%) rather than investment (-0.5%). For the year as a whole, GDP is estimated to have grown by 3.1%, while in 2016 it is projected to stand closer to 3.4%. The latest dramatic events (violent terrorist attacks), combined with continued geopolitical tensions at the borders (Syrian crisis and the Kurdish question) are expected to affect the country's economy, with negative implications for its tourism industry.

With the exception of Turkey, **inflation** in all countries in the region remained at particularly low levels in the third quarter of 2015, while deflation continues in the two EU Member States (Romania and Bulgaria), with negative rates of -1.6% and -0.4% respectively in November. The very low or even negative levels of inflation are mainly due to the relatively slow process of closing output gaps, but also to weak domestic demand. The above endogenous factors are reinforced by exogenous global factors, the considerable drop in global energy and food prices. In addition, another important exogenous factor behind the falling prices is imported inflation from the euro area, which, as several national currencies are linked to the euro, remains particularly low. By contrast, in Turkey inflation persists at high levels (November 2015: 8.1%), quite far from the target set by the central bank (5%), affected by strong credit expansion (more than 26% in the third quarter) and improved domestic demand, as well as the implications of the depreciation of the Turkish lira.

In the third quarter of 2015, developments in the external sector of the countries in the region showed signs of stabilisation, after a relatively solid first half of the year,[12] thereby preserving a mixed picture. In the third quarter, **current account deficits** as a percentage of GDP stabilised compared with the second quarter of the year in Albania and Serbia (-10.9% from -10.8% and -5.2% from -5.3% respectively), whereas the external deficit narrowed to -12.6% in Montenegro (due to a significant increase of tourism flows) from the particularly high -16.2% in the second quarter. The above deficits are largely covered by the inflow of sizeable capital from abroad (foreign direct investment).[13] In FYROM, the surplus improved further to +0.4%. In Bulgaria and Romania a positive course of the external balance had started in 2013 and it is estimated that Bulgaria will record a surplus again in 2015 (1.9%), whereas Romania will register a deficit (1.0%) slightly higher than in 2014 (0.4%). In Turkey, the current account deficit slightly narrowed to -5.4% in the third quarter of 2015 (due to low energy prices), a level slightly higher than that estimated for 2015 as a whole (-4.8%).

Turning to **public finances**, developments appear quite diversified. In the first eight months of 2015, Albania and Serbia achieved high efficiency on both sides of the budget.[14] By contrast, fiscal deficits moved upwards in FYROM, Montenegro and Bosnia and Herzegovina. In the first eight months, the execution of the budget in Turkey appears improved compared with the corresponding period of

12 Current account deficits narrowed as a result of subdued domestic consumption, which limited imports, and a relative recovery in external demand, which improved exports.
13 A significant part of foreign direct investment in these economies flows into industries of the non-tradable sectors, thus casting doubt on the contribution of such investment to a long-term strengthening of their competitiveness and by extension to the unwinding of their considerable structural trade imbalances.
14 Increased revenue in Serbia was accompanied by considerable cuts in civil servant wages and pensions.

last year, as the course of the aggregates supports estimates for a fiscal deficit in the order of 1.4% of GDP for the year as a whole.

With the exception of Turkey and FYROM, **credit expansion** continued to move in particularly low or even negative territory. In the third quarter of 2015, (real) credit expansion was negative in Bulgaria and Romania, contrary to the positive course of GDP (particularly in Romania). Also in Albania,[15] total domestic credit expansion (to enterprises and households) was negative in the third quarter, with the problem centred around lending to the business sector.[16] In Serbia the negative rates of change in real bank lending are in line with the conditions of economic downturn experienced by the Serbian economy up to the first quarter of 2015 and the anaemic recovery that followed in the next two quarters. In these countries "creditless recovery" is largely associated with the historical debt overhang of the private sector (mainly of enterprises) and the legacy of the crisis as expressed in a relatively high level of non-performing loans. High non-performing loan ratios de facto weigh on commercial banks' main activities. In particular, they tie up liquidity, increase risks and capital needs, and thereby reduce credit expansion. As a result, non-performing loans function primarily as a drag on the development of new business initiatives. By contrast, average credit expansion (April-August 2015) remained strong (9%) in FYROM. The Turkish economy continued to experience even stronger credit expansion, with the average in the third quarter of 2015 exceeding 26%.

The banking systems of the region, except for Bosnia and Herzegovina and FYROM, keep on experiencing difficulties, as local banks are up against the tendency of large European banking groups (observed since the international crisis of 2008) to withdraw part of the funds previously channelled into subsidiaries in the region. However, capital outflows, steadily declining since mid-2013, continued to slow in the second quarter of the year compared with the first.[17] On the plus side, local financial institutions are gradually adapting their strategies, increasingly relying on internal funding sources, mainly domestic deposits. Finally, the banking system of the countries in the region has been stable, maintaining or even improving in the third quarter of 2015 the relatively high capital adequacy ratios (16% up to 22%), with a slight deviation of the Turkish one (12%).

15 Despite the quantitative easing and liquidity support policies systematically pursued by the central bank, the intervention rate has been kept at the historically low level of 2% since the beginning of the year.
16 In Albania and Romania, credit expansion to households was positive.
17 In Turkey, fund withdrawal was particularly strong (in the order of 0.5% of GDP) in the second quarter of 2015, as a result of increased political uncertainty prevailing in the country during that period.

Box III.3

BILATERAL TRADE BETWEEN GREECE AND TURKEY

Over the past two and a half decades, trade transactions between Greece and Turkey have exhibited growth dynamics, which have gained momentum in the past few years. Indicatively, Greek goods (including fuel) exported to Turkey grew in value terms at an average annual rate of 20% in 1990-2014 (from €89.7 million in 1990 to €3,272 million in 2014). However, as a percent of total Turkish imports, Greek exports (including fuel) to Turkey remained unchanged at low levels (0.5%), a development that reflects the rapid growth of the Turkish economy, particularly after 2000. As a result of a strengthened Turkish economy, Greece ranked 19th in 2014 (as opposed to 10th in 1990) among the top 25 countries that account for 70% of total Turkish imports.

The growth of Greek exports to Turkey in value terms between 2010 and 2014 stemmed mainly from a rapid increase in the value of Greek exports of oil and oil products (up by 83% on aver-

Trade between Greece and Turkey by product category											
(in value terms, EUR millions)											
	Average 1990-1994	**Average 1995-1999**	**Average 2000-2004**	**Average 2005-2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**Jan.-Sep. 2014**	**Jan.-Sep. 2015**
A. Exports											
1. Food, beverages and tobacco	5.6 (8.0%)	25.3 (10.0%)	20.2 (5.9%)	40.5 (7.9%)	57.7 (7.3%)	69.0 (9.9%)	75.3 (9.5%)	61.9 (7.4%)	78.9 (9.3%)	53.2 (9.8%)	61.7 (10.8%)
2. Raw materials	21.8 (31.3%)	114.4 (45.2%)	147.6 (43.3%)	150.2 (29.2%)	265.4 (33.4%)	128.3 (18.4%)	220.2 (27.8%)	258.1 (30.9%)	175.6 (20.6%)	68.9 (12.7%)	81.4 (14.2%)
3. Chemicals and plastics	14.3 (20.4%)	36.2 (14.3%)	63.4 (18.6%)	134.3 (26.1%)	185.0 (23.3%)	198.9 (28.5%)	191.4 (24.1%)	229.5 (27.5%)	235.5 (27.7%)	162.7 (29.9%)	155.6 (27.2%)
4a. Manufacturing products	20.2 (29.0%)	54.0 (21.3%)	59.3 (17.4%)	103.6 (20.1%)	133.0 (16.7%)	172.1 (24.6%)	185.0 (23.3%)	174.1 (20.9%)	191.4 (22.5%)	145.7 (26.8%)	147.2 (25.7%)
4b. Machinery and transport equipment	6.8 (9.8%)	17.5 (6.9%)	33.1 (9.7%)	60.8 (11.8%)	123.5 (15.5%)	98.0 (14.0%)	90.9 (11.5%)	79.9 (9.6%)	138.0 (16.2%)	87.9 (16.2%)	110.8 (19.4%)
4c. Other manufactured goods	1.0 (1.5%)	6.0 (2.4%)	17.4 (5.1%)	25.5 (5.0%)	30.7 (3.9%)	32.9 (4.7%)	29.8 (3.8%)	30.6 (3.7%)	32.1 (3.8%)	25.7 (4.7%)	15.3 (2.7%)
Fuel exports	34.1	69.1	142.3	305.9	462.2	1.182.4	2.159.6	2.373.8	2.420.5	1.816.4	710.0
(as a percentage of total Greek exports to Turkey)	(32.9%)	(21.4%)	(29.4%)	(37.3%)	(36.8%)	(62.8%)	(73.2%)	(74.0%)	(74.0%)	(76.9%)	(55.4%)
Total (excluding fuel)	69.7	253.4	341.0	514.9	795.2	699.2	792.7	834.1	851.5	544.3	572.0
Total (including fuel)	103.8	322.5	483.4	820.8	1,257.4	1,881.6	2,952.2	3,207.9	3,272.0	2,360.7	1,282.0
B. Imports											
1. Food, beverages and tobacco	27.3 (26.2%)	34.7 (12.6%)	78.9 (11.0%)	110.4 (7.9%)	91.4 (8.8%)	78.4 (8.0%)	69.8 (8.3%)	61.4 (7.1%)	67.8 (7.0%)	45.0 (6.4%)	50.8 (6.6%)
2. Raw materials	7.9 (7.6%)	7.4 (2.7%)	25.3 (3.5%)	38.5 (2.8%)	28.3 (2.7%)	30.8 (3.2%)	24.1 (2.9%)	28.6 (3.3%)	17.3 (1.8%)	11.8 (1.7%)	18.2 (2.4%)
3. Chemicals and plastics	17.2 (16.5%)	13.2 (4.8%)	25.7 (3.6%)	79.3 (5.7%)	107.5 (10.3%)	110.5 (11.4%)	129.2 (15.4%)	112.5 (13.0%)	115.3 (11.8%)	84.0 (11.9%)	111.5 (14.4%)
4a. Manufacturing products	36.1 (34.6%)	168.3 (60.9%)	339.0 (47.2%)	534.5 (38.4%)	416.3 (39.9%)	388.6 (39.9%)	321.0 (38.3%)	350.4 (40.6%)	388.2 (39.9%)	286.7 (40.6%)	256.1 (33.2%)
4b. Machinery and transport equipment	9.0 (8.6%)	30.7 (11.1%)	143.1 (19.9%)	394.2 (28.3%)	219.1 (21.0%)	195.8 (20.1%)	152.1 (18.1%)	170.5 (19.8%)	224.8 (23.1%)	158.2 (22.4%)	221.0 (28.6%)
4c. Other manufactured goods	6.8 (6.5%)	21.9 (7.9%)	106.0 (14.8%)	235.5 (16.9%)	179.5 (17.2%)	169.4 (17.4%)	142.3 (17.0%)	139.4 (16.2%)	160.2 (16.5%)	120.6 (17.1%)	114.0 (14.8%)
Fuel exports	20.1	5.5	25.9	132.9	119.3	183.4	269.7	264.5	188.0	152.5	155.2
(as a percentage of total Greek imports from Turkey)	(16.2%)	(2.0%)	(3.5%)	(8.7%)	(10.3%)	(15.9%)	(24.3%)	(23.5%)	(16.2%)	(17.8%)	(16.7%)
Total (excluding fuel)	104.4	276.2	717.9	1,392.4	1,042.1	973.4	838.5	862.7	973.6	706.3	771.5
Total (including fuel)	124.5	281.7	743.8	1,525.3	1,161.3	1,156.8	1,108.2	1,127.2	1,161.5	858.8	926.7

Source: Eurostat.
Note: Percentages in brackets are the shares of each product category in total Greek imports from or exports to Turkey.

age). This category accounted for the largest share in total Greek exports to Turkey. In more detail:

- From 2011 to 2014 oil and oil products represented on average 71.0% of total Greek exports to Turkey, as opposed to no more than 39.9% in previous years. In contrast, in the same period total exported goods in value terms, excluding fuel, rose by only 2.0% on average.

- Higher exports of oil and oil products in value terms are attributable to both increased export volumes and higher world crude oil prices up to 2012. Between 2010 and 2014 this increase was driven mainly by growing export volumes and to a lesser extent by crude oil prices. Particularly in 2011, the value of oil and oil product exports rose by 155% compared with the previous year, mainly on account of higher export volumes (only 26.4% is explained by a change in world prices).

Since 2013, the rate of increase in oil and oil product exports in value terms started to slow down, while at the same time the contribution of world crude oil prices became negative (-5.7% in 2013, -6.9% in 2014, -38.3% in the first nine months of 2015). In 2014, mainly owing to higher oil and oil product exports, Turkey moved up to the top position in the geographical breakdown of Greek total exports, with a share of 12.1%. Nevertheless, the relative share of Greek exports excluding fuel in total Turkish imports remained unchanged. The picture drawn in the course of 2015 is different, as in the first nine months of the year the value of Greek goods exported to Turkey dropped by 46.0% (see Table), due to a rapid decrease (by 61.0%) in the value of oil and oil product exports. The above decline stemmed mainly from the steep drop in world crude oil prices (-46.1%). However, in the same period, industrial products (manufacturing products, transport equipment and other manufactured goods), which represent the second largest category of exported goods in value terms, recorded a continuous rise of their share in Greek total exports (2010: 36.1%, 2014: 42.5%), pushing up the share of this category to 47.5% of total exports to Turkey. This share remained high mainly as a result of increased exports of "non-ferrous metals" (e.g. aluminium etc.) and "paper".

Turning to imports of goods from Turkey, they grew in value terms at an average annual rate of 12.0% in 1990-2014. This development was mainly due to increased demand for industrial products. It is worth noting that this category of products accounted in January-September 2015 for 76.6% of total imports from Turkey, compared with 46% in 1990. Between 1997 and 2009, Greece showed a negative trade balance with Turkey (including fuel). In 2010, this picture changed: for the first time the balance became positive, and remained so until 2014, driven by increased exports of oil and oil derivatives to Turkey, whereas the trade balance of Greece with Turkey excluding fuel in 2010-2014 was negative.

Finally, as regards services, Greek receipts from Turkey have been on an upward path since 2000. In 2010, Greece showed for the first time a positive services balance with Turkey, i.e. a surplus of €95.1 million. This recovery is mainly due to higher receipts from travel services (for both recreation and business purposes), which in 2010 represented 55% of total services, while in 2014 it rose to 75%.

IV THE SINGLE MONETARY POLICY AND CREDIT DEVELOPMENTS IN THE EURO AREA[1]

Further measures for the easing of the single monetary policy were taken in 2015: the asset purchase programme was expanded and its duration was extended, in view of the Eurosystem's commitment to reinvest the principal payments on the securities purchased under the APP as they matured, while the interest rate on the deposit facility was reduced to more negative levels. Thus, the single monetary policy had a beneficial effect on monetary and credit developments, on inflation expectations and finally on actual inflation.

1 OVERVIEW OF DEVELOPMENTS AND PROSPECTS

In early 2015, the asset purchase programme of the Eurosystem was expanded to include debt securities issued by the public sector, so as to ensure a higher increase in Eurosystem assets and in banking sector liquidity and a more accommodative stance of the single monetary policy (see details in Boxes IV.1 and IV.2).

Indeed, in the ensuing months the downward trend of medium to long-term inflation expectations came to a halt, bank interest rates and the exchange rate of the euro declined, the growth rates of monetary and credit aggregates improved further and actual inflation eventually turned positive, while developments in the real economy of the euro area were favourably affected. Box IV.3 provides evidence of an improvement in bank credit supply and demand conditions in the euro area in 2015.

Nevertheless, at the end of the year a further easing of the single monetary policy became necessary. Given the repeated downward revisions of econometric inflation forecasts over the next few years, it became clear that unfavourable developments in emerging markets were leading to a drop in international prices of crude oil and a contraction of external demand for euro area products, which would result in slowing down the return of euro area inflation to levels consistent with price stability. Thus, the ECB Governing Council reduced the interest rate on the deposit facility and decided, on the one hand, to extend the asset purchase programme by six months, and on the other hand, to reinvest the principal payments on the securities purchased under the programme to ensure a long-term enhancement of liquidity.

The transmission of the results of the single monetary policy in 2015 improved as a result of the Comprehensive Assessment of significant credit institutions in the euro area at end-2014 and the adoption of broader institutional reforms on the way to the Banking Union. Box IV.4 describes one of the key components of the Banking Union, the Single Supervisory Mechanism, with special reference to its decision-making process. Box IV.5 outlines the plans in the European Union for further reforms that will decisively affect the environment in which the monetary policy of the Eurosystem is conducted.

2 DESIGN AND IMPLEMENTATION OF THE SINGLE MONETARY POLICY IN THE EURO AREA IN 2015

At end-2014, the rate of inflation in the Monetary Union was in negative territory (December 2014: -0.2%), as a result of the preceding downward trend in energy and food prices and inadequate aggregate demand in the euro area.

In order to prevent deflationary conditions from becoming entrenched, the Eurosystem reduced key interest rates in 2014, while in the second half of that year it introduced new non-standard monetary policy measures. Targeted longer-term refinancing operations with a three-month frequency, as well as the programme for the purchase of securities issued by the private sector were launched.

In January 2015, the Governing Council of the ECB pointed out that the impact of reduced

1 The cut-off date for information and data used in this Chapter is 10 February 2016.

key interest rates and of the non-standard monetary policy measures on credit flows to the real economy had not been sufficiently favourable. Also, it concluded that the increase in Eurosystem assets through the asset purchase programme and the targeted operations was smaller than desired.

The Governing Council considered that monetary accommodation had been insufficient to address the risk of a too prolonged period of excessively low inflation. By contrast, both actual and expected inflation continued to fall, economic activity remained rather subdued, while monetary and credit expansion were weak.

The Governing Council was particularly concerned about the possibility that the sharp fall in crude oil prices, which had been recorded at end-2014 and continued also in early 2015, would have second-round effects, namely downward pressures on wages and on the prices of final products. As at the time it was not considered feasible to further reduce nominal interest rates, the Governing Council acknowledged the risk of potential upward pressures on real interest rates, eliminating the favourable impact of earlier reductions in key interest rates with a dampening effect on aggregate spending.

Thus, in January 2015 the Governing Council decided that, as a first measure of monetary policy easing, the interest rate on the TLTROs to be conducted in 2015-2016 would be equal to the interest rate on the main refinancing operations. Originally, when TLTROs were launched in 2014, their interest rate had been fixed at the rate on MROs plus a fixed spread of 10 basis points.

However, the Governing Council concluded that, in order for the primary objective of the Eurosystem to be achieved (i.e. to maintain price stability in the euro area in the medium term), the asset purchase programme had to be expanded to include debt securities of the euro area public sector (public sector asset purchase programme – PSPP).

It was announced that, given the size of the purchase of public sector securities, the value of the securities acquired by the Eurosystem under the expanded programme, i.e. taking into account the debt securities issued by the private sector and those issued by the public sector, could rise to €60 billion in total per month. In the context of forward guidance, the Governing Council underlined that the conduct of the expanded programme would continue at least until September 2016 or beyond, until a sustained adjustment is ensured in the path of inflation in the euro area, which is consistent with the aim of achieving inflation rates below, but close to 2%. Furthermore, this adjustment should be sustained – any temporary fluctuations of inflation will not be taken into account in assessing whether a sustained adjustment has been achieved.

The implementation of the expanded asset purchase programme started in March 2015. The Governing Council of the ECB underscored that the main concern of the Eurosystem was to ensure the full implementation of the programme, together with the other non-standard monetary policy measures adopted in 2014.

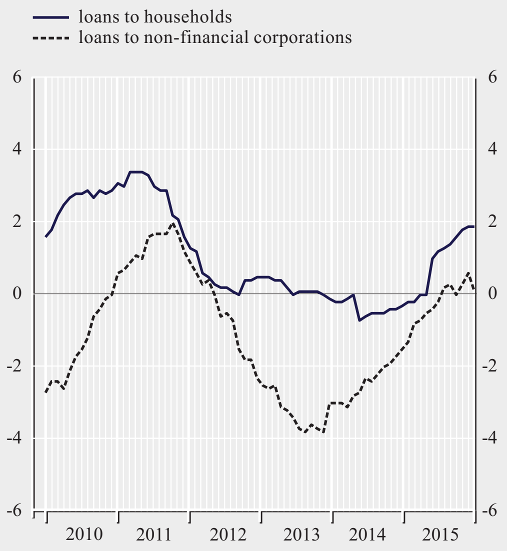
Indeed, driven by the favourable effect of the expanded asset purchase programme and the continued TLTROs, the growth rate of inflation in the euro area turned positive, though still remaining exceptionally low (May 2015: +0.3%, December 2015: +0.2%, Eurostat provisional estimate for January 2016: +0.4%).

A particularly important development, which was supported by monetary accommodation, was the containment of the downward course of expected inflation in the euro area in 2014. Thus, medium to long-term inflation expectations, as implied by yields in financial markets, followed a slightly upward trend for most of 2015. The five year forward inflation swap rate stood at 1.7% in December 2015, from 1.6% in January (January 2016: 1.6%). Additionally, in 2015 an increase was recorded in survey-based expected inflation indicators.

As described more thoroughly below, the accommodative monetary policy contributed to a reduction in the cost of bank financing and an easing of non-interest rate lending terms. Divergences across Member States in terms of bank financing costs also narrowed; such divergences constituted a key feature of financial sector fragmentation observed in previous years. An increase in the availability of bank credit to enterprises and households in the euro area was also achieved (see Chart IV.1). More generally, the Governing Council of the ECB stressed that the transmission of monetary policy was assisted by the fact that the robustness of the banking system in the euro area had been earlier confirmed by the Comprehensive Assessment of the balance sheets of significant credit institutions (end-2014), while the considerable enhancement of credit institutions' capital adequacy also played a decisive role.

Chart IV.1 Loans to the private sector[1] in the euro area (January 2010-December 2015)

(annual percentage changes, monthly data)



Source: ECB.
1 Adjusted for sales and securitisation.

As of September 2015, the Governing Council of the ECB focused its analysis on the possible adverse effects on the euro area economic activity from the slowdown in developing countries (and in particular to the extent it affected China). A potential cause of such effects was found to be not only a downturn in global trade, but also the sharp fluctuations in financial markets during that period, which were triggered by estimates regarding developments in emerging market economies.

These factors, together with the fact that economic growth in the euro area remained subdued (quarter-on-quarter GDP growth rate: 2015 Q1: 0.4%, Q2: 0.4%, Q3: 0.3%), created the risk of a delay in the return of inflation to levels close to 2%. Thus, following its meetings in early September and late October 2015, the Governing Council of the ECB provided assurance that, though premature up to that moment, it was willing to make the monetary policy stance in the euro area even more accommodative, if necessary in the near future. At the same time, the relevant Eurosystem committees were working on different monetary policy instruments that could potentially be used. Most notably, in order to immediately enhance the effectiveness of the expanded APP, the Governing Council of the ECB announced in September 2015 that it would increase the issue share limit from 25% to 33%.

The preliminary assessment of the situation by the Governing Council started in September 2015 and was progressively enriched with more information. In December, the Governing Council of the ECB, also taking into account the new Eurosystem staff macroeconomic projections, decided to take additional measures. This decision was driven by the fact that the macroeconomic projections of December, same as the projections of September 2015, incorporated a downward revision of the outlook for inflation.

Specifically, the outlook for inflation in the Monetary Union, according to the ECB Governing Council in December 2015 was as follows: On the basis of futures contracts, crude oil prices were expected to increase. Consequently, inflation was forecast to pick up in early 2016, supported by base effects associated with the fall in oil prices a year earlier. Also, as in the second half of 2015 energy prices had reached particularly low levels, it was deemed reasonable to expect an acceleration of inflation in the second half of 2016. As regards 2017, inflation is expected to pick up further (2016: 1.0%, 2017: 1.6%).

Inflationary pressures were projected to rise, compared with 2015, albeit to a limited extent, as a result of: (1) the impact of the accommodative stance of the single monetary policy, (2) economic recovery,[2] (3) the ensuing improvement of labour market conditions and the increase in enterprises' pricing power and, finally, (4) the pass-through in domestic prices of past declines (in March 2014-April 2015 and also around end-2015) in the euro exchange rate.

As also concluded in previous months, in December 2015 it became clear to the Governing Council that the factors which were slowing down the return of inflation to levels consistent with price stability were neither negligible nor temporary, but rather strong and persistent. Thus, the Governing Council concluded that it was necessary to make the single monetary policy more accommodative. The further easing of the monetary policy was arranged as follows:

First, the expanded asset purchase programme was extended; the closing month of the programme was postponed from September 2016 to March 2017. Nevertheless, the Governing Council also underlined that the programme could continue beyond that date, if this was necessary in order to achieve a sustainable adjustment in the path of inflation consistent with the primary objective of the Eurosystem.

Second, it was announced that the Eurosystem would reinvest the principal payments on the securities acquired under the asset purchase programme. This policy would continue for as long as necessary to ensure that liquidity conditions in the banking system of the euro area remain favourable in the long term and thus the single monetary policy maintains the appropriate stance.

Third, it was decided that the main refinancing operations, as well as longer-term refinancing operations, would continue to be conducted as fixed rate tender procedures with full allotment at least until the beginning of 2018 (more precisely, until the end of the last reserve maintenance period of 2017 – see Table IV.1).

Fourth, the interest rate on the deposit facility was reduced by 10 basis points to -0.30% (see Table IV.2). As is well-known, this rate, as opposed to the interest rate on main refinancing operations, sets a lower limit to interest rates in the money market, thus its reduction is immediately followed by a resetting of a series of market interest rates at lower levels.

Finally, it was decided to include in the public sector purchase programme euro-denominated marketable debt instruments issued by regional and local governments in the Monetary Union.

The Governing Council of the ECB stressed that it would continue to monitor the evolution in the outlook for price stability in the euro area. If warranted, the Governing Council reaffirmed its willingness to employ all monetary policy instruments available within its mandate, in order to ensure an appropriate degree of monetary accommodation. The Governing Council also recalled that the asset purchase programme provides flexibility in terms of adjusting its size, composition and duration.

In late January 2016, the Governing Council of the ECB pointed out that downside risks had increased amid heightened uncertainty about emerging economies' growth prospects, volatility in commodity and financial markets, and

2 Indeed, according to the recent Eurosystem staff macroeconomic projections, the growth rate of GDP will progressively pick up over the next years (2015: 1.5%, 2016: 1.7%, 2017: 1.9%).

Table IV.1 The Eurosystem's open market operations in 2015 and early 2016

1. Main and longer-term refinancing operations:	
1.1 Main refinancing operations (MROs): one-week liquidity-providing operations	**Frequency:** Once a week. **Procedure:** At least until the end of the last maintenance period of 2017, fixed-rate tender with full allotment.
1.2 Longer-term refinancing operations (LTROs): three-month liquidity-providing operations	**Frequency :** Once a month (usually at end-month). **Procedure:** At least until the end of the last maintenance period of 2017, tender with full allotment and an interest rate set ex post, equal to the average value of the fixed rate of the MROs conducted over the three-month operations.
2. US dollar liquidity-providing operations:	
2.1 Operations with a maturity of one week	**Procedure:** Fixed-rate tender with full allotment against eligible collateral for Eurosystem credit operations in euro. One-week US dollar liquidity-providing operations will continue to be conducted after 31 July 2014 until further notice.

Source: ECB.

geopolitical risks. For this reason, the Governing Council of the ECB noted that it would review and possibly reconsider the monetary policy stance in March 2016, when the new staff macroeconomic projections, also covering the year 2018, would become available. As regards the short-term outlook for inflation, the Governing Council noted that oil futures prices were well below those incorporated in the December 2015 projections. Accordingly, inflation expectations for 2016 should be revised considerably downwards: inflation was expected to remain at very low levels over the next months, and possibly even dip into negative territory. Inflation rates were expected to pick up towards end-2016, but risks of second-round effects from oil prices should be monitored closely. Finally, the Governing Council

Table IV.2 Changes in key ECB interest rates

(percentages per annum)

Date of interest rate change[1]		Deposit facility	Main refinancing operations (fixed rate tenders)	Marginal lending facility
2009	21 January	1.00	2.00	3.00
	11 March	0.50	1.50	2.50
	8 April	0.25	1.25	2.25
	13 May	0.25	1.00	1.75
2011	13 April	0.50	1.25	2.00
	13 July	0.75	1.50	2.25
	9 November	0.50	1.25	2.00
	14 December	0.25	1.00	1.75
2012	11 July	0.00	0.75	1.50
2013	8 May	0.00	0.50	1.00
	13 November	0.00	0.25	0.75
2014	11 June	-0.10	0.15	0.40
	10 September	-0.20	0.05	0.30
2015	9 December	-0.30	0.05	0.30

Source: ECB.
1 Changes in the deposit facility and the marginal lending facility rates are effective from the first main refinancing operation following the relevant Governing Council decision (when the fixed rate on the main financing operations changes), rather than the date of the Governing Council meeting on which this decision is made.

recalled that technical preparations continued in order to enable the adoption of further monetary policy measures, if required.

The purchase of securities by the Eurosystem and the financing of credit institutions through TLTROs progressively increased excess liquidity in the banking system of the euro area. The increase in excess liquidity led to a further decline in money market rates. The EONIA reached -20 basis points in December 2015 and -23 in January 2016 (from -4 basis points in January 2015). The three-month Euribor dropped below zero in April 2015 and reached -13 basis points in December 2015 and -15 in January 2016 (from 6 basis points in January 2015).

Box IV.1

TARGETED LONGER-TERM REFINANCING OPERATIONS

Through the targeted longer-term refinancing operations (TLTROs), credit institutions obtain funding from the Eurosystem at a very low cost (equal to the interest rate on the main refinancing operations as set in January 2015) and with maturities of up to four years. The modalities of the operations have been designed by the Eurosystem in a manner to encourage banks' new lending to non-financial corporations or consumer credit.

Among the banks that have participated in TLTROs, only those which have increased their lending[1] to the "real economy" (i.e. excluding credit to general government and housing loans) relative to the "reference period" (i.e. the period from about mid-2013 until mid-2014) are entitled to retain the liquidity until September 2018. The remaining credit institutions are required to repay the funding two years earlier, in September 2016. Furthermore, the amount of funding granted by the Eurosystem to banks is linked (through a complex formula[2]) to the extent to which banks channel borrowed funds to the real economy.

1 More precisely, an increase in lending is only required in the case of credit institutions with a negative net flow of credit to the real economy during the reference period.
2 See Box III.1, *Monetary Policy – Interim Report 2014.*

Box IV.2

THE EXPANDED ASSET PURCHASE PROGRAMME

In the context of the expanded asset purchase programme, the Eurosystem, apart from eligible private-sector securities, namely: (a) covered bonds issued by credit institutions registered in the euro area, and (b) asset-backed securities issued by credit institutions against private sector entities in the euro area, may also acquire: (1) central government securities; (2) debt securities issued by other (non-central government) public entities in euro area countries, and (3) debt securities issued by international organisations, provided that they are established in the euro area (such as EFSF and EIB), or (4) multilateral development banks (such as the German KfW and the French Caisse des Dépôts et Consignations). In December 2015, it was explicitly defined that securities that can be acquired by the Eurosystem under the programme include debt securities issued by regional and local governments in the euro area. Both public and private sector securities must be denominated in euro.

The purchases of debt securities issued by international organisations and multilateral development banks represent 12% of total purchases of public sector securities in the euro area (i.e. government bonds, public entities bonds and bonds by international organisations or multilateral development banks). Other marketable securities issued in the euro area may also be included in the programme, such as corporate bonds and bonds issued by non-financial public entities, in case there are difficulties in covering the amount deemed necessary for securities purchases.

The public sector debt securities are acquired exclusively on the secondary market. Their remaining maturity should be between 2 and 30 years. It is explicitly provided that the securities eligible for purchase include also inflation-indexed bonds (index-linked). Moreover, securities with negative yield to maturity are accepted, as long as it is less negative than the interest on the deposit facility.

Only securities eligible as collateral in the Eurosystem (regular) monetary policy operations may be purchased under the program. It is essential that their credit rating does not fall short of the rating defined by the Eurosystem as the minimum requirement (i.e. currently the security should be rated as an “investment-grade” one).

However, this is not necessary in the case of central government securities of Member States under EU and IMF adjustment programmes. **The ECB Governing Council may waive the minimum credit rating requirements in the context of a positive assessment of the progress of the adjustment programme.** It should be noted that the purchase of government bonds of a country that is subject to an adjustment programme is interrupted during the assessment. After its completion (provided of course a positive outcome), the purchase of securities may resume, for up to two months.

Finally, securities purchased under the programme are made available for securities lending by the Eurosystem to third parties. This reduces the risk of shortages in the interbank market, supporting normal repo market activity and market liquidity.

Assets are purchased in a decentralised manner: national central banks purchase securities issued by the central government or other public entities in their jurisdiction. The ECB acquires securities of central governments and other national public entities in the euro area in order to cover 8% of total purchases under the programme. Purchases of debt securities issued by international organisations and multilateral development banks are carried out exclusively by national central banks. After deduction of the amount of purchases covered by the ECB from the total value of public sector securities eligible for purchase, the remaining amount is allocated across euro area jurisdictions on the basis of the ECB’s capital key.

If losses occur (e.g. due to valuation differences), they will not be distributed across national central banks; they will be borne exclusively by the central bank that bought the securities, except for securities issued by international organisations or multilateral development banks (in which case losses are distributed across the Eurosystem).

It is well known that the ECB’s net profit is distributed to the national central banks of the euro area. Consequently, potential losses from the purchase of securities by the ECB, will ultimately affect the national central banks’ results and, to this extent, losses will be distributed among them.

The value of securities in the Eurosystem portfolios (in the 2 to 30-year range of residual maturity), not only those acquired through the expanded asset purchase programme but also those purchased through the previous SMP (May 2010-September 2012) as well as those in the investment portfolios of the ECB and national central banks, is subject to an issuer share limit of 33%. Similarly, an issue share limit of 25% has been initially applied (for discrete ISIN codes).

The issuer share limit of 33% was considered necessary to safeguard proper market functioning and price formation. The issue share limit of 25% aims to rule out the rise of expectations among market operators that the Eurosystem will have a blocking minority for the purposes of collective action clauses. It is well known that these clauses apply in case of default in order to facilitate debt restructuring. Instead, the Eurosystem explicitly waives all preferential, against private creditors, treatment in the event of default in relation to all securities acquired under the programme.

In September 2015 the Governing Council of the ECB announced an increase of the issue share limit from the initial 25% to 33%. The increase, however, will not apply in cases that the Eurosystem would have a blocking minority power on bond holders' decisions on debt restructuring.

3 MONETARY AND CREDIT DEVELOPMENTS IN THE EURO AREA IN 2015

In 2015, the growth rate of broad money (M3), which includes currency in circulation, bank deposits and specific marketable liabilities of monetary financial institutions (MFIs)[3] with a maturity of up to 2 years, recorded an almost uninterrupted acceleration (see Chart IV.2).

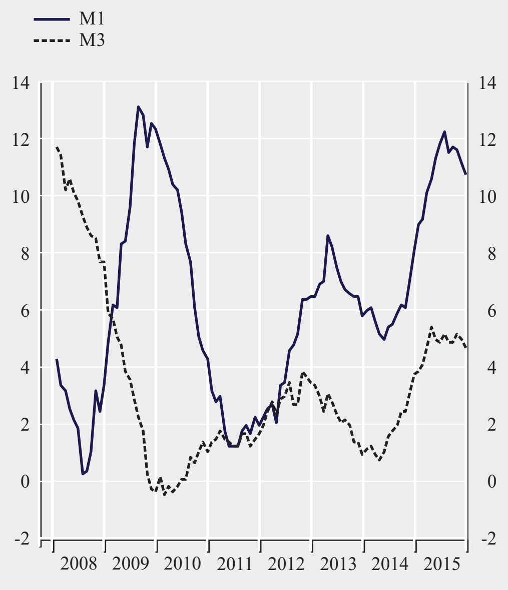
This development mainly reflects the considerable acceleration in the growth of narrow money (M1, i.e. currency in circulation plus overnight deposits). This in turn reflects the strong increase in the stock of overnight deposits, since opportunity cost of holding overnight deposits (as represented by interest rates on alternative types of deposits) reached historical lows. The strong increase in narrow money suggests that, taking into account past regularities, economic recovery in the euro area will continue.

The acceleration of M3 is also attributable to an increase, compared with previous years, in the stock of marketable instruments included in M3 such as money market fund shares/units and short-term debt securities issued by MFIs, as their yields, though remaining very low, improved against those of alternative short-term investment. By contrast, other short-term deposits (i.e. time deposits with a maturity of up to 2 years and deposits redeemable at a notice of up to 3 months) recorded negative rates of change, as their weighted average interest rate and its spread against the overnight deposit rate declined.

Turning to M3 counterparts, the increase in M3 in 2015 came from (see Chart IV.3):

Chart IV.2 Euro area monetary aggregates (January 2008-December 2015)

(annual percentage changes, monthly data)

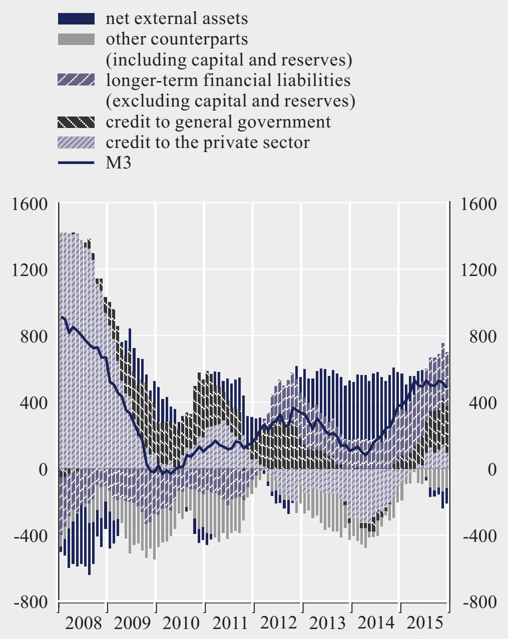


Source: ECB.

3 MFIs mainly include commercial banks and money market funds.

Chart IV.3 Contribution of the M3 counterparts to the annual growth rate of M3

(twelve-month cumulative flow, EUR billions)



Source: ECB.
Note: M3 = credit to the private sector + credit to general government + net external assets + other counterparts – longer term financial liabilities. Longer-term financial liabilities (excluding capital and reserves) are shown with an inverted sign, since they are liabilities of the MFI sector (i.e. their decline is registered as positive contribution to M3 growth and vice versa).

(a) The shrinking of MFI long-term financial liabilities not included in M3, i.e. long-term bank deposits and debt securities issued by banks, with a maturity of more than 2 years, excluding shares and other securities which qualify as own funds. This development reflects the fact that, instead of selling such debt securities to investors, banks preferred to raise liquidity through TLTROs or by selling securities to the Eurosystem under the asset purchase programme, benefiting from its very favourable terms.

(b) The increase in credit expansion to general government. As national central banks and the ECB are included for statistical purposes in MFIs, the acquisition of general government securities under the expanded asset purchase programme results in an increase in credit expansion by MFIs to general government. Of course, national central banks acquire securities from other MFIs and to this extent commercial banks' credit expansion to general government is reduced accordingly. In practice though, the reduction in the securities portfolio of commercial banks was not equal in size to the increase in the respective Eurosystem portfolio, but considerably lower. It appears that, in parallel with the sale of securities to the Eurosystem, commercial banks replenished their portfolios by acquiring new debt securities, mainly from investors established abroad.

(c) The sale of euro area securities by foreign to euro area investors led to a decline in the contribution of the external sector to money creation in 2015. Thus, although the current account balance of the Monetary Union continued to be in surplus, as a result of capital outflows from the euro area, the contribution of the external sector to the creation of broad money turned negative in July 2015, after almost three years of continuous positive contribution.

It should be pointed out that capital outflows for portfolio investment are also attributable to increased acquisition of foreign securities by euro area residents, which constitutes a separate channel for the transmission of the results of the expanded asset purchase programme. Another expected result of quantitative easing, which was confirmed by data regarding developments in the financial sector, was a noticeable increase in new issuance of corporate bonds in the euro area in the first quarter of 2015.

(d) Already a few months before the reversal of the contribution of the external sector to M3 growth, i.e. from April 2015 onwards, private credit expansion, which was a key driver of the contraction of broad money in recent years, became a contributor to M3 growth.

In more detail, in the course of 2015, the annual growth rate of bank lending[4] to non-

4 Bank lending also includes securitised loans which do not appear in banks' balance sheets, as banks have sold them to third parties.

financial corporations turned positive for the first time since the beginning of 2012, while bank lending to households also increased progressively. However, credit expansion to the private sector in the euro area is still considered weak. A key constraint on the growth of bank lending to the private sector is the need of both banks and households/enterprises in certain countries to deleverage.

The acceleration in the growth of bank loans in 2015 is mainly attributable to the sharp fall of bank lending rates, particularly as of May 2014 – in other words, the contribution of the latest non-standard monetary policy measures played a decisive role in the decline of bank rates.

By December 2015, bank lending rates to non-financial corporations (households) had declined from their peak in March (February) 2014 by 93 (83) basis points, while the deposit facility rate had been reduced by only 30 basis points. The decrease in lending rates had been also facilitated by the strengthening of banks' capital base, in the context of the Comprehensive Assessment, as mentioned above, mainly through the issuance of new shares; this created the conditions for a reduction in bank intermediation margins and low cost market funding. Furthermore, interest rate differentials among members of the Monetary Union narrowed, while the largest reductions in lending rates were recorded in those countries that had been hit the most by the sovereign debt crisis, where bank lending to the private sector declined more rapidly. Nevertheless, lending terms other than interest rates continue to vary significantly across countries.

Finally, the evolution of private credit expansion is also consistent with the recovery of economic activity in the euro area and with the various effects on bank loan supply and demand, reported by both credit institutions and potential borrowers in the business sector in the context of relevant surveys (see Box IV.3).

Box IV.3

EURO AREA BANK LENDING SURVEY[1]: TRANSMISSION CHANNELS AND EFFECTS OF THE SINGLE MONETARY POLICY FROM THE PERSPECTIVE OF CREDIT INSTITUTIONS

The results of the bank lending survey in 2015 are indicative of the beneficial effects of the single monetary policy on bank loan supply and more specifically on the conditions under which banks raise funds for lending to the real economy. Among other things, the results show that both the asset purchase programme and the TLTROs have encouraged banks to increase, primarily, corporate lending and, secondarily, credit to households. During 2015, other factors, such as bank competition and low level of lending rates (which were not solely due to the effect of the aforementioned non-standard monetary policy measures), also contributed to an increase in the supply and demand of bank credit, respectively.

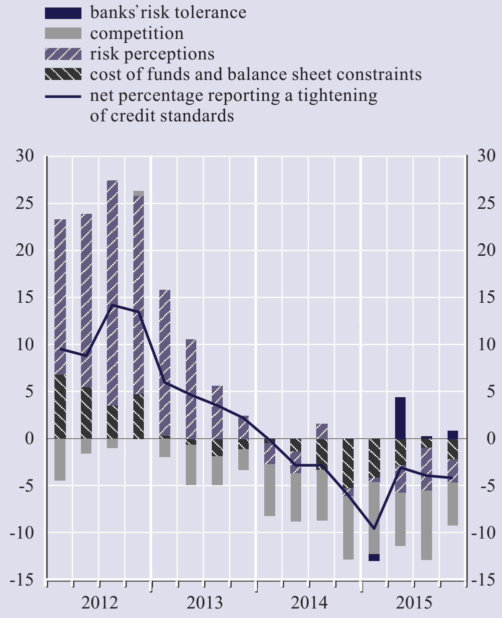
Survey results

The survey results show that bank credit standards[2] for loans to enterprises eased gradually in 2015 (see Chart A). As for housing loans and consumer credit, the easing of credit standards was not

1 It is conducted quarterly by the Eurosystem on a sample of approximately 140 banks from all euro area countries.
2 The survey defines credit standards as the internal guidelines of a bank that describe the bank's credit policy. They are established prior to the actual loan negotiation on the terms and conditions and the actual loan approval/rejection decision. Credit standards specify criteria and procedures, not necessarily written, which aim to identify: (a) the types of loans a bank considers desirable and undesirable, (b) the designated geographical priorities, (c) the collateral deemed acceptable and unacceptable, etc. More specifically, they describe the required borrower characteristics, e.g. balance sheet conditions, income situation, age, employment status. In the survey, both changes in written policies and their application is considered. The quantitative index compiled in the context of the survey on credit standards is usually used (for instance, for the purposes of empirical studies) as a representative variable that summarises the conditions of bank credit supply.

Chart A Euro area banks' credit standards on loans or credit lines to non-financial corporations and contributing factors

(net percentage of banks reporting a tightening of credit standards and contributing factors)



Source: ECB, Bank Lending Survey.
Note: The net percentage of banks is defined as the difference between the sum of the percentage of banks responding that credit standards "tightened considerably" or "tightened somewhat" and the sum of the percentage of banks responding "eased somewhat" or "eased considerably". The net percentage for responses to questions related to the factors are defined as the difference between the percentage of banks reporting that the given factor contributed to a tightening and the percentage reporting that it contributed to an easing. "Cost of funds and balance sheet constraints" are an unweighted average of "cost related to capital position", "access to market financing" and "liquidity position". Similarly, "risk perceptions" are an unweighted average of "general economic situation and outlook", "industry or firm-specific situation and outlook/borrower's creditworthiness" and "risk on collateral demanded". Competition is an unweighted average of "bank competition", "non-bank competition" and "competition from market financing". Risk tolerance was introduced in Q1 2015.

continuous. Banks attributed the easing of credit standards for various loan categories to the improvement of their access to short and long-term market funding (which, however, was not continuous throughout 2015), as well as to strong competition in the banking system. In addition, over the reviewed period there was a gradual improvement of terms (both price and non-price) and conditions[3] of bank lending in the euro area, which concerned bank credit to both businesses and households and was mainly driven by the shrinking margin between lending rates and reference rates (for example Euribor rates).

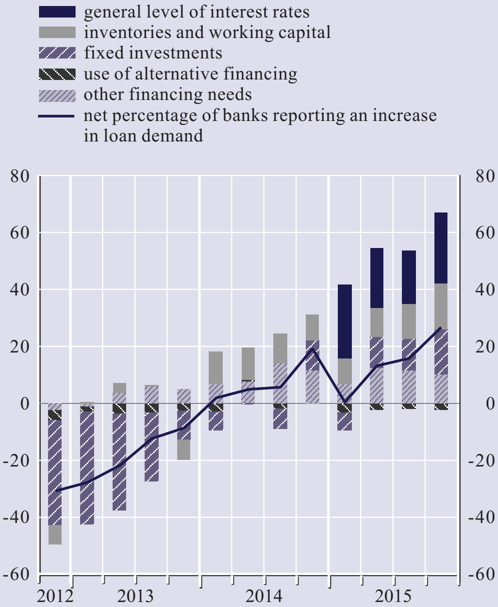
The demand for bank credit actually strengthened constantly – particularly strong was the rise in demand for housing loans. The main factors which, according to responding banks, are fuelling demand is the low level of lending rates, enterprises' need for working capital and for fixed investment financing (see Chart B), as well as the favourable evolution of prices in the housing market.

In response to the ad hoc queries of the survey, banks reported increased easing of retail funding and an almost continuous improvement of their access to the interbank market. With the exception of mainly the second quarter of 2015, when, as already known, tensions occurred in the European securities markets, the banks of the sample also reported improving conditions for the issuance of debt securities, both short term (for example certificates of deposits) and medium to long term (for instance covered bonds), by banks. Finally, banks reported gradually improving access to securitisation (as well as to marketing asset-backed securities), especially of loans for house purchase, but also of corporate loans, while the ability of banks to transfer credit risk to third parties, through transactions in derivatives (synthetic securitisation), also improved.

3 Banks are willing to grant a new loan only if certain terms and conditions are met, which are specified in the loan contract between the bank and the borrower. According to the survey, these terms and conditions consist of: (1) the agreed spread of the lending interest rate over a reference rate (such as Euribor), (2) the size of the loan, (3) the maturity of the loan, (4) other non-interest rate charges (e.g. fees), (5) guarantees and collateral required to cover the loan, (6) the amount of the deposit that sometimes the borrower undertakes to hold with the bank (7) other clauses and conditions for the disbursement of the loan. Credit terms and conditions are conditional on the borrower's characteristics, therefore they do not change necessarily alongside credit standards, but their changes may reflect changes in the characteristics of candidate borrowers. On the other hand, an increase in the bank's funding cost or a deterioration in the economic outlook can lead to both a tightening in standards and a tightening of the terms and conditions on those loans that the bank is willing to approve despite the change in credit standards.

Chart B Demand for loans and credit lines to euro area non-financial corporations and contributing factors

(net percentage of banks reporting an increase in demand and contributing factors)



Source: ECB, Bank Lending Survey.
Note: The net percentage of banks is defined as the difference between the percentage of banks responding that loan demand or credit lines "increased considerably" or "increased somewhat" and the percentage of banks responding "decreased somewhat" or "decreased considerably". In relation to the factors contributing to changes in loan demand, the net percentage is defined as the difference between the percentage of banks reporting that the given factor contributed to increasing demand and the percentage of those reporting that it contributed to decreasing demand. "Other financing needs" is the unweighted average of "mergers and acquisitions and corporate restructuring" and "debt refinancing/restructuring and renegotiation". Similarly, the "use of alternative financing" is the unweighted average of "internal financing", "loans from other banks", "loans from non-banks", "issuance/redemption of debt securities" and "issuance/redemption of equity" and "issue of shares". "General level of interest rates" was introduced in Q1 2015.

Although the stance of the single monetary policy is very accommodative (as also indicated in the main text), banks assessed their credit standards to have remained basically unchanged or even tightened compared with the average over the period since the start of the sovereign debt crisis in the euro area (i.e. since mid-2010). Compared with the period immediately after the first survey (early 2003), banks assessed their credit standards to be rather tighter currently.

Other ad hoc questions aimed to identify the transmission mechanisms of the Eurosystem's non-standard monetary policy measures, according to banks' replies. Regarding the expanded asset purchase programme, most of the surveyed banks (during the first and the third quarter) estimating that it had an impact (between 3% and 52% of the sample, depending on the type of impact) consider that it took mainly the form of: (1) improved banks' market financing conditions, especially through the issue of bank bonds, covered bonds, other asset-backed securities, but also through equity issuance; (2) a general improvement in the liquidity of credit institutions, directly due to the purchase of securities from banks' portfolios by the Eurosystem and indirectly due to the increase in deposits from households and businesses. The increase in deposits is a result of the overall favourable effect of the purchase programme on the total economy of the euro area.

Most of the banks considering that the programme has had a considerable impact responded that they used the additional liquidity (created as above) mainly for granting loans to non-financial corporations and, to a lesser extent, for granting credit to households, especially consumer credit. Secondarily, banks used the additional liquidity to repay mainly bank bonds, as well as to repay financing obtained from the Eurosystem and retail or interbank deposits. To a lesser extent, the increase in liquidity due to the programme funded new purchases of securities by banks. The survey shows that only a limited number of banks (less than 1/10 of the sample) recognises that the programme had an impact on credit standards, while a somewhat higher proportion (approximately 1/3) of the sample estimates that the programme has created the conditions for easing of bank lending conditions, particularly for businesses. Finally, it appears that a very limited number of banks recognise a significant effect of the programme on the size of their assets, profitability and capital base (for example, through capital gains in their securities portfolio) or the leverage ratio of their balance sheet.

In the second and fourth quarters of 2015, banks were asked about the impact of targeted longer-term refinancing operations (TLTROs). Their responses show that half of the banks of the sample participated in the TLTRO conducted in March 2015, while in the corresponding operation of December 2015 only 1/5 of the sample participated. The banks participating in these operations reported that they were attracted by the very favourable conditions under which liquidity through targeted operations is granted. Banks also recognise as an important advantage of the TLTROs the fact that they are a major source of liquidity and thus provide security against any future difficulties in obtaining funding from sources other than the central bank.

The reasons why nearly half of the banks of the sample did not take part in the operation of March 2015 and many more did not participate in the operation of December 2015 were, according to their answers, mainly that they did not face any funding constraints, while some banks avoided to accumulate excess liquidity given that it would have to be placed, even temporarily, in the deposit facility with a negative interest rate. Finally, some banks considered that if they obtained liquidity through the operations, it would not be possible to channel it to credit to the real economy due to weak loan demand.

Banks' responses confirmed that TLTROs have encouraged them primarily to increase corporate loans, consumer credit and even loans for house purchase (for the grant of which disincentives are explicitly offered by the framework setting out the technical details of these operations). To a lesser extent, the funds obtained through TLTROs have substituted other Eurosystem liquidity operations or have been used for the repayment of bank bonds. The majority of banks considered that the TLTROs do not contribute to a change in credit standards, an increase in their capital base (by improving profitability), to a moderation of pressures to deleverage banks' balance sheets or to a general improvement in market financing conditions. However, a significant portion of the sample (between 1/4 and 1/2) replied that the TLTROs contribute to an improvement in bank liquidity, while almost half of banks that have participated in targeted operations consider that their participation created the conditions to ease their lending terms and conditions at least to corporations.

Survey conclusions

Credit standards (particularly regarding corporate loans) and the terms and conditions for bank lending eased gradually in the euro area during 2015. This means that supply of bank credit has increased, while banks estimate that demand for all types of bank loans also grew in 2015. According to the responses of banks, the implementation of the Eurosystem's non-conventional monetary policy measures (namely, the expanded asset purchase programme and TLTROs) contributed directly to an increase in credit supply.

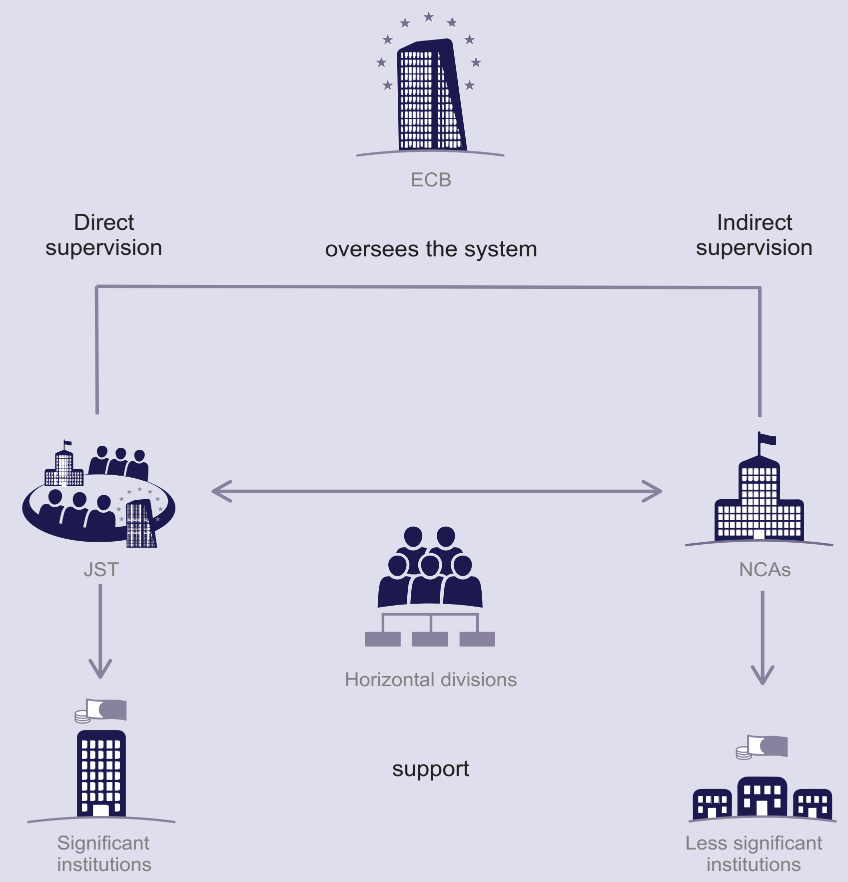
Box IV.4

DECISION-MAKING WITHIN THE SINGLE SUPERVISORY MECHANISM (SSM)

It is more than a year since the European Central Bank (ECB) assumed responsibility for euro area banking supervision following the activation, in November 2014,[1] of the Single Supervisory Mechanism (SSM) as the new mechanism of banking supervision in Europe. The SSM comprises

1 See also Bank of Greece, *Annual Report 2014*, p. 138.

Figure 1 The distribution of tasks within the SSM



Source: ECB, *Guide to Banking Supervision*, November 2014.

the national supervisory authorities of the participating countries and the ECB, which is responsible for its effective and consistent functioning. The ECB carries out its tasks under the SSM separately from its tasks relating to monetary policy. The reason for this is to avoid conflicts of interest, as each function pursues different objectives.

The ECB directly supervises what are known as "significant" institutions. This category consists of 129[2] banking groups with around 1,200 credit institutions, which hold around €26 trillion[3], or almost 82%, of total banking assets in the euro area.[4] The day-to-day supervision is conducted by Joint Supervisory Teams (JSTs), which comprise staff from both the ECB[5] and the National Competent Authorities (NCAs) (see Figure 1). NCAs remain responsible for the supervision of less significant institutions (LSIs) under the oversight of the ECB.[6]

2 By December 2015, the number of supervised banking groups was 122.
3 See speech by Vice-Chair and Member of the ECB's Executive Board S. Lautenschläger on "One year of SSM" delivered on 2.11.2015.
4 ECB, *Annual Report on supervisory activities 2014*, March 2015
5 ECB, *Annual Report 2014*.
6 In relation to this, see "The list of significant supervised entities and the list of less significant institutions", https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm-listofsupervisedentities1409en.pdf?59d76de0c5663687f594250ebf228c6b.

In the national context, the ECB supervises the four significant banks of Greece (National Bank of Greece, Alpha Bank, Piraeus Bank and Eurobank). The remaining banks are supervised by the Bank of Greece.

As the European banking supervisor, the ECB can take a number of supervisory decisions, which are legally binding on credit institutions under the SSM. These include:

- conducting supervisory assessments and on-site inspections and investigations;
- setting capital requirements above the regulatory minimum;
- deciding on the significance status of supervised banks;
- granting or withdrawing banking licences;
- assessing banks' acquisition and disposal of qualifying holdings; and
- imposing enforcement measures and sanctions on credit institutions.

All credit institutions under the SSM's supervision are subject to the same supervisory approach. That allows a consistent approach to supervisory issues, which, before the SSM, fell under the remit of the national supervisor of each of the 19 euro area countries. The SSM's supervisory methodology, processes and practices are presented in the SSM "Guide to banking supervision".[7]

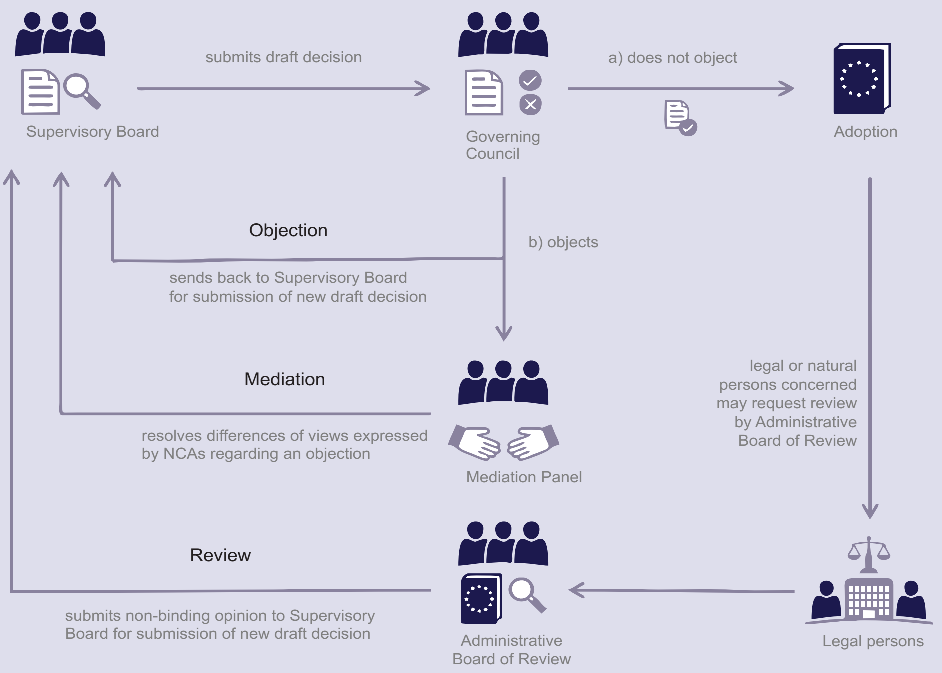
In undertaking micro-prudential supervision, the ECB seeks to achieve a twofold objective: foster harmonisation across the SSM and promote convergence towards best practices and high supervisory standards, so as to enhance the stability of the banking system and restore confidence in it.

In this regard, in 2015, the SSM took a number of decisions which set an important precedent for the future development of the supervisory function. The starting point was the Comprehensive Assessment, a prudential supervision exercise of unprecedented magnitude and depth, which was completed with the publishing of the results on 26 October 2014. This was followed by, among other things, decisions in areas such as large exposure limits, the fitness and properness of board members, internal model approvals and conditions for changes in qualifying holdings. However, many issues are still open and will be discussed and decided upon at a later date.

As already mentioned, the tasks of monetary policy and banking supervision are carried out in full separation. This approach[8] was chosen in order to avoid potential conflicts of interest, as the two functions pursue different objectives: the objective of monetary policy is price stability, while the objective of banking supervision is to protect the safety and soundness of credit institutions and the stability of the financial system. The SSM itself was also carefully designed to avoid such conflicts. Bearing that in mind, it is worth describing in greater detail the supervisory decision-making process, which is based on the principle of "non-objection".

7 ECB, *Guide to banking supervision*, November 2014.
8 On the separation between supervisory and monetary policy tasks, see 2014/723/EU: Decision of the European Central Bank of 17 September 2014 on the implementation of separation between the monetary policy and supervision functions of the European Central Bank (ECB/2014/39), and other related references, including an interview given by S. Lautenschläger to Mark Fehr and Malte Fischer on 2.4.2015, https://www.bankingsupervision.europa.eu/press/interviews/date/2015/html/sn150402.en.html.

Figure 2 Non-objection procedure



Source: ECB, *Guide to Banking Supervision*, November 2014.

The Supervisory Board of the SSM is composed of the Chair (appointed for a non-renewable term of five years), the Vice-Chair (chosen from among the members of the ECB's Executive Board) and four representatives of the ECB and one representative of the NCA of each participating country. The Supervisory Board plans and carries out the SSM's supervisory tasks and proposes draft decisions. Such draft decisions are proposed on the basis of thorough, objective, and transparent information, bearing in mind the interest of the euro area as a whole.

The Supervisory Board's draft decisions are then submitted to the ECB Governing Council for approval under the "non-objection" procedure (see Figure 2). If the Governing Council does not object to a draft decision proposed by the Supervisory Board within a defined period of time that may not exceed ten working days, the decision is deemed adopted. The Governing Council may adopt or object to draft decisions but cannot modify them.

The ECB has created a Mediation Panel to resolve differences of views expressed by the NCAs concerned regarding an objection by the Governing Council to a draft decision of the Supervisory Board. The Mediation Panel is composed of one member per participating country, chosen from among the members of the Governing Council and the Supervisory Board, to facilitate the achievement of a balance between Governing Council and Supervisory Board members.

The ECB has also established an Administrative Board of Review to carry out internal administrative reviews of decisions taken by the ECB in the exercise of its supervisory powers. This is composed of five independent members who are not staff of the ECB or an NCA. Any natural person or supervised entity may request a review of an ECB decision, which is addressed to them, or is of direct and individual concern. The Administrative Board must adopt an opinion on the request for review no later than two months from the date of receipt of the request for review. Based on the opinion of the Administrative Board, which is not binding, the Supervisory Board decides whether to make a proposal to the Governing Council to abrogate the contested decision, to replace it with a decision of identical content or to replace it with an amended decision. Due to its role in reviewing, upon request, supervisory decisions taken by the ECB that may lead to the adoption of a new decision by the Governing Council, the Administrative Board constitutes an important element of the ECB decision-making process as far as the exercise by the ECB of its supervisory tasks is concerned.

Consequently, elements such as the independence between the supervisory and monetary policy functions and the fact that the parties concerned may request mediation in order to resolve differences of views expressed by the competent bodies ensure that the decision-making process is effective.

Box IV.5

PAVING THE WAY TOWARDS FINANCIAL UNION ACCORDING TO THE FIVE PRESIDENTS' REPORT ON COMPLETING THE ECONOMIC AND MONETARY UNION IN EUROPE

According to the Five Presidents' Report (i.e. a report prepared by the Presidents of the European Commission, the Euro Summit, the Eurogroup, the European Central Bank and the European Parliament),[1] released on 22 June 2015, there are four fronts on which significant progress must be made (following a three-stage implementation timetable until 2025), in order for the EU, through high quality governance both at European and at national level, to be better positioned to prevent crises.

- First, a genuine Economic Union that will ensure structural effectiveness, so that each national economy has the necessary structural features that will allow it to prosper within the Monetary Union.
- Second, a Financial Union that will ensure the integrity of the common currency and risk-sharing among different economic agents in the private sector.
- Third, a Fiscal Union that will deliver fiscal stabilisation and long-term fiscal sustainability.
- Fourth, a Political Union to ensure that all the above will be implemented with democratic accountability and legitimacy.

As regards the Financial Union in particular, priority has been given to launching the Capital Markets Union and completing the Banking Union by the end of 2017. Moreover, based on the principle of level playing field, this report refers both to the need of decreasing the margin for discretion at national level, which has important implications for the quality and composition of banks' capital, and to the need of reviewing bank exposures to sovereign debt.

More specifically, the Banking Union requires single bank supervision (which has been achieved to some extent with the operation of the Single Supervisory Mechanism), a single resolution mechanism and a single deposit insurance scheme.

1 The full text of the Report is available at the following address:https://ec.europa.eu/commission/sites/beta-political/files/5-presidents-report_en.pdf.

The single resolution mechanism, which has been operating since 1 January 2016, aims at ensuring that, in case of serious difficulties, the resolution of banks supervised by the single mechanism will entail the least possible cost for taxpayers. Decisions on the operation of the mechanism are taken by the Single Resolution Board, while they are financed by the Single Resolution Fund, which will draw its funds from the banking sector. The financing of the Resolution Fund by contributions from banks totalling €55 billion is planned to take place gradually, over an eight-year period. During the transitional period, according to a decision taken by the Ministers of Finance of the euro area on 8 December 2015, each Member State will establish national credit lines (loan facility agreements), through which, if needed, resolution cases will be financed, after all the other financing sources provided for in the Bank Recovery and Resolution Directive (BRRD) have been exhausted first. Potential bank resolutions will be fiscally neutral, as the banking system of the country concerned will be liable for the repayment of any public funds by imposing contributions on banks.

As regards the common deposit insurance scheme, on 24 November 2015 the European Commission published a proposal on the establishment of a European Deposit Insurance Scheme (EDIS). Its function will be complementary to the existing national schemes and it will be cost-neutral for the banking sector, since it will be possible to deduct the contributions to the European Scheme from the corresponding contributions to national deposit guarantee schemes. Contributions will be based on the degree of risk of the banks. The guarantees will concern only the national deposit schemes applying the Directive on Deposit Guarantee Schemes (DGS Directive), after they have first exhausted their own reserves. Participation in the European Scheme will be mandatory for euro area Member States whose banks are covered by the Single Supervisory Mechanism, while the Scheme will be open to other EU Member States who want to join the Banking Union. According to the proposal, the new scheme will be built in three phases. In the first one (2017-2019), the re-insurance phase, in order to insure the deposits of a bank, the resources of the national deposit guarantee fund should be exhausted first and, should these be insufficient (and after the BRRD has been implemented), assistance will be given through funds by the European Scheme to cover the insurance needs. In the second phase (2020-2023), the insurance will be mutualised (co-insurance) between the national and the European Scheme, and, subject to strong conditionality, it will be possible for the national scheme to be supported by the European, even before the national resources have been depleted, while in the third phase (after 2024), the European fund will fully insure deposits in the participating countries.

Finally, of equal importance is the proposal on the creation of a European Capital Markets Union[2] aiming to promote homogeneous financing conditions of the economic activity in the euro area Member States. This initiative is relevant to various sectors of the operational framework of capital markets, such as securitisation procedures, bankruptcy Codes and the tax system. It is envisaged that a large number of legislative proposals will be implemented to facilitate financing for innovation, to eliminate enterprises' difficulties in tapping capital markets to raise funds, to boost investment in the economy's infrastructures, to support institutional investment, to leverage bank credit and to facilitate interstate investment.

2 As regards the Capital Markets Union, see Bank of Greece, *Monetary Policy*, June 2015, Special Feature III.2, as well as the European Commission's action plan on building a Capital Markets Union at http://ec.europa.eu/finance/capital-markets-union/docs/building-cmu-action-plan_en.pdf.

V MACROECONOMIC DEVELOPMENTS AND PROSPECTS IN GREECE[1]

In the first half of 2015, the Greek economy entered a period of economic uncertainty, mostly characterised by protracted negotiations with creditors. During this period, the Greek economy's path to recovery that had begun in 2014 was not interrupted; it was, however, moderated. Nonetheless, as of mid-2015 the Greek economy entered a new recession phase, as a result of both capital controls and the new fiscal policy tightening under the new Financial Assistance Facility Agreement.

Key macroeconomic indicators and recent conjunctural indicators point to a return to positive economic growth as from the second half of 2016. The prospect of recovery hinges on an intensification of reform efforts and a fast restoration of investor confidence. Structural reforms and attracting foreign direct investment (FDI) are the two drivers of a return to sustainable growth. Support to sound, outward-oriented businesses active in international markets and the promotion of tourism are equally crucial to growth. The improved competitiveness of the Greek economy, which supports Greek exports, as well as the flexibility characterising the labour market, are strong incentives for investment initiatives. Moreover, business investment demand is key to strengthening the export orientation of the productive base and supporting the productive capacity in the medium term.

1 OVERVIEW OF DEVELOPMENTS AND PROSPECTS

After achieving a positive growth rate in 2014, for the first time since 2007, the economy returned to recession in 2015 (-0.7%), despite registering a positive growth rate in the first half of the year (0.6%). The stabilisation of the economy from January to September 2015[2] (see Chart V.1) was mainly driven by private consumption and an improving external sector, as a result of increased exports of goods, higher tourism and a substantial decline in imports. By contrast, demand for investment goods receded further, owing to the worsening economic climate (see Chart V.2) and the adverse financial conditions.

Developments in private consumption were underpinned by the stabilisation of real disposable income and were supported by a sharp and prolonged decline in international oil prices, a drop in the general price level, and a liquidation of savings by households. The stabilisation of real disposable income stems from increased employment and a gradual easing in labour market pressures.

Exports of goods in real terms increased, offsetting the small decline in the services surplus (due to lower shipping receipts). The current account improved significantly, as capital controls in the third quarter of the year led to a decrease in imports and a comparatively limited decline in exports. Moreover, an increase in tourism was recorded for the third consecutive year, with a positive effect on tourism receipts. The tourism product improved substantially in recent years, by embracing structural reforms, such as longer operating hours of archaeological sites and access to museums on holidays, and by providing alternative forms of tourism. The fact that competitor countries were involved in geopolitical tensions in the Eastern Mediterranean also made a positive contribution to tourist traffic to Greece.

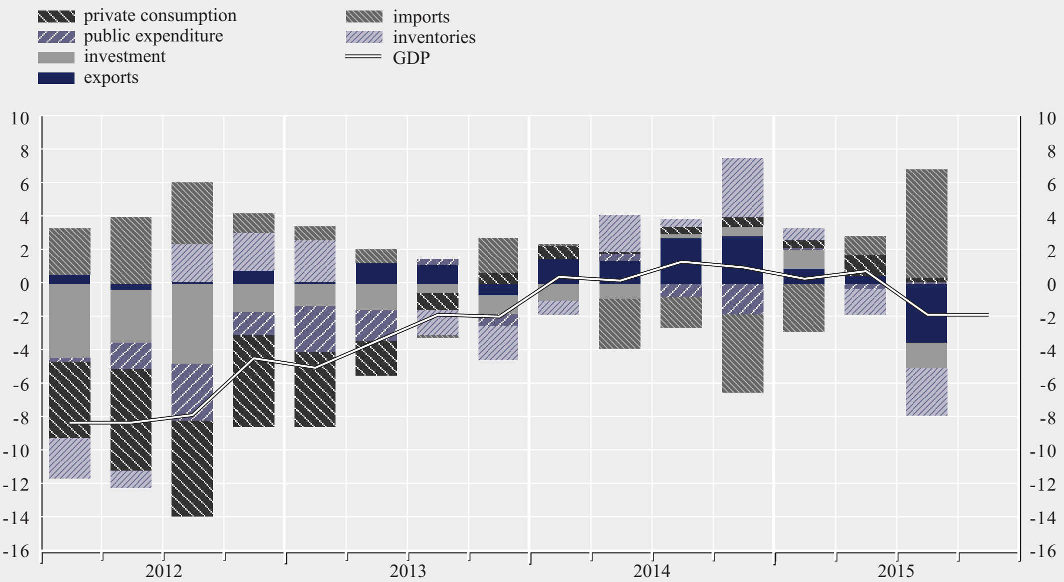
Employment in January-September 2015 increased, as a result of continued positive growth in particular sectors and a strong rise in tourist traffic. This development was also driven by enhanced labour flexibility, as a result of the removal of institutional constraints on the labour market, while labour costs remained low following wage reductions in previous years.

Gross fixed capital formation dropped in January-September 2015, mainly due to the

1 The cut-off date for information and data used in this Chapter is 12 February 2016.
2 The analysis of demand components for January-September 2015 is based on ELSTAT provisional data (27.11.2015).

Chart V.1 Contributions of demand components to GDP growth (2012-2015)[1]

(percentage points)



Source: ELSTAT, National Accounts.
1 The GDP growth rate is derived from ELSTAT flash estimate of 12.2.2016; contributions are based on ELSTAT provisional data of November 2015.

decline registered in the third quarter. Investment in machinery and transport equipment fell substantially, while investment in construction continued its downward path.

For the third consecutive year, inflation remained in negative territory, standing at -1.1% on average in 2015, although the rate of decline slowed down mainly due to increases in indirect taxes in the last five months of the year. A key driver of inflation developments was the downward course of international oil prices. In addition, a substantial share of the increase in indirect taxation was absorbed by producers and did not pass through to final consumer prices. However, in December 2015 inflation turned positive, mainly owing to VAT increases. Unit labour costs in total economy appear to have dropped during the year, though less strongly than dependent labour wages, due to a fall in productivity.

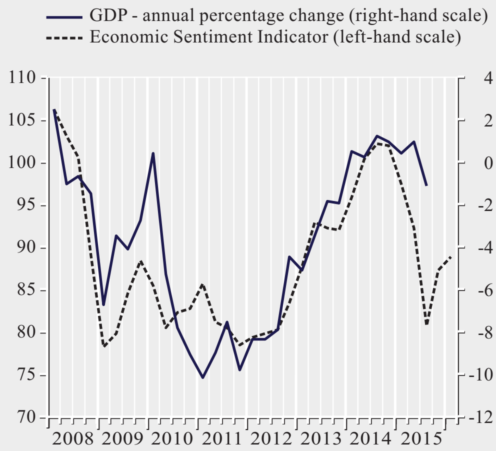
The positive growth rate maintained in the first half of 2015 was the result of the recovery achieved in the second half of 2014, which was supported by an earlier rebalancing of the fiscal and external deficits. Adverse developments highlighted the adaptive capacity of both enterprises and consumers when called upon to operate under conditions of extreme financial constraints. The worsening business climate, the prolonged credit crunch and the slower implementation of reforms led the economy back into recession in the second half of the year.

However, it should be noted that the growth prospects of the economy over the following years remain strong, provided that short-term imbalances are effectively addressed and, most importantly, long-term challenges related to Greece's new growth model are met.

In brief, the following should be outlined:

- Efforts to recoup losses in international price competitiveness of the economy have not yielded the expected results, against a back-

Chart V.2 GDP (2008-2015[1]) and the Economic Sentiment Indicator[2]



Sources: ELSTAT and European Commission/IOBE.
1 GDP (ELSTAT preliminary estimate of 12.2.2016).
2 Three-month moving average.

ground of recession and tight credit conditions. Overall competitiveness of the economy, which essentially reflects business conditions in Greece, remains unchanged, suggesting that it is imperative to maintain and improve reform efforts.

• Exports of goods, though reflecting the expanding commercial relations of the Greek economy with the rest of the world, fall short in terms of penetration in international markets (see Box V.5). This finding reflects the need to enhance the productive equipment of Greek exporters, i.e. to increase investment.

• A full restoration of financial conditions and a stabilisation of the economic climate are key to triggering new investment (see Box V.2).

• The privatisation programme and the exploitation of public real estate (see Box VI.1) are instrumental in highlighting opportunities for foreign direct investment.

• A shift of investment resources and activities from non-tradables to tradables is under way (see Box V.3). The outcome of this process should largely define the country's growth outlook over the next two decades.

• In order to maintain social cohesion and safeguard growth efforts, it is necessary to continue providing targeted support to weaker social groups, without, however, undermining fiscal adjustment.

• At the same time, the implementation and improvement of active employment policies is expected to curb unemployment, particularly long-term and youth unemployment. Moreover, maintaining the reform agenda, together with boosting the export-orientation of the productive base, are expected to help reduce unemployment, increase employment and halt the brain drain (see Boxes V.1 and V.3).

Box V.1

THE GREEK BRAIN DRAIN: THE NEW PATTERN OF GREEK EMIGRATION DURING THE RECENT CRISIS

The role of human capital in economic growth is a key element in the theory of "endogenous growth". It is not by chance that the term "knowledge-driven" or "knowledge-based economy" (OECD 1996[1]) has prevailed since mid-1990s, thereby confirming a link between market economy and knowledge. The main argument is that an economy that accumulates high-quality human capital reaps the fruits of technological advancement, improves its productivity and competitiveness and achieves high and sustainable growth rates. Knowledge contributes to the creation of new products and services, to a more efficient combination of labour and physical capital, and to innova-

1 OECD (1996), *The knowledge-based economy*, General Distribution (96)102, Paris.

tion. The carrier of knowledge is human capital, i.e. the stock of knowledge and skills acquired by an individual through education and work experience.

Therefore, one of the top priorities for all States is to create, maintain and safeguard their countries' human capital. In crisis-ridden Greece, the phenomenon of human capital flight, commonly known as "brain drain", has grown to large proportions. Between 2008 and 2013, almost 223 thousand young people aged 25-39 left the country permanently for more advanced economies, in search of employment, better pay and better social and economic prospects. This is the generation that was hit the hardest by the crisis, also known as "generation E" (expats), or "generation G" (young, talented and Greek), or "generation We".

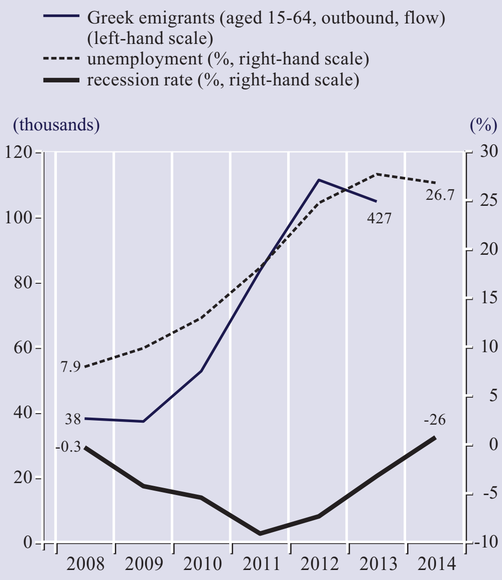
The intensity and strong dynamics of the phenomenon point to an urgent need, first, to delineate its various aspects and patterns and map its characteristics; second, to explore the reasons why the Greek brain drain has emerged at the current juncture; and, third, to identify its impacts on the domestic economy, in order to establish under what circumstances human capital could return. These are the three challenges around which the present analysis will revolve, before concluding with a minimum set of six policy recommendations related to sustainable growth that could help not only to contain, but also to reverse the phenomenon.[2]

Current state of play

Chart A depicts the current state of play. It seems that the Greek economy and society "invested" in emigration to cope with soaring unemployment and a deep plunge into recession. A stable outflow of 38 thousand people in 2008 and 2009 more than doubled in only two years (2010-2011), and exceeded 104 thousand in 2013 implying almost 427 thousand overall between 2008 and 2014.[3] Assuming that the value of human capital can be quantified using as a proxy the present value of workers' expected future earnings during their economically active lives, the declining path of per capita disposable income can be considered a strong motive for emigration. Developments are described in Chart B.

The annual flow of Greek emigrants aged 25-39 increased from 20 thousand in 2008 to 53 thousand in 2013, while on a cumulative basis almost 223 thousand people of the same age group left the country permanently. Over the same period, gross disposable per capita income of Greek households declined from 93.8% of the euro area-19 average in 2008 to just 68.8% in 2013.

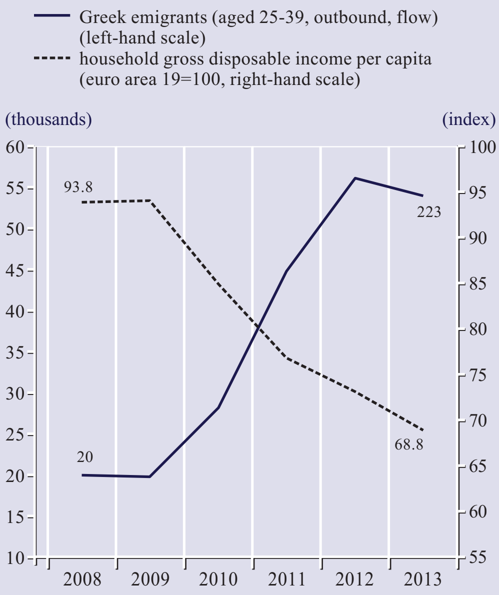
Chart A Migration, unemployment and recession (2008-2014)



Source: Calculations based on Eurostat and ELSTAT data.
Note: Statistics on the outflow of Greek nationals to all countries are available starting from 2008. The number of emigrants for 2013 and the percentage of recession for 2014 are shown cumulatively.

2 For more information, see Lazaretou, S. (2016), "The Greek brain drain: The new pattern of Greek emigration during the recent crisis", Bank of Greece, *Economic Bulletin, 43*, English translation forthcoming.
3 Data refer to the gross migration outflow of Greek residents. No complete dataset exists for the net flow.

Chart B Greek youth migration and income (2008-2014)



Source: Calculations based on Eurostat, Emigration Statistics data and OECD.
Note: Greek nationals permanently exiting the country. Disposable income in USD purchasing power standards compared with the euro area-19 average. The number of emigrants for 2013 is shown cumulatively.

Education appears to have been a key factor in bringing down the unemployment rates of educated young people over the pre-crisis period. Until 2008, a higher education attainment was largely associated with a lower unemployment rate for tertiary education graduates; nevertheless, the unemployment rate for educated young people aged 25-39 was two percentage points higher than the general unemployment rate and more than double the EU-28 average.[4] Furthermore, in quantitative terms, the stock of human capital, as measured by the number of degree holders, tended to converge towards the EU-28 average. The bulk of tertiary education graduates concerns bachelor's degree holders, while just one in ten has a master's degree. Research and innovation expenditure as a percentage of GDP is the fifth lowest among the EU-28 countries, the number of patent applications is 19 times lower than the EU average and the number of persons who either completed university studies in science and technology (HRSTE) or are employed in these sectors (HRSTO)[5] does not exceed 35% of the active population, against 44% in the EU-28. Besides, Greece's inability to attract, deploy and retain new talent is evident. According to the Global Talent Index for 2015, Greece ranks 33rd among a total of 60 countries and 81st among a total of 144 countries on the basis of the Global Competitiveness Index (World Economic Forum) that takes into account the quality of education, innovation and entrepreneurial culture on top of the macroeconomic conjuncture.

Impact of the brain drain

Although it is too early to determine the measurable impact of brain drain on macroeconomic aggregates, there are strong arguments that the net effect is ultimately negative. *First*, the brain drain affects a country with negative demographic rates and mainly concerns single young men and women. Apart from adversely affecting the already weak birth rate, this also increases the burden on the social security system, by depleting the country's employable human resources. *Second*, higher education and specialisation in Greece is exclusively provided by the government through public universities, which are mainly financed by taxpayers' money. Therefore, the flight of scientific human resources that were trained in Greece and their stay abroad after the completion of their studies constitutes a heavy loss. *Third*, human capital flight concerns mainly the most competitive, competent and ambitious part of the labour force. Its productive utilisation by a foreign country causes a permanent damage to the country of origin, as the average quality of the remaining human cap-

4 See the studies by Papapetrou, E. (2007), "Education, labour market and wage differentials in Greece", Bank of Greece, *Economic Bulletin*, 28, 51-73, and Mitrakos, Th., P. Tsakloglou and I. Cholezas (2010), "Determinants of the wage rates in Greece with an emphasis on the wages of tertiary education graduates", Bank of Greece, *Economic Bulletin*, 34, 7-37.

5 HRSTE (human resources in science and technology education) covers all levels of tertiary education according to the International Standard Classification of Education (ISCED). HRSTO (human resources in science and technology occupation) covers two major groups of occupations according to the International Standard Classification of Occupations (ISCO), i.e. professionals and technicians. See Eurostat indicators on HRST: http://ec.europa.eu/eurostat/cache/metadata/en/hrst_esms.htm.

ital stock deteriorates. *Fourth*, the expected return to education initially increases, since educated individuals are those that enjoy, as a rule, better professional advancement opportunities in the receiving countries. However, people with lower skills and educational attainment also emigrate, which limits the benefit from the expected higher return to education, since a shortage of skilled labour supply relative to demand creates expectations of higher earnings and weakens any incentives for education and improvement of the quality of the labour force. Besides, the high expected return to education is surrounded by high uncertainty, given that it is conditional upon unpredictable factors, such as the possibility to migrate, employment opportunities in the destination country, changes in the destination country's immigration policy (stricter numerical quotas) and unfavourable developments in the destination country's economic environment which affect the level of expected wages. *Fifth*, immigrants are usually overqualified and underpaid. As a result, the brain waste and income loss pose an extra burden on the source country. *Sixth*, the higher expected return to education also increases demand for education services and their cost of supply. However, increased education spending deprives public funds from other sectors, such as public infrastructure and healthcare, which also have a positive multiplier effect on economic growth. If increased education spending is financed through taxation, the resulting decline in disposable income will weaken demand for education, thereby leading to a negative net final outcome. Besides, cuts in other investment expenditure, e.g. in infrastructure or healthcare, also have first-round adverse effects on the growth process as well as on the quality of the labour force. The latter has negative second-round multiplier effects, as returns on physical capital decrease, if a given stock of physical capital has to be combined with lower-quality labour inputs in the production process. *Seventh*, human capital loss also implies sizeable fiscal losses in terms of tax revenue, since, as a rule, highly skilled workers demand, and succeed in obtaining, higher wages and pay more taxes due to their higher taxpaying capacity. *Eighth*, the exodus of the most talented and educated people brings about a feeling of resignation and pessimism among large parts of the population, eventually leading to the flight of less talented persons as well, which translates into mistrust in the country's future.

Conclusions and policy recommendations

In no case does the brain drain warrant procrastination. Below follows a minimum set of six policy recommendations linked to sustainable growth, whose implementation could result not only in limiting, but also in reversing the outflow of human capital from Greece.

1. *Preparation and implementation of a national economic reconstruction and labour market restructuring plan.* The plan will contribute to redefining the types and forms of academic and vocational specialisation needed to improve skill matching for young scientists.

2. *Business start-ups.* Actions encouraging business start-ups should, without delay, be intensified and become more systematic, supported by the country's productive sector and the State. These actions could take the form of meeting points liaising creative and ambitious young people with the business community.[6]

3. *Excellence, transparency and meritocracy.* Although the economic crisis has reinforced the great exodus of young graduates, it has not been the only factor behind mass migration. The lack of meritocracy and of transparency in recruitment processes, mediocracy, nepotism, corruption, the inef-

6 2015 saw several such initiatives launched by the Greek business sector in collaboration with non-profit and voluntary organisations. Indicatively, these included: the 90 events held in the context of the 2015 Start up Safari Athens, the Mindspace action, the Entrepreneurship School (ThinkYoung), as well as the operation of Impact Hub Athens, the "Regeneration" programme, implemented by Global Shapers Athens Hub, an initiative of the World Economic Forum, Google LaunchPad and the initiatives in the context of Industrydisruptors.org with the Disrupt Startup Scaleup event and the SFEE Innovation Project.

ficient and ineffective public administration, the lack of career and professional development opportunities, the lack of entrepreneurship incentives, together with the economic crisis and the uncertainty about the country's future, were cited by current or prospective migrants as major push factors.[7] The regular holding of competitions, with the support of both professional associations and the government, with awards in the form of prizes and/or subsidies to employers who will hire Greek scientists as a reward for their ideas and as an incentive for participation, would provide tangible proof that excellence is valued and nurtured and meritocracy is safeguarded.

4. *Apprenticeship and traineeship opportunities.* In the current circumstances of low demand and downsized production, Greek firms are able to cope with short-term skill shortages; in the longer term however, once the economy enters an upward phase of the business cycle, they are likely to face serious problems associated with low productivity and lack of innovation. It is therefore advisable that firms take initiatives aiming to retain young and talented professionals. This could be made possible through the broad-based adoption of apprenticeship and internship schemes for young people who are educated, but have little or no professional experience.[8]

5. *A business-friendly environment.* As young people today are highly willing to try out entrepreneurship and their overwhelming majority engages in actions that are clearly outward-looking, such as technology, tourism and natural products, the absence of a business-friendly framework continues to be an obstacle.[9] Doing business in Greece would therefore greatly benefit from an institutional environment that includes, as essential ingredients, less red tape, a business-friendly attitude on the part of the State, as well as lower social security contribution and tax rates for startups until they become profitable. Significant gains are also expected from flexible forms of bank financing, as well as from the utilisation of the European Investment Bank's special financial instruments.

6. *Strategy for the reintegration of young people not in education, employment or training* (NEET). In Greece, the rate of NEET youth aged 15-24 exceeded 19% of population aged 15-24 in 2014. This high rate raises serious concerns and has adverse long-term implications on the economy and on society, since young people belonging to this category often feel abandoned by the State and socially and economically sidelined. This issue needs to be addressed by a holistic and cohesive strategy, building on best practices successfully followed in advanced economies which, despite the global crisis and recession, have experienced only small rises in youth unemployment. Therefore, the Greek State should develop without delay a holistic and cohesive strategy for the integration and utilisation of NEET youth, building on best practices successfully followed in advanced economies which, despite the global crisis and recession, have experienced only small rises in youth unemployment. These practices are based on a set of initiatives taken by the government, in conjunction with businesses and educational institutions of all levels and types, and are aimed at increasing apprenticeship and internship programmes, vocational training and specialisation courses, in order to better prepare the transition of young people from education to the labour market, protect second-chance schools and provide incentives against school drop outs.

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7 The findings of almost all surveys conducted and published so far point to this conclusion. See European University Institute (2013), Global Governance Programme, Cross-country analysis, survey report. Emigrating in times of crisis, EUI/4, ICAP Group (2015), Results of the survey on brain drain. *Talent management from drain to gain*, 1st annual conference Human Capital Summit, People Solutions, 4 June. Endeavor Greece (2014), "Creating jobs for youth in Greece", Stavros Niarchos Foundation, Theodoropoulos, D., A. Kyridis, C. Zagkos and Z. Konstantinidou (2014), "Brain drain phenomenon in Greece. Young Greek scientists on their way to immigration in an era of crisis. Attitudes, opinions and beliefs towards the prospect of migration", *Journal of Education and Human Development*, 3, 229-248, Triandafyllidou, A. and R. Gropas (2014), "Voting with their feet: highly skilled emigrants from SEE", *American Behavioral Scientist*, 58, 1614-1633.

8 As regards on-the-job training, see Nicolitsas, D. (2011), "On-the-job training in Greece: a brief overview", Bank of Greece, *Economic Bulletin*, 35, 47-76.

9 See the survey "Entrepreneurship through the eyes of youth: something changes", (in Greek), Athens University of Economics and Business, Endeavor Greece, EY and American-Hellenic Chamber of Commerce, December 2015.

2 ECONOMIC ACTIVITY: DEVELOPMENTS AND PROSPECTS

Developments in demand

According to ELSTAT estimates (12 February 2016), GDP fell by 0.7% in 2015. The year 2015 was characterised by two diverging trends: economic activity kept increasing in the first half of the year (+0.6%), then returned to a recessionary course in the second half of the year (-1.9%), as a result of capital controls. The following analysis of demand components during January-September 2015 (see Table V.1) is based on ELSTAT provisional data (27 November 2015).

Private consumption increased in the first nine months of 2015 (0.9% in January-September 2015, against 0.6% in January-September 2014), despite the prevailing climate of uncertainty due to protracted negotiations with Greece's international creditors and the implications from the bank holiday and capital controls. Developments in private consumption are largely attributable to the stabilisation of the real disposable income of households and of non-profit institutions serving households (NPISHs)[3] (see Chart V.3), which was driven by an increase in employment, a decrease in the prices of goods and services, and a significant decline in the international prices of oil and other fuel. Moreover, the liquid assets withdrawn by households in the first half of 2015 and the widespread use of debit and credit cards also supported consumer spending.

A worsening in the consumer confidence indicator as from the second quarter of 2015 (see

3 According to the quarterly non-financial accounts of institutional sectors published by ELSTAT, in January-September 2015, this income remained relatively stable (-0.3%) in real terms, against the respective period in 2014.

Table V.1 Demand and GDP

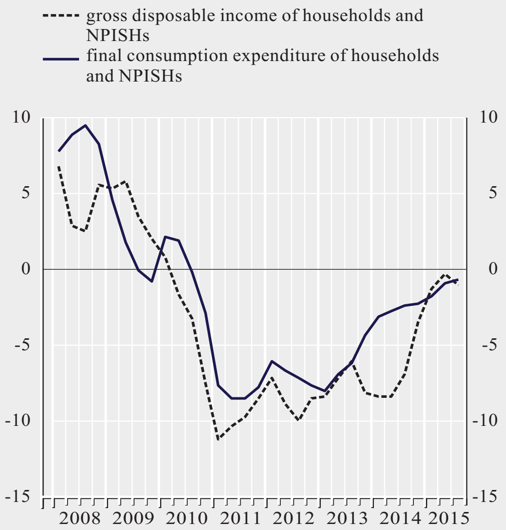
(annual percentage changes and percentage point contributions, at constant market prices of 2010)

	2010	2011	2012	2013	2014	2015 Jan.-Sept.
Private consumption	-6.4 (-4.4)	-9.9 (-6.8)	-7.9 (-5.5)	-2.5 (-1.7)	0.7 (0.5)	0.9 (0.6)
Public consumption	-4.2 (-0.9)	-7.0 (-1.6)	-7.2 (-1.6)	-5.5 (-1.2)	-2.4 (-0.5)	-0.2 (-0.1)
Gross fixed capital formation	-19.3 (-4.0)	-20.7 (-3.6)	-23.4 (-3.6)	-9.3 (-1.2)	-2.6 (-0.3)	-1.4 (-0.1)
Residential investment	*-26.3* *(-1.7)*	*-14.4* *(-0.7)*	*-38.2* *(-1.8)*	*-30.7* *(-1.0)*	*-52.3* *(-1.2)*	*-25.1* *(-0.3)*
Domestic final demand[1]	-8.3 (-9.3)	-11.0 (-12.0)	-10.0 (-10.7)	-4.0 (-4.1)	-0.4 (-0.4)	0.4 (0.4)
Change in inventories and statistical discrepancy (% of GDP)	-0.5%	-0.7%	-0.6%	-0.8%	0.6%	-0.7%
Domestic demand	-5.3 (-7.4)	-9.7 (-11.9)	-8.8 (-10.4)	-3.2 (-4.4)	3.3 (1.0)	-2.5 (-0.8)
Exports of goods and services	4.4 (0.9)	0.8 (0.2)	1.1 (0.3)	1.7 (0.4)	7.4 (2.1)	-2.5 (-0.7)
Imports of goods and services	-3.4 (1.0)	-8.2 (2.5)	-9.4 (2.9)	-2.9 (0.9)	7.8 (-2.4)	-5.0 (1.6)
Foreign demand	... (1.9)	... (2.7)	... (3.2)	... (1.3)	... (-0.3)	... (0.9)
Gross domestic product at market prices[2]	-5.5	-9.2	-7.3	-3.1	0.7	0.1

Source: ELSTAT, Quarterly National Accounts, November 2015, seasonally adjusted data.
Note: Within parentheses: contributions to GDP in percentage points.
1 Excluding inventories and statistical discrepancy.
2 ELSTAT's preliminary estimate of 12.2.2016 has not been included.

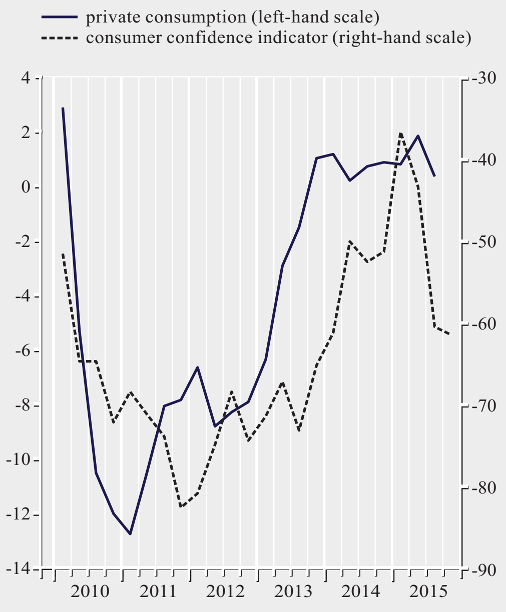
Chart V.3 Private consumption and disposable income of households[1] (Q1 2008 - Q3 2015)

(annual percentage changes)



Source: ELSTAT, National Accounts.
1 Four-quarter moving average.

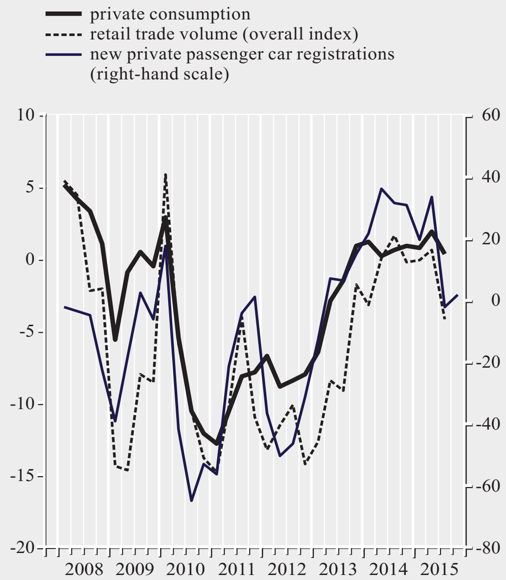
Chart V.4 Private consumption and consumer confidence (Q1 2010 - Q4 2015)



Sources: ELSTAT and European Commission (consumer confidence indicator).
Note: For private consumption: annual percentage changes. For consumer confidence: difference between weighted percentage balances of positive and negative answers.

Chart V.5 Private consumption and consumer demand indicators (Q1 2008 - Q4 2015)

(annual percentage changes)



Sources: ELSTAT.

Chart V.4) reflected heightened uncertainty, which, nevertheless, had a smaller than expected impact on household consumer spending. Moreover, indicators of consumer demand (see Table V.2 and Chart V.5) show that the growth rate of car sales remains high and that the slowdown in consumer credit is decelerating. However, the concentration of household tax liabilities in the last quarter of the year is estimated to have contributed to a small decline in consumption in the fourth quarter of 2015.

Although private consumption remained on an upward path in January-September 2015, the shortfall in consumer spending against the levels recorded before the crisis is remarkable. In January-September 2015, compared with the respective period of 2009, private consumption fell by around 23% (at constant prices; seasonally adjusted data), reflecting, inter alia, consumers' deteriorating living standards.

The decline in private consumption during the crisis is also reflected in the results of the sam-

Table V.2 Indicators of consumer demand (2010-2016)

(annual percentage changes)[1]

	2010	2011	2012	2013	2014	2015-2016 (available period)
Volume of retail trade (overall index)	-6.2	-10.2	-12.2	-8.1	-0.4	-1.7 (Jan.-Nov.)
Volume of retail trade (excluding fuels and lubricants)	-6.9	-8.7	-11.8	-8.4	-0.7	-0.6 (Jan.-Nov.)
Food-beverages-tobacco[2]	-5.5	-6.0	-9.0	-9.1	0.5	-1.9 (Jan.-Nov.)
Clothing-footwear	-11.4	-18.8	-20.6	-2.2	5.4	7.2 (Jan.-Nov.)
Furniture-electrical appliances-household equipment	-12.7	-15.7	-16.3	-6.2	-1.4	-4.0 (Jan.-Nov.)
Books-stationery-other	-4.3	-5.2	-12.1	-0.1	7.0	6.2 (Jan.-Nov.)
Revenue from VAT (at constant prices)	0.1	-5.9	-12.8	-6.5	-0.4	0.8 (Jan.-Nov.)
Retail trade confidence indicator	-26.4	-0.5	-3.1	22.9	27.1	2.8 (Jan. 2016)
Consumer confidence index	-63.4	-74.1	-74.8	-69.4	-54.0	-64 (Jan. 2016)
New private passenger car registrations	-37.2	-29.8	-41.7	3.1	30.1	4.9 (Jan. 2016)
Tax revenue from mobile telephony[3]	37.1	-16.8	-7.9	-12.8	-10.4	-6.4 (Jan.-Dec.)
Consumer credit[4]	-4.2 (Dec.)	-6.4 (Dec.)	-5.1 (Dec.)	-3.9 (Dec.)	-2.8 (Dec.)	-2.3 (Dec.)

Sources: ELSTAT (retail trade, cars), Ministry of Finance (VAT revenue, tax revenue from mobile telephony), IOBE (retail confidence), IOBE and European Commission (consumer confidence), Bank of Greece (consumer credit).
1 Excluding the consumer confidence index (weighted percentage balances of positive and negative answers).
2 Comprising big food stores and specialised food-beverage-tobacco stores.
3 Until July 2009, fixed monthly levy per subscription. Since August 2009, new scaled levy on mobile telephony subscriptions and a levy on pre-paid mobile telephony.
4 Comprising bank loans and securitised loans. The rates of change are adjusted for loan reclassifications, loan write-offs/write-downs, foreign exchange valuation differences and, in 2009, the transfer of loans by one credit institution to a domestic subsidiary.

ple Household Budget Survey. Specifically, data from the Household Budget Surveys 2014 and 2010 show a decrease in the average monthly spending of households by €494, or by 25.3%, between 2010 and 2014. Moreover, according to data on the breakdown of spending on goods and services (see Chart V.6), a change in the structure of consumer spending is observed between 2010 and 2014. Specifically, a shift can be observed from spending on consumer durables (furniture, clothing) and recreation (hotels, transport) to spending on goods and services covering basic needs (food and housing).

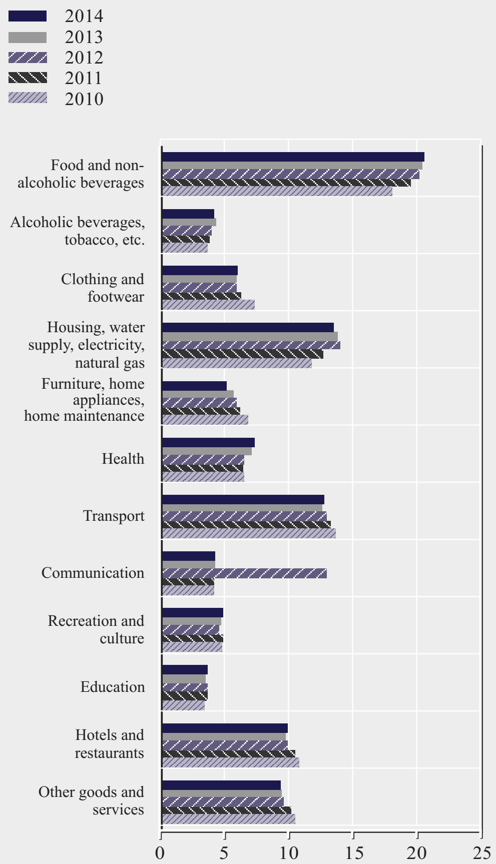
The decrease in gross fixed capital formation by 1.4% in January-September against the corresponding period in 2014 was mainly due to negative developments in the third quarter (-12.9%). During this period, investment in machinery and transport equipment fell substantially (-13.6%) (see Chart V.7), continuing the deceleration seen in the previous quarter (from +49.4% in the first quarter to +13% in the second quarter).[4] Moreover, investment in construction continued to decrease at high rates throughout January-September 2015, reflecting an increase in investor uncertainty and extensive delays in infrastructure projects. The rate of decline in residential investment decelerated against 2014 (-25.1% in January-September 2015 from -52.3% in 2014) and turned strongly negative in the third quarter.

Particularly in the third quarter of the year, a large decline was observed in inventories, as

4 It should be noted that the significant increase in investment in the first quarter of 2015 is largely attributable to the purchase of military equipment.

Chart V.6 Consumer spending (2010-2014)

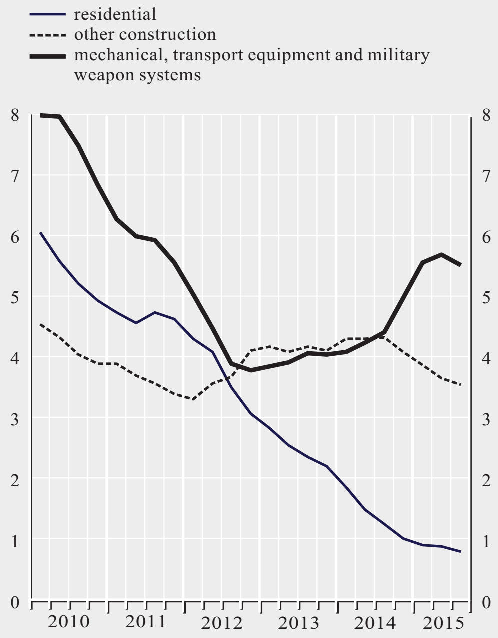
(% of total)



Source: ELSTAT, Household Budget Surveys.

Chart V.7 Selected types of investment as percentages of GDP (QI 2010 - Q3 2015)

(%)



Source: ELSTAT, National Accounts.
Note: Seasonally adjusted data, current prices, four-quarter moving average.

recorded by ELSTAT under gross investment. Part of this should be attributed to the efforts made by enterprises to deal with capital controls in the second half of 2015.

Box V.2

THE KEY DRIVERS AND PROSPECTS OF BUSINESS INVESTMENT IN GREECE

The duration and scale of persistent weakness of investment across Europe has gathered attention among international organisations and central banks,[1] resulting in the thorough investigation of the determinants of business investment through a series of empirical analyses.[2]

In developed economies, fixed capital formation is estimated to have declined by 25% on average from its pre-crisis level. Although construction investment was particularly hard hit by the

1 See, for example: IMF, *World Economic Outlook*, April 2015. European Commission, *European Economy* 7/Autumn 2014, European Economic Forecast, "Box 1.1: Drivers and implications of the weakness of investment in the EU". European Commission (2015), *Quarterly report on the euro area*, Issue 1, Section 4: "Investment dynamics in the euro area since the crisis", vol. 14, p. 35. Bank for International Settlements (2015), "(Why) Is investment weak?", *Quarterly Monthly Review*, March. OECD (2015), *Economic Outlook*, Volume 2015/1. Pinto, E. and S. Tevlin (2014), "Perspectives on the Recent Weakness in Investment", Federal Reserve Bank, FEDS Notes.

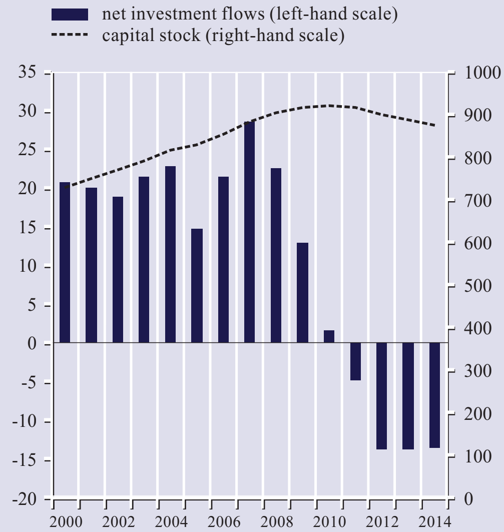
2 As, in particular, regards the investigation of the relationship between economic sentiment and investment, see, for example, the recent papers: Lewis, C. et al. (2014), "Investment Gaps after the Crisis", OECD Working paper no 1168, and Bussière, M. et al. (2015), "Explaining the recent slump in investment: the role of expected demand and uncertainty", Banque de France, Document de Travail no 571.

crisis, around two-thirds of total disinvestment was accounted for by a contraction in business investment.[3]

In Greece, total investment expenditure as a percentage of national GDP fell from around 26% in 2007 to 11.6% in 2014, contributing to the drop in total active demand and leading to a shrinking of the country's productive capital. Specifically, net investment in Greece has been negative since 2011, resulting in a decline in the economy's net capital stock (see Chart A), as gross investment is lower than capital depreciation.

Chart A Capital stock and net investment

(EUR billions, at constant prices of 2010)



Sources: Eurostat-AMECO and ELSTAT.

The drop in investment expenditure is attributed primarily to a slump in housing investment as a percentage of GDP, from around 10% in 2007 to a tenth of that figure (1%) in 2014. Business investment also declined, but less steeply in the same period, from 10.3% of GDP to 7.9% of GDP, suggesting a shift of asymmetrically high investment resources away from construction activity, as was also the case in other European countries, such as Spain and Ireland (see the table). Alarmingly though, recent business investment flows are once again close to the lowest negative levels observed during that period, meaning that Greece's investment poverty could well turn out to be long-lasting.[4] The public investment-to-GDP ratio also fell by about 2 percentage points in the same period (see Box VI.2)

The dominant question, not just for Greece, but for all countries in the EU, is therefore whether the weakness of investment can be explained by the weakness of aggregate demand alone, as predicted by the baseline theoretical model,[5] or whether other explanatory factors, such as eco-

3 IMF, *World Economic Outlook*, April 2015, Chapter 4: "Private Investment: What's the Holdup?", p. 112.
4 According to the OECD, in 2014 Greece had the lowest ratio of business investment to potential GDP among the organisation's 27 member countries (OECD, *Economic Outlook*, Vol. 2015/1, Ch. 3, p. 227).
5 In the context of a Cobb-Douglas production function, the baseline investment model (also known as "accelerator investment model") takes the form $k_t^*=a+y_t-c_t$, where capital stock (k^*) is a function of a constant a, real output y and the user cost of capital c. When output alone does not fully explain the weakness in investment, an extended model may be used to empirically investigate the explanatory power of "uncertainty", "financial constraints" and/or perhaps other variables.

Decomposition of the decline in investment

(percentages of GDP)

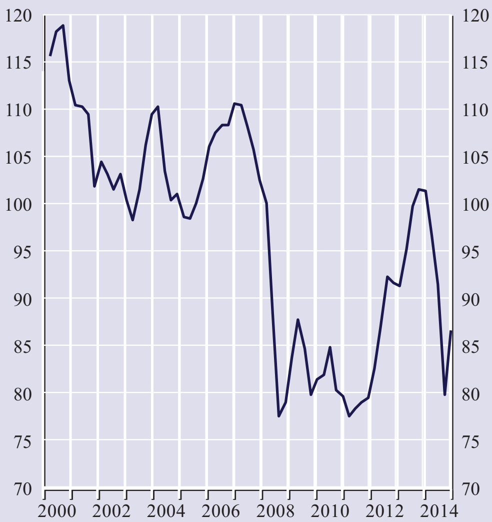
	Average 2000-2007	2007-2014 trough	2015 1st half	Difference from the 2000-2007 average	Distance from the 2007-2014 trough
Total investment	24.15	11.61	11.91	-12.25	0.30
Housing investment	9.37	0.94	0.94	-8.43	0.00
Business and public investment	14.78	9.53	10.97	-3.82	1.44
Business investment	9.15	6.40	7.86	-1.29	1.45
Public investment	5.63	2.45	3.11	-2.52	0.66

nomic uncertainty and financial constraints, may also play a role. Despite some heterogeneity in the empirical findings, there is evidence that a significant part of the slowdown in investment flows is not connected with the shortfall in demand but is rather the result of economic uncertainty and financial constraints. Especially, in the case of high-spread, debt-ridden countries, such as Greece during 2010-2014, the inclusion of these two variables in a conventional "accelerator" model seems to improve its explanatory power.[6] In greater detail, according to the estimated investment function for a panel of five EU countries (Greece, Ireland, Italy, Portugal and Spain), Greece shows the strongest relationship between investment expenditure and economic uncertainty, but only a moderate relationship between investment expenditure and financial constraints.

In order to explain investment poverty, the following aspects should also be taken into account:

First, the disproportionately high share of housing investment in 2000-2007 (representing on average 40% of the total) delayed the recovery of investment expenditure in Greece, as the shift of the domestic production model from non-tradable to tradable goods took longer to materialise. There is wide consent[7] that the internal rebalancing process has an adverse effect on total investment. It is likely, however, that the Greek economy has already entered this process (see also Box V.3).

Chart B Economic Sentiment Indicator (ESI)



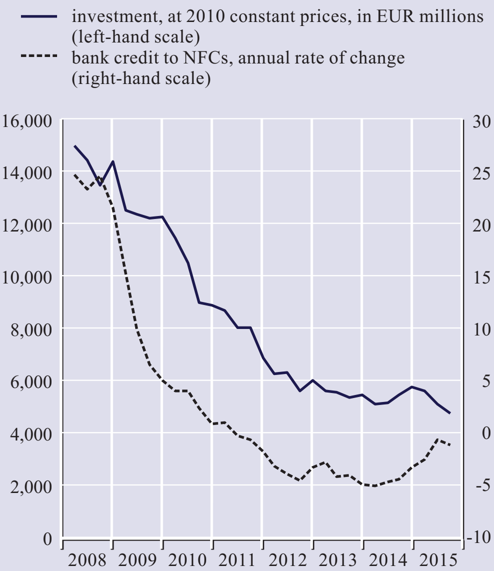
Source: IOBE-European Commission.

Second, from 2010 onwards, the Greek economy went through successive phases of economic and political uncertainty. The large fluctuations observed in the European Commission's Economic Sentiment Indicator (ESI) for Greece in 2010-2015 reflected these phases, as recorded by changes in business community's confidence in the prospects of the economy (see Chart B). These turbulences reinforced the tendency to postpone business decisions and the deferment of fixed[8] investment often emerged as the most advantageous option.

Third, unlike in other European countries with a wide variety of financing options and a relatively larger average firm size, in which the user cost of capital does not seem to have played a major role in the decline of investment,[9] in Greece investment plans are thought to have been affected by the contraction of bank credit (see Chart C) and the deleveraging of credit institutions. On an additional negative note, the Greek economy is dominated by small and medium-sized enterprises with limited self-financing capacities. Against this backdrop, financial constraints were iden-

6 IMF, *World Economic Outlook*, April 2015, Chapter 4 "Private Investment: What's the Holdup?", pp. 121 and 136-137.
7 See European Commission, *European Economy* 7/Autumn 2014, European Economic Forecast, "Box 1.1: Drivers and implications of the weakness of investment in the EU" and "Why is euro area investment so low?", ECB-Unrestricted paper, 26.11.2015, p. 4.
8 Fixed investment takes longer to materialise and is highly irreversible.
9 According to the BIA 2015 Business Climate Survey, a relatively small proportion of respondents from the OECD 27 member countries identified "insufficient financing" as an important constraint in the first fourth months of 2015 (OECD, *Economic Outlook*, Vol. 2015/1).

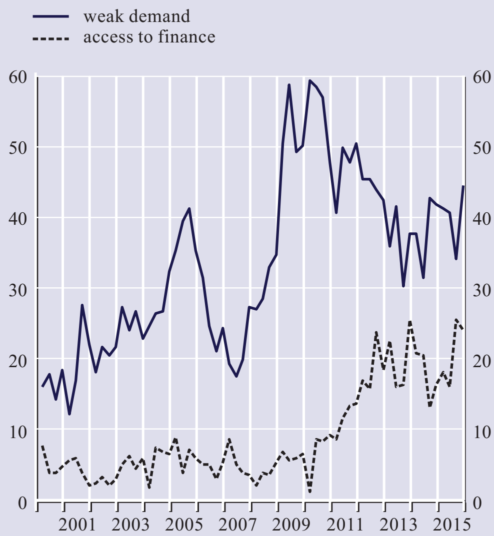
Chart C Investment and bank credit to non-financial corporations (NFCs)



Sources: ELSTAT (investment) and Bank of Greece (bank credit to NFCs).

Chart D Obstacles facing industrial firms

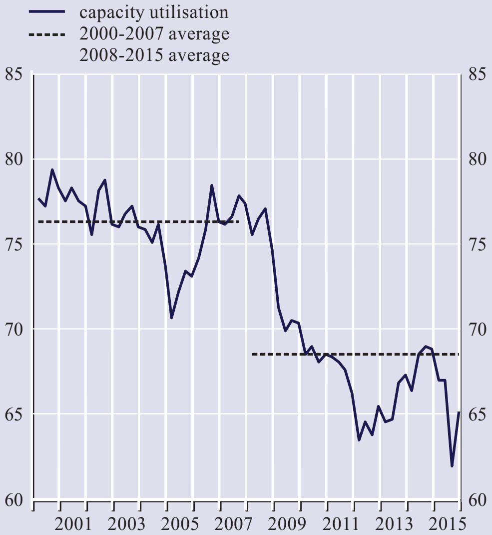
(percentage of firms)



Source: IOBE-European Commission, quarterly data, seasonally adjusted.

Chart E Capacity utilisation in industry

(percentages)



Source: IOBE.

tified[10] by domestic industrial firms as an important factor limiting their production (see Chart D).

Fourth, Greek manufacturing has suffered from severe overcapacity in the past few years (about 10 points more than the previous average) (see Chart E). Given that a significant part of equipment remains idle and that enterprises strive to reduce onerous debt (debt deleveraging), there is need for conservative investment strategies. Firms initially respond to changes in domestic and, especially, foreign demand by tending to increase the use of the existing equipment, and they may be unwilling to invest in new equipment.

All the above suggests that the prospects of business investment in Greece are closely linked to a restoration of economic sentiment and a strengthening of outward-oriented sectors. The government's institutional initiatives (such as the system of "pro-growth incen-

10 In the European Commission's Economic Sentiment Indicator (ESI) survey, industrial firms identified "demand for equipment", "labour force shortages" and "financial constraints" as the main factors limiting their production.

tives"), as well as the financial system should encourage investment actions fostering a boost in the economy's capital stock and potential output. However aware the business community may seem of the investment effort needed to achieve this goal, the scope for funding from domestic sources will be ultimately limited by the amount of national savings. Therefore, the focus should be on fostering the effective exploitation of public property (see Box VI.1) and on attracting foreign direct investment. Privatisations could also make a decisive contribution, as demonstrated in the case of the Piraeus Port Authority, as well as in the cases of regional airports, for which initial investment pledges by the highest bidding consortia have respectively reached about €300 million and €330 million.

Instrumental to the protracted lack of investment was also the deterioration of the business climate that began at end-2014.[5] In addition, due to liquidity problems in the financial system and the public sector in the first half of 2015, financing deteriorated dramatically, both for business initiatives and for infrastructure projects funded by national and EU resources.[6] As a consequence, businesses deferred their investment decisions and addressed fluctuations in demand mainly by adjusting their capacity utilisation rate.[7] Thereafter, the introduction of capital controls made it even more

5 The European Commission's Economic Sentiment Indicator (ESI) dropped by around 20 basis points in January-August, regaining 12 points by December 2015. For an extensive discussion of the effects of economic uncertainty on business investment see Box V.2.
6 Payments under the Public Investment Programme in January-July 2015 fell by around 60% year-on-year.
7 According to an IOBE survey, industrial capacity utilisation fell to a historical low in August 2015 (61.3), but had recovered more than 5 points by December 2015 (66.7).

Table V.3 Indicators of investment demand (2010-2015)

(annual percentage changes[1])

	2010	2011	2012	2013	2014	2015 (available period)
Capital goods output	-22.1	-13.5	-19.2	-0.5	-2.2	-6.6 (Jan.-Nov.)
Capacity utilisation in the capital goods industry	66.1	62.7	58.2	61.4	64.7	62.1
Bank credit to non-financial corporations[2]	1.1 (Dec.)	-2.0 (Dec.)	-4.4 (Dec.)	-4.9 (Dec.)	-3.7 (Dec.)	-0.9 (Dec.)
Disbursements under the Public Investment Programme[3]	-11.3	...	-10.5	14.5	-0.9	-2.8
Production index in construction (at constant prices)	-29.2	-41.3	-33.4	-8.2	15.5	1.1 (Jan.-Sept.)
Volume of private construction activity (on the basis of permits issued)	-23.3	-37.7	-30.6	-25.6	-5.8	-6.3 (Jan.-Nov.)
Cement production	-14.3	-37.8	-12.8	3.4	-3.4	3.6
Construction confidence indicator	-27.4	-27.8	26.1	50.6	23.7	-29.9
Housing loans[4]	-0.3 (Dec.)	-2.9 (Dec.)	-3.4 (Dec.)	-3.3 (Dec.)	-3.0 (Dec.)	-3.5 (Dec.)

Sources: ELSTAT (capital goods output, volume of private construction activity, cement production, production in construction), IOBE (capacity utilisation, construction confidence), Bank of Greece (bank credit to domestic enterprises and housing, disbursements under the Public Investment Programme).
1 Except for capacity utilisation in the capital goods industry, which is measured in percentages.
2 Comprising loans and corporate bonds, securitised loans and securitised corporate bonds but excluding (as of June 2010) loans to sole proprietors. The rates of change are adjusted for loan reclassifications, loan write-offs/write-downs, foreign exchange valuation differences, as well as corporate bonds and loans transferred by credit institutions to foreign subsidiaries and, in 2009, the transfer of loans by one credit institution to a domestic subsidiary.
3 As of January 2012 actual cash payments and not appropriations under the public investment budget.
4 Comprising loans and securitised loans. The rates of change are adjusted for loan reclassifications, loan write-offs/write-downs, foreign exchange valuation differences and, in 2009, the transfer of loans by one credit institution to a domestic subsidiary.

difficult to finalise investment plans under way; as a result, investment in machinery, following five quarters of constant increase, fell by 15.7% in the third quarter of 2015.

The new Financial Assistance Facility Agreement put in place the conditions necessary to unwind the imbalances affecting the investment climate. In particular, capital transfers under the National Strategic Reference Framework accelerated substantially,[8] as did payments under the Public Investment Programme (PIP) (see Table V.3), while the privatisation programme and the relevant institutional bodies were launched and enhanced, and the recapitalisation of credit institutions was successfully completed. In the emerging new economic environment, business confidence appears to recover gradually, despite the new recessionary shock and the capital controls in force, which make it difficult for businesses to plan ahead. The prospects for business investment in 2016 are expected to hinge on the following factors:

- The implementation of commitments to reform under the new Financial Assistance Facility Agreement and the relevant legislative initiatives, which should mark the elimination of risks exogenous to business activity.

- A stabilisation of the economic climate, also through government institutional initiatives associated with the framework for investment incentives, aiming primarily, on the one hand, to simplify procedures and, on the other, to enhance export-oriented activities by increasing exports and attracting private investors.

- The completion of critical privatisation schemes under way,[9] as well as a successful upgrading of the institutional entities responsible for privatisations, in line with the standards set by the new Agreement and the relevant Task Force which is being set up.

Residential investment is not expected to recover within 2016, as taxes on real estate property and reduced disposable income continue to discourage building activity. By contrast, conditions are expected to normalise in other construction and, particularly, in infrastructures, provided that the flows of EU funds and payments under the Public Investment Programme are fully restored.

Developments in supply

In January-September 2015, the gross value added of the economy (see Table V.4) rose by 0.6% at constant prices year-on-year. A positive contribution came mostly from services, while construction contributed negatively (see Chart V.8).

Value added in industry (including energy) stabilised (-0.2%) during the same period, despite the large increase in uncertainty and the imposition of capital controls. According to the relevant volume index, in 2015 industrial production increased slightly (+0.6%) compared with 2014, while manufacturing rose by 1.2%. Manufacturing output was supported, inter alia, by developments in the sectors of coke and refined petroleum products, chemicals, beverages, basic metals and pharmaceuticals (see Table V.5). Electricity production in 2015 rose slightly against the previous year (+0.3%, from -13.6% in 2014). However, the Purchasing Managers' Index (PMI) in manufacturing recorded significant fluctuations in manufacturing activity (see Chart V.9), as a result of problems faced by manufacturing enterprises in an adverse financial environment. In particular, the PMI, which had been negative, declined significantly in August, by around 18 points against January 2015, to return to positive territory at the end of the year, by gaining 20 points (50.2).

The outlook for manufacturing is expected to benefit from a further relaxation of capital con-

8 Net receipts from capital transfers under the National Strategic Reference Framework 2015 are estimated to be close to €2.3 billion, while in January-September they were around €788 million.
9 Some positive steps have already been made, i.e. the completion of the tender procedure for 14 regional airports, the submission of a binding offer for the Piraeus Port Authority and the conclusion of a new agreement for Astir Palace in the area of Vouliagmeni.

Table V.4 Gross value added at basic prices (2010-2015)

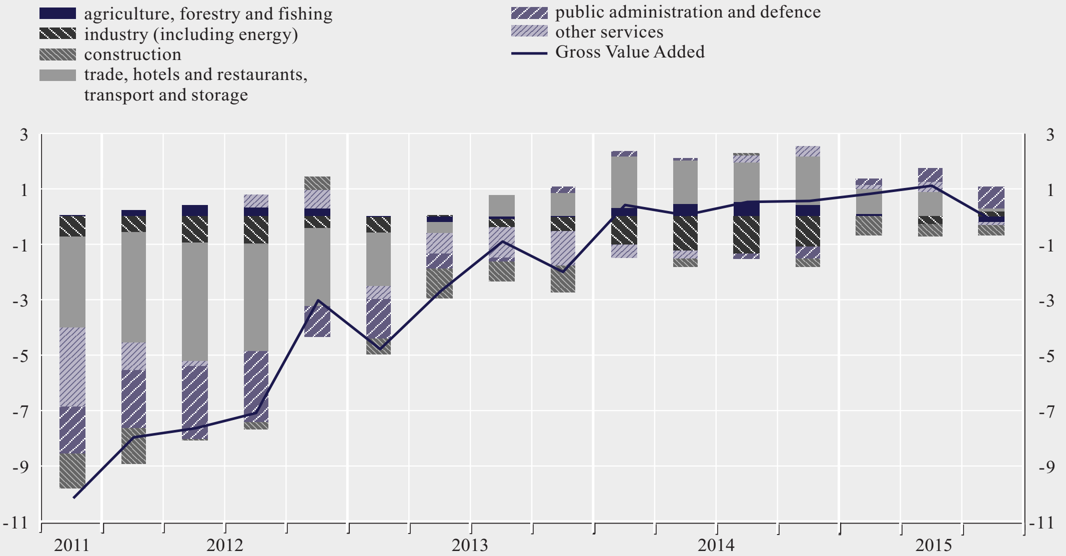
(annual percentage changes and sectoral contributions to gross value added; at constant prices of 2010)

	Annual percentage changes					
	2010	2011	2012	2013	2014	2015 Jan.-Sept.
1. Agriculture, forestry and fishing	**5.1 (0.1)**	**-1.5 (-0.1)**	**9.1 (0.3)**	**-2.3 (-0.1)**	**10.2 (0.4)**	**-1.0 (0.0)**
2. Secondary sector	**-13.3 (-2.3)**	**-10.8 (-1.7)**	**-6.8 (-1.0)**	**-7.4 (-1.1)**	**-8.9 (-1.3)**	**-4.0 (-0.5)**
2.1 Industry including energy	-14.9 (-1.9)	-4.7 (-0.5)	-6.3 (-0.7)	-2.8 (-0.3)	-10.0 (-1.2)	-0.2 (0.0)
2.2 Construction	-8.9 (-0.4)	-26.1 (-1.2)	-8.3 (-0.3)	-22.9 (-0.8)	-4.3 (-0.1)	-18.6 (-0.5)
3. Tertiary sector	**-4.2 (-3.4)**	**-9.3 (-7.5)**	**-7.2 (-5.8)**	**-1.9 (-1.5)**	**1.9 (1.5)**	**1.5 (1.2)**
3.1 Trade, hotels and restaurants, transport and storage	-4.2 (-1.0)	-12.2 (-3.0)	-15.6 (-3.7)	-0.9 (-0.2)	7.4 (1.6)	2.6 (0.6)
3.2 Information and communication	-12.8 (-0.5)	-18.8 (-0.7)	-11.9 (-0.4)	-5.4 (-0.2)	-4.1 (-0.1)	-4.0 (-0.1)
3.3 Financial and insurance activities	-7.8 (-0.4)	-14.1 (-0.7)	-5.1 (-0.2)	-6.1 (-0.3)	-4.3 (-0.2)	-1.6 (-0.1)
3.4 Real estate activities	10.8 (1.5)	-7.1 (-1.2)	5.4 (0.9)	-0.5 (-0.1)	1.6 (0.3)	0.2 (0.0)
3.5 Professional, scientific and technical activities	-21.7 (-1.4)	-10.8 (-0.6)	-8.3 (-0.4)	-7.6 (-0.4)	-1.7 (-0.1)	7.5 (0.4)
3.6 Public administration and defence	-2.3 (-0.5)	-3.5 (-0.8)	-9.1 (-2.1)	-2.1 (-0.5)	-0.4 (-0.1)	2.2 (0.5)
3.7 Arts, entertainment and recreation	-23.2 (-1.1)	-14.1 (-0.5)	3.4 (0.1)	1.3 (0.1)	1.1 (0.0)	-1.8 (-0.1)
4. Gross value added at basic prices	**-5.6**	**-9.1**	**-6.5**	**-2.6**	**0.4**	**0.6**

Source: ELSTAT, Quarterly National Accounts, November 2015, seasonally adjusted data.
Note: Within parentheses, contributions in percentage points.

Chart V.8 Sectoral contributions to Gross Value Added

(percentage points)



Source: ELSTAT.
Note: Sectoral and Gross Value Added data refer to 2010 constant prices and are seasonally adjusted.

Table V.5 Industrial production

(2010=100)

	2010 weights		Average annual percentage changes						2015 level
			2010	2011	2012	2013	2014	2015	(2010=100)
Industry	**100.0**		**-5.9**	**-5.7**	**-2.0**	**-3.2**	**-1.9**	**0.6**	**88.3**
1. Mining and quarrying	***6.1***	***100.0***	***-6.5***	***-2.0***	***-0.9***	***-11.5***	***-0.3***	***-6.9***	***79.8***
Mining of coal and lignite		56.6	-13.1	3.8	6.7	-14.4	-6.7	-8.6	80.8
Extraction of crude petroleum and natural gas		1.9	42.5	-24.3	-2.2	-7.9	-15.5	3.5	59.6
Mining of metal ores		9.1	16.2	11.2	-12.3	-15.3	2.9	-7.0	79.0
Other mining and quarrying		32.4	-0.1	-17.9	-16.1	0.8	19.2	-3.6	79.8
2. Manufacturing	***69.5***	***100.0***	***-5.1***	***-9.1***	***-3.5***	***-1.1***	***1.8***	***1.2***	***89.3***
Food		19.9	-4.0	-3.6	-2.0	-3.7	3.1	-0.2	93.6
Beverages		8.0	-7.6	-6.5	-6.1	-1.7	-0.6	3.0	88.4
Tobacco		1.7	-17.5	10.3	-8.9	2.7	-4.4	18.8	117.2
Textiles		1.5	-20.6	-14.5	-11.9	-10.0	-10.5	1.8	61.7
Wearing apparel		1.7	-23.1	-19.4	-11.2	-6.2	-6.7	-13.7	54.1
Leather and footwear		0.3	-36.9	-12.2	-29.0	-2.7	-12.8	-13.5	45.8
Wood and cork		0.7	9.4	-16.5	-27.0	-23.2	-10.3	-7.1	39.0
Paper and paper products		2.5	-3.4	-5.0	-8.7	2.7	8.3	2.0	98.4
Printing and reproduction of recorded media		2.1	-14.1	-22.9	-18.7	-5.9	-2.5	-6.5	53.8
Coke and refined petroleum products		15.1	5.7	-14.6	23.9	4.2	7.3	1.2	119.9
Chemicals and chemical products		6.3	1.5	-2.1	-9.4	2.2	1.2	2.5	94.0
Basic pharmaceuticals		4.9	2.4	-1.2	-5.3	9.8	-4.2	6.4	104.8
Rubber and plastic products		4.4	-7.0	-5.7	-6.0	-1.8	1.7	3.5	91.6
Non-metallic mineral products		7.9	-14.2	-34.0	-15.8	-1.9	2.0	-0.4	55.4
Basic metals		7.0	12.0	7.2	-5.0	-4.9	5.2	4.1	106.1
Metal products		4.5	0.2	-7.1	-7.3	-8.2	-1.4	-3.5	75.2
Computers, electronics and optical products		0.6	-26.6	-25.1	3.6	15.3	10.8	28.3	127.3
Electrical equipment		2.7	-4.1	-13.5	-5.4	-13.2	-10.7	5.4	66.9
Machinery and equipment n.e.c.		1.5	-21.0	-5.2	-12.0	1.4	0.0	0.6	85.1
Motor vehicles, trailers and semi-trailers		0.5	-1.6	-40.4	4.9	2.2	2.8	-11.5	58.1
Other transport equipment		1.0	-35.1	-22.2	-40.0	26.9	-51.9	7.2	30.6
Furniture		1.3	-19.0	-22.3	-28.1	-16.5	2.2	0.3	47.9
Other manufacturing activities		0.4	-10.5	-9.9	-15.0	1.5	4.7	8.2	88.1
Repair and installation of machinery and equipment		3.5	-22.8	-6.1	-22.1	-3.1	2.9	-17.8	60.0
3. Electricity	***20.6***	***100.0***	***-9.2***	***4.0***	***1.8***	***-6.9***	***-13.6***	***0.3***	***85.4***
4. Water supply	***3.8***	***100.0***	***0.7***	***-2.0***	***1.1***	***-2.5***	***-0.5***	***1.8***	***97.8***
Industry	**100.0**		**-5.9**	**-5.7**	**-2.0**	**-3.2**	**-1.9**	**0.6**	**88.3**
Main industrial groupings									
Energy	38.7		-4.9	-1.8	7.4	-4.2	-5.6	0.0	95.4
Intermediate goods	26.0		-0.9	-9.5	-8.9	-3.8	2.6	1.2	82.3
Capital goods	6.1		-22.1	-13.5	-19.2	-0.5	-2.2	-6.4	63.7
Consumer durables	1.7		-13.4	-15.8	-19.0	-12.8	-6.8	2.7	57.0
Consumer non-durables	28.0		-7.2	-5.3	-5.0	-0.9	0.3	2.0	91.2

Source: ELSTAT.

Table V.6 Activity indicators in the services sector (2009-2015)

(annual percentage changes)

	2009	2010	2011	2012	2013	2014	2015 (available period)
A. Services turnover indices							
1. Trade							
Wholesale trade	-8.9	-5.9	-13.5	-12.1	-12.1	0.2	-5.2 (Jan.-Sept.)
Retail trade	-10.2	-1.2	-7.2	-11.0	-8.6	-1.1	-3.2 (Jan.-Nov.)
Motor trade	-15.7	-36.5	-26.5	-29.3	-3.1	18.6	7.3 (Jan.-Sept.)
2. Transport							
Land transport	-31.5	-18.2	-1.7	-3.2	-4.1	-4.4	-5.4 (Jan.-Sept.)
Sea transport	-22.8	-8.5	-2.6	-15.4	-7.4	-8.1	-3.9 (Jan.-Sept.)
Air transport	-11.7	-7.0	-0.9	-1.1	3.9	7.1	7.6 (Jan.-Sept.)
Storage and supporting transport activities	-32.2	-10.8	-7.9	-4.8	-7.0	5.5	3.2 (Jan.-Sept.)
3. Hotels and restaurants							
Accommodation and food service activities	-9.1	-8.2	-7.4	-17.2	4.8	13.7	10.4 (Jan.-Sept.)
4. Information and communication							
Telecommunications	-8.9	-11.3	-8.9	-5.1	-11.7	-4.3	-0.8 (Jan.-Sept.)
Film, video, and TV programme production, recordings and music products	1.4	-6.6	-28.4	-4.9	-5.0	-0.8	-19.3 (Jan.-Sept.)
Programming and broadcasting activities	-6.7	-2.0	-27.1	-16.4	-7.9	12.6	-18.9 (Jan.-Sept.)
5. Professional-scientific-technical activities							
Legal, accounting and management consulting services	-12.4	-7.3	-0.3	4.5	0.9	2.5	-6.4 (Jan.-Sept.)
Architectural and engineering services	-18.6	-20.4	-19.6	-12.3	-14.0	-15.0	12.1 (Jan.-Sept.)
Advertising and market research	-18.4	-23.8	-21.2	-16.7	-20.9	-7.0	-8.1 (Jan.-Sept.)
Travel agencies and related activities	-9.9	-24.5	-35.2	-27.0	11.3	6.4	-0.6 (Jan.-Sept.)
B. Passenger traffic							
Athens International Airport	-1.5	-5.0	-6.3	-10.4	-3.2	21.2	19.0
Aegean Airlines[1]	9.9	-5.1	4.2	-5.8	44.6	14.4	16.8 (Jan.-Sept.)
Piraeus port (OLP)	-3.8	-6.0	-0.8	-17.5	1.0	12.7	-9.7
C. Services confidence indicator	**-28.3**	**-9.3**	**-2.9**	**-11.2**	**28.4**	**23.9**	**-19.0**

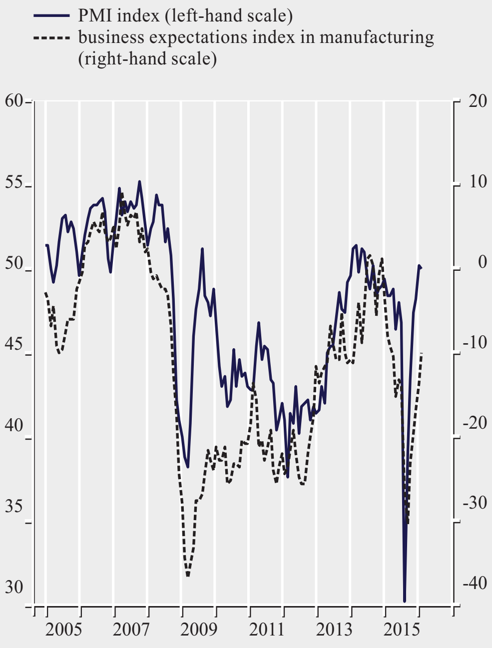
Sources: ELSTAT (services turnover). Athens International Airport, Aegean Airlines, Piraeus Port Authority (OLP) and IOBE (services confidence).
1 Including charter flights.

trols within 2016. However, in order to strengthen the export orientation of manufacturing, it is necessary to renew and expand equipment in domestic plants, part of which became inactive during the crisis.

Growth in construction activity was strongly negative in January-September 2015 (-18.6%) compared with the respective period in 2014. Underlying this negative performance was weak building activity and problems arising from the shortage of financing for large infrastructure projects.[10] Confidence indicators in

10 The increase in building permits (volume) seen in the first half of 2015 came to a halt; thus, growth turned negative again in January-November 2015 (-6.3%). The quarterly production index in construction followed a similar path, falling by 29.5% in the third quarter, while the Civil Engineering Works Index dropped by 37.7% in the same period.

Chart V.9 Purchasing Managers' Index[1] and index of business expectations in manufacturing[2]
(January 2005 - January 2016)



Sources: Markit Economics and Hellenic Purchasing Institute for the PMI and Foundation of Economic and Industrial Research (IOBE)/European Commission for the index of business expectations in manufacturing.
1 Seasonally adjusted index, values over 50 indicate expansion.
2 Seasonally adjusted series, differences between the percentages of positive and negative replies.

construction have constantly reflected unfavourable prospects in recent years, thus signalling the beginning of a process of shifting resources away from construction and other domestic construction-related activity towards other sectors.

Value added in services (which accounted for 82.4% of total value added in 2014) rose by an annual 1.5% in January-September 2015, thereby contributing 1.2 percentage points to the change of total gross value added over the same period. Sectors on the rise included mainly trade, hotels-restaurants, transport-communications, professional, scientific and technical activities as well as real estate activities, while declines were registered in information-communication, arts, entertainment and recreation, and financial and insurance activities.

A similar pattern is evidenced by data on turnover (see Table V.6), which point to an increase in services associated with tourist activity, such as accommodation and food service activities, air transport, as well as storage and transport support activities, and in services associated with private consumption, such as motor trade.

Tourism maintained the strong momentum of the two previous years despite issues arising from capital controls,[11] as suggested by a record high in arrivals for the third consecutive year. In 2015, tourist arrivals rose by 7.1%, while travel receipts (excluding cruise receipts) increased by 7.7%, thus contributing positively to developments in the exports of services (see Chart V.10). According to annual data on traffic at Athens Airport,[12] the number of foreign visitors to Athens recorded a strong increase of 26% in 2015. Cruising also followed an upward path, as evidenced by increased cruise ship arrivals and passenger flows to Greek ports. It should be noted that the strong dynamics of tourist arrivals and tourism receipts were contrary to the weak expectations of tourist businesses as reflected in relevant IOBE indicators (see Chart V.11).

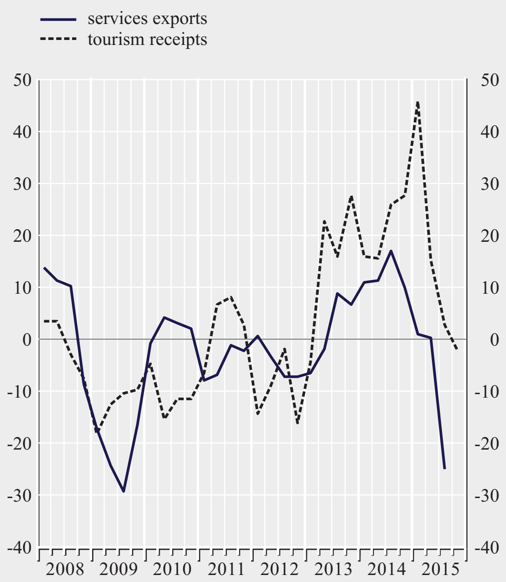
The outlook for tourism in 2016 is positive, as it is expected that one million new seats on flights to Greece will be created and more tourists will arrive, mostly from Russia, while major German tour operators are expected to expand their hotel offerings compared with 2015. On the other hand, demand for tourism services may be subject to pressures due to developments in refugee flows and concerns raised internationally over potential new ter-

11 This was also driven by lower prices for tourist packages in foreign markets. In many areas, the lack of bookings in June 2015 owing to the drop in the domestic tourist market was covered by foreign tourists through discounts and special offers. Moreover, a particular contribution to the upward trend in inbound traveller flows was made by road trippers.

12 In 2015, 9 new airlines started operating at Athens Airport and 10 new routes were added, while there has been a significant increase (+29%) in destinations served by low-cost companies.

Chart V.10 Tourism receipts and services exports (Q1 2008 - Q4 2015)

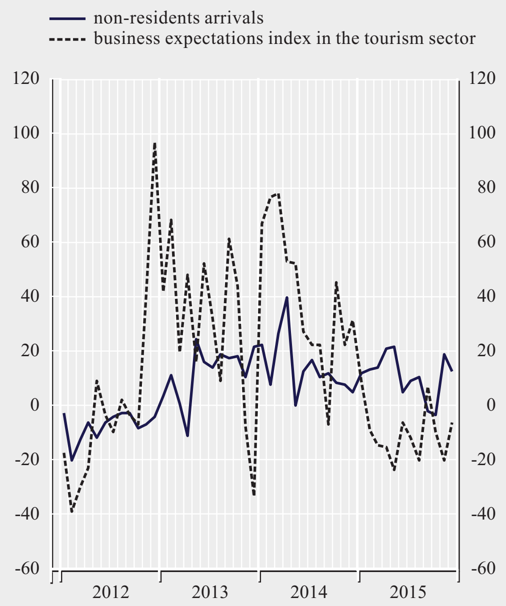
(rates of change)



Sources: Bank of Greece and ELSTAT.
Note: At constant prices of 2010; seasonally adjusted data.

Chart V.11 Tourist arrivals and business expectations in tourism (January 2012-December 2015)

(annual rates of change)



Sources: Bank of Greece and IOBE (expectations).

rorist attacks, as well as owing to higher VAT rates on accommodation and food service activities.[13]

13 As from 1 October 2015, the VAT rate on accommodation was increased to 13% and on food services to 23%, and was accompanied by a gradual abolition of the special rates (reduced by 30%) for the Aegean islands.

Box V.3

THE HIGHER CONTRIBUTION OF TRADABLES TO PRODUCTION AND THE ADJUSTMENT OF THE GREEK ECONOMY

The transition to a more export-oriented production model plays a pivotal role in the recovery of the Greek economy through an internal adjustment process, aimed at addressing the external and public sector imbalances built up before the crisis. The shift of production towards tradable goods and services paves the way for sustainable growth, as it strengthens the resilience of the Greek economy to domestic demand reductions and favours the improvement of the country's international competitiveness.[1]

In Greece during 2010-2014 the tradable sector contributed to economic adjustment through the reduction of unit labour costs, which largely restored the Greek economy's competitiveness losses of the 2002-2009 period, when unit labour costs increased by roughly 45%.[2] By contrast, the non-

1 See, e.g., European Commission (2011), "Sectoral implications of external rebalancing", *Quarterly Report on the Euro Area*, Vol. 10 (3); and Tressel, T. and S. Wang (2014), "Rebalancing in the Euro Area and Cyclicality of Current Account Adjustments", IMF Working Paper WP/14/130.
2 Eurostat index.

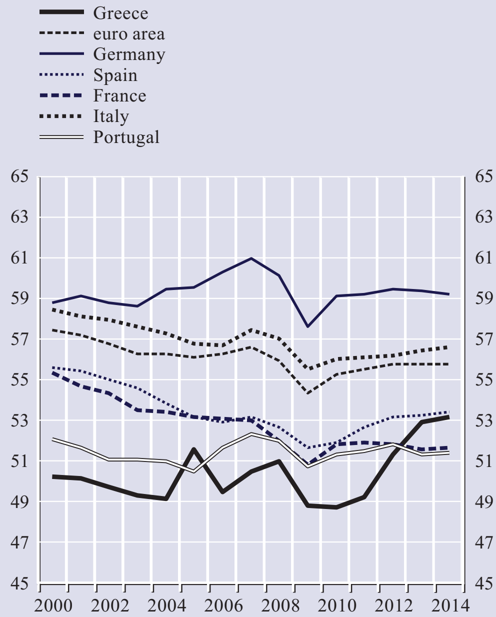
tradable sector was a drag on this process, despite the fact that —like in all peripheral euro area countries— it was the main driver of the decline in cost competitiveness in the pre-crisis period.[3]

Overview of economic developments during 2010-2014

The adjustment of the Greek economy during 2010-2014 took place against a background of declining output (cumulative decline of 22.4%) and employment (17.9%). However, developments varied greatly across individual sectors. The reduction of output volumes in the period 2010-2014 was smaller for tradables than for non-tradables (-23.4% and -30.7%, respectively), while employment losses followed a similar pattern (-14.5% in tradables and -20.8% in non-tradables).[4] This development was driven by agriculture and tourism, the only two sectors with a positive average annual rate of change in output during this period (4% and 5.5%, respectively), involving primarily export-oriented activities and showing a notable export performance (they respectively exported 21% and 36% of their output in 2014).[5]

Chart A The share of tradables in Greece and selected euro area economies*

(percentages)



Sources: Eurostat, Annual National Accounts and Bank of Greece calculations.
*As a percentage of total gross value added at current prices (EUR millions), excluding the "Real estate activities" industry. Bank of Greece estimates for the shares of tradables in 2014 for Portugal and Spain.

The relatively better performance in tradables led to an increase of their share in total Greek output over the period 2010-2014, enhancing the openness of the Greek economy. Rising from 48.8% in 2009 to 53.1% in 2014, the share of tradables in aggregate gross value added converged significantly to the average of the 18 euro area countries (55.8% in 2014, see Chart A).[6] In fact, it increased to a level comparable with that in Spain (53.4%) and higher than that in Portugal (51.4%). Despite the progress recorded in relevant terms, in absolute terms the production of tradables in Greece has lost ground against Spain and Portugal, mainly due to the recession of the previous years.[7]

3 See Malliaropulos, D. and T. Anastasatos (2013), "The Improvement in the Competitive Position of the Greek Economy and Prospects for an Export-led Growth Model", *Economy & Markets*, Eurobank, January 2013; and Malliaropulos, D. and T. Anastasatos (2011), "Competitiveness, External Deficit and External Debt of the Greek Economy", *Economy & Markets*, Eurobank, April 2011.

4 The tradable sector comprises the primary and secondary sectors (NACE Rev. 2, A, B-E), tourism (accommodation and food service activities) and transportation (NACE Rev. 2, I, H), financial activities (NACE Rev. 2, K), telecommunications and information (NACE Rev. 2, J) and professional activities (NACE Rev. 2, M-N). All other activities are included in the non-tradable sector. The "Real estate activities" industry is not included in the present analysis – see Gibson, H.D. and J. Malley (2008), "The Contribution of Sectoral Productivity Differentials to Inflation in Greece", *Open Economies Review*, 19, 629-650; and Box V.I, Bank of Greece, *Annual Report 2013* (pp. 82-87). The present analysis builds on the findings of the latter based on the revised Annual National Accounts data (ESA 2010, October 2015).

5 See also the findings of the sectoral productivity and export activity analysis presented in Special Feature IV.2, Bank of Greece, *Monetary Policy – Interim Report*, 2015.

6 A similar picture is also drawn in terms of constant 2010 prices. The share of tradables rose from 49.5% in 2009 to 52% in 2014; 56% on average in the euro area for 2014.

7 For instance, in 2009 the production volume of tradables in the Greek economy corresponded to 127% of the respective production volume in Portugal. This percentage fell to 100% in 2013 (the last year for which detailed national accounts data are available for Portugal according to the NACE Rev. 2 (A64) classification.

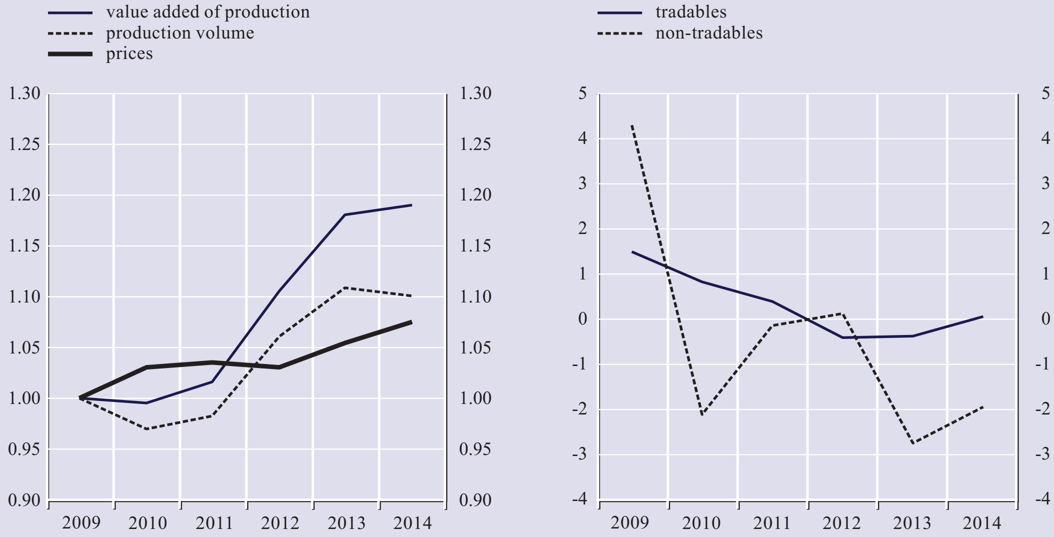
Chart B Tradables relative to non-tradables - output, prices and price changes

(indices, base year 2009=1)

1. Production and prices of tradables relative to non-tradables

(percentages)

2. Annual rate of change in prices of tradables and non-tradables



Sources: ELSTAT, Annual National Accounts and Bank of Greece calculations.
*Indices refer to the respective measures for tradables relative to non-tradables. Prices are the implicit deflators of gross value added by sector.

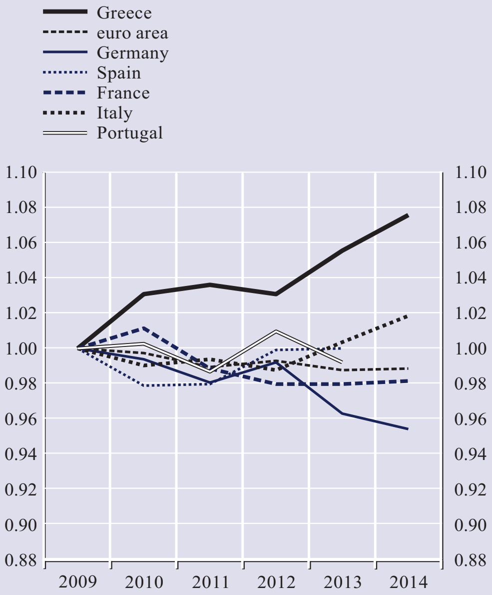
In more detail, between 2009 and 2014 the gross value added of tradable goods and services increased —compared with that of non-tradables— by 10.1% in output volume terms and by 19% in nominal terms. Consequently, employment in tradables rose by 8% compared with non-tradables,[8] while, amidst a sharp drop of investment in both sectors in that same period (-48.4% in tradables and -57.6% in non-tradables), the share of investment in tradables in total gross real investment increased (from 55.7% in 2009 to 60.5% in 2014). The higher contribution of tradables to production in the course of the crisis is in line with the increase of their prices relative to non-tradables (see Chart B.1). The lower rate of change in the gross value added deflator of tradables compared with the non-tradable one reflects the more favourable profit margin developments in tradables and supports the reallocation of productive resources towards this sector. One factor contributing to the rise in the relative prices of tradables was the decline observed in non-tradable prices, which fell at an average annual rate of 1.4%, reflecting to a large extent wage reductions in the broader public sector (see Chart B.2).[9] In fact, the relative prices of tradables in Greece rose more than the average in the euro area or in the other EU peripheral countries (see Chart C).

The shaping of favourable conditions for profit margins in tradables was partly attributable to their increased labour cost competitiveness. Between 2010 and 2014, (nominal) unit labour costs in the tradable sector as a whole fell by 20.2%, compared with a 1.7% decrease in non-tradables (see

8 A similar picture is also drawn based on ELSTAT data from the quarterly Labour Force Survey. Employment in the tradable sector increased by 5.6% compared with non-tradables in the period 2009-2014 and the employment of wage earners by 1.9%.
9 Values refer to the implicit deflator of gross value added per sector (tradables and non-tradables). The rise in prices of tradables compared with non-tradables is confirmed by final goods and services consumer price data.

Chart C Relative prices of tradables in Greece and selected euro area economies*

(indices, base year 2009=1)



Sources: Eurostat, Annual National Accounts and Bank of Greece calculations.
*2013 is the last year for which national accounts data are available for Portugal and Spain at the NACE Rev.2 64 industry detail.

Chart D).[10] In the same period, unit labour costs in tradables in Germany rose by 7.6%. In Portugal and Spain, the decline in unit labour costs in tradables already observed since 2009 (down by 2.5% and 4.1% respectively in the period 2009-2013) was smaller than in Greece, whereas these countries recorded higher progress in increasing cost competitiveness in non-tradables (7.6% and 4.8% lower unit labour costs, respectively).

The reductions of unit labour costs in the Greek economy over this period were mainly attributable to lower wage costs as a result of labour market reforms and the recession. More specifically, the sector with the largest decrease of unit labour costs in 2010-2014 was tourism, where the reduction of compensation per employee (average annual change: 9.5%) was reinforced

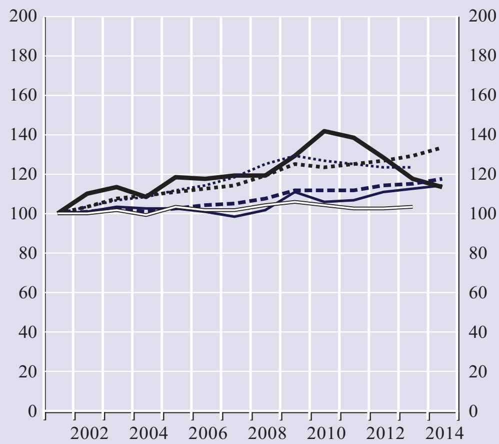
10 According to Bank of Greece calculations, between 2010 and 2014 the reductions in individual sectors add up to an overall 10.2% decline in unit labour costs for the Greek economy as a whole, excluding the "Real estate activities" sector ("bottom-up" calculation of the nominal unit labour cost index). According to Eurostat, in the same period nominal unit labour costs in the Greek economy fell by 12.8%.

Chart D Unit labour costs* in Greece and selected euro area economies

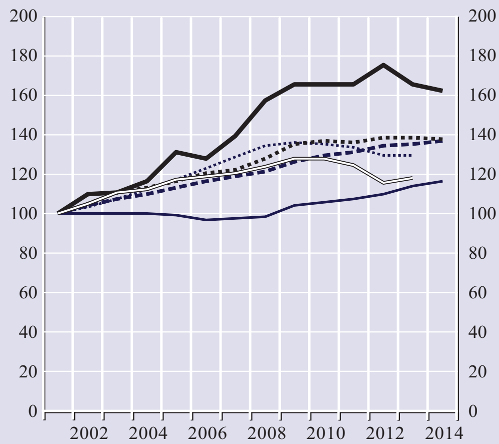
(indices, base year 2001=100)

Greece
Germany
Spain
France
Italy
Portugal

1. Tradables



2. Non-tradables



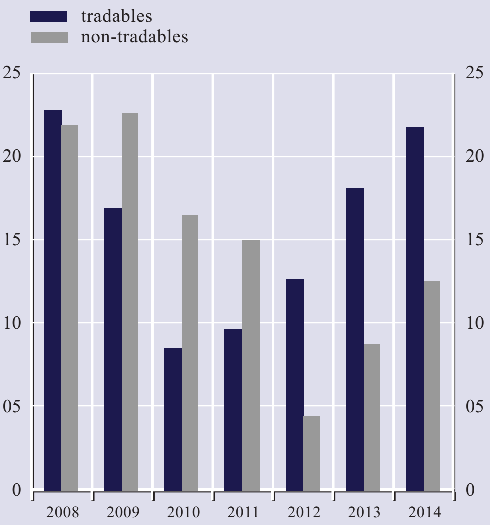
Sources: Eurostat, Annual National Accounts and Bank of Greece calculations.
*Nominal unit labour cost in the tradables and non-tradables sectors is defined as compensation per employee (at current prices) to labour productivity (gross value added at 2010 constant prices per person employed).

by the increase in labour productivity (7%), due to both higher value added produced and lower employment compared with 2009. In the same period, lower productivity in industry moderated the increase of its labour cost competitiveness. On the other hand, the non-tradable trade industry recorded an increase in unit labour costs (average annual growth: 5%), due to lower labour productivity, as the employment loss in trade was higher than its value added loss until the end of 2012. Moreover, the reduction of unit labour costs in construction was not enough to outweigh the increase of these costs in trade, as the construction sector experienced in parallel a sizeable contraction.

As a result of the above, profit margins in the tradable sector rose after 2010 (on a national accounts basis, see Chart E), thus limiting the impact of prolonged recession and low external demand in recent years. This development creates favourable conditions for the shift of resources towards the tradable sector and the continuation of the adjustment of the Greek economy.[11]

Chart E Net profit margin in tradables and non-tradables[1]

(percentages)



Sources: ELSTAT, National Accounts and Bank of Greece calculations.
1 The share of operating surplus (net of depreciation) in value added. The gross income of the self-employed has been subtracted from the net operating surplus, assuming that the self-employed receive the average compensation per employee. Non-tradables excluding "Public administration and defence, compulsory social security, education and human health and social welfare activities".

Conclusions and policy recommendations

In sum, in the period 2010-2014 the competitiveness losses in tradables observed in 2005-2009 were fully recouped. The tradable sector, via the reduction of unit labour costs between 2010 and 2014, contributed to the recovery of the competitiveness that had been lost in the Greek economy during 2002-2009, even though it had a small contribution to the loss of competitiveness before the crisis.[12] By contrast, for non-tradables, that were the main source of competitiveness losses before the crisis, the recovery of their competitiveness was very sluggish.

Although recovery in employment and investment will start from a low level, the present conditions in the Greek economy favour the shift of productive resources towards export-oriented activities and a further convergence to the euro area production model. These positive prospects should be underpinned by policies that support the activation of productive resources and favour their unhindered reallocation between production units, e.g. by further strengthening liquidity and removing obstacles to competition in product markets. The benefits for growth will be even more direct if priority is given to export-oriented industries that have already significantly improved their competitiveness in the previous period. In order for the shift towards tradables to translate into additional export gains, emphasis should be placed, among other things, on boosting the non-price competitiveness of the tradable sector, e.g. by improving the business environment and subsidising research and technology for new products.

11 See European Commission (2013), "Labour costs pass-through, profits and rebalancing in vulnerable Member States", *Quarterly Report on the Euro Area*, Vol. 12 (3).
12 According to Bank of Greece calculations, in the period 2002-2009, 22% of the total rise in unit labour costs (excluding the "Real estate activities" sector) is attributable to tradables, while in the period 2010-2014, 79% of the respective drop is attributable to tradables.

3 DEVELOPMENTS AND PROSPECTS IN THE REAL ESTATE MARKET

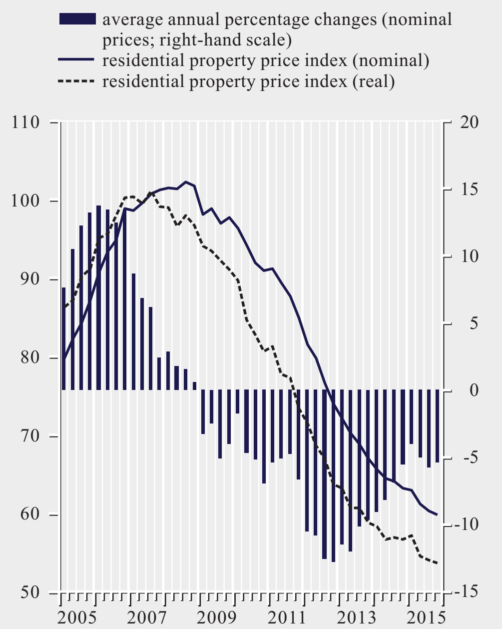
During 2015, **pressures on market values, prices and rents of both residential** (see Chart V.12) **and commercial properties continued**, albeit less intensely than in previous years. The recovery of the market has been held back by various factors such as the weak economic environment, the introduction of capital controls and the lack of liquidity, the high unemployment rate, the heavy tax burden and the unstable tax regime (readjustment of the "objective values", etc.). The tentative signs of stabilisation in the real estate market, observed from mid-2014 up to the first quarter of 2015, as a result of improving economic climate and expectations, failed to translate into a recovery.

In the **housing market**, the drop in prices continued throughout 2015, although at a more moderate pace, while the number of transactions was very low. In particular, data collected from credit institutions show that nominal apartment prices fell by an annual average of 5.1% in 2015, compared with contractions of 7.5% in 2014 and 10.9% in 2013. The cumulative decline in prices between 2008 and 2015 was more pronounced in the two major urban centres than in other cities and other regions, as well as for older and larger properties in relatively more expensive areas in Greece. More specifically, from the beginning of the current crisis in 2008 until the end of 2015, the cumulative decline in apartment prices averaged 41.2% in nominal terms. A breakdown of data by age and geographical area suggests that this decrease was larger for "old" apartments (over 5 years: -42.2%) than for "new" ones (up to 5 years: -39.6%), as well as for the areas of Thessaloniki and Athens (-45.4% and -43.4%, respectively), relative to other cities (-39.2%) and other regions (-36.9%).

In the **commercial property market**, the keen interest shown by investors during 2014 dampened in 2015, against the backdrop of economic uncertainty. On the basis of available data collected from Greek Real Estate Investment Companies (REICs) and credit institutions, the nominal prime office prices remained almost unchanged in the first half of 2015, while the respective prices for retail property fell by 4.4% nationwide. Yet, cumulatively from the first half of 2010 through the first half of 2015, nominal prime office prices dropped by 30.6% nationwide. The respective cumulative decline in prime retail properties was 30.4%. Meanwhile, pressures to renegotiate and reduce rents continued across almost all segments of the property market, with the possible exception of prime investment property (office and retail spaces).

Chart V.12 Residential property price index

(2007=100)



Source: Bank of Greece.

Tourist property, which has attracted considerable investor interest, particularly during 2014, continued in 2015 to be regarded by market participants as the single sector with a promising prospect for fast recovery, as the buoyant tourism industry holds potential for high capital gains and yields despite the negative economic climate. A major drag on new investment in tourist property, apart from economic uncertainty and red-tape, technical and legal issues, is the limited stock of properties with investment characteristics, particularly in high-end tourism locations. The need to fill this gap can eventually be expected to lead to new development of this type of property.

The downward trends in both residential and commercial property prices are expected to persist in 2016. The prospect of stabilisation and recovery in the real estate market hinges on a number of factors, including: the dissipation of uncertainty and a strengthening of the recovery outlook for the Greek economy; improvements in business and household expectations; an easing of bank financing constraints; a reduction in red tape; and, last but not least, stable planning and tax regimes.

The recent downward adjustment of "objective values", used in the valuation of real estate for tax purposes (see Annex to Chapter VI),[14] as well as their future replacement by a new system based on market values, can be expected to foster a recovery in the real estate market. Lastly, the promotion and speeding-up of processes for public real estate development would substantially help reverse the negative investor climate, restore confidence and boost expectations in the Greek real estate market (see Box VI.1).

4 EMPLOYMENT AND UNEMPLOYMENT: DEVELOPMENTS AND PROSPECTS

Positive labour market developments that started in 2014 **continued into January-September 2015**. Specifically, employment increased by 1.8% year-on-year, recording positive growth rates for the second consecutive year. In the third quarter of the year, employment registered a significant annual growth rate (2.3% in the third quarter of 2015 and 0.6% and 2.4% in the first and second quarters, respectively). The **number of the unemployed** fell by 6.2% in January-September 2015 compared with the corresponding period in 2014. As a result, the average unemployment rate fell from 26.6% in the first nine months of 2014 to 25.1% in the first nine months of 2015, though still remaining the highest in the EU-28. However, the introduction of capital controls at the end of the first half of the year and the return to negative growth rates in the third quarter of the year mitigated the decline in unemployment; as a result, the **unemployment rate** fell only slightly to 24.6% in November (seasonally adjusted data), from 24.7% in October 2015.

The increase in employment in January-September 2015 can be attributed to the positive growth rates in 2014 that continued into the first half of 2015 and the corresponding rise in individual sectors of the economy, particularly tourism, as well as to enhanced labour flexibility as a result of the removal of institutional constraints on the labour market and low labour costs following wage reductions in previous years.

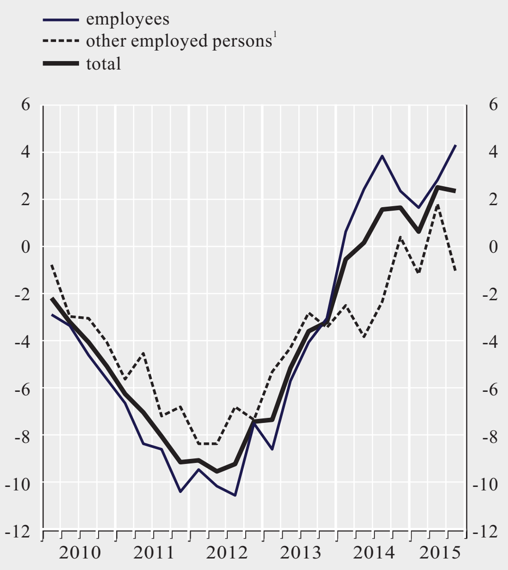
The rise in employment in the first nine months of the year, according to data from ELSTAT's Labour Force Survey, is attributable to the significant increase in **dependent employment** (2.9% in January-September 2015) and in the **self-employed with employees** (10.1%), due to small business start-ups.[15] By contrast, a significant decrease was registered in the group of "other employed persons" and particularly in the **self-employed without personnel** (-2.3%), which represents 23% of total employement (see Chart V.13).

As regards employment developments at sectoral level, **tourism services** (accommodation and food service activities) registered a significant increase in employment in the first nine months of 2015 for the second consecutive year (9.9%, against 13.0% in the first nine months of 2014); as a result, their share in total employment increased. A crucial factor was the recovery of employment in **trade** (wholesale and retail trade, repair of motor vehicles and

14 By Decision 1009/18 January 2016 of the Ministry of Finance.
15 It should be noted that according to the third annual report of the ERGANI information system (2 February 2016), very small enterprises (1-10 employees) in 2015 increased by 3.3% against 2014.

Chart V.13 Employment (2010 - Q3 2015)

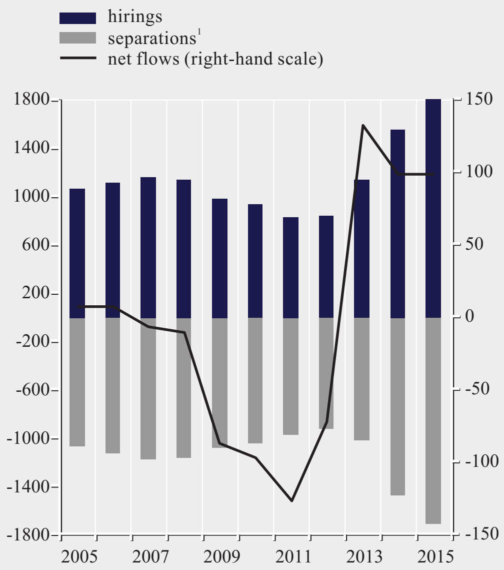
(year-on-year percentage changes; quarterly data)



Source: ELSTAT, Labour Force Survey.
1 Other employed persons=self-employed with employees (employers)+self-employed without employees+contributing family workers.

Chart V.14 Dependent employment flows in the private sector

(thousand persons, annual data)



Sources: Manpower Employment Organisation (OAED) and ERGANI System.
1 Including termination and expiration of contracts and voluntary quits.

motorcycles) (5.3%, against -1.6% in January-September 2014), **manufacturing** (6%, from -3.3% in January-September 2014) and **professional services** (7.6%, against -2.5% in January-September 2014). By contrast, employment continued to decline in **construction**, due to the continued extremely low construction activity, **financial** and **insurance activities**, as a result of banking groups' restructuring plans, and **public administration**, mainly owing to new retirements.[16]

Data from the ERGANI information system on private sector **dependent employment flows** point to an increase in employment. The balance of dependent employment flows in 2015 is positive for the third consecutive year, as hirings exceeded total separations, although it is marginally higher against the previous year (99,700 persons in 2015, from 99,122 persons 2014) (see Chart V.14).

In addition, ERGANI data for January-October 2015[17] show that 54.9% of the employed work in enterprises with up to 49 employees. In particular, 28.9% of people employed work in very small enterprises (1-9 employees), which account for 88% of all enterprises, 26% work in enterprises with 10-49 employees, 18.4% work in enterprises with 50-249 employees, while 26.7% of employees work in large enterprises with over 250 employees, which, however, represent a very small share (only 0.2%) of all enterprises.

Business expectations on short-term employment prospects up to end-2015 reflect a deterioration, as all relevant indicators remained negative, thus reversing positive developments

16 The change in employment in the above sectors also had a slight effect on the sectoral breakdown of employment (trade: 18.3% and manufacturing: 9.3% in January-September 2015, from 17.7% and 8.9%, respectively, in January-September 2014). The rise in employment in manufacturing was accompanied by a decrease in employment in other industries of the secondary sector; as a result, its share in total employment remained unchanged (15%), while the tertiary sector increased its share (72.0% in the first nine months of 2015, from 71.4% in the first nine months of 2014), mainly due to a rise in employment in wholesale and retail trade.
17 Third annual report of the ERGANI information system, 2 February 2016.

registered in 2014. Specifically, expectations on the short-term prospects for employment deteriorated substantially in 2015 across all sectors under review, compared with the corresponding period of 2015 (IOBE/European Commission's Business and Consumer Surveys).[18]

Changes in the composition of employment were also driven by earlier institutional reforms in the labour market, which enabled the use of more flexible working arrangements, and the introduction of capital controls at the end of the first half of the year. **Part time employment** continued to increase (9.5% of total employment in January-September 2015, against 6.8% in the corresponding period of 2011), while it is still difficult to find full-time work. Higher part time employment rates were observed among young workers (aged 15-24), as well as among workers in wholesale-retail trade and in tourism services. The shift towards more flexible forms of employment is also supported by data from the ERGANI information system, which provides a breakdown of new hirings by type of contract, as the majority of new hirings in 2015 concern part-time or short-time employment positions.[19] Moreover, the **share of temporary employees** (in total employees aged 15-64) continued to increase (January-September 2015: 12%, January-September 2014: 11.7%, and January-September 2013: 10.1%).

A breakdown of employment by **gender and age** shows that the share of men in total employment exceeds that of women, although the share of male employment still follows a downward path, in contrast with the respective female share; this has narrowed the gender gap, particularly in relation to its pre-crisis levels.[20] Regarding employment developments by gender, female employment grew more than male employment (2.9% in January-September 2015, against 1.0% during the same period of 2014), while in terms of age, female employment grew more in the 30-44 years group, and male employment in the 25-29 years group. Changes in employment rates also vary depending on **educational level**, as workers with lower education levels are worse off. A recent OECD study underlines the importance of education in increasing employment and reducing unemployment and inequality.[21]

In January-September 2015, the **employment rate of foreign** and **national workers** aged 15-64 years increased for the second consecutive year, while the employment rate of foreign nationals was higher than that of Greeks (foreigners: 51,1%; Greek nationals: 50.6%) also for the second consecutive year. Although before the onset of the crisis foreign workers aged 15-64 years recorded higher employment rates than Greek workers, this trend was reversed during the crisis, as the employment rate of foreign workers fell by 22 percentage points between 2008 and 2013 (from 68.3% in 2008 to 46.3% in 2013), while the employment rate of national workers fell by 11.8 percentage points during this period (from 60.8% in 2008 to 49.0% in 2013), since a substantial share of foreign workers where employed in construction, where employment declined significantly during the crisis. In the same period, a significant number of immigrants left the country. The unemployment rate of foreigners aged 15-64 years is larger than the respective rate for Greek nationals (30.8% in January-September 2015 against 24.8%), a trend observed since 2009 that reflects the difficulty to find a job for low-skilled workers.

18 The decline in indicators was more pronounced in construction (-38 from 8), retail trade (-6 from 15) and services (-16 from 2) and more moderate in industry (-12 from -3). However, on a monthly basis, employment forecasts improved in December 2015 across all sectors under review, excluding services.

19 In 2015, 55.5% of new hirings concerned part-time or short-time employment contracts, from 50.5% in 2014. It should be noted that the share of short-time employment contracts in total new hirings recorded a substantial rise, from 14.3% in 2014 to 18.1% in 2015, mainly due to a large increase in this category in July 2015 (the first month of the introduction of capital controls) (see monthly press releases of the Ministry of Labour on results from the ERGANI information system, December 2015).

20 The male participation rate in total employment was 57.8% in January-September 2015, against 58.3% in 2014 and 59.8% in 2009, and the female participation rate in total employment was 42.2% in January-September 2015, against 41.7% and 40.2% in 2014 and in 2009, respectively.

21 OECD, *Education at a glance*, 2015.

Box V.4

THE LABOUR MARKET SITUATION OF MIGRANTS AND THEIR CHILDREN IN GREECE[1]

Background

About a year before the surge of the refugee crisis in the summer of 2015, the Hellenic Statistical Authority (ELSTAT) conducted an ad hoc survey on the labour market situation of economic migrants and their children in Greece, aimed to collect information on the number of immigrants and their offspring, their social, economic and educational characteristics, any differences in their employment status compared with natives, as well as the main obstacles they face in participating in the labour market. The survey covered, on a sampling basis, the total population aged 15-64, identifying as "persons with migrant background" those who themselves or at least one of their parents were born outside Greece.

The main findings of the survey can be summarised as follows:[2]

- Among the country's population aged 15-64, 9.2% (647,500 persons[3]) were born abroad,[4] while 1.8% (128,500 persons) were born in Greece from at least one migrant parent. This makes a total percentage of 11% with migrant background, according to ELSTAT's definition. Using a narrower definition that excludes those who report Greek as their native language ("foreign nationals of Greek origin", about 1%), the share of persons with migrant background in the total population aged 15-64 comes to 10%.

- Among total *working population* aged 15-64, 10.4% (362,300 persons) have a migrant background. From a sectoral viewpoint, this proportion is higher in activities of households as employers of domestic personnel (82.8%), construction (30.3%), administrative and support service activities[5] (22.2%) and accommodation and food service activities (20.2%), while it is not negligible in manufacturing (12.4%) and in arts, entertainment and leisure (12.0%).[6]

- From a geographical perspective, persons with migrant background (employed or not) represent higher shares in total population aged 15-64 in the regions of Attica (15.2%), South Aegean (13.9%), the Peloponnese (9.9%), Central Macedonia (9.8%) and Crete (also 9.8%).

- It is worth noting that 14% of people with migrant background (108,900 persons) are higher education graduates and 41.2% (320,000 persons) have completed secondary education.

- People born abroad are broken down by country of birth as follows: European countries outside the EU: 65.5%; EU countries: 20.6%; Asia: 9.3%; Africa: 2.4%; and America-Oceania: 2.2%.[7]

1 This box does not discuss the current refugee crisis; rather, it reports and reviews some data regarding the profile of economic immigrants in Greece on the basis of a survey conducted in spring 2014, the results of which were released on 20 November 2015. In addition, it provides a brief outline of the institutional framework currently in force as well as Greece's demographic conditions and prospects.
2 The absolute figures reported here are derived from ELSTAT's extrapolation to the total population aged 15-64, which stood at 7,047,071 persons in the second quarter of 2014. For ELSTAT's detailed tables and press release, see http://www.statistics.gr/en/statistics/-/publication/SJO27/-.
3 Or 659,700 persons adding those who did not answer the question about their country of birth.
4 Nevertheless, for 27,300 persons among them one or both of their parents were born in Greece.
5 Including security and investigation activities, services to buildings and landscape activities, office administrative, office support and other business support activities.
6 On the basis of the standard classification of occupations, the highest shares are recorded in "elementary occupations" (44.9%), in "craft and related trades workers" (20.3%) and in "service and sales workers" (11.7%).
7 Those reporting Greek as their native language mainly originate from EU countries (42.2%), non-EU European countries (37.8%) and America-Oceania (9.8%).

• The two most frequently reported reasons for migrating to Greece (not applicable to “foreign nationals of Greek origin”) are “job search” (48.0%) and “family reasons” (27.6%, and for women in particular: 38.9%).[8]

• About one fifth of persons with migrant background report facing obstacles to finding a job corresponding to their qualifications. The majority (59.2%) report “other”[9] obstacles, which according to ELSTAT is linked to the economic crisis.

• 14.1% of the employed aged 15-64 of migrant background believe that they are overqualified for their current job; this percentage is not significantly higher than that for natives (12.1%), suggesting skill mismatches in Greece for migrants and natives alike, with 11.6% of *total employment*, or 405,000 persons, believing that they are overqualified for their current job.

• Lastly, it is interesting to note that among persons with migrant background who were born abroad and are not Greek native speakers, only 15.6% report having attended a Greek language course,[10] 27.6% responded “no, was not necessary” and 39.9% responded “no, for other reasons”.[11] These data are indicative of weaknesses in the infrastructure for the labour market and social integration of immigrants. Encouraging and facilitating the learning of the language should be an essential component of such infrastructure.

The domestic institutional framework: an overview

The Greek institutional framework for migration in recent years was shaped by the enactment of the Immigration and Social Integration Code (Law 4251/2014, Government Gazette A 80) in March 2014, regarding: (a) entry-exit through border crossings and stay of third-country nationals within Greek territory; (b) residence permits granted under EU law; and (c) the social integration of third-country nationals, and organisational arrangements. In July 2015, Law 4332/2015 amended some provisions of the Code, particularly those regarding the right of aliens’ children to obtain the Greek citizenship and other provisions of Law 4251/2014, with a view to harmonising Greek law with relevant EU Directives.[12]

Lastly, on 5-10 February 2016, a public consultation was launched on a draft law amending Laws 3907/2011 and 4251/2014 and transposing into Greek law the provisions of Directive 2013/32/EU on common procedures for granting and withdrawing international protection. The draft law envisages a more effective operation of the Asylum Service and regulates the functioning of Reception and Identification Centres for “third-country nationals or stateless persons entering the country without complying with the legal formalities”, Temporary Accommodation Facilities for those of the aforementioned persons who are “subject to a return procedure”, as well as Temporary Reception Facilities for those who “are seeking international protection”.

8 The most common methods used by employed persons of migrant background to find their current job was through relatives or friends (48.5%, compared with 28.9% for Greek nationals), while a mere 1.1% found a job through the Greek Manpower Employment Organisation – OAED (1.4%, i.e. a similarly low percentage for Greek nationals) and 1.0% through a private recruitment agency (0.2% for Greek nationals).
9 As opposed to discrimination due to origin, religion or social background (37.0%), insufficient knowledge of the Greek language (27.2%), restrictions due to citizenship or residence permit (17.8%) and non-recognition of qualifications obtained abroad (13.2%). These percentages add up to more than 100% because respondents could mention up to two factors.
10 Of these respondents, 82% originate from other non-EU European countries. From an age perspective, 32% are aged 15-24 and 26% are aged 25-34.
11 16.9% did not answer.
12 Directive 2011/98/EU of the European Parliament and of the Council on a single application procedure for a single permit for third-country nationals to reside and work in the territory of a Member State and on a common set of rights for third-country workers legally residing in a Member State; Directive 2014/36/EU on the conditions of entry and stay of third-country nationals for the purpose of employment as seasonal workers.

A very positive step towards ensuring the smooth functioning of the economy and social cohesion are the provisions of Articles 128-129 of Law 4251/2014, which are still in force as adopted in March 2014 and refer to the social integration of immigrants. More specifically, they envisage: (a) absence of any discrimination, respect for the fundamental rights and protection of cultural diversity for all third-country nationals who legally reside in the country and their family members (in the context of family reunification), as well as for the children of immigrants, the beneficiaries of international protection and their family members; and (b) a National Strategy for the Integration of third-country nationals and an Integrated Action Plan.[13] Obviously, a lot remains to be done to ensure the effective implementation of these provisions.

Greece' demographic trends and prospects – the policy challenge

A joint report by the World Bank and the International Monetary Fund (October 2015)[14] sums up the Greek demographic issue in three figures:

– The total fertility rate[15] in Greece was estimated at **1.53** over the 1985-1990 period (i.e. 30 years ago) and is expected to decline to **1.3** over the 2015-2020 period. Both values fall short of the replacement rate, i.e. the total number of live births that a women would need to have over her childbearing years to sustain population levels, which is higher than 2.[16]

– Between 2015 and 2030 the share of working-age population (i.e. aged 15-64) is projected to decline by **2.46** percentage points.

Ageing population is a source of concern for many advanced countries. Addressing this issue calls for policies on *multiple fronts*, as repeatedly stressed in Bank of Greece and other reports. *One of these fronts* no doubt refers to migration, as confirmed by World Bank Group President Jim Yong Kim and IMF Managing Director Christine Lagarde in their statements during the presentation of the abovementioned joint report.[17]

Conclusions

The above findings regarding the characteristics of economic immigrants in the second quarter of 2014 suggest that an effective immigration policy, i.e. one that would support the economy and social cohesion, should entail a substantial *social* integration effort, based on the provisions legislated in March 2014.[18] The necessity of such a policy is obvious, given the adverse demographic outlook and its implications for economic growth, the pension system and —ultimately— social welfare. This holds for migration flows, as well as for the share of migration flows that Greece has undertaken to receive under the EU framework amid the current unprecedented crisis.

13 (Article 129): "The Integrated Action Plan consists of sub-plans which, among other things, include: (a) learning of the Greek language, history and culture; (b) information campaigns addressed to third-country nationals on health, social security and work; (c) raising public awareness in relation to xenophobia, human trafficking and migrant smuggling; (d) educating and raising awareness among public sector and local government staff about immigration; (e) intercultural mediation; and (f) enhancing the participation of third-country nationals in collective action in the context of Migrant Integration Councils".
14 World Bank – IMF, *Global Monitoring Report 2015/2016: Development Goals in an Era of Demographic Change*, October 2015.
15 Defined as the number of children a woman would give birth to during her reproductive life.
16 For the determinants of total fertility rate, see e.g. Hondroyiannis, G. (2010), "Fertility Determinants and Economic Uncertainty: An Assessment Using European Panel Data", *Journal of Family and Economic Issues*, 31(1), pp.33-50.
17 World Bank Group President Jim Yong Kim notes that "if countries with aging populations can create a path for refugees and migrants to participate in the economy, everyone benefits", and that "*most of the evidence suggests that migrants will work hard and contribute more in taxes than they consume in social services*". See World Bank press release of 7 October 2015: http://www.worldbank.org/en/news/press-release/2015/10/07/world-undergoing-major-population-shift-with-far-reaching-implications-for-migration-poverty-development-wbimf-report.
18 A set of very useful lessons, especially as regards the integration of refugees, is drawn in an OECD report published on 28 January 2016. See OECD, *Making integration work: Refugees and others in need of protection*, 2016.

The **employment rate** for the 15-64 age group rose by 1.2 percentage points, from 49.4% in January-September 2014 to 50.6% in January-September 2015; in terms of performance, however, it is the lowest rate in the EU-28.

The **labour force participation rate** for the 15-64 age group remained almost unchanged in January-September 2015, reflecting the significant increase in the **female** labour force participation rate, while the **male** participation rate declined, suggesting that under the pressure of the need to secure an income, women that are not employed continue the job search.[22] If more women enter and remain in the labour market, this could help balance out the results of the shrinking working age population, as well as reduce pressure on public finances and social security systems.

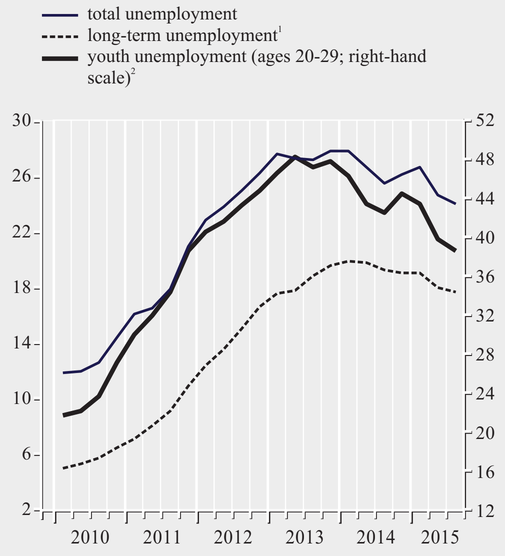
In line with the increase in employment, Labour Force Survey data registered a fall in the number of the unemployed and a continued decline in the unemployment rate in January-September 2015, which, however, still remains extremely high (see Chart V.15).

The decline in unemployment was observed across all age groups, although it was larger for younger age groups. The **youth unemployment rate (20-29 years)** fell on an annual basis from 44.1% in January-September 2014 to 40.6% in 2015, remaining, however, the worst performance in EU-28. Employment programmes, legislative changes in 2012-2014 that allowed hiring young people (aged below 25) at lower wages and on more flexible working arrangements, as well as the high rate of youth employment in tourist services and trade in January-September 2015, contributed, inter alia, to the decline in youth unemployment for the second consecutive year.[23]

The fall in unemployment was accompanied by a decline in **long-term unemployment**, from 19.6% in January-September 2014 to 18.2% in January-September 2015. The majority of the long-term unemployed have been unemployed for over 12 months, are aged over 30 years,

Chart V.15 Unemployment rates (2010 - Q3 2015)

(percentage of labour force)



Source: ELSTAT, Labour Force Survey.
1 For twelve months or more.
2 As a percentage of the labour force of this age group.

low-skilled, and come from the most affected sectors in terms of business closures and job losses during the protracted recession (trade, construction and manufacturing).

The composition of unemployment, specifically long-term unemployment, highlights the need to put an emphasis on life-long learning, updating skills and better matching skills and jobs in demand in a modern labour market. **Active employment policies** and the Manpower Employment Organisation (OAED) training programmes can contribute to this end through appropriate planning and targeting and by ensuring a sound utilisation of the available

22 The labour force participation rate for the 15-64 age group in January-September 2015 was 67.7%, from 67.5% in January-September 2014, and stood at 59.8% for women (from 59%) and 75.8% for men (from 76.2%). In January-September 2015 the labour force participation rate for women aged 20-64 increased against the respective period in 2014 in all age groups, while the labour force participation rate of men decline in all age groups (excluding the 45-64 age group where it rose marginally).

23 Data from the ERGANI information system corroborate the finding that unemployment among the young aged 15-29 fell, as around 76% of new jobs for 2015 concerned this age group (see Ministry of Labour monthly press releases on results from the ERGANI information system, December 2015).

—mostly European— resources.[24] According to the Draft Joint Employment Report from the Commission and the Council, labour market reintegration of the long-term unemployed is a key priority, as long-term unemployment has a negative impact on economic growth and demographic developments.[25] The report stresses that transitions from long-term unemployment to employment should be better supported through employment policies that stimulate labour demand and supply, so as to prevent the risk of the long-term unemployed being driven out of the labour market. Moreover, the report highlights the need to support youth employment and address high levels of NEETs (young persons not in education, employment, or training). Lastly, emphasis is laid on the need to improve female participation in the labour market, by adopting work-life balance policies.

Under the new financial assistance facility programme (Law 4336/2015), Greece undertook to make progress towards modernising and expanding apprenticeships through a series of actions, including establishing a new quality framework for VET/Apprenticeships, setting up a system to identify skills needs, improving the framework of cooperation and coordination among various public sector bodies with the aim to increase efficiency of their actions and public-private partnerships, with a larger participation of the private sector. In the medium run, the education reform envisaged in the new programme in line with the best international practices should contribute to development of human capital and better employment prospects for the labour force, so as to achieve the targets of the "Europe 2020" strategy as regards the employment rate.

A further decline in unemployment and, in particular, youth and long-term unemployment and an increase in the employment rate hinges on stabilising the economic climate and economic activity, continuing to implement structural reforms and gradually bringing the economy back to positive growth rates. Moreover, it is imperative to ensure that active employment policies and training programmes are continuously improved and expanded and that their efficiency is increased in order to reduce the risk of unemployment, particularly long-term unemployment, which further increases structural unemployment. Actions against undeclared and uninsured work are equally important, in order to ensure effective operation of the labour market, fair competition, support to the pension scheme and inclusive growth.

5 INFLATION, WAGES AND BUSINESS PROFITS: DEVELOPMENTS AND PROSPECTS – INCOME INEQUALITY AND POVERTY

5.1 INFLATION

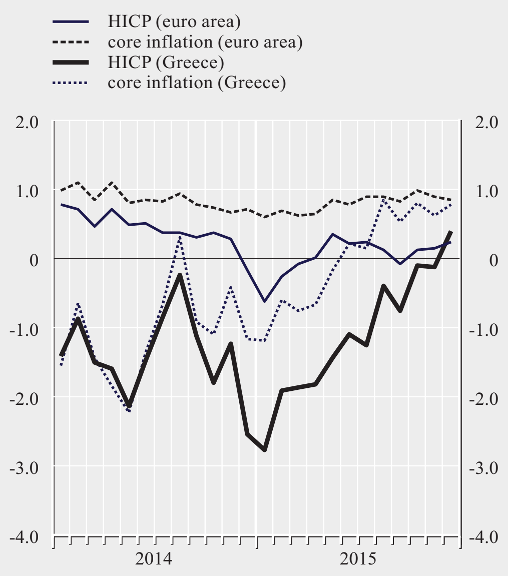
The year 2015 was characterised by a strongly negative annual rate of change in the general level of prices, mainly in the first half, and a weakening in the deflationary pressures in the second half, as inflation returned to positive territory in December. HICP inflation recorded a negative average annual rate of change in prices also in 2015, for the third consecutive year (-1.1% in 2015, -1.4% in 2014 and -0.9% in 2013). This is attributable to various external and domestic factors (see Chart V.16).

24 From March 2016 to end-2016, 150,000 new jobs will be created (see Press Releases, Ministry of Labour, Social Security and Social Solidarity, 2015). In addition, under the new Strategic Plan for the promotion of Social Economy, interventions in four key areas are already under way: institutional reforms, support structures, financial assistance and provision of information. Specifically, the pursued institutional reforms concern, inter alia, the revision of Law 4019/2011 in order to address the problems arisen during its implementation, the harmonisation of Greek legislation on cooperatives regarding the operation and interconnection of Social Economy enterprises, the establishment of certification criteria and procedures for Social Economy consultants and trainers, and coaching public authorities to provide specialised counselling and training. Some of the support structures include the creation of Social Economy regional support centres, as well as the establishment of an independent Social Economy Institute. As regards financial assistance, the direct subsidisation of cooperative entreprises to cover wage costs, as well as the establishment of a Social Economy Fund are planned. Lastly, regarding the provision of information to the entities involved, the creation of an electronic platform is planned with a view to giving greater visibility to Social Economy enterprises, as well as the organisation of exhibitions and international conferences (Press Release of the Ministry of Labour, Social Security and Social Solidarity, 17 December 2015).

25 Draft Joint Employment Report from the Commission and the Council accompanying the Communication from the Commission on the Annual Growth Survey 2016, European Commission, 26 November 2015.

Chart V.16 Harmonised index of consumer prices (HICP) and core inflation in Greece and the euro area (January 2014-December 2015)

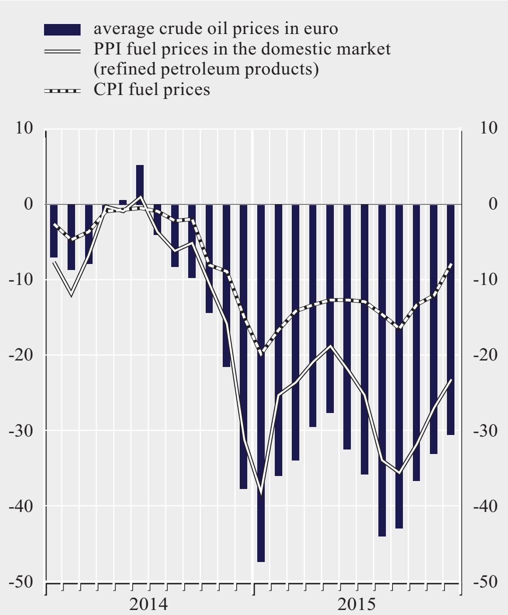
(year-on-year percentage changes; monthly data)



Sources: ELSTAT and Eurostat.

Chart V.17 Evolution of CPI/PPI fuel prices and of Brent crude oil prices in euro (January 2014-December 2015)

(year-on-year percentage changes; monthly data)



Source: Calculations based on ELSTAT data and, for crude oil prices (UK Brent), on ECB data.

Weak growth, combined with very low inflation rates in the euro area, contributed to the negative annual rate of change in prices in Greece. From December 2014 and for four consecutive months, euro area inflation was negative, while for the rest of the year 2015, excluding September, inflation was slightly above zero (see Table V.7). International oil prices were one of the key factors that contributed to annual inflation rates in the euro area remaining around zero for about a year. Indicatively, while in 2013 the average price of Brent oil was €81.95 per barrel, in 2014 it dropped to €74.48 per barrel and in 2015 to even lower levels, reaching €47.45 per barrel (see Chart V.17).

Without underestimating the impact of the external economic environment in determining the inflationary process in Greece, deflation in Greece also reflects domestic factors associated with the country's output gap, high unemployment, the lingering crisis and the impact of structural reforms on the labour and product markets. The particularly high negative inflation rates in the first half of the year declined from August onwards, mainly due to new increases in indirect taxes. A large number of processed food items were transferred from the reduced VAT rate (13%) to the standard VAT rate (23%), together with significant services items, such as restaurant services (23% from 13%) and hotels (13% from 6.5%). Furthermore, reduced VAT rates (by 30%) on the islands were harmonised in six cases with those of the rest of the country[26] (see Table V.8).

Although the burden from indirect taxation is particularly high, since August-December 2015 it has been obvious that the pass-through of indirect tax increases to final consumer prices is very low, and a non-negligible share of these increases has been absorbed by producers aiming to maintain their market shares.

Monitoring developments in HICP inflation components shows that three out of five components, i.e. processed and unprocessed food

26 For details, see Annex to Chapter VI, Tax Policy Measures.

Table V.7 Price developments in Greece and the euro area

(annual percentage changes)

	2011	2012	2013	2014	2015
A. Euro area					
Harmonised Index of Consumer Prices (HICP) and its components					
Overall index	**2.7**	**2.5**	**1.4**	**0.4**	**0.0**
Goods	3.3	3.0	1.3	-0.2	-0.8
Food	2.7	3.1	2.7	0.5	1.0
Processed food[1]	3.3	3.1	2.2	1.2	0.6
Unprocessed food	1.8	3.0	3.5	-0.8	1.6
Industrial goods	3.7	3.0	0.6	-0.5	-1.8
Non-energy industrial goods	0.8	1.2	0.6	0.1	0.3
Energy	11.9	7.6	0.6	-1.9	-6.8
Services	1.8	1.8	1.4	1.2	1.2
Industrial producer prices	***5.7***	***2.8***	***-0.2***	***-1.5***	***-2.7***
B. Greece					
Harmonised Index of Consumer Prices (HICP) and its components					
Overall index	**3.1**	**1.0**	**-0.9**	**-1.4**	**-1.1**
Goods	4.0	1.9	0.7	-1.0	-2.0
Food	4.2	1.3	0.9	-1.0	1.7
Processed food[1]	4.7	1.2	0.7	0.6	1.8
Unprocessed food	3.4	1.4	1.3	-3.5	1.7
Industrial goods	3.9	2.3	0.4	-1.2	-5.3
Non-energy industrial goods	-0.2	-0.6	-1.7	-1.0	-1.8
Energy	16.7	12.6	6.3	-2.0	-11.1
Services	1.9	-0.2	-2.9	-2.0	0.0
Industrial producer prices	***7.4***	***4.9***	***-0.7***	***-0.8***	***-5.8***

Source: Calculations based on Eurostat and ELSTAT data.
1 Including alcoholic beverages and tobacco.

prices and services prices, have been registering positive rates of change for several months, while the other two components, i.e. energy and non-energy industrial goods prices, still remain in negative territory. Therefore, regarding HICP inflation developments in 2016, the average price level is expected to return to positive rates of change.

5.2 LABOUR COSTS

According to the latest revised data from the national accounts published by ELSTAT, the rate of decline in total compensation of employees[27] continued to slow down in 2015, for the second consecutive year, following the large decreases registered in 2012-2013 (see Table V.9), which reflected a decline in both average earnings and the number of employees.

However, particularly in 2015, this deceleration appears to have been due to the increase in dependent employment (by an annual 2.6% in January-September, based on *national*

27 Compensation of employees includes gross earnings of employees in total economy and the corresponding employers' social security contributions, as well as expenditure on civil servant pensions (which forms part of the compensation of employees in general government).

Table V.8 Price indices

(annual percentage changes)

Year	Consumer Price Index: Overall index	Sub-indices: Goods	Sub-indices: Services	Sub-indices: CPI excluding fuel & fresh fruit and vegetables	Sub-indices: CPI excluding food & fuel	Sub-indices: Food and non-alcoholic beverages	Sub-indices: Fresh fruit and vegetables	Sub-indices: Fuel
2011	3.3	4.2	2.3	1.5	1.3	3.1	5.1	18.8
2012	1.5	2.2	0.5	0.3	0.1	1.5	1.5	12.0
2013	-0.9	0.1	-2.2	-1.7	-1.9	0.0	3.0	4.6
2014	-1.3	-1.3	-1.4	-0.7	-0.9	-1.7	-8.6	-4.1
2015	-1.7	-2.5	-0.7	-0.5	-0.9	1.8	6.5	-13.9

Year	Industrial Producer Price Index – Domestic market: Overall index	Domestic market sub-indices: Overall index excl. energy	Domestic market sub-indices: Intermediate goods	Domestic market sub-indices: Consumer goods	External market: Overall index	External market: Overall index excl. energy	Import price index in industry: Overall index	Import price index in industry: Overall index excl. energy
2011	7.4	2.7	4.8	1.1	8.8	3.8	7.6	1.5
2012	4.9	0.8	0.6	1.1	4.1	1.3	4.5	0.6
2013	-0.7	0.0	-1.1	1.1	-1.7	-0.2	-2.7	-0.4
2014	-0.8	-0.5	-1.4	0.2	-2.7	-1.2	-3.7	-0.9
2015	-5.8	0.0	0.0	0.0	-11.4	0.0	-10.5	0.0

Source: ELSTAT and calculations based on ELSTAT data.

accounts data) recorded during this period, while compensation per employee fell during the same period by 3.6% per annum, i.e. more than in 2014. These developments, based on revised ELSTAT data, are in contrast to previous estimates for 2015, which pointed to a small increase in average earnings, "compensation per employee", as well as unit labour costs. On the basis of new data, it is now estimated that in 2015 as a whole, compensation per employee fell by 2.7% (2014: -2.1%), while unit labour costs in total economy declined by 1.1%, i.e. less markedly, due to a parallel drop in productivity.

Specifically, in January-December 2015, the general government wage bill rose by 0.4% per annum and ordinary budged expenditure on pensions increased by 4.9%,[28] while *the sum of these two aggregates*[29] increased by 1.6%, coming close to the estimates included in the Introductory Report to the 2016 Budget for a rise in wage and pension spending by 1.8% in 2015. Moreover, according to quarterly non-financial accounts published by ELSTAT, general government expenditure on compensation of employees increased by 1.0% per annum in January-September 2015.

In the business sector, a limited number (12) of sectoral and occupational-level collective agreements and a remarkable number (275) of firm-level agreements were concluded during 2015.[30] Most of these agreements provided for maintaining the earnings already agreed upon, some provided for reductions and a few provided for moderate increases. According to the quarterly non-financial accounts published by

28 Due to the increased number of new public sector pensioners.
29 This aggregate is a proxy of the concept of "general government compensation of employees".
30 On the basis of data from the Ministry of Labour and the ERGANI information system, in the three-year period from 2012 to 2014, 1,671 firm-level collective agreements had been concluded (2012: 976; 2013: 409; 2014: 286).

Table V.9 Compensation of employees and labour cost (2012-2016)

(annual percentage changes)

	2012	2013	2014	2015 Jan.-Sept.*	2015 (estimate)	2016 (forecast)
Total compensation of employees	-9.8	-10.2	-2.0	-1.1	-1.3	1.4
Compensation per employee	-3.0	-7.0	-2.1	-3.6	-2.7	0.9
Labour productivity (GDP/total employment)	-1.1	0.4	0.5	-1.5	-1.1	-0.6
Unit labour cost (total economy)	-2.0	-7.4	-2.6	-2.1	-1.1	1.5

Source: For 2012-2014 and for January-September 2015: ELSTAT, National Accounts data for all aggregates. For 2015 and 2016: Bank of Greece estimates/forecasts.
* Seasonally adjusted data.

ELSTAT, compensation of employees in the business sector increased by 2.5% per annum in January-September 2015.

Furthermore, electronic reporting data from the ERGANI information system on the total number of employees on private law contracts, in the period from January to October 2015,[31] show an increase in the share of low-wage employees year-on-year. Specifically, 22.4% of these employees have part-time or short-time jobs (2014: 21.8%), 77.6% have full-time jobs (2014: 78.2%) and are paid as follows: 9.6%, (2014: 9.0%) earn the minimum or close to the minimum (€600 per month or lower), 18.0% (2014: 17.4%) earn €600-€800 per month and 50% (2014: 51.8%) earn over €800 per month.

According to the Introductory Report to the 2016 Budget, ordinary budget expenditure for wages and pensions in the sector of general government is forecast to decline by 1.4%, mainly owing to the transfer of the payment of wages for regional authority staff from the ordinary budget to regional authority budgets as from 1 January 2016. However, taking into account the wage expenditure forecast in this Report for other general government bodies,[32] the decline stands at -0.2%. Compensation per employee in total economy is forecast to recover moderately (an increase of 0.9%), while unit labour costs might increase by 1.5%, as the average annual rate of change in productivity is expected to remain negative.

5.3 BUSINESS PROFITS

In January-September 2015, the most significant aggregates of the ATHEX-listed non-financial corporations recorded a small improvement. Specifically, according to the published financial statements of 165 ATHEX-listed corporations,[33] sales rose by 0.8% and gross profits by 13.2%. Nevertheless, net corporate profitability fell to €533.6 million, from €622.5 million in the respective period of the previous year, and the net profit margin declined to 3.0%. Industrial and trade enterprises appear to have further improved their performance; by contrast, corporate profits in services and other activities dropped by 18.7% during the same period.

Moreover, the non-financial accounts of institutional sectors published by ELSTAT show signs of an increase in corporate profitability, at least through the third quarter of 2015. The net operating surplus of non-financial corporations increased, at current prices, by 10.3% in January-September, against the same period in the previous year, mainly due to reduced taxes and lower expenditure for dependent labour. The rise in the gross operating surplus

31 Third annual report, published on 2 February 2016.
32 Legal entities in public law, social security funds, the Greek Manpower Employment Organisation (OAED), the national organisation for health care services provision (EOPYY), hospitals, National Primary Health Care Network (PEDY), regional and local authorities, public enterprises and general government organisations.
33 The two refineries are not included.

of non-financial corporations for the same period stood at 5.2%.

5.4 INCOME INEQUALITY AND POVERTY

The prolonged recession in Greece in the past few years, against a backdrop of limited resources due to the necessary fiscal adjustment, has highlighted the importance of targeted support to weaker social groups, with the aim to maintain social cohesion, which is key to stability and growth, without jeopardising the achievement of fiscal targets. Below are summarised the most important developments, on the basis of different social indicators (inequality, poverty, social exclusion, living conditions, etc.) in Greece from 2012 onwards. Data mainly come from the most recent household sample surveys carried out in Greece on an annual basis by ELSTAT: the European Union Statistics on Income and Living Conditions (EU-SILC) 2014 (for income earned in 2013) and the Household Budget Survey (HBS) 2014.[34]

The relative at-risk-of-poverty rate decreased for the first time since the onset of the crisis and stood at 22.1%, as calculated on the basis of the EU-SILC 2014 survey (for income earned in 2013), from 23.1% in 2013 (for income earned in 2012). However, compared with the other EU-28 countries, the relative at-risk-of-poverty rate in Greece is the third highest in the EU-28 and remains significantly above the EU-28 average (17.2%).[35] Furthermore, the relative poverty gap (or intensity)[36] fell to 31.3% according to the EU-SILC 2014, from 32.7% in the previous year. On the basis of household monetary consumption expenditure, HBS data for 2014 suggest a lower relative risk of poverty (20.6%), and point to an improvement against the previous year (21.0%). The relative risk of poverty stands even lower if imputed expenditure is also taken into account, such as the owners' equivalent rent income, household consumption of own agricultural-livestock production, etc. (14.7% based on HBS data for 2014; 14.0% based on HBS data for 2013).

However, other social indicators reflect a further deterioration during the latest years of the crisis. The share of the Greek population living either at risk of poverty or in social exclusion, i.e. living in material deprivation or in households with very low work intensity, increased —on the basis of EU-SILC 2014— to 36.0% in 2013 (or 3,885 thousand persons) from 35.7% in 2012.[37] Likewise, the share of people in material deprivation rose to 21.5% in 2013 from 20.3% in 2012. Moreover, a recent OECD study points out that in Greece, as in Spain and Ireland, the percentage of adults living in households where no one is working doubled between 2007 and 2012.[38] Lastly, poverty indicators also deteriorated steadily in the past few years in absolute terms, i.e. with the poverty threshold remaining unchanged in terms of real purchasing power of an earlier period. Specifically, on the basis of 2008 conditions, 48% of the population in 2013 can be said to be exposed to the risk of poverty (from 44.3% in 2012),[39] as a result of the continued decline in household average disposable income combined with a poverty threshold remaining unchanged at high pre-crisis levels.

In terms of income inequality, the picture emerging in Greece appears to be marginally stable in the two latest surveys, although it is clearly worse than in the other EU-28 countries.

34 For the reference periods of HBS expenditure data, see p. 27 of the press release for the 2014 HBS published by ELSTAT on 9 July 2015: http://www.statistics.gr/en/statistics/-/publication/SFA05/2014.

35 Under the relative approach, the poverty threshold (or line) varies with the population's average standard of living, as it is set at 60% of the median equivalised disposable income for all households (Eurostat definition). To calculate the equivalised household income, the first adult is given a weight of 1.0, the second and each subsequent person aged 14 and over are given a weight of 0.5, and each child under 14 is given a weight of 0.3. This method takes into account household economies of scale in consumption, household composition and the different needs of adults and children. In the 2014 survey, the relative monetary poverty line was €4,608 for a single-person household and €9,677 for a four-person household with two adults and two children under 14.

36 The poverty gap measures the (normalised) distance of the income of the poor from the poverty threshold, i.e. it provides a measure of the average income shortfall of the poor.

37 It should be noted that, in absolute terms, in 2012 more people (3,904 thousand) lived at risk of poverty or in social exclusion.

38 See Brian Keeley, *Income Inequality: The Gap between Rich and Poor*, OECD Insights, Dec. 2015, pp. 92-93: From 10.8% to 20.5% in Greece, from 8.5% to 17.1% in Spain and from 9.4% to 18.0% in Ireland.

39 This represents the poverty rate for the year 2013, calculated on the basis of the poverty threshold for the year 2008, adjusted to 2013 based on the Harmonised Index of Consumer Prices.

On the basis of EU-SILC 2014 data, the Gini inequality coefficient stood at 34.5% (EU-28: 30.9%) for income earned in 2013, against 34.4% for income earned in 2012.[40] By contrast, the S80/S20 indicator declined marginally from 6.6 for incomes earned in 2012 to 6.5 for incomes earned in 2013 (EU-28: 5.2).[41] In terms of consumer spending, the S80/S20 indicator stands at a lower level on the basis of data from the HBS 2014, although it remains unchanged against the previous year at 5,7 (4.5 if imputed expenditure is also taken into account).

As regards the characteristics of the population at risk of poverty, EU-SILC 2014 data suggest that those at higher risk of poverty are foreigners (68.3%) and the unemployed (45.9%), particularly unemployed men, of which a share of 51.9% is affected. Other vulnerable groups include the economically inactive (excluding pensioners) (28.4%), households with dependent children (25.7%), children of 0-17 years of age (25.5%) and households living in rented accommodation (28.5%). However, it should be noted that, compared with the results of the 2013 survey for the year 2012, an improvement is registered for most groups. Indicatively, in 2013 the risk of poverty fell to 27.8%, from 37.2% in 2012, for single-parent households with at least one dependent child, 38%, from 32% in 2012, for households with three or more adults with dependent children, while for children of 0-17 years of age the risk fell by 3.3 percentage points.

The design of social transfers may play a very significant role in the current context. According to EU-SILC 2014 data, social benefits contribute to reducing the poverty rate by 3.9 percentage points, while pensions by 26.2 percentage points.[42] After the payment of pensions, a share of 17.2% of the population aged over 65 is at risk of poverty, against 31.0% for children aged 0-17 years and 27.5% for those aged 18-64 years. Even after the payment of social benefits, poverty appears now to shift away from the elderly towards younger couples with children, young workers, and even more towards the unemployed.[43]

In the light of these developments, social policy should focus on the protection of children and the unemployed. Measures in the right direction include those taken in 2013 concerning family benefits, as is evident from the EU-SILC 2014 results, i.e. the establishment of a single, means-tested, children support benefit and the granting of a special benefit to families with three or more children.[44] Other favourable changes have been introduced with regard to the long-term unemployment benefit: as of 2014 persons entitled to it include the long-term unemployed aged 20-66 years (against 45-65 years before 2014) with an annual income of less than €10,000 (against €12,000 in 2012 and 2013 and €5,000 in previous years). The payment of a social dividend in 2014 was also seen as positive (see also Box VI.3).[45] Although the measures taken in 2015 to address the humanitarian crisis have not

40 In the above-mentioned OECD study (see footnote 38 above) the coefficient for Greece (p. 23) appears to be the 6th highest among 31 OECD member countries and the highest among all EU countries, except for the United Kingdom.

41 The Gini coefficient values range from 0%, when the national income is allocated equally (i.e. the poorest x% of the population receives x% of the national income for 0<x<=100) to 100%, if the national income is allocated to one person only. The S80/S20 indicator measures the ratio of total income received by the wealthiest 20% of the population to the total income received by the poorest 20%. Both indicators take higher values as income inequality increases. However, the Gini coefficient attributes equal weights on income inequality throughout the range of income allocation, while the S80/S20 indicator focuses on differences at the ends of the spectrum.

42 That is, had the social benefits and pensions not been paid, the risk of poverty in Greece in 2013 would have been 52.2% instead of 22.1%.

43 Recent studies have reached similar results. See Athens University of Economics and Business, Policy Analysis Research Unit, Newsletter 8/2014: Manos Matsaganis and Chrysa Leventi, "Income distribution in Greece (2009-2013)" and Newsletter 7/2014 "Poverty and inequality 2009-2013: available estimates and data". These studies show that in the past few years a significant amount of re-ranking took place in the composition of the poorest income deciles and, in particular, a new category of poor (households with unemployed members living in urban areas) seems to be taking the place of the traditionally poor (elderly households living in rural areas) at the lowest income deciles.

44 It should be noted that the third child benefit, the one-off childbirth benefit and the life pension for mothers of three or more children were abolished.

45 As regards the long term unemployment benefit, it should be noted that serious design problems persist, which lead to low coverage rates. For instance, in order to receive a long-term unemployment benefit, one should previously have been receiving a regular unemployment benefit for at least 12 months. Given that the average duration of the regular unemployment benefit is 7 months, most long-term unemployed are excluded from the long-term unemployment benefit, even when they do fulfil the income criteria. For a critical analysis of the eligibility criteria for poverty alleviation benefits, see Athens University of Economics and Business, Policy Analysis Research Unit, Newsletter 6/2013: Manos Matsaganis, "Poverty and social policy in a crisis: the case of Greece".

been evaluated yet in terms of effectiveness,[46] a significant number of households living below the poverty line have benefited from them.

More generally, reduced social expenditure should become more efficient, with priority to eliminating extreme poverty in families with children, no employed members, no unemployment benefit or other income support and, often, no access to social security. The universal implementation of a minimum guaranteed income scheme might contribute to this end.[47] According to a recent study by the World Bank,[48] the universal implementation of a minimum guaranteed income scheme in Greece in 2013 could help increase the income of about 1,200,000 persons (or 11% of the population), narrowing the poverty gap by 1/3. The budgetary cost was estimated at around €980 million, i.e. 0.5% of GDP or around 2.5% of social spending.[49] This cost could be reduced by combating tax evasion more efficiently, and it could be financed by redesigning the current social transfer policy.

The need to support very low incomes, even for wage earners, is confirmed by an OECD brief study,[50] according to which employees on minimum wages in Greece, on the basis of 2013 standards, should be working almost 60 hours a week (lone parent families with children) or 70 hours (4-member families with one employed member and 2 children) in order to exceed the relative poverty line (50% of the median net family income). Given that this is unrealistic, the study suggests better income support or better-paid jobs, in order for these families to work their way out of poverty.

Apart from income support, an efficient and appropriate education system could also help alleviate poverty and inequality, so as to assist children-pupils to overcome constraints set by their social environment. Another OECD study[51] commends on the "percentage of resilient students", i.e. the proportion of children performing better (based on the PISA survey) than their family background might suggest. The comparative data for 2012 show that Greece recorded the fourth lowest percentage (3.2%) among European countries,[52] i.e. well below the OECD average (6.4%).[53] This means that a targeted education policy is imperative.

6 INTERNATIONAL COMPETITIVENESS

Greece's international competitiveness in terms of relative prices and labour costs continued to improve in 2015. On the one hand, the decline in the euro effective exchange rate and, on the other hand, the reforms in the labour market implemented in the previous years, combined with the still prevailing conditions of excess supply in the labour market due to the prolonged recession, led to a continuous decrease in relevant effective exchange rate indices in Greece. By contrast, total competitiveness of the Greek economy, which also

46 The programme addressing the humanitarian crisis (Law 4320/2015) provided for (i) free power supply for the year 2015 for the primary residence (up to 300kwh per month, applied to 89,288 households); (ii) rent subsidy (up to €70 per person and €220 per family) to households without owned residence in the municipality of their primary residence (the two payments in December 2015, with a total cost of €4.8 million, concerned 19,443 households, while the payment of 27.1.2016, with a total cost of €2.6 million, concerned 20,243 households); and (iii) food subsidy, i.e. discount coupons or other electronic means for the year 2015 (the December 2015 payment, with a total cost of €16.3 million, concerned 145,330 beneficiaries, while the payment of 27.1.2016, with a total cost of €17.3 million, concerned 147,729 beneficiaries). The budgetary cost of these measures was estimated at around €200 million for nine months in 2015 (or 0.1% of GDP).

47 One should keep in mind that, according to a Ministerial Decision of November 2014, the "Guaranteed Social Income" pilot scheme was launched in 2015. According to the Ministry of Labour (press release of 22.12.2015), a total amount of €4.7 million was credited to the accounts of 16,885 beneficiaries at end-December 2015. Moreover, under the MoU of August 2015 (Law 4336/2015), Greece committed to improve the design of its social welfare system, launching a comprehensive review of the existing system with support from the World Bank, in order to set up a genuine social safety net. This will include the gradual implementation of the minimum guaranteed income at the *national* level.

48 Manos Matsaganis and Chrysa Leventi, "Ex ante poverty and fiscal evaluation of a guaranteed minimum income programme in Greece", GREECE: Means-Tested Income Support Program Pilot Reimbursable Advisory Services Agreement of 31 October 2013 – DRAFT of Output 2.2, 10-January 2015, The World Bank.

49 These results also take into account that real incomes could diverge from the income declared to the tax authorities. If beneficiaries were selected on the basis of real – instead of declared – income, so as to exclude those falsely appearing to meet the income criteria due to concealing their real incomes, it is estimated that the number of beneficiaries would fall to 754,269 persons (or 7% of the population) and the cost to €681 million (or 0.4% of GDP).

50 OECD, *Minimum wages after the crisis: Making them pay*, May 2015.

51 See footnote 38 above.

52 After Montenegro (1.3%), Bulgaria (2.1%) and Romania (2.8%).

53 Page 87 of the study.

Table V.10 Nominal and real effective exchange rate (EER) indices[1] (2000=100)

(2000=100)

Year	Nominal EER – Broad EER[1] Index (2000=100)	Nominal EER – Broad EER[1] (%) Change over previous period	Real EER* – Broad EER[1] – CPI-deflated Index (2000=100)	Real EER* – Broad EER[1] – CPI-deflated (%) Change over previous period	Real EER* – Broad EER[1] – ULCT-deflated[2] Index (2000=100)	Real EER* – Broad EER[1] – ULCT-deflated[2] (%) Change over previous period	Real EER* – EER-euro area – CPI-deflated Index (2000=100)	Real EER* – EER-euro area – CPI-deflated (%) Change over previous period	Real EER* – EER-euro area – ULCT-deflated[2] Index (2000=100)	Real EER* – EER-euro area – ULCT-deflated[2] (%) Change over previous period
2000	100.0		100.0		100.0		100.0		100.0	
2009	115.5	1.2	118.9	1.5	126.3	4.0	109.2	1.0	116.3	2.3
2010	112.2	-2.8	118.4	-0.4	123.3	-2.4	112.6	3.1	117.8	1.3
2011	112.7	0.5	118.8	0.3	121.7	-1.3	113.1	0.4	116.6	-1.0
2012	110.5	-2.0	114.6	-3.5	112.5	-7.6	111.3	-1.6	110.4	-5.3
2013	112.7	1.9	113.8	-0.7	104.2	-7.4	108.7	-2.3	101.2	-8.3
2014	113.5	0.7	111.7	-1.8	101.6	-2.5	106.7	-1.8	98.2	-3.0
2015**	110.4	-2.7	106.7	-4.5	95.3	-5.7	105.4	-1.2	95.3	-3.0
2016**	110.4	0.0	105.2	-1.4	93.5	-1.9	104.2	-1.1	94.1	-1.3

Sources: Indices are calculated by the Bank of Greece. Exchange rate data, estimates and forecasts on CPI and labour costs in total economy are provided by the ECB and the European Commission.
* The index is subject to regular revisions.
** Estimates and forecasts.
1 Broad real EER index includes Greece's 28 main trading partners. Weights are calculated on the basis of imports and exports of manufacturing goods (SITC 5-8).
2 The ULCT-deflated REER series were revised in November 2014. Unit labour costs in total economy for Greece are calculated by the ECB and not by the Bank of Greece.

takes into account many other structural competitiveness parameters, after improving in 2013-2014, now shows signs of stagnation or even a retreat.

Specifically, according to broader effective exchange rate indices calculated by the Bank of Greece, it is estimated that the international competitiveness of the Greek economy improved further in 2015, by 5.7% on the basis of the relative labour cost and by 4.5% on the basis of the relative consumer price index. The positive evolution of real exchange rates was also largely due to the decline in the nominal effective exchange rate index by 2.7% in 2015 (see Table V.10).

The evolution of these rates shows that the cumulative competitiveness loss of the Greek economy in 2000-2009 was gradually recouped. It is estimated that competitiveness on the basis of unit labour costs in total economy improved by 4.2% in 2015 against 2000, while on the basis of the consumer price index the cumulative loss fell by only 6.7% in 2015 against 2000. A similar improvement was evident in respective harmonised competitiveness indicators compiled by the ECB. The harmonised competitiveness indicator on the basis of unit labour costs in the third quarter of 2015 was 3.5% below its 2000 level. By contrast, the indicator based on the consumer price index for the fourth quarter of 2015 was 5.7% above its 2000 level. It should be noted that Greece ranked fourth after Germany, Portugal and Ireland regarding the evolution of labour cost competitiveness after 2000.

Favourable developments in international price and labour cost competitiveness have had an effect, although with a lag, on the continued increase in the value and volume of Greek exports excluding oil, despite the strong contraction in the production base and the depreciation of the productive capital during the crisis. According to the European Commission, total exports of goods and services, which on average had stood at 16.4% of GDP during the two decades before the adoption of the euro, increased gradually after the crisis, from 23.4% of GDP in 2008 to 31.9% of GDP in 2015. A return to normality in the business environment in general and in business financing in particular, would support the realisation of productive investment with the aim to expand and diversify the production potential in favour of internationally tradables, thus further enhancing the export orientation of old and new exporters.

The total competitiveness of the Greek economy, according to major composite indices of international competitiveness, has been exhibiting signs of stagnation or even retreat. According to the World Economic Forum competitiveness index, Greece remained at the 81st position among 140 countries; according to the "ease of doing business" index of the World Bank, Greece fell two places and ranked 60th among 189 countries. Despite the fact that Greece has responded in the best possible manner to OECD recommendations for the adoption of structural reforms, it still ranks last among EU-28 and all advanced economies in terms of most composite international competitiveness indices. According to these indices, the main obstacles for Greek enterprises are access to financing, red tape and an ever-changing tax framework.

7 DEVELOPMENTS AND PROSPECTS IN THE BALANCE OF PAYMENTS

According to Bank of Greece data, the current account improved markedly, by €3.8 billion in 2015, and almost balanced out (see Table V.11). This improvement is attributable to a significant decline in the deficit of the balance of goods, which offset the narrowing observed in the surplus of the services balance, resulting in a contraction in the overall balance of goods and services deficit, which represents the largest component of the current account. Specifically, exports of goods and services declined, but the corresponding import bill decreased at a much faster pace. Lastly, the primary income account improved, almost offsetting the deterioration in the secondary income account.

The improved international competitiveness of the Greek economy in terms of labour costs and prices has had a positive effect on the volume of Greek exports of goods and services, despite moderate growth rates in the export markets for Greek products. The decline in the deficit of the balance of goods since the beginning of the year largely reflects the improvement in the oil balance, as a result of dropping international oil prices and falling net payments for the purchase of ships, which weighted significantly on the balance of goods in 2014, as well as the positive performance of exports of goods in most export sectors excluding oil and ships. The surplus of the services balance fell, as a result of lower net receipts from transport services. The increase in tourism, which continued into 2015, had a positive effect on tourism receipts, despite the decline in the average expenditure per trip and the average length of stay, and contributed to an improvement in the travel balance.

The improvement in the current account balance is expected to continue in 2016, as demand from advanced economies (mainly the euro area and the EU in general) is gradually gaining momentum and the benefits from the recovery in the international competitiveness of the Greek economy, as well as from the drop in oil prices and the depreciation of the euro, are preserved. However, the deceleration in the growth of emerging economies, mainly in China, has an adverse effect on the world trade volume, with negative results also in the sea transport sector.

Any further positive developments in export activity hinge on an improvement of financing conditions for enterprises and, most importantly, on boosting investment, which should

Table V.11 Balance of payments

(EUR millions)

	2013	2014	2015
I CURRENT ACCOUNT (I.A+I.B+I.C+I.D)	**-3,691.9**	**-3,767.4**	**-7.5**
BALANCE OF GOODS AND SERVICES (I.A+I.B)	**-5,030.9**	**-4,006.3**	**-234.6**
Receipts	*54,941.4*	*57,839.3*	*52,774.9*
Payments	*59,972.3*	*61,845.5*	*53,009.5*
I.A Trade balance (I.A.1 – I.A.2)	**-20,780.3**	**-22,279.4**	**-17,247.8**
I.A.1 Exports of goods	*26,895.6*	*26,788.0*	*24,787.2*
Oil	9,485.1	9,049.8	6,713.7
Ships (receipts)	443.0	626.0	175.5
Goods excluding oil and ships	16,967.6	17,112.1	17,898.0
I.A.2 Imports of goods	*47,675.9*	*49,067.4*	*42,035.0*
Oil	16,398.5	15,384.2	10,921.8
Ships (payments)	1,926.2	2,799.2	623.2
Goods excluding oil and ships	29,351.1	30,884.1	30,489.9
I.B Services balance (I.B.1 – I.B.2)	**15,749.4**	**18,273.2**	**17,013.2**
I.B.1 Receipts	*28,045.8*	*31,051.3*	*27,987.7*
Travel	12,152.2	13,393.1	14,194.4
Transport	12,060.9	13,130.8	9,968.3
Other services	3,832.7	4,527.4	3,825.0
I.B.2 Payments	*12,296.4*	*12,778.1*	*10,974.5*
Travel	1,835.2	2,076.4	2,025.1
Transport	6,492.2	6,258.6	5,430.0
Other services	3,969.1	4,443.1	3,519.4
I.C Income balance (I.C.1 – I.C.2)	**-457.0**	**573.6**	**739.3**
I.C.1 Receipts	*6,458.1*	*6,867.4*	*5,942.8*
Labour (wages, salaries)	209.3	209.9	153.8
Investment (interest, dividends, profits)	3,213.7	3,241.5	2,624.4
Other primary income	3,035.1	3,416.1	3,164.6
I.C.2 Payments	*6,915.1*	*6,293.8*	*5,203.5*
Labour (wages, salaries)	453.0	491.7	379.4
Investment (interest, dividends, profits)	6,097.1	5,439.6	4,525.0
Other primary income	365.0	362.6	299.1
I.D Current transfers balance (I.D.1–I.D.2)	**1,796.1**	**-334.7**	**-512.2**
I.D.1 Receipts	*4,652.8*	*2,550.7*	*1,908.7*
General government	3,375.5	1,441.7	1,054.9
Other sectors	1,277.3	1,109.0	854.9
I.D.2 Payments	*2,856.7*	*2,885.5*	*2,421.9*
General government	2,068.1	2,054.7	1,695.0
Other sectors	788.6	830.8	726.9
II CAPITAL ACCOUNT (II.1–II.2)	**3,040.8**	**2,510.6**	**1,988.6**
II.1 Receipts	**3,380.6**	**2,866.2**	**2,369.5**
General government	3,298.9	2,789.8	2,319.3
Other sectors	81.7	76.4	50.2
II.2 Payments	**339.8**	**355.6**	**380.9**
General government	9.7	8.8	4.1
Other sectors	330.1	346.7	376.8
CURRENT AND CAPITAL ACCOUNT (I+II)	**-651.1**	**-1,256.8**	**1,981.1**
III FINANCIAL ACCOUNT (III.A+III.B+III.C+III.D)	**2,562.5**	**634.1**	**3,143.5**
III.A Direct investment[1]	**-2,713.6**	**-577.4**	**602.9**
Assets	-534.2	685.0	345.4
Liabilities	2,179.4	1,262.5	-257.6
III.B Portfolio investment[1]	**6,583.1**	**6,978.0**	**8,348.3**
Assets	-1,023.6	8,910.1	6,996.0
Liabilities	-7,606.7	1,932.1	-1,352.4
III.C Other investment[1]	**-1,414.0**	**-6,222.5**	**-6,162.2**
Assets	-21,187.9	-6,888.7	16,699.8
Liabilities	-19,773.9	-666.2	22,861.9
(General government borrowing)	30,061.2	4,000.2	11,921.6
III.D Change in reserve assets[2]	**107.0**	**456.0**	**354.4**
IV ERRORS AND OMISSIONS (I + II - III + IV=0)	**3,213.6**	**1,890.9**	**1,162.3**
RESERVE ASSETS	**4,172**	**5,117**	**5,535**

Source: Bank of Greece.
1 (+) net inflow, (-) net outflow.
2 (+) decrease, (-) increase.

allow to enhance exports and consolidate the position of Greek enterprises in foreign markets. Strengthening the export-orientation of the Greek economy and export dynamics is a prerequisite in order to offset the increased demand for imports, which is associated with a stronger economic activity. It is necessary to restore confidence in the growth outlook of the Greek economy, in order to attract not only domestic, but also foreign investment, which could further strengthen the export performance and, thus, the degree of recovery of the Greek economy. Lastly, the accelerated absorption of EU funds, observed since the last quarter of 2015, is expected to have a positive effect on the current account.

Box V.5

EXPORT EXPANSION ALTERNATIVES AND THEIR CONTRIBUTION TO ECONOMIC GROWTH: THE CASE OF GREECE

The growth prospects of the Greek economy are largely linked to the need for further strengthening of export performance. The fact that, despite the improvement made in recent years, Greece's export orientation still lags significantly behind that of the euro area[1], indicates that the change of the growth model necessary to ensure economic recovery and exit from the crisis is intertwined with the strengthening of the country's export performance.

Methodology and analysis

Drawing on methodology already used for other countries,[2] this analysis attempts to assess the export penetration of Greek products into foreign markets, as reflected in their market shares. The analysis shows that Greek products are present in a wide range of markets. However, despite the fact that in recent years export performance has been satisfactory and Greek products have managed to maintain their market share in foreign markets at pre-crisis levels, their degree of penetration in these markets has remained low.

The share of Greek exports in the world market is examined under two aspects: (i) the range to which Greece's trade relations extend in the global market (extensive margin – EM) and (ii) the depth of penetration of Greek products in markets where Greece is present as an exporter (intensive margin – IM). It should be noted that the term "market" in this analysis means *a combination of exported product and destination, and not only the destination.*

The market share of Greek exports (S_t) in period t is the ratio of Greek exports (X_t) to world exports (X_{wt})

$$s_t = \frac{X_t}{X_{wt}} = \frac{\Sigma_i \Sigma_{p\epsilon N_{it}^p} x_{it}^p}{\Sigma_i \Sigma_{p\epsilon N_{wit}^p} x_{wit}^p}$$

where x_{it}^p, x_{wit}^p are the exports of product p to destination i from Greece and the rest of the world, respectively. N_{it}^p N_{wit}^p are the sets of product-destination pairs where $x_{it}^p > 0$ $x_{wit}^p > 0$ respectively, i.e. pairs of products-destinations where Greece and the rest of the world export.

1 The share of Greek exports in GDP stood at 33% in 2014 against 21% in 2004, while the respective aggregates for the euro area were 45% in 2014 and 35% in 2004.

2 See Hummels, D. and P.J. Klenow (2005), "The Variety and Quality of a Nation's Exports", *American Economic Review*, 95(3), 707-723, Veeramani, C. and G. Prachi (2014), "Extensive and Intensive Margins of India's Exports: Comparison with China", Working Paper No. 2014-011, Indira Gandhi Institute of Development Research, Mumbai, March 2014, and Benkovskis, K. and J. Wörz, (2014),"What Drives the Market Share Changes? Price versus Non-Price Factors", ECB Working Paper No. 1640.

The above ratio can be expressed as the following product:

$$s_t = \frac{\sum_i \sum_{p \in N_{it}^p} x_{it}^p}{\sum_i \sum_{p \in N_{it}^p} x_{wit}^p} \times \frac{\sum_i \sum_{p \in N_{it}^p} x_{wit}^p}{\sum_i \sum_{p \in N_{wit}^p} x_{wit}^p} = IM_t \times EM_t$$

The first fraction is the *intensive margin* (IM_t), which is equal to the ratio of total Greek exports to the exports of other countries in Greece's export "markets". The second fraction is the *extensive margin* (EM_t), which is equal to the ratio of exports of other countries in Greece's export "markets" to global exports. Thus, the intensive margin expresses the share of Greek exports in the

Breakdown of the market share of Greek products

	Global market			EU			Non-EU countries		
Year	S	EM	IM	S	EM	IM	S	EM	IM
2004	0.0017	0.70	0.0024	0.0029	0.82	0.0035	0.0009	0.62	0.0014
2005	0.0016	0.68	0.0024	0.0028	0.79	0.0036	0.0009	0.61	0.0014
2006	0.0017	0.69	0.0025	0.0029	0.78	0.0038	0.0009	0.64	0.0015
2007	0.0017	0.67	0.0025	0.0029	0.79	0.0036	0.0009	0.60	0.0016
2008	0.0016	0.65	0.0025	0.0028	0.76	0.0036	0.0009	0.57	0.0016
2009	0.0017	0.69	0.0025	0.0029	0.80	0.0036	0.0011	0.62	0.0017
2010	0.0016	0.69	0.0023	0.0028	0.80	0.0035	0.0009	0.62	0.0015
2011	0.0016	0.66	0.0024	0.0027	0.79	0.0035	0.0010	0.59	0.0017
2012	0.0016	0.68	0.0024	0.0027	0.78	0.0034	0.0012	0.63	0.0018
2013	0.0017	0.69	0.0025	0.0028	0.78	0.0035	0.0012	0.64	0.0019
2014	0.0017	0.71	0.0024	0.0026	0.82	0.0032	0.0012	0.66	0.0018

	Raw material-intensive products			Labour-intensive products			Technology-intensive products		
Year	S	EM	IM	S	EM	IM	S	EM	IM
2004	0.0020	0.66	0.0031	0.0047	0.77	0.0061	0.0008	0.69	0.0011
2005	0.0020	0.66	0.0031	0.0048	0.79	0.0061	0.0007	0.66	0.0011
2006	0.0022	0.67	0.0033	0.0050	0.76	0.0066	0.0009	0.69	0.0013
2007	0.0023	0.67	0.0035	0.0044	0.74	0.0059	0.0009	0.66	0.0014
2008	0.0021	0.62	0.0034	0.0044	0.73	0.0059	0.0009	0.64	0.0013
2009	0.0020	0.63	0.0032	0.0045	0.77	0.0059	0.0009	0.69	0.0013
2010	0.0019	0.63	0.0030	0.0039	0.75	0.0053	0.0009	0.70	0.0013
2011	0.0020	0.63	0.0031	0.0035	0.74	0.0048	0.0010	0.66	0.0016
2012	0.0018	0.64	0.0029	0.0035	0.75	0.0047	0.0012	0.68	0.0017
2013	0.0018	0.65	0.0028	0.0036	0.76	0.0048	0.0013	0.68	0.0019
2014	0.0019	0.66	0.0028	0.0034	0.78	0.0043	0.0012	0.72	0.0017

Source: UN COMTRADE database.
Note: S, EM and IM have been calculated as specified in the text.

"markets" where Greek exports are present, while the extensive margin expresses the share of these "markets" in the global market.[3]

According to the estimates, the market share of Greek exports is small (see the table and Charts A and B) on account of the low intensive margin, while the extensive margin is much higher, without any remarkable differences observed before and after 2009. The extensive margin stands at around 70%. This means that Greece's trade relations, namely the combinations of product and destination in which there is a Greek presence, are extended to 70% of the global market. This rate is particularly high and has remained relatively stable in the course of the period under review. However, the low intensive margin, which is about 0.25%, indicates a relatively limited degree of penetration of Greek exports in these markets. Therefore, the problem of Greek exports is not so much the expansion to new destinations and products, but rather the strengthening of the position of products exported to existing destinations.

These results differ between EU and non-EU destinations, as the intensive margin for EU is almost double that of non-EU destinations, although in non-EU markets it has increased by almost 30% from the beginning of the period under review. Also, the extensive margin indicates that the Greek presence extends to more than 80% of the EU market. This development combined with the increase of the corresponding extensive margin resulted in the increase of Greek exports shares in non-EU markets.

Differences in computed margins are also present between product categories. The market share of labour-intensive products is higher than that of other categories, as both margins are increased. Market shares of raw material-intensive and labour-intensive products have been significantly reduced during the period under review (by 17% and 32% respectively), in line with the fluctuations of the intensive margin. This translates into limited penetration of these products' exports to foreign markets. In contrast, in the category of technology-intensive products, the intensive margin increased significantly (by 54%).

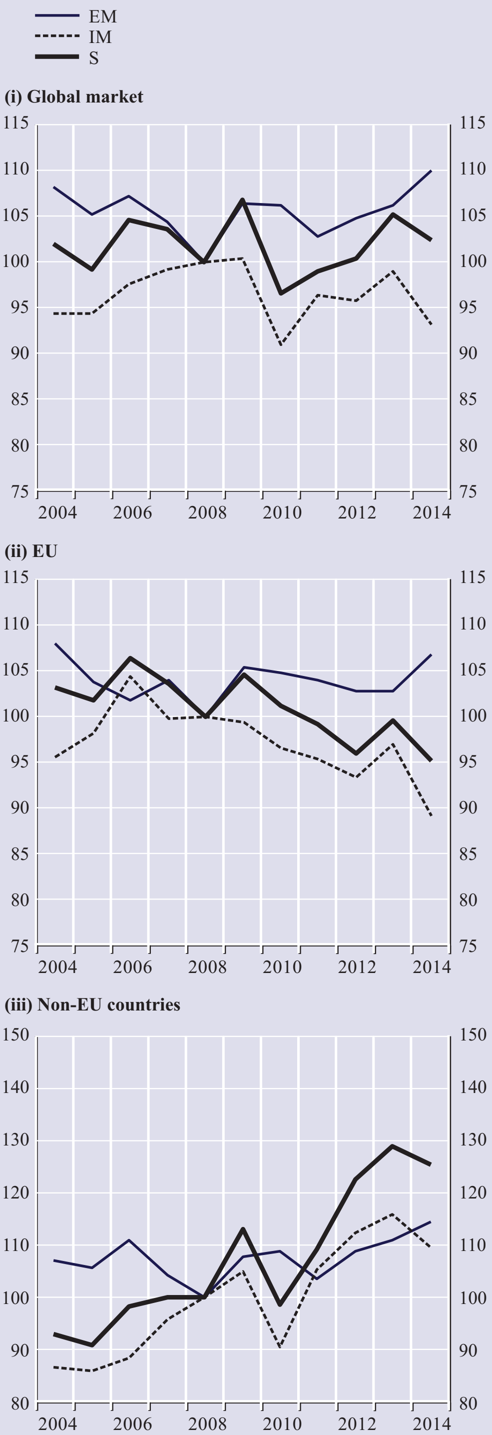
Conclusions and policy recommendations

The analysis shows that the range of markets to which Greek exports extend has grown significantly and this has been driven by the full liberalisation of trade, mainly through the country's participation in the EU. Therefore, export capacities have been enhanced through new trade relations (via expansion into new markets and diversification of export products). By contrast, the Greek economy appears to be lagging behind in terms of the degree of penetration in existing markets and, therefore, there is room for further strengthening of the existing trade relations. In particular, it is necessary to intensify the existing trade relations with the country's traditional trading partners, as well as to upgrade the quality of exported Greek products by promoting brand names, which means that the country will need to invest in new technologies and in valorising the available human capital. At the same time, a qualitative upgrading of the exported product and a shift of exports towards high and medium-high technology will allow a greater participation of Greece in global value chains. This is corroborated by the fact that the export penetration of

3 For the calculation of the intensive and extensive margins of the bilateral trade between Greece and the rest of the world, detailed data at the three-digit level of the Standard International Trade Classification (SITC) were used. For reasons of data availability, statistical trade data at concentration level by product higher than the desired were used. As a result, changes in the composition of exports within the same category were not recorded to some extent. Moreover, for reasons of data availability import data were used. The share of Greek exports in a market is calculated as the ratio of imports from Greece to total imports in this market. Calculations were made separately for EU countries, where over 50% of Greek exports are directed, and for non-EU countries. Moreover, calculations were made separately for three large product categories: raw material-intensive, labour-intensive and technology-intensive. This analysis covers the period 2004-2014, namely five years before and five years after the collapse of global trade in 2009.

Chart A Breakdown of market shares of Greek products to different destinations

(index 2008=100)*



Source: UN COMTRADE database.
* S, EM and IM are defined in the text.

Chart B Breakdown of market shares of Greek products for different types of products

(index 2008=100)*

Source: UN COMTRADE database.
*S, EM and IM are defined in the text.

advanced technology products has been significantly increased after the outbreak of the crisis. This increase regards both the range and depth of penetration.

Therefore, a qualitative improvement of exported products, not least in terms of their technological component, is a prerequisite for a substantial improvement in export performance. Among other things, the following are necessary:

First, to identify and strengthen those sectors, particularly within manufacturing, in which the country could further increase its comparative advantage. As results from the above analysis, this does not necessarily mean focusing on new sectors. Conversely, strengthening the comparative advantage of existing export activities through the introduction of more advanced technology can be pursued. Even in the case of less sophisticated products, Greece's competitiveness can be further strengthened by improving quality through innovation.

Second, efforts to attract foreign direct investment (FDI) should be supported and measures to this end should be adopted, particularly in sectors with strong export orientation. A qualitative improvement of Greece's production base will not be possible without a prior recovery of FDI inflows, not only in terms of size, but mostly in terms of form. This, in turn, requires improving the business environment and strengthening the institutional framework within which businesses operate, as well as continuing reform efforts by promoting structural changes.

7.1 BALANCE OF GOODS

After deteriorating in 2014, mainly owing to the deceleration in exports and the large increase in net payments for the purchase of ships, the balance of goods improved substantially in 2015. This, as mentioned above, is largely attributable to the reduced deficit in the oil balance and the balance of ships, as well as to the improved deficit of the balance of goods excluding oil and ships.

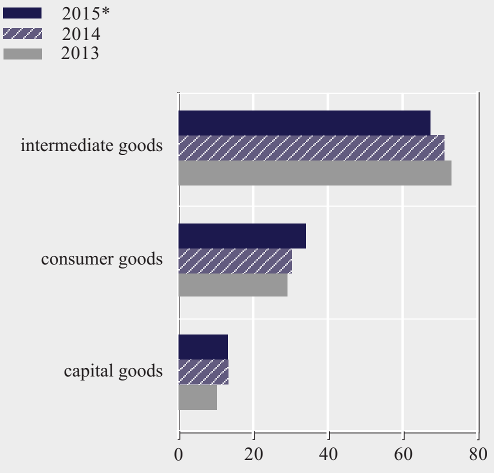
The decline in the oil deficit is attributable to lower oil prices and the large decrease in the value of oil imports and exports. The share of oil exports in the total value of Greek exports fell by almost 10 percentage points (30% in 2015). By contrast, the volume of oil exports increased. Reduced net payments for the purchase of ships are partly due to the fact that the relevant transactions have not been recorded, as a result of the capital controls, and settlements have been conducted outside the Greek banking system.

The deficit of the balance of goods excluding oil and ships increased in the first half of 2015 compared with 2014, despite the high growth rates of exports at the beginning of the year, as the corresponding imports also increased substantially. The improvement in the deficit of the balance of goods excluding oil and ships is mainly due to developments in the third quarter of 2015. The introduction of capital controls led to reduced imports across all categories of goods, in particular raw materials and intermediate goods, which represent the most significant component of imports (see Chart V.18); on the other hand, exports fell much less. However, it should be noted that the improved management of capital controls resulted in a relatively fast restoration of normal import flows.

Exports of goods rose by around 4.4% in real terms, despite liquidity constraints and the prevailing climate of uncertainty. Exports of food, beverages, chemicals, metals and metal products, and machinery and equipment, rose substantially, thus increasing their share in total exports (see Chart V.19). Additionally, exports to the euro area and, more generally, the EU markets increased faster than exports to third countries (see Chart V.20). To a

Chart V.18 Greek imports of goods by use

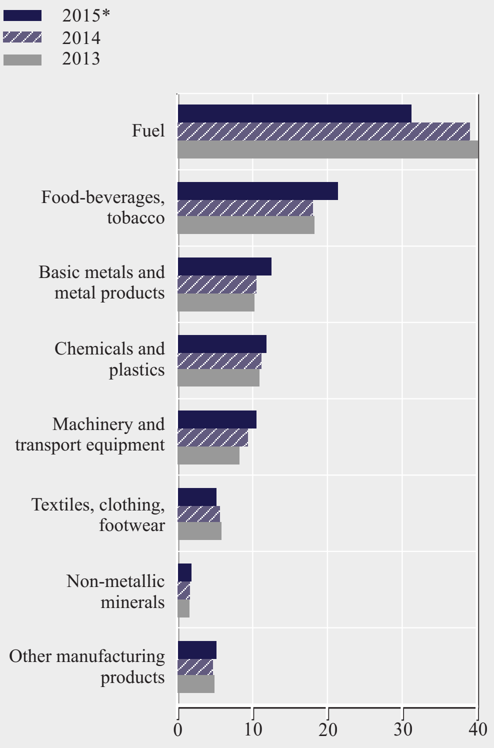
(percentage of total import receipts)



Source: Eurostat, COMEXT database.
* Data for January-September 2015.

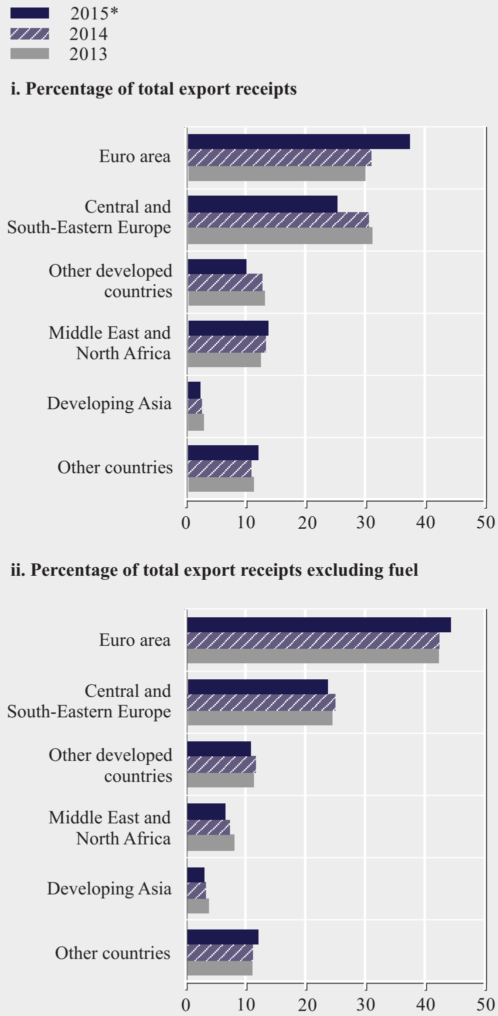
Chart V.19 Sectoral breakdown of Greek exports of goods

(percentage of total export receipts)



Source: Eurostat, COMEXT database.
*Data for January-September 2015.

Chart V.20 Greek exports of goods, by destination



Source: Eurostat, COMEXT database.
*Data for January-September 2015.

degree, this is attributable to the fact that the shift towards non-EU markets recorded in 2012 was mainly a result of the rise in oil exports to these markets. Therefore, a rising growth rate in EU economies should create favourable conditions for strong demand for Greek export products.

Imports, which had started to recover since 2014, continued to increase in early 2015, reflecting the rising demand for goods due to higher private consumption and stabilised production. The introduction of capital controls reversed this trend and, despite returning to normal levels, imports fell in real terms, due to the slowdown in the economy in 2015. The increase in imports is expected to weigh significantly, if investment recovers and economic activity accelerates, given that almost 70% of imports represent capital goods, raw materials and intermediate goods. This makes it all the more important for Greek enterprises to become more export-oriented and enhance the position of Greek products in foreign markets.

7.2 SERVICES BALANCE

The services surplus declined in 2015 due to a decrease in net transport receipts, which was partly offset by the improved travel balance and "other" services balance.

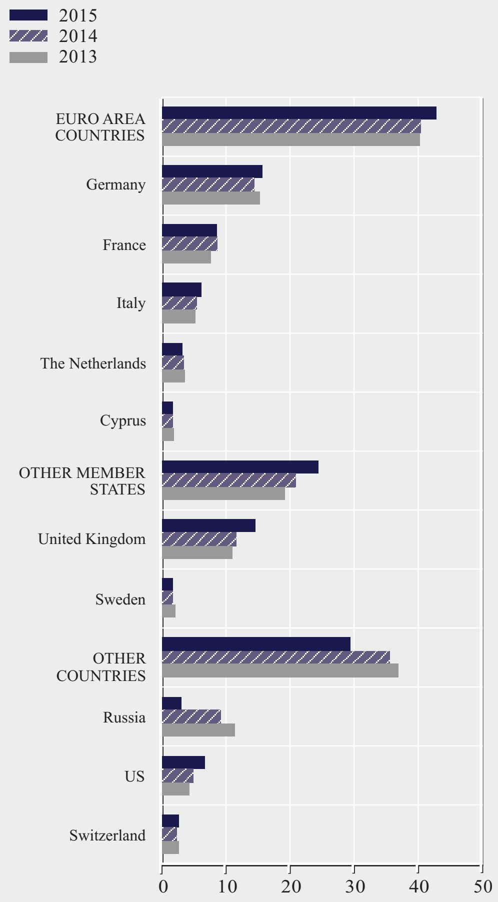
Travel receipts rose by 6.0% and stood at around half the total receipts from services, covering almost 83% of the deficit of the balance of goods; however, growth has decelerated after the peaks observed in previous years (10.2% in 2014). In 2015, tourist arrivals rose by 7.1%, while both the average expenditure per trip and the average length of stay declined, which accounts for the deceleration in the growth rate of tourist receipts against the previous years.[54]

In spite of capital controls, tourism proved remarkably resilient and relevant aggregates rose for the third consecutive year. Greek tourism benefited from political instability in competitive destinations (Middle East), as well as from falling oil prices and improved price competitiveness. Specifically, the prices of tourist packages offered in foreign markets declined. Booking gaps created in June 2015 in several areas were filled by foreign tourists through discounts and special offers.

An increase in arrivals was registered, both from euro area countries and from the United Kingdom, the USA, Sweden and Switzerland.[55] A further analysis of arrivals shows a shift towards new tourist destinations, a prolongation of the tourist season, a shift to alternative tourism, improved direct connection of Greece with major markets, as well as a substantial increase in road arrivals. Arrivals also benefited from the promotion of the cultural and tourist profile of Greece abroad, as well as from the measures to improve and upgrade services provided at tourist sights (e.g. longer operating hours of archaeological sites, access to museums on holidays). Cruising also followed an upward path, as evidenced by

Chart V.21 Travel service receipts: breakdown by country of origin of visitors

(percentage of total receipts, data for January-September)



Source: Bank of Greece, Balance of Payments statistics.

54 The observed increase mainly from the Balkans partly contributed to this development, as travellers from neighbouring Balkan countries make relatively short visits.

55 A strong increase was also seen in arrivals by road, mainly from the Balkans (Turkey, Romania, Bulgaria, FYROM), which offset the decline in tourist traffic from Russia.

increased cruise ship arrivals and passenger flows to Greek ports.[56] Lastly, according to the World Travel & Tourism Council (WTTC), the direct contribution of tourism to GDP stood at 7.0% in 2014, and is estimated to remain unchanged in 2015. It should be noted that the total contribution of tourism to GDP was 17.3% in 2014 and is projected to rise to 17.6% in 2015 and 19.8% in 2025. The positive developments and the good performance of Greek tourism in 2015 are expected to continue in 2016, while the outlook for the coming years is encouraging, since the country is seen as a safe destination in relation to the countries of the East Mediterranean and North Africa.[57] A major drag, mainly for tourist traffic in the Eastern Aegean islands, is the continuous inflow of refugees, which intensifies during the summer. Moreover, demand for tourist services may be subject to pressures due to increased VAT rates on accommodation and food services.

In 2015, gross receipts mainly from sea transport, which account for the bulk of total transport receipts, fell by 24.1% compared with 2014. This is mostly attributable to capital controls, which caused a substantial decline (55%) in the inflows of sea transport receipts in the second half of the year, compared with the respective period in 2014. This is due to the fact that the relevant activity has not been recorded, since transactions took place outside the Greek banking system, owing to capital controls. Developments with regard to freight rates, however, appear to be positive. In 2015, freight rates (according to ClarkSea Index) registered an increase of 22.3% against 2014, despite the decline in dry bulk cargo freight rates by 28.3% year-on-year,[58] as tanker rates remained high, a development associated with the remarkable decrease in crude oil prices.[59]

As regards the outlook for Greek shipping in 2016, positive effects are expected from a possible increase in freight rates.[60] However, the deceleration in emerging market economies, mainly China, may have a negative impact. In addition, a possible abolition of the privileged tax regime applicable to shipping might urge many Greek shipping companies to relocate (to countries such as Cyprus, Singapore and Malta), with a negative impact on the transport balance,[61] employment and Greece's GDP,[62] as well as on the contribution of Greek shipping to the EU economy. Nevertheless, an effect in the opposite direction is anticipated from a possible expansion of Chinese investment in Piraeus and the revival of the shipbuilding and repair activity, which is expected to cause a substantial increase in container transport, could provide further receipts of around €5.1 billion to the Greek economy and create up to 125,000 new jobs until 2018.[63]

7.3 PRIMARY AND SECONDARY INCOME ACCOUNTS – CAPITAL ACCOUNT

In 2015, the primary income account showed a higher surplus against 2014, while the secondary income and capital accounts deteriorated.

56 The number of cruise visitors, according to data for January-September 2015, increased by 12.2% against the same period in 2014. Total overnight stays of cruise visitors outside the cruise ship rose by 21.9%, with a positive effect on cruise receipts, which increased by 13.6%

57 Greece is generally considered as a safe tourist destination. On the basis of "The Travel & Tourism Competitiveness Report" compiled by the World Economic Forum, and in particular in terms of Safety and Security, Greece ranked 57th in 2015 among 141 tourist destinations, much higher than other competitor countries such as Turkey, Egypt and Tunisia. Moreover, in 2015 Greece's ranking improved by 12 places in global terms against 2013. Additionally, Greek tourism might benefit from the crisis in Russia-Turkey relations, as the latter is one of Greece's main competitors in this sector.

58 As a result of the above, prices of second-hand 5-year bulkers during 2015 fell by around 30%, while the prices of similar new ships fell by almost 10-14%. This encouraged many Greek-controlled shipping companies to invest in bulkers (Source: Clarksons Research Services).

59 While imbalances in the supply of (3%) and demand for (2%) bulkers has caused a reduction in bulk freight rates, freight rates for tankers present a completely different picture. Specifically, the tanker fleet grew by 3.3% and demand rose by 4.8%, which pushed tanker earnings up to very high levels during 2015 (Source: Clarksons Research Services).

60 It should be noted that the Moore Stephens world shipping confidence index (on a scale from 1 to 10) recovered substantially to 5.9 in August 2015, from 5.3 in May 2015. See Moore Stephens, Shipping confidence survey, September 2015.

61 In a period when the European Commission mounts pressures regarding the tax regime applicable to Greek shipping, other EU countries intend to offer privileges (government support on issues of staffing ships and the social security of seamen, lower taxes on tonnage) in relation to ship-owners with ships listed in the Hellenic Register of Shipping.

62 *The Contribution of Ocean-going Shipping to the Greek Economy: Performance and Outlook*, IOBE, January 2013.

63 Source: *Container ports: An engine of growth. Sectoral report*, National Bank of Greece, April 2013.

Cumulative inflows from the ("old") National Strategic Reference Framework 2007-2013 at end-2015 reached around €19.9 billion, including advances. Cumulative inflows (advances) from the ("new") National Strategic Reference Framework 2014-2020 stood at around €900 million at end-2015.

The absorption rate for both the old and the new National Strategic Reference Framework accelerated substantially in the last quarter of 2015, after the implementation of the decision taken at EU-level concerning zero national contribution to the funds for 2007-2013 and an early payment of the last 5%, which is usually held until conclusion of the programmes, as well as an increase in advances for the 2014-2020 funds. Regarding the funds of the old NSRF, the timely activation of those decisions led to absorption rates of over 97% at the end of the absorption period, which coincided with the end of 2015. According to European Commission data, Greece now ranks first among EU member states in terms of EU funds absorption for the period 2007-2013.[64]

In 2016, the absorption rate of the new NSRF funds is expected to improve further, following the announcement of the programmes under the new NSRF.

7.4 FINANCIAL ACCOUNT

The financial account in 2015 registered an increase in residents' net external assets, as the rise in net assets from direct investment and portfolio investment offset the decline from other investment.

As regards direct investment, residents' net assets from investment abroad rose by €345.4 million, while the corresponding liabilities, which represent non-residents' direct investment in Greece, fell by €257.6 million.[65] A rise in foreign direct investment, which is necessary for Greece's growth in the future, hinges on the restoration of the economic sentiment, the progress of the privatisation programme, as well as the degree of confidence in the growth outlook of the Greek economy.

The rise in net assets under portfolio investment is a result of a net increase by €7 billion in residents' external assets combined with the decline in residents' net external liabilities by €1.4 billion. The former is mainly due to the rise in residents' investment in shares of foreign firms by €6.4 billion; the latter is mostly attributable to the decline in non-residents' investment in Greek government bonds and Treasury bills, which offset the increase in non-residents' investment in Greek shares.

Under other investment, a net increase in residents' external assets and liabilities largely reflects the statistical adjustment associated with the issuance of banknotes.[66] In 2015, both assets and liabilities registered an increase on account of the statistical adjustment related to the issuance of banknotes, which reached €15 billion and €14.4 billion, respectively. Moreover, regarding assets, residents' deposit and repo holdings abroad registered a net rise of €1.3 billion, while on the liabilities side, the net increase in non-residents' deposit and repo holdings in Greece (the TARGET account included) stood at €5.3 billion.

At end-2015, Greece's reserve assets stood at €5.5 billion, compared with €5.1 billion at end-2014.

8 INTERNATIONAL INVESTMENT POSITION AND GROSS EXTERNAL DEBT

At end-2015, Greece's net foreign liabilities declined by around €3.4 billion; as a result, Greece's negative Net International Investment

64 Source: cohesiondata.ec.europa.eu (online database).
65 The most significant transaction under this category concerned the inflow of €350 million from Fairfax Financial Holdings (Canada) in December, for its participation in the capital increase of Eurobank.
66 It should be noted that the statistical adjustment, which is related to the issue of (euro) banknotes above the key for subscription to the ECB's capital and represents liabilities of the Bank of Greece vis-à-vis the Eurosystem, is also recorded under liabilities. This entry is offset by an entry of the same amount under assets, representing residents' assets vis-à-vis the Eurosystem.

Table V.12 Greece's international investment position by type of investment and sector

(EUR millions)

	2013	2014	2015*
I. DIRECT INVESTMENT	**7,563**	**6,553**	**8,481**
1.1 Abroad by residents	29,280	28,409	28,784
1.2 In Greece by non-residents	21,717	21,856	20,303
II. PORTFOLIO INVESTMENT	**53,709**	**63,829**	**73,159**
1. General government	**-30,538**	**-26,602**	**-30,926**
1.1 Assets	15,024	12,646	1,007
1.2 Liabilities	45,562	39,248	31,933
2. Bank of Greece	**15,246**	**24,929**	**34,628**
2.1 Assets	15,246	24,929	34,628
2.2 Liabilities	0	0	0
3. Other credit institutions	**61,507**	**54,702**	**56,151**
3.1 Assets	63,610	62,159	63,497
3.2 Liabilities	2,103	7,457	7,346
4. Other sectors	**7,494**	**10,800**	**13,306**
4.1 Assets	17,635	20,781	23,231
4.2 Liabilities	10,141	9,981	9,925
III. OTHER INVESTMENT	**-288,295**	**-297,821**	**-306,113**
1. General government	**-220,581**	**-224,516**	**-226,642**
1.1 Assets	1,757	2,269	2,580
1.2 Liabilities	222,338	226,784	229,222
2. Bank of Greece	**-61,558**	**-53,746**	**-112,114**
2.1 Assets	1,843	2,101	1,996
2.2 Liabilities	63,401	55,847	114,110
3. Other credit institutions	**-35,597**	**-41,908**	**-6,398**
3.1 Assets	35,150	31,332	28,719
3.2 Liabilities	70,747	73,240	35,116
4. Other sectors	**29,441**	**22,348**	**39,042**
4.1 Assets	45,842	40,291	58,815
4.2 Liabilities	16,401	17,943	19,773
IV. RESERVE ASSETS	**4,172**	**5,117**	**5,535**
NET INTERNATIONAL INVESTMENT POSITION (I+II+III+IV)	**-222,851**	**-222,322**	**-218,937**
% of GDP	**-123.5%**	**-125.2%**	**-124.8%**

Source: Bank of Greece.
* Bank of Greece estimates on the basis of provisional balance of payments and IIP data.

Position[67] (IIP) improved and stood at €218.9 billion, from €222.3 billion at end-2014 (see Table V.12). The net IIP improved slightly also as a percentage of GDP, and stood at 124.8% of GDP in absolute terms (from 125.2% at end-2014), despite the drop in nominal GDP.[68]

On the basis of a breakdown by type of investment (see Chart V.22), the positive net direct

67 The International Investment Position (IIP) reflects the country's net foreign liabilities, taking into account direct investment, portfolio investment, "other" investment and reserve assets. It should be noted that, in compliance with international reporting requirements, the levels of direct investment, bonds and equities are valued at market prices as at the last day of the reference period.

68 It should be noted that changes in the net IIP reflect not only non-residents' investment in Greece and residents' investment abroad, i.e. current account flows, but also changes in the valuation of such investment. The latter are hard to calculate, as they are associated with changes in the market price of Greece's external assets and liabilities and mostly stem from changes in bond and share prices and exchange rates.

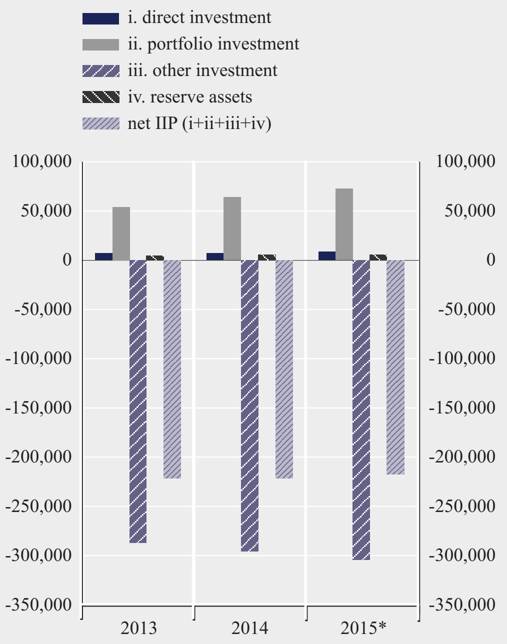
investment position increased substantially, by around €1.9 billion, in 2015 compared with the previous year. This was the result, on the one hand, of the increase in the net inflow of direct investment in Greece in 2015, and, on the other hand, of the lower valuation of non-residents' investment in Greece, mostly due to the significant fall in the stock prices of listed companies in which foreign direct investors hold a participating interest.

The net positive position of portfolio investment also registered a significant increase, by €9.3 billion, in 2015 against 2014. This improvement primarily stems from the rise in Bank of Greece holdings of foreign securities, in the context of its participation in the quantitative easing programme of the European Central Bank (ECB). As regards the remaining sectors, both the increase in the other sector holdings (mainly natural persons) of foreign mutual funds and the rise in the net assets of other credit institutions were fully offset by the increase in the net liabilities of the general government in bonds, owing to the decline in the Hellenic Financial Stability Fund (HFSF) assets in securities issued by the EFSF (€10.9 billion) in the context of Greece's financing under the Support Mechanism.[69] Specifically for other credit institutions, the rise in net assets (by almost €1.3 billion) compared with 2014 is attributable to ESM bond purchase in the context of their recapitalisation in November. Lastly, as regards other investment, the net negative position deteriorated by €8.2 billion. This is attributable to the substantial increase, by €58.3 billion, in Greece's liabilities related to the operation of the TARGET system, mostly due to the funding of Greek banks by the Bank of Greece through the ELA, which was however mainly offset by:

(i) an improvement in external net liabilities of financial institutions by €35.5 billion as a result of the ECB's decision to contain the use of Greek bonds held as collateral; and

(ii) an increase in net assets of other sectors by €16.7 billion, due to deposit outflows to the

Chart V.22 Breakdown of IIP by type of investment



Source: Bank of Greece.
*Provisional data.

amount of €3.5 billion, and the rise in banknotes in circulation.

Lastly, the recapitalisation of banks in November 2015 contributed to the increase in the net liabilities of the general government by €2.1 billion, despite the improvement they displayed initially, which was attributable to the decline in the FSF claims on the general government regarding portfolio investment.

Greece's gross external debt at current values registered an increase of €16.5 billion at end-2015.[70] Specifically, it reached €441.0 billion (251.4% of GDP) at year-end, from €424.5 billion (239% of GDP) in 2014 (see Table V.13). In greater detail, the rise at current values is primarily due to the increase, by €58.3 billion, in Greece's liabilities related

69 However, this amount was offset by an equal decline in general government liabilities under other investment.
70 Gross external debt equals IIP liabilities minus equity and financial derivatives.

Table V.13 Gross and net external debt (current prices)

(EUR millions)

	2013	2014	2015*
A. General government	267,900	266,032	261,155
B. Bank of Greece	63,401	55,847	114,110
C. Other credit institutions	70,747	74,351	35,562
D. Other sectors	19,001	20,313	22,083
E. Direct investment	7,704	7,912	8,092
Gross external debt (A+B+C+D+E)	428,753	424,455	441,002
Net external debt	239,787	236,980	242,330
Gross external debt of the general government as a percentage of GDP	148.5%	149.8%	148.9%
Total gross external debt as a percentage of GDP	**237.7%**	**239.0%**	**251.4%**
Total net external debt as a percentage of GDP	**132.9%**	**133.5%**	**138.1%**

Source: Bank of Greece.
* Bank of Greece estimates on the basis of provisional balance of payments and IIP data.

to the operation of the TARGET system, which was offset by the decline by €4.87 billion in general government liabilities in debt securities (bonds and notes) and loans, and in external liabilities of domestic credit institutions by €38.8 billion. As regards the net external debt, the corresponding increase was €5.35 billion, and it stood at €242.3 billion, from €237.0 billion in 2014 (see Table V.13).[71]

71 The net external debt equals the net IIP minus the net position in equity from direct and portfolio investment, as well as the net position in derivatives, special drawing rights, gold and equity included in reserve assets.

VI FISCAL DEVELOPMENTS AND PROSPECTS

In 2015 fiscal aggregates fluctuated considerably due to political and economic uncertainty that prevailed in late 2014 and intensified in the first half of 2015 as a result of the protracted negotiations with Greece's international creditors. Uncertainty peaked in July 2015, with the holding of the referendum, the introduction of the bank holiday and the imposition of capital controls, and started to unwind gradually in August 2015 with the conclusion of the new Financial Assistance Facility Agreement and the adoption of new fiscal measures.

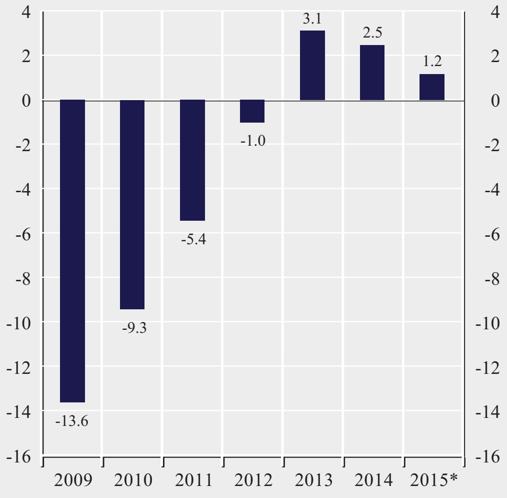
After the achievement of a significant primary surplus in 2013 (1.2% of GDP), well above the target for a balanced primary budget under the second financing programme, Greece's fiscal position deteriorated in 2014, as the almost balanced primary budget fell considerably short of the target for a surplus of 1.5% of GDP. In 2015, the general government primary balance was revised significantly downwards under the new Financial Assistance Facility Agreement and now a primary deficit of 0.25% of GDP is expected, against an earlier target for a surplus of 3.0% of GDP.

Undeniably, an unprecedented fiscal adjustment has been achieved over the past six years through a series of fiscal measures that have been particularly harsh for the real economy and for society. The results of this adjustment are reflected in the improved structural primary balance of general government, though the pace of improvement has slowed down in the past two years.

The political and economic turbulence experienced over the past one year and a half highlights the crucial role of political and economic stability in consolidating confidence, which is a precondition for economic growth. The fiscal improvements achieved so far should be secured by continued structural reforms that can lead to a faster return of the economy to a sustainable growth trajectory and can help reduce public debt. To this end, the ownership and unimpeded implementation of the programme are deemed necessary. Emphasis should be placed on reducing non-productive public spending, enhancing public investment, rationalising the tax system and ensuring the effective development of state-owned assets.

Chart VI.1 Structural primary balance of general government

(as a percentage of potential GDP)



Source: Bank of Greece.
*Forecast.
Note: The structural primary balance of general government is calculated according to Eurosystem methodology.

1 OVERVIEW OF DEVELOPMENTS AND PROSPECTS[1]

Undeniably, remarkable fiscal adjustment has been accomplished over the past six years through a series of successive measures that have been particularly painful for the real economy and for society. This effort has not been without setbacks; it was interrupted in the last months of 2014 and resumed with the conclusion of the new Financial Assistance Facility Agreement in August 2015. The achieved fiscal adjustment is reflected in an unprecedented improvement in the structural primary balance of general government, which, having peaked at about 17 percentage points of potential GDP in 2010-2013, fell slightly to about 16

1 The cut-off date for information and data used in this Chapter is 8 February 2016.

Table VI.1 General government and state budget balances

(as a percentage of GDP)

	2011	2012	2013	2014	2015
General government balance[1] *(national accounts data – convergence criterion)*	***-10.2***	***-8.8***	***-12.4***	***-3.6***	***-3.2****
– Central government	-9.3	-8.3	-14.7	-4.3	-
– Social security funds, local government, legal entities in public law	-0.9	-0.5	2.3	0.7	-
General government balance adjusted for net support to financial institutions[1]	-10.5	-6.1	-1.8	-3.6	-3.2*
General government primary balance adjusted for net support to financial institutions[1]	-3.3	-1.0	2.2	0.4	0.7*
General government primary balance (Financial Assistance Facility Agreement)[2]		-1.3	1.2	0.3	-0.2*
State budget balance					
Administrative data[2]	***-11.0***	***-8.2***	***-3.0***	***-2.1***	***-2.0***
Cash data[3]	***-11.1***	***-5.6***[4]	***-7.1***[5]	***-2.4***[6]	***-1.9***[7]

Sources: Bank of Greece, Ministry of Finance and ELSTAT.
* Provisional data (State General Accounting Office, Introductory Report on the 2016 Budget).
1 ELSTAT data, as notified to the European Commission (Excessive Deficit Procedure). Figures may not add up due to rounding.
2 State General Accounting Office data (State Budget Execution Bulletins and Introductory Report on the 2016 Budget).
3 Bank of Greece data. These data refer only to the state budget on a cash basis, excluding movements in the OPEKEPE account.
4 Excluding accrued interest of €4,751 million, paid in the form of EFSF notes, on PSI bonds, as well as interest payments of €519 million as a result of the debt buyback through EFSF notes.
5 Excluding revenue of €2.0 billion from the transfer of profits on Greek government bond holdings of Eurosystem central banks (Securities Markets Programme – SMP). Including expenditure of around €6,155 million for the payment of arrears.
6 Excluding revenue of €62 million from the transfer of profits on Greek government bond holdings of Eurosystem central banks (Securities Markets Programme – SMP). Including expenditure of around €1,152 million for the payment of arrears.
7 Excluding revenue of €55 million from the transfer of profits on Greek government bond holdings of Eurosystem central banks (Securities Markets Programme – SMP).

percentage points in 2010-2014 and is expected to drop further to about 15 percentage points in 2010-2015 (see Chart VI.1).

In more detail, after exceeding the programme targets for two consecutive years (2012 and 2013), with a significant primary surplus (1.2% of GDP), as well as a structural primary surplus (3.1% of potential GDP) in 2013, the fiscal balance deteriorated in 2014 compared with 2013 and fell short of the target set in the second programme, mostly as a result of a shortfall in revenue due to political uncertainty in the last months of the year. Also, the structural primary surplus was lower compared with 2013.

In particular, according to ELSTAT's second EDP notification, general government recorded a deficit of 3.6% of GDP in 2014, markedly improved from a deficit of 12.4% of GDP in 2013 (see Table VI.1). However, the improvement between 2013 and 2014 stemmed from the effect of net government support to financial institutions on the 2013 balance, amounting to 10.6% of GDP; adjusted for this support, the 2014 balance shows a deterioration compared with 2013 (2014: -3.6%, 2013: -1.8%). In the Introductory Report on the 2016 Budget, the general government primary balance for 2014 according to the programme is estimated at 0.3% of GDP, well below the targeted 1.5%. This estimate is based on the adjustment of the general government primary balance, as calculated according to ESA 2010 (0.4% of GDP), under the Financial Assistance Facility Agreement and factors in, inter alia,[2] the positive difference (0.4% of GDP) in expenditure between physical delivery and

2 For 2014, the general government primary balance (according to the programme) excludes, among other things, privatisation proceeds in the order of 0.1% of GDP and ANFA and SMP revenue in the order of 0.3% of GDP.

EDP-based delivery of military equipment. In addition to the shortfall in revenue, the deviation from the target is also due to changes in the recording of military equipment expenditure by ELSTAT.

In 2015, heightened political and economic uncertainty had a significant impact on fiscal developments. The second Economic Adjustment Programme ended in June and was succeeded by a new financial assistance facility agreement, which was signed in August 2015 and was conditional on a number of structural and fiscal measures. Under the new programme and in view of the deterioration of fiscal revenue, the fiscal targets for 2015 onwards have been revised significantly downwards, including a lower primary deficit target for 2015 compared with 2013. This transition has not been smooth, but followed a protracted period of political uncertainty and the confidence crisis.

In particular, the first half of 2015 was marked by protracted negotiations with Greece's partners, a freeze in financing under the economic adjustment programme (including the transfer by euro area members of SMP and ANFA equivalent profits),[3] soaring borrowing costs and a shortfall of tax revenue against the 2015 budget targets. This put huge strains on government cash management, leading to a postponement of payments to general government suppliers and to short-term borrowing from general government entities. The expiration of the second Economic Adjustment Programme without a successful completion of its last review after the abrupt discontinuation of negotiations in late June and the call of a referendum on 5 July fed political uncertainty and triggered a confidence crisis. The ensuing mass deposit outflows created an acute liquidity shortage in the financial sector, which led to the introduction of a bank holiday, the imposition of capital controls and the deterioration of confidence indicators. The strong uncertainty and the confidence crisis continued to mount during June, as the liquidity-constrained Greek government postponed payments of debt obligations towards the end of the month and ultimately missed debt service payments totalling €2.5 billion at end-June and mid-July, mostly on IMF loans, with severe repercussions on Greece's creditworthiness. Indicatively, on 8 July 2015 the ten-year Greek government bond yield peaked at 19.34% (against 11.2% on 2 June 2015 and 6.85% at end-September 2014), while bond yields for shorter maturities soared to unprecedented levels (two-year bonds: 57.21%, four-year bonds: 36.15%).

Tensions began to abate after the Euro Summit of 12 July, where an agreement was reached between Greece and the European institutions on a new three-year EMS financial assistance programme for Greece. The agreement envisaged a bridge loan of €7.2 billion from the European Financial Stabilisation Mechanism (EFSM). This was used for arrears clearance and debt servicing needs ahead of the start of ESM financing under the new programme.

The Euro Summit stressed the crucial need to rebuild trust with the Greek authorities as a prerequisite for a possible future agreement on a new ESM programme. In this context, Greece committed to and legislated (by Law 4334/2015)[4] a first set of measures related inter alia to streamlining the VAT framework and broadening the tax base to increase revenue; improving the long-term sustainability of the pension system; ensuring the full legal independence of ELSTAT; and making the Fiscal Council operational. Also, under Law 4335/2015[5] a second set of prior actions was

3 ANFA payments relate to amounts to be transferred by euro area members to Greece in relation to any future income accruing to national central bank holdings of Greek government bonds (that did not participate in the PSI). SMP payments relate to the transfer of income on Greek government bonds held by Eurosystem NCBs under the Securities Markets Programme. Greece was set to receive ANFA/SMP payments totalling €13.4 billion by 2020, of which it has received €3.8 billion. However, as the previous programme expired without a final review, the commitment of Greece's partners to transfer the remaining amount to Greece is no longer in place. Reinstating this commitment might be considered subject to the successful implementation of the new programme.

4 "Emergency provisions on the negotiation and conclusion of an agreement with the European Stability Mechanism (ESM)".

5 "Emergency measures implementing Law 4334 (Government Gazette A 80)".

adopted, including amendments to the Code of Civil Procedure, as well as provisions transposing the EU Directive on bank recovery and resolution (BRRD) into national legislation.

Upon enactment of the prior actions, a new Financial Assistance Facility Agreement providing for a three-year ESM financial assistance programme was signed on 19 August 2015 between the European Commission (on behalf of the ESM) and Greece, after the relevant law had been passed by the Hellenic Parliament with an overwhelming majority (76%) on 14 August (Law 4336/2015).[6] The programme provides for the granting of up to €86 billion in financial assistance to Greece over the period to August 2018 with a maximum average maturity of 32.5 years, including €25 billion for bank recapitalisation. The policies included in the programme are built around four pillars: (a) restoring fiscal sustainability; (b) safeguarding financial stability; (c) growth, competitiveness and investment; and (d) a modern State and public administration. Moreover, the new programme envisages an ambitious privatisation programme that would generate €50 billion over the life of the loan.

Under the first pillar, a new fiscal path is foreseen for Greece, premised on primary balance targets of -0.25%, 0.5%, 1.75%, and 3.5% of GDP in 2015, 2016, 2017 and 2018 and beyond, respectively. The new targets are expected to be achieved through a series of measures, some of which have already been legislated by the laws mentioned above, while others have been identified as prior actions for the completion of the first review of the new programme. These measures aim, among other things, at ensuring the sustainability of the social security system, strengthening tax compliance, improving public financial management and fighting tax and contribution evasion.

The legislative process in respect of the prior actions needed for the completion of the first review by October 2015 was delayed by the parliamentary election of 20 September, which brought again to power the government that had negotiated and signed the new Financial Assistance Facility Agreement. Therefore, the first review was deferred to early 2016, while reform efforts continued with the adoption of Laws 4337/2015[7], 4342/2015[8], 4346/2015[9] and 4354/2015,[10] which include provisions on pensions and wages, as well as on fiscal and structural matters. Meanwhile, the Committee of Wise Men on the social security system delivered its report, which will serve as a basis for the social security reform.

By the aforementioned laws, Greece has met most of the prior actions required under the new programme in the fiscal area, in terms of tax and social security reform, as well as public financial management. The tax reform included structural measures and revenue-enhancing measures, as described in detail in the Annex to the present chapter.

The social security reform included the integration of all supplementary pension funds and sections into the Single Supplementary Pension Fund (ETEA); freezing state subsidies to pension funds at nominal 2015 levels until 2021; increasing health contributions of pensioners to 6% on the main pension and applying same contributions also to supplementary pensions; and granting the minimum pension only after the age of 67 years (Law 4334/2015). The adopted legislation also included freezing the amount of the minimum pension (€364) in nominal terms until 2021; progressively adapting to the limit of statutory retirement age of 67 at the latest by 2022, or to the age of

6 "Provisions on pensions – Ratification of the Draft Agreement on Financial Assistance from the European Stability Mechanism and provisions implementing the Financing Agreement".
7 "Measures for the implementation of the agreement on fiscal targets and structural reforms".
8 "Provisions regarding pensions, transposition into Greek law of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, as amended by Council Directive 2013/12/EU, of 13 May 2013 adapting Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, by reason of the accession of the Republic of Croatia and other provisions".
9 "Emergency provisions for the implementation of the agreement on fiscal targets and structural reforms".
10 "Management of non-performing loans, provisions on wages and other emergency provisions implementing the agreement on fiscal targets and structural reforms".

62 with 40 years of contributions, applicable for all those retiring (with some exceptions related to incapacity to work and disability) with immediate effect; and increasing the penalty for early retirement to 10% on top of the current penalty of 6% per year (Law 4336/2015).[11] These interventions form part of the wider social security reform currently under discussion, which is a key focus of the new programme and crucial for the successful completion of the first review.

With regard to public finances, the principal interventions that have been legislated relate to accelerating public expenditure by phasing out ex ante audits of public and other entities' expenditure by the Hellenic Court of Auditors and imposing more severe sanctions on general government entities when quarterly fiscal targets are exceeded by more than 10%. Such sanctions could take the form of suspending the remuneration of Board members and removing executive Board members. Also, in order to improve the efficiency of fiscal management and surveillance, Fiscal Audit Offices have assumed more responsibilities and have been renamed Surveillance and Audit Fiscal Services (SAFS). SAFSs will be responsible for reviewing spending, providing technical assistance to the General Directorate of Financial Services, monitoring the proper execution of the budget and achieving targets and in general ensuring the supervision of general government entities. SAFSs may also recommend to the relevant services of the Ministry of Finance on draft laws, ministerial decisions and policies, as long as these have a financial impact on the Medium Term Fiscal Strategy Framework (Law 4337/2015). Finally, in the context of reforming the unified wage grid in the public sector, changes are envisaged in the wages of civil servants in a fiscally neutral manner as of 1 January 2016, by linking wages to skills, performance, responsibility and position of staff (Law 4354/2015).

The signing of the agreement on the new programme was accompanied by a disbursement of €13 billion, which was mainly channelled to the repayment of the aforementioned EFSM bridge loan and to other debt service payments, while an additional €10 billion was deposited in a segregated account managed by the ESM in Luxembourg and is to be used, under certain conditions, to fund bank recapitalisation. Thereafter, following the enactment of subsequent laws and the completion of the assessment of banks' recapitalisation needs,[12] an amount of €10 billion was earmarked for banking recapitalisation, while an amount of €2 billion was released in November 2015 and an additional €1 billion in December 2015.

Political and economic disturbances, coupled with a sluggish tax collection mechanism, led to a large shortfall in tax revenue over the period from January to September 2015. To offset this and address the government's financing needs, primary expenditure under the ordinary budget and investment expenditure were held back, resulting in arrears to suppliers of general government entities, with adverse repercussions on the real economy.

Against this background and in line with the new fiscal policy interventions, the 2015 budget targets are revised downwards in the 2016 budget, estimating a general government primary deficit (based on the methodology of the Financial Assistance Facility Agreement) of 0.2% for 2015, against a primary surplus of 3.0% of GDP in the 2015 budget. It also projects a primary surplus of 0.53% of GDP for 2016, in line with the downward revised targets of the new programme.[13]

The net yield of general government budgetary interventions is estimated in the Intro-

11 Greece's fiscal commitments under the new Financial Assistance Facility Agreement are described in detail in Special feature V.2, *Monetary Policy – Interim Report 2015*.

12 According to ECB's press release of 31 October 2015, the comprehensive assessment revealed a total capital shortfall of €4.4 billion and €14.4 billion across the four significant Greek banks under the baseline and the adverse scenarios, respectively. Ultimately, bank recapitalisation was completed at a total cost of €5.4 billion. See also Chapter VII.

13 The estimate for 2015 is based on the adjustments made by the Financial Assistance Facility Agreement and factors in an amount of 0.2% of GDP reflecting the difference in expenditure between physical delivery and EDP-based delivery of military equipment.

ductory Report on the Budget at about €1.5 billion or 0.9% of GDP for 2015 and about €5.7 billion or 3.3% of GDP cumulatively over the 2015-2016 period, most of which will stem from revenue-side measures. In particular, tax measures are expected to yield €3.2 billion; an additional €0.8 billion should come from measures aimed at increasing social security contributions and adjusting benefits, as well as boosting the revenues of hospitals and supervised legal entities within general government, thereby bringing the cumulative effect on the revenue side to €4.1 billion, which is more than 70% of the total yield of fiscal interventions at the general government level.

In the last quarter of the year, the management of public finances returned to normal as the economic and political situation stabilised. Revenues benefited from the strong collection of tax payments towards the end of the year, while expenditure accelerated following the disbursement of the first instalments under the new programme. Thus, tax revenues in 2015 exceeded the revised annual target, ordinary budget expenditure was less restrained than in the first seven months of the year, while investment expenditure was fully executed as budgeted. Still, in the absence of ANFA and SMP revenues that had been foreseen in the budget, the state budget balance for 2015 missed the revised target[14] (see Table VI.2). The general government balance for 2015, as calculated on the basis of the Financial Assistance Facility Agreement, is not available yet, but is expected to turn out in line with the revised target and possibly better than that. Moreover, for a third consecutive year the structural primary balance is expected to be a surplus, albeit smaller than that of the two previous years (see Chart VI.1).

With regard to public debt, the 2016 budget estimates that it will increase to 180.2% of GDP in 2015 and further to 187.8% of GDP in 2016. The high public debt-to-GDP-ratio has been the focus of discussions during the negotiations for the new programme – in particular, the question is whether this is a sign of debt unsustainability. However, both the IMF and the European institutions agree that in the case of Greece this ratio is not a safe measure of public debt serviceability, as it does not capture the particular structure of the debt and the individual arrangements under the Economic Adjustment Programmes. Rather, the evolution of the annual general government financing needs is seen as a more representative sustainability criterion.[15] Further discussions on possible public debt relief measures are conditional upon the successful completion of the first review of the new programme.

Major challenges lie ahead in 2016. A successful completion of the first review is crucial to the continuation of the programme and the improvement of confidence in the Greek economy. It is conditional upon the implementation of two very important and sensitive actions, namely the completion of the social security reform and the alignment of tax on farmers' income. Both actions are necessary for reasons of fiscal and social security sustainability, but also for reasons of social equity, both across generations and across different groups of taxpayers.

The successful implementation of the programme is necessary in order to achieve sustainable fiscal adjustment, boost economic activity and reduce public debt. A wide acceptance of the programme and ownership of fiscal goals and outcomes are instrumental for the rapid implementation of the necessary actions.

In this regard, ensuring an efficient development of state-owned real estate assets and attracting foreign direct investment would help achieve cost savings and enhance the flow of revenue, thereby supporting the effort to reduce public debt, with side benefits that could have a multiplier effect on the economy. The concession contract for the 14 regional airports, the award of the tender for the sale of a 67% stake in Piraeus Port Authority SA

14 See footnote 3.
15 See also Special feature V.2, *Monetary Policy – Interim Report 2015*.

Table VI.2 State budget balance

(EUR millions)

	Annual data					Percentage changes			
	2013	2014	2015		2016	2014/2013	2015/2014		2016/2015
			Estimate	Execution	Budget		Estimate	Execution*	Budget/ Execution*
	(1)	(2)	(3)	(4)	(5)	(6=2:1)	(7=3:2)	(8=4:2)	(9=5:4)
I. Revenue	**53,079**	**51,367**	**53,091**	**51,421**	**53,527**	**-3.2**	**3.4**	**0.1**	**4.1**
1. Ordinary budget (net)	48,414	46,650	48,618	46,589	49,107	-3.6	4.2	-0.1	5.4
Revenue before tax refunds	*51,433*	*49,636*	*51,720*	*49,257*	*50,573*	*-3.5*	*4.2*	*-0.8*	*2.7*
Privatisation proceeds	*86*	*384*	*268*	*254*	*1,802*		*-30.2*	*-33.9*	
Tax refunds	*3,105*	*3,370*	*3,370*	*2,922*	*3,268*	*8.5*	*0.0*	*-13.3*	*10.3*
2. Public Investment Budget	4,665	4,717	4,473	4,832	4,420	1.1	-5.2	2.4	-8.7
– Own revenue	154	67	530	932	250				
– EU funds	4,511	4,649	3,943	3,900	4,170				
II. Expenditure	**58,456**	**55,063**	**55,664**	**54,951**	**55,751**	**-5.8**	**1.1**	**-0.2**	**1.5**
(State budget primary expenditure)	52,412	49,494	49,834	49,152	49,821	-5.6	0.7	-0.7	1.4
1. Ordinary budget	51,806	48,471	49,264	48,544	49,001	-6.4	1.6	0.2	0.9
– Interest payments	6,044	5,569	5,830	5,800	5,930	-7.9	4.7	4.1	2.3
– Ordinary budget primary expenditure	44,227	41,928	41,924	41,298	41,861	-5.2	0.0	-1.5	1.3
– Military procurement	529	345	590	565	598				
– Guarantees called to entities classified:	879	587	720	703	532				
inside general government	514	442	660	655	380				
outside general government	365	145	60	48	152				
– Fee for disbursement of EFSF loans	127	42	200	178	80				
2. Public Investment Budget	6,650	6,592	6,400	6,406	6,750	-0.9	-2.9	-2.8	5.2
III. State budget balance	**-5,377**	**-3,697**	**-2,573**	**-3,530**	**-2,224**	**-31.2**	**-30.4**	**-4.5**	**-35.3**
% of GDP	**-3.0**	**-2.1**	**-1.5**	**-2.0**	**-1.3**				
1. Ordinary budget	-3,392	-1,821	-646	-1,955	106				
2. Public investment budget	-1,985	-1,875	-1,927	-1,574	-2,330				
IV. State budget primary balance	**667**	**1,872**	**3,257**	**2,270**	**3,706**	**180.7**	**74.0**	**21.3**	**76.7**
% of GDP	**0.4**	**1.1**	**1.9**	**1.3**	**2.1**				
Amortisation payments	12,755	24,818	16,130	27,154	7,240	94.6	-35.0	9.4	-80.2

Source: State General Accounting Office.
* Provisional data.

(OLP), as well as the signing of the new agreement on the development of Astir Palace in Vouliagmeni are steps in the right direction (see Box VI.1).

Box VI.1

EXPLOITATION OF PUBLIC PROPERTY: A DRIVER OF SUSTAINABLE GROWTH

The exploitation of public property is understandably one of the key pillars of the new loan agreement. Apart from the ensuing capital gains and the considerable returns on properties, resources and services that remain unexploited or have not been put into the highest and best use, the successful launch and implementation of new private investments in public real estate will signal the beginning of a turnaround in the negative investment climate and mistrust in the Greek economy. Both in theory and in practice, it has been proven that privatisations not only contribute to sustainable fiscal adjustment but also, if accompanied by strong commitment to future investment, can enhance the inflow of investment resources, create new markets, develop the existing ones, and help stimulate aggregate demand. In the case of Greece in particular, privatisations can highlight the Greek economy's still unexploited potential and growth prospects. Furthermore, maximising the value of State-owned property through the new successor of the Hellenic Republic Asset Development Fund (HRADF), as stated in the new Financial Assistance Facility Agreement, will provide fresh impetus to the privatisation programme, with targeting and planning redefined on the basis of recent experience and the updated economic and market data.

Public property exploitation: developments, plans and challenges

The public property exploitation plans[1] that have been developed at times have been thwarted by numerous legal, technical and procedural issues, by the involvement of various bodies and stakeholders that represent different and often conflicting interests, as well as by limited resources. In 2011, the establishment of the HRADF signalled a concerted effort towards attracting direct investment in infrastructures, energy and real estate. State-owned properties with strong investment potential and a high level of legislative and technical maturity were pooled by the HRADF to be launched, through public tender, for long-term concession, leasing, sale or securitisation. The flagship of this effort was the development of the former Hellinikon international airport, for which the tender process started in late 2011. However, the initiation of the development process is still on hold, although the concession agreement has been assigned since November 2014. Priority has also been given to other smaller properties attracting high investor interest, mainly in tourist areas (Rhodes, Corfu, Halkidiki, Porto Heli, etc.). Progress with tender procedures has been slow and, as a result, none of the above development projects has started so far.

The main problems that have emerged during tendering and implementation of the contracts are associated with:

– technical issues, such as environmental restrictions, delineation of forest and coastal zones, completion of environmental impact studies, Special Zoning and Spatial Plans for Public Real Estate, urban planning, specification of land uses at the country level, etc.;

– legal issues, such as illegal possession, conflicting ownership claims, concessions, etc.;

1 Total public real estate assets comprise more than 70,000 properties across the country, which are managed by Public Properties Management S.A. and the Hellenic Republic Asset Development Fund S.A. (HRADF), while another 240,000 rural and peri-urban land properties are managed by the Ministry of Rural Development and Food, the Regions and other public sector entities.

– continuing appeals before the Hellenic Council of State against decisions in all stages of the tender process.

On top of these problems, the adverse economic environment in recent years and the conditions of political uncertainty throughout 2015 brought about further delays or postponements in the promotion of new projects, as well as in the finalisation and implementation of ongoing contracts. At the same time, as stipulated in the new Financial Assistance Facility Agreement, the Greek government has committed to establish a new fund for the exploitation of public property. Once this fund is established within the first half of 2016, its responsibilities and objectives will be specified, and the privatisation programme will be re-designed. Major tourist properties, marinas and former Olympic facilities, for which background work has already been done by the HRADF, constitute a few of the most prominent new tenders and contracts that the new fund will have to complete.

Undeniably, the importance of speeding-up and implementing the privatisations and public real estate development programme extends far beyond the collection of revenues. The gains are manifold and are expected to have a multiplier effect on the economy. The successful implementation of the agreements signed with contractors/investors will provide tangible proof of confidence in the Greek economy and will signal the government's commitment to support new productive investments and protect investors. The assignment of the contract for the sale of a 67% stake of the Piraeus Port Authority (PPA S.A.)[2] in January 2016, as well as the signing of a new agreement on the concession of Astir Palace Resort[3] in Vouliagmeni in December 2015 and the earlier 40-year concession agreement for the 14 Greek regional airports[4] mark the renewed investor interest in the Greek market.

The privatisation of infrastructures, such as air and sea ports and railways, in tandem with modernisation and the promotion of the necessary reforms, will be key drivers of growth during both the construction and operational phases, by boosting new activities at the regional level, new uses and capital gains as well as supporting local employment. Apart from the benefits to the areas of direct influence, upgrading infrastructures and enhancing their carrying capacity can bring in new users and help an opening-up to new, domestic and foreign, markets in the sectors of tourism, industry and transport, with beneficial multiplier effects on employment and the national economy in general.

Conclusions and policy recommendations

Taking full advantage of its location, resources and assets, Greece can become a major transit hub, as well as a high-end tourist destination offering specialised services and organised holiday residences. This points to a need for a systematic management of public property, coupled with a strategic planning that will map out the targets, uses and forms of the desired investment and estab-

2 The improved binding offer for the acquisition of 67% of the Piraeus Port Authority amounts to €368.5 million. Adding to this bid another €350 million in mandatory investments over the next 10 years and an estimated €410 million in revenues from the Concession Agreement (see HRADF Report for the period 01.01.2015-31.12.2015, 15 February 2016), the total benefit to the Greek State from the deal would come to €1.5 billion.

3 The expected proceeds of the Astir Palace Resort concession agreement amount to €400 million (see HRADF Report for the period 01.01.2015-31.12.2015, 15 February 2016).

4 The proceeds of the signed agreement for the concession of the 14 Greek regional airports amount to an upfront payment of €1.234 billion to the Greek State. Moreover, the Greek State will receive (for the duration of the agreement) an annual guaranteed concession fee of €22.9 million, annually inflation-adjusted, and an annual variable payment equal to 28.6% of the airports' earnings before interest, taxes, depreciation and amortisation (EBITDA). The total amount of the above-mentioned revenues is expected to exceed €10 billion. Last but not least, the planned investments are expected to yield more than €330 million in the first four years and an estimated €1.4 billion overall during the entire term of the concession (see HRADF press release of 14 December 2015).

lish general specifications along with a stable and comprehensive framework for prospective investors. Strategic planning must also encompass the exploitation of State-owned rural and peri-urban land, with a view to creating economies of scale, ensuring a restructuring and modernisation of agricultural production, improving competitiveness, supporting exports and standardising the primary sector products.

In the context of strategic planning, it is imperative to embark on a systematic process to ensure the technical and legal maturity of public real estate, so that properties can be put on the market at the appropriate timing, while establishing the necessary safeguards for speeding up procedures, without compromising the validity, legality, efficiency and safety of development projects. Furthermore, the protection of the public interest and the natural environment should be ensured by effective control mechanisms in all stages of the projects, from tendering through to operation.

Maximising the value of public property and pressing ahead with privatisations will be a decisive step towards restoring confidence and improving the investment climate in the country. It will bring out the investment advantages and potential of the economy and will gradually lead to a rekindling of investor interest and an inflow of foreign funds, ultimately contributing to achieving fiscal adjustment targets, reducing public debt and returning to sustainable growth.

Meanwhile, higher public investment can stimulate economic activity both directly and indirectly by creating favourable conditions for private investment. In this respect, it is of crucial importance to ensure the high quality of public investment, the sound management of public investment programmes and, not least, the enhancement of enterprises' liquidity by clearing government arrears to suppliers of general government entities. Any additional revenues from the inclusion of more privatisation projects in the programme could be channelled to targeted public investment, e.g. infrastructure projects, which would have a positive effect on economic growth (see Box VI.2).

So far, fiscal adjustment has been achieved by a series of fiscal measures that have dragged growth down. The significant improvement in the structural primary balance over 2010-2015 mostly stemmed from tax measures. This policy has directly affected households' available income and has had negative redistributive effects (see Box VI.3). In order to mitigate the negative effects of fiscal adjustment on households' disposable income, the emphasis should be on rationalising public sector structures —which would lead to savings on non-productive spending— as well as on abolishing the remaining exemptions from general tax and social security provisions, rather than on revenue-enhancing measures (such as increases in tax rates or social security contributions) that harm competitiveness, growth and employment. This would allow a reduction of the general tax level in the medium term. Moreover, a fiscal consolidation strategy that relies on expenditure cuts is more likely to bring about a sustainable reduction in the debt-to-GDP ratio, compared with revenue-based fiscal consolidation.[16]

In addition, a stable tax framework is indispensable for attracting investment, as it enables long-term business planning. Finally, any fiscal reform effort cannot possibly be fully successful without effective tax compliance. To this end, it is urgently necessary to improve the tax payment culture, e.g. by rewarding compliant taxpayers, ensuring a fairer distribution of the tax burden, more rigorous compliance controls, more efficient use of tax revenues and introducing tax incentives for encouraging electronic transactions.

16 M.G. Attinasi and L. Metelli (2016), "Is fiscal consolidation self-defeating?", ECB Working Paper 1883, February.

2 CURRENT FISCAL DEVELOPMENTS (JANUARY-DECEMBER 2015)

General government (General Accounting Office data)

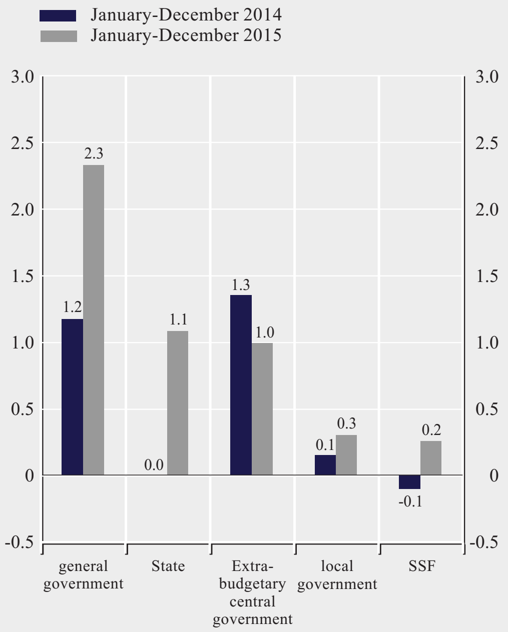
According to general government cash data compiled by the General Accounting Office (GAO), the general government cash balance improved compared with 2014, recording a deficit of 0.9% of GDP in January-December 2015, down from a deficit of 2.0% of GDP in 2014. Over the same period, the general government primary balance improved and registered a surplus of 2.3% of GDP, up from a surplus of 1.2% of GDP in 2014. This good performance mainly reflected the improved balance of the State, as well as of local government organisations and social security funds (see Chart VI.2).

Overall, general government revenue decreased during the year (-1.1%), mostly due to lower revenue from direct taxes and transfers, while revenue from social security contributions and indirect taxes rose. Primary expenditure fell more strongly (-3.9%), largely reflecting contained expenditure for the purchase of goods and services, social benefits, transfers and purchase of non-financial fixed assets. The decrease in primary expenditure was also partly due to the fact that the 2014 figure included payments of government arrears for past years totalling €1,152 million, while no such expenditure was made in 2015.

Contrary to general government primary expenditure, government arrears to suppliers of general government entities (including tax refunds) increased considerably, after declines in previous years, and finally exceeded their December 2013 level. In particular, the stock of arrears reached about €5.4 billion in December 2015, up from €3.8 billion in December 2014 and €4.8 billion in December

Chart VI.2 General government primary balance on a cash basis

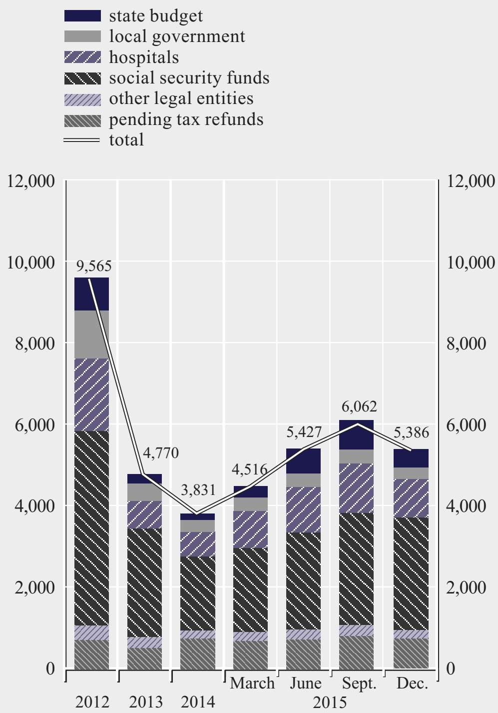
(as a percentage of GDP)



Source: Ministry of Finance, General Accounting Office.
Note: Transactions are consolidated within the general government sector and therefore differ from the sum of primary balances of the individual sectors of general government.

Chart VI.3 General government arrears to suppliers

(EUR millions)



Source: Ministry of Finance, State General Accounting Office.

2013, as clearance efforts that had started in 2013 were discontinued, while new arrears were generated in 2015 (see Chart VI.3).

The 2016 budget envisaged a continuation of the effort to clear general government arrears with a view to significantly reducing them by the end of 2016, subject to the smooth flow of funding under the new programme. In particular, the plan is to settle past general government obligations using a specific budget line of €700 million in 2015 and €5,500 million in 2016. However, the expenditure in question was not realized in 2015.

State budget (administrative data)

In 2015, the state budget (SB) balance improved marginally compared with 2014, mostly as a result of lower expenditure, higher Public Investment Programme (PIP) revenue and considerably decreased tax refunds. On the other hand, ordinary budget (OB) revenue (before tax refunds) decreased, despite extraordinary intra-government transfers from other general government entities in the course of the year. The 2015 state budget balance fell short of the annual target set out in the Introductory Report on the 2016 Budget, but this was solely due to the non-collection of ANFA and SMP revenue.[17] By contrast, tax revenue and revenue under the Public Investment Programme performed better than expected. The reduction in tax refunds and in ordinary budget primary expenditure was also larger than expected. Interest payments and PIP expenditure were executed as foreseen in the budget (see Table VI.2).

Ordinary Budget Revenue

In 2015, ordinary budget revenue (before tax refunds[18]) fell by 1.0% relative to 2014, falling short by some €2.5 billion against the revised annual target (3.5% increase) set out in the Introductory Report on the 2015 Budget[19] (see Table VI.3). However, discounting ANFA and SMP payments of €3.6 billion,[20] in the absence of a relevant decision, the target appears to have been overshot by €1.1 billion. It should be noted that significant positive contributions to revenue came from income tax, the Unified Property Tax (ENFIA), VAT, higher inflows of EU funds and the collection of about €1 million of one-off revenue in March and April.

Direct tax revenue fell by 3.5% relative to 2014, but was well above the revised annual target and this outperformance was broadly based across individual direct tax categories. A strong boosting effect came from measures introduced by Laws 4321/2015[21], 4334/2015[22] and 4336/2015[23]. In particular:

- Personal income tax revenue fell (-0.4%) compared with 2014, but still overshot the annual target. This is attributable to the very good performance of personal income tax, due to higher withholding tax and advance tax payments for farmers. During the last two months of the year, income tax revenue also benefited from the increase in the advance corporate income tax.

- Revenues from the various property taxes decreased (-8.5%) relative to 2014, as the 2014 figure had benefited from the payment of the last instalments of the 2013 Property Tax (FAP) and the 2013 special property levy (EETA) collected through electricity bills. Nevertheless, property tax revenue exceeded the annual target due to the satisfactory receipts from the 2015 ENFIA.[24] Moreover, revenue was boosted by tax arrears payment schemes, as well as by the collection of the 2013 EETA from those who had not paid it through electricity bills.

17 See also footnote 3.
18 Including privatisation revenue.
19 The 2016 Budget law revised the annual revenue targets for 2015 downwards by about €3.6 billion.
20 In particular, this amount is broken down to €1.9 billion of SMP payments not collected in 2014 and carried forward to 2015, and €1.7 billion of ANFA/SMP payments for 2015.
21 Including the 100-instalment scheme for the payment of tax arrears, whose yield is recorded under various revenue categories. See also the Annex to this chapter.
22 See the Annex to this chapter below.
23 See the Annex to this chapter below.
24 It should be noted that due to delays in the assessment of the ENFIA for 2015 and payment of the first instalment, the two last instalments will be paid within the first two months of 2016.

Table VI.3 Ordinary budget revenue

(EUR millions)

	2012	2013	2014	2015*	Percentage changes 2013/2012	2014/2013	2015*/2014
I. Direct taxes	**21,096**	**20,058**	**20,465**	**19,758**	**-4.9**	**2.0**	**-3.5**
1. Income tax	13,311	11,488	12,207	12,093	-13.7	6.3	-0.9
– Personal	9,968	7,971	7,849	7,817	-20.0	-1.5	-0.4
– Corporate	1,715	1,681	2,655	2,895	-2.0	57.9	9.0
– Special categories of income tax	1,628	1,837	1,703	1.381	12.8	-7.3	-18.9
2. Property taxes	2,857	2,991	3,474	3,180	4.7	16.1	-8.5
3. Tax arrears	1,812	2,826	1,928	1,700	56.0	-31.8	-11.8
4. Extraordinary and other direct taxes	3,116	2,752	2,855	2,785	-11.7	3.7	-2.5
II. Indirect taxes	**26,082**	**24,556**	**23,776**	**23,773**	**-5.9**	**-3.2**	**0.0**
1. Customs duties and levies on imports-exports	154	146	166	175	-5.2	13.7	5.4
2. Consumption taxes on imports	1,433	1,378	1,509	1,608	-3.8	9.5	6.6
– VAT	1,380	1,322	1,426	1,497	-4.2	7.9	5.0
– Cars	44	45	72	92	2.3	60.0	27.8
3. Consumption taxes on domestic products	23,147	21,469	20,808	20,781	-7.2	-3.1	-0.1
– VAT	13,575	12,533	12,192	12,131	-7.7	-2.7	-0.5
– Fuel	4,464	4,228	4,113	4,175	-5.3	-2.7	1.5
– Tobacco	2,707	2,503	2,419	2,373	-7.5	-3.4	-1.9
– Road duties	1,305	1,183	1,119	1,123	-9.3	-5.4	0.4
– Special levies and contributions on cars	36	35	30	37	-2.8	-14.3	23.3
– Other	1,059	987	935	942	-6.8	-5.3	0.7
4. Transaction taxes	733	819	615	623	11.7	-24.9	1.3
– Capital transfers	387	503	277	310	30.0	-44.9	11.9
– Stamp duties	342	313	327	310	-8.5	4.5	-5.2
5. Other indirect taxes	614	744	678	586	21.2	-8.9	-13.6
III. Total tax revenue	**47,178**	**44,614**	**44,240**	**43,531**	**-5.4**	**-0.8**	**-1.6**
IV. Non-tax revenue[1]	**4,318**	**6,904**	**5,780**	**5,980**	**59.9**	**-16.3**	**3.5**
– Transfers of earnings on Greek government bond holdings by the Eurosystem central banks (ANFA and SMP)	303	2,715	580	291	-	-	-
V. Total revenue before tax refunds	**51,497**	**51,519**	**50,020**	**49,510**	**0.0**	**-2.9**	**-1.0**

Source: State General Accounting Office.
* Provisional data.
1 Including revenue from privatisations.

- Past years' direct taxes declined (-11.8%) relative to 2014, as the 2014 figure had benefited from the payment of the last instalments of the 2011-12 FAP. Still, the annual target was slightly overshot.

- Revenue from other direct taxes declined (-2.5%), but turned out above the annual target, partly because of higher receipts from the social solidarity surcharge on natural persons following the upward adjustment of the rates applicable to gross incomes of over €30,000. Moreover, revenue from the levy on the self-employed, partnerships and sole proprietors appears increased due to the delayed assessment of the 2013 levy on legal persons, which was collected in 2015. Revenue from other direct taxes also benefited from the retroactive increase and broadening of the base of the tax on luxury living.

Indirect tax revenue remained unchanged from 2014, but exceeded the target, mostly due to the good performance of VAT and excise taxes on fuel. In more detail:

- Total revenue from VAT (on imported and domestic items) rose marginally (+0.1%) relative to 2014 and overshot the annual target, reflecting the July 2015 VAT reform. Revenue from VAT on oil products decreased markedly, on the back of lower oil commodity prices.

- Revenue from tax on liquid fuels increased slightly (+1.5%) relative to 2014, as a result of higher consumption.

- Road duties increased slightly (+0.4%) due to the introduction of higher rates for 2015, while car registration fees increased strongly (+27.8%) due to a recovery in car demand.

Non-tax revenue grew considerably (3.5%) compared with 2014, although it fell short of the annual target by €3.3 billion in the absence of ANFA and SMP payments that would have amounted to some €3.6 billion. A positive contribution came from one-off revenue of over €1 billion during March and April, including: €555.6 million transferred by the Hellenic Financial Stability Fund to the ordinary budget; a refund of an unused amount granted to general government entities for the payment of arrears; taxes collected[25]; €1.17 billion from the bank liquidity support programme; and €254 million from privatisation proceeds.

Finally, in 2015 tax refunds declined sharply (-13.3%), turning out well below the annual target, thereby having a positive effect on net (after tax refunds) revenue of the ordinary budget (see Table VI.2).

Ordinary Budget Expenditure

After declining for three consecutive years, ordinary budget expenditure increased marginally in 2015 (0.2%), but less than projected in the Introductory Report on the 2016 Budget (1.6%) (see Table VI.4). This is attributable to weaker primary expenditure, while interest payments were in line with the annual target.

Based on available disaggregated data, developments in the main categories of ordinary budget expenditure were as follows:

- The wage and pension bill grew by 1.4% compared with 2014, although at a rate lower than the annual target (1.8%). This growth was due to higher pension expenditure (4.2%) as a result of the increased number of pensioners, while wage expenditure remained unchanged, against a targeted increase of 0.6%. This category of spending includes the first instalment of back pay to military and law enforcement personnel, both active and retired, and the effect of seniority in respect of employees subject to special wage grids, as well as from the reinstatement of employees who had been transferred to the labour reserve.

- Social security and healthcare spending decreased marginally compared with 2014 (-0.2%), against a targeted small increase (0.5%). After three consecutive years of decline, spending on grants to social security funds rose (4.1%) and was in line with the annual target, mostly as a result of higher grants to the Farmers' Insurance Organisation (OGA) and the Greek Manpower Employment Organisation (OAED) as well as EKAS (Solidarity Pension Supplement) payments. By contrast, spending to cover hospital deficits and arrears and social protection expenditure declined more than projected in the Introductory Report on the 2016 Budget. It should be noted that social protection expenditure in 2015 included an emergency package of €108 million to address the humanitarian crisis, while its year-on-year decrease reflects the non-recurrence of the social dividend (€506 million) distributed in 2014.

25 Certain categories of tax revenue are provisionally assigned a non-tax revenue code and, after they are verified by Tax Offices, are classified in the appropriate tax revenue items.

Table VI.4 Expenditure under the ordinary budget and the public investment budget

(EUR millions)

	Annual data					Percentage changes			
	2013	2014	2015*		2016	2014/13	2015*/14		2016/15*
			Estimate	Execution	Budget				
	(1)	(2)	(3)	(4)	(5)	(6=2:1)	(7=3:2)	(8=4:2)	(9=5:4)
I. Outlays under the ordinary budget	**51,806**	**48,471**	**49,264**	**48,544**	**49,001**	**-6.4**	**1.6**	**0.2**	**0.9**
1. Personnel outlays	18,422	18,479	18,804	18,740	18,201	0.3	1.8	1.4	-2.9
of which: wages	12,572	12,386	12,462	12,392	11,734	-1.5	0.6	0.0	-5.3
pensions	5,850	6,093	6,342	6,348	6,467	4.2	4.1	4.2	1.9
2. Social security and healthcare	15,922	14,421	14,495	14,388	14,247	-9.4	0.5	-0.2	-1.0
of which: grants to social security funds	12,740	11,100	11,558	11,557	11,106	-12.9	4.1	4.1	-3.9
grants to hospitals for the payment of arrears	1,654	1,450	1,324	1,289	1,632	-12.3	-8.7	-11.1	26.6
social welfare	1,462	1,813	1,553	1,486	1,451	24.0	-14.3	-18.0	-2.4
3. Operating and other expenditure	6,337	5,733	5,707	5,383	5,158	-9.5	-0.5	-6.1	-4.2
of which: consumer and non-allocated expenditure	1,732	1,746	1,900	1,510	1,567	0.8	8.8	-13.5	3.8
4. Earmarked spending	3,549	3,295	2,792	2,787	3,254	-7.2	-15.3	-15.4	16.8
5. Reserve	0	0	126	0	1,000				
6. Interest payments	6,044	5,569	5,830	5,800	5,930	-7.9	4.7	4.1	2.2
7. Ministry of National Defence programmes for the procurement of military equipment	529	345	590	565	598	-34.8	71.0	63.8	5.8
8. Guarantees called-in from entities inside general government	514	442	660	655	380	-14.0	49.3	48.2	-42.0
9. Guarantees called-in from entities outside general government	365	145	60	48	152		-58.6	-66.9	216.7
10. Loan disbursement fee to the European Financial Stability Facility (EFSF)	127	42	200	178	80	-66.9	376.2	323.8	-55.1
II. Outlays under the public investment budget	**6,650**	**6,592**	**6,400**	**6,406**	**6,750**	**-0.9**	**-2.9**	**-2.8**	**5.4**
1. Project execution	1,696	1,701	...	...	...				
2. Grants	4,882	4,784	...	...	...				
3. Administrative costs	72	107	...	...	...				
III. Outlays under the state budget (I+II)	**58,456**	**55,063**	**55,664**	**54,951**	**55,751**	**-5.8**	**1.1**	**-0.2**	**1.5**
Primary expenditure under the state budget (III-I6)	52,412	49,494	49,834	49,153	49,821	-5.6	0.7	-0.7	1.4
Primary expenditure under the ordinary budget (I1+I2+I3+I4+I5)	44,227	41,928	41,924	41,298	41,861	-5.2	0.0	-1.5	1.4
Amortisation payments	12,755	24,818	16,130	27,154	7,240	94.6	-35.0	9.4	-73.3

Source: State General Accounting Office.
* Provisional data.

- Operating and other expenses also fell in relation to 2014 (-6.1%), markedly more strongly than the annual target (-0.5%), due to a drastic decline in government consumption and non-allocated expenditure (-13.5%, against a targeted increase of 8.8%), which more than offset the extraordinary spending (totalling €115 million) associated with the holding of two national elections and a referendum.

- Earmarked revenues decreased relative to 2014 (-15.4%) in line with the annual target.

- Finally, interest payments rose in 2015 compared with 2014 (4.1%), also in line with the annual target.

Public investment budget

The public investment budget (PIB) improved in 2015 relative to 2014 and against the annual target. Revenue rose by 2.4% compared with 2014, overshooting the annual target set out in the Introductory Report on the 2016 Budget by about €360 million, while expenditure was drastically restrained during the year and was within the annual target, decreasing by 2.8% year-on-year (see Table VI.2).

Box VI.2

THE CONTRIBUTION OF PUBLIC INVESTMENT TO ECONOMIC GROWTH

In view of the need to support economic activity in an environment of recession, a discussion on the contribution of public investment to economic growth can be relevant.

Public investment can make an important contribution to the recovery of economic activity, particularly in the current conjuncture in Europe, which is characterised by subdued aggregate active demand and low lending rates, largely due to the Eurosystem's accommodative monetary policy. Many international organisations have highlighted the importance of public investment for economic recovery, in terms of both supply and demand.[1] Delays in the implementation of the public investment programme could weigh on GDP and employment, particularly if private investment is also discouraged.[2]

After having remained broadly stable for a decade, public investment as a percentage of GDP in the euro area-19 increased at the beginning of the crisis, and then fell sharply. Private investment declined at first and then stabilised at lower levels (see Chart A).

Empirical studies have shown that an increase in public investment could crowd in private investment and reduce unemployment, with positive effects on GDP growth.[3] Similar findings are reported in an ECB paper for Austria, Germany, Denmark, Finland, Greece, Portugal, Spain and Sweden.[4]

However, the EU Fiscal Compact[5] requires Member States to achieve a structural budget that is balanced or in surplus. Therefore, any additional financing of public investment can only be secured by increasing revenue or by cutting other public expenditure, although there would be a negative multiplier effect on GDP in both cases.

1 See e.g. IMF, "Making Public Investment More Efficient", June 2015.
2 Leeper, E.M., T.B. Walker and S.S. Yang (2010), "Government investment and fiscal stimulus", *Journal of Monetary Economics*, 57, 1000-12.
3 See Abiad, A., D. Furceri and P. Topalova (2015), "The Macroeconomic Effect of Public investment: Evidence from Advanced Economies", IMF Working Paper 15/95.
4 See Afonso, A. and M. St. Aubyn (2008), "Macroeconomic rates of return of public and private investment crowding in and crowding out effects", ECB Working Paper 864, February.
5 Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, March 2012.

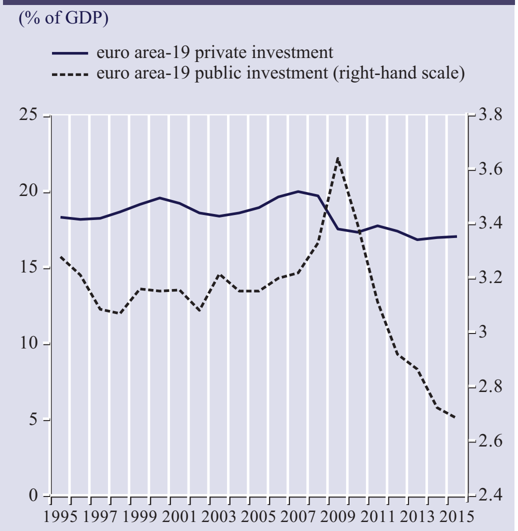
This problem becomes even more acute for countries under a fiscal adjustment programme (such as Greece), which, in order to meet their fiscal obligations and achieve their fiscal targets, use public investment as a short-term fiscal consolidation tool, unlike other countries (Germany, Austria, Belgium and Denmark) that maintain a stable public investment-to-GDP ratio (see Chart B).

It should be noted that in the case of Greece the focus of fiscal consolidation has been mainly on the revenue side, thereby reducing the scope for financing additional public investment by further increasing the tax burden, which already negatively affects economic activity. This highlights the importance of searching for other financing sources for public investment. Such sources could be proceeds of additional privatisations and a better exploitation of public real estate in various forms, e.g. public-private partnerships (PPPs).

Indicatively, according to OECD data, the tax wedge on labour in Greece exceeds the OECD average. Therefore, financing public investment by increasing labour taxation would create distortions in the labour market, with a negative short-term impact on GDP (because of the negative multiplier), which would cancel out the positive long-term effects of higher investment. Estimates have shown that a 1.0 GDP percentage point financing of public investment by raising labour taxes leads to a contraction of GDP by 3.68 points in the short term.[6] The long-run output multiplier has been estimated at 2.25.

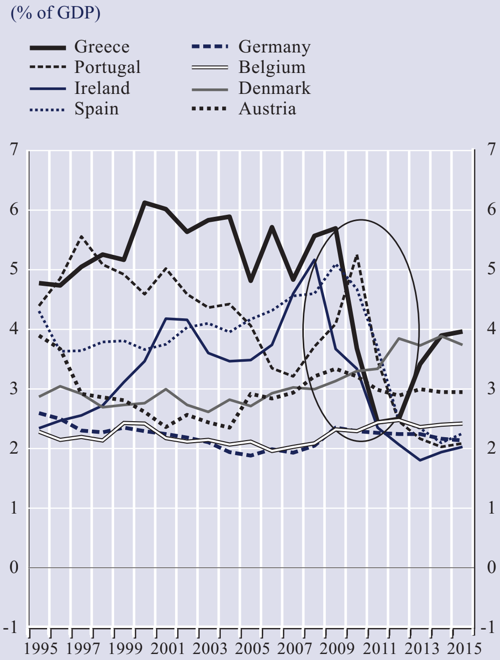
The size of the impact on economic activity also crucially depends on the qualitative characteristics of public investment, in terms of its contribution to economic growth. In the case of low quality public investment, there is evidence of negative effects on the economy in the long term. For the period 1983-2008 and for a number of countries, Bom and Lighthart[7] have highlighted

Chart A Gross fixed capital formation in the euro area



Source: AMECO.

Chart B General government gross fixed capital formation



Source: AMECO.

6 Bom, P.R.D and J.E. Lighthart (2014), "Public infrastructure investment, output dynamics, and balance budget fiscal rules", *Journal of Economic Dynamics and Control*, 40, 334-54.

7 Bom, P.R.D and J.E. Lighthart (2014), "What Have We Learned from Three Decades of Research on the Productivity of Public Capital?", *Journal of Economic Surveys*, 28(5), 889-916.

the importance of quality in public investment. In particular, they suggest that output gains can double in the short and long term if public investment focuses on core public capital, i.e. investment in infrastructure projects such as airports, railways, etc., which will create new jobs and attract private investment, further bolstering economic activity.

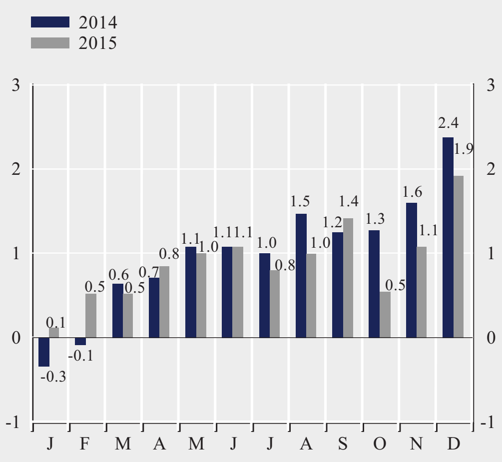
Finally, for an optimal impact of public investment on GDP, the proper management of public investment programmes is also crucial: institutions must be in place which ensure, through transparent mechanisms/procedures, proper planning and coordination among the government entities involved and the allocation of resources to productive sectors, on the basis of sound multiannual budgets that guarantee adequate project funding and, at the same time, investment protection.

In conclusion, the contribution of quality public investment to economic growth is very important, both directly[8] and indirectly by attracting private investment. Therefore, strengthening and accelerating public investment should have a high place on the economic policy agenda. The importance of public investment for economic recovery was also recognised by the European Commission with the establishment of the European Fund for Strategic Investments in 2015 aiming to support medium- and long-term infrastructure and innovation projects. However, the constraints arising from the fiscal obligations of EU Member States hamper the financing of such investments. This highlights the importance of both sound management of public investment programmes and the search for proper sources of funding. Proceeds from further privatisations and a more efficient exploitation of public real estate could be such sources.

8 Bom and Lighthart (see previous footnote), using meta-regression analysis on a sample of 578 estimates collected from 68 studies for the 1983-2008 period, have estimated the output elasticity of public capital at 0.083 in the short term and at 0.122 in the long term. For Greece, over the same period, output elasticity is estimated at 0.205.

Chart VI.4 Net borrowing requirements of central government on a cash basis (January 2014-December 2015)

(% of GDP)



Source: Bank of Greece.
Notes: "Monthly" figures refer to cumulative percentages from the start of the year. The balance of the OPEKEPE (Payment and Control Agency for Guidance and Guarantee Community Aid) account is not included.

State Budget developments on a cash basis

In 2015 the cash balance (borrowing requirements) of the state budget[26] improved relative to 2014 by 0.5% of GDP, recording a deficit of 1.9% of GDP, down from a deficit of 2.4% of GDP in 2014 (see Table VI.5 and Chart VI.4). The primary cash balance of the state budget improved by 0.7% of GDP, to a surplus of 1.5% of GDP from a surplus of 0.8% of GDP in 2014. This improvement stemmed from both the ordinary budget and the public investment budget.

State budget borrowing requirements and amortisation payments were financed through: (a) borrowing from the European Support Mechanism (€16 billion); (b) reissuing Treasury bills (totalling about €15 billion); and (c)

26 Not including movements in the OPEKEPE (Payment and Control Agency for Guidance and Guarantee Community Aid) account.

Table VI.5 State budget deficit on a cash basis[1,2]

(EUR millions)

	Annual data				
	2011	2012	2013	2014	2015*
State budget	**23,144**	**10,697**	**12,794**	**4,209**	**3,359**
% of GDP	11.1	5.6	7.1	2.4	1.9
– Ordinary budget[3]	20,462[4]	8,503[5]	10,785[6]	2,343[7]	1,788[8]
– Public investment budget	2,682	2,194	2,009	1,866	1,571

Source: Bank of Greece.
* Provisional data.
1 As shown by the movements in respective accounts with the Bank of Greece and other credit institutions.
2 Excluding movements in the OPEKEPE (Payment and Control Agency for Guidance and Guarantee Community Aid) account.
3 Including movements in public debt management accounts.
4 Not including revenue of (a) €675 million from ATE for the buyback of its preference shares and (b) €250 million from the Deposits and Loans Fund due to a decrease in its reserves. By contrast, the revenue of €1,536 million from privatisation proceeds is included. Not including expenditure of (a) €4,011 million (bond re-issuance) for covering hospitals' debt under Article 27 of Law 3867/2010, as such amounts burden the debt of 2011; (b) €350 million for covering ELGA's debt obligations (bond issuance), as this is in replacement of a previous loan with similar terms and (c) €140.2 million for covering debt due to former Olympic Airlines employees that were laid off (bond issuance). Also not including expenditure of €1,551.8 million for the participation of the Greek State in share capital increases, €1,434.5 million of which concerns ATE capital increase, as well as the proceeds of a bond issuance (re-issuance) of €1,380 million for the purchase of ETE (National Bank of Greece) and Bank of Piraeus preference shares.
5 Including revenue of: (a) €303 million relating to ANFA returns; and (b) €10.6 million from privatisation proceeds, but excluding expenditure of: i) €4,751 million for interest paid on PSI bonds, as well as interest payments to the amount of €519 million due to debt buy-back in the form of EFSF short-term securities; ii) €9.9 million (bond issuance) for covering the State's debt to the Jewish Community of Thessaloniki; and iii) €73 million for the participation of the Greek State to capital increases (Horse Racing Organisation of Greece (ODIE), Hellenic Vehicle Industry (ELVO SA), Hellenic Defence Systems SA, etc.). Including expenditure of €901.3 million relating to Greece's participation in the European Stability Mechanism (ESM).
6 Including revenue of (a) €682 million relating to ANFA returns and (b) €998 million from privatisation proceeds. Excluding revenue of €2.0 billion from the transfer of profits on Greek government bond holdings of Eurosystem central banks (Securities Markets Programme - SMP). Excluding the participation of the Greek State (€37.6 million) in capital increases of Hellenic Defence Systems SA etc. Including expenditure of roughly €6,155 million for the payment of arrears and €901 million relating to Greece's participation in the European Stability Mechanism (ESM).
7 Including revenue of (a) €518 million relating to ANFA returns; (b) €480 million from Bank of Greece's profits; (c) €1,310 million from the repayment of preferential shares; and (d) €443 million from privatisation proceeds. Excluding revenue of €62 million from the transfer of profits on Greek government bond holdings of Eurosystem central banks (Securities Markets Programme – SMP). Also excluding expenditure of €51 million for the participation of the Greek State in capital increases (DEPOS SA, EAB SA etc.), but including expenditure of €1,152 million for the payment of arrears and €451 million relating to Greece's participation in the European Stability Mechanism (ESM).
8 Including revenue of: (a) €236 million relating to ANFA returns; (b) €350 million from Bank of Greece's profits; (c) €555.6 million drawn from the HFSF and (d) €263 million from privatisation proceeds. Excluding €55 million from transfers of earning on Greek government bond holdings by the Eurosystem central banks (SMP). Excluding €1 million for the participation of the Greek State in capital increases.

repos on Greek government securities (see Table VI.6).

In more detail, faced with liquidity constraints in the first half of 2015 due to the interruption of financing under the programme and the shortfall of tax revenue, the government tapped into the reserves of general government entities through short-term borrowing. In this context, the Public Debt Management Agency (PDMA) repeatedly entered into repo operations on Greek government securities with the "Common Capital" (the collective investment fund of legal persons in public law and social security funds, which is managed by the Bank of Greece). Cash management constraints eased in July following the disbursement of a €7.2 billion short-term bridge loan from the European Financial Stabilisation Mechanism (EFSM). After the agreement on a new financing programme, the European Stability Mechanism (ESM) released a tranche of €13.1 billion in August (used to repay the EFSM bridge loan), followed by €2 billion in November and €1 billion in December.

General government debt

According to the 2016 budget, public debt is projected at €316,503 million for 2015, down from €317,117 million in 2014 (see Table VI.7). As a percentage of GDP however, pub-

Table VI.6 Financing of the state budget cash deficit

(EUR millions)

	2012		2013		2014		2015*	
	Amount	% of total	Amount	% of total	Amount	% of total	Amount	% of total
Greek government bonds and Treasury bills[1]	-8,365[4]	-78.2	-11,799	-92.2	-9,632	-228.8	-6,348	-189.0
Change in the balances of central government accounts with the credit system[2]	-2,895	-27.1	3,415	26.7	9,621	228.6	1,756	52.3
External borrowing[3]	-1,071	-10.0	-3,600	-28.1	-7,483	-177.8	-8,049	-239.6
Borrowing from the IMF/EU	23,028	215.3	24,778	193.7	11,703	278.0	16,000	476.3
– from the EU	*21,397*		*18,100*		*8,300*		*16,000*	
– from the IMF	*1,631*		*6,678*		*3,403*		*0*	
Total	**10,697**	**100.0**	**12,794**	**100.0**	**4,209**	**100.0**	**3,359**	**100.0**

Source: Bank of Greece.
* Provisional data.
1 Comprising Treasury bills, short-term securities and government bonds issued in Greece, as well as bonds convertible into shares.
2 Comprising changes in the central government accounts held with the Bank of Greece and other credit institutions. Excluding changes in the OPEKEPE account.
3 Comprising borrowing abroad and securities issuance abroad (all currencies). Excluding non-residents' holdings of bonds issued in Greece.
4 Excluding expenditure of €9.9 million (bond issuance) for covering the State's debt to the Jewish Community of Thessaloniki.

lic debt is expected to increase to 180.2% from 178.6% in 2014, reflecting a contraction of nominal GDP.[27]

The public debt projection for 2015 factors in the return by the Hellenic Financial Stability Fund (HFSF) of unused EFSF recapitalisation notes worth €10.9 billion (or some 6.0% of GDP[28]). Moreover, it assumes an estimated bank recapitalisation cost of €10 billion, €700 million for the payment of government arrears and ANFA and SMP revenue totalling €3.9 billion.[29]

As the bank recapitalisation process was completed at a total cost of €5.4 billion,[30] the budget estimate suggests an overestimation of €4.6 billion or 2.6% of GDP, which however is largely offset by the non-realisation of assumed ANFA and SMP revenues.

The interest-growth differential has added 5.9 percentage points to the debt-to-GDP ratio, outweighing the combined debt-reducing effect of the primary balance and the deficit-debt adjustment (see Table VI.8). The debt-increasing effect results entirely from the continued contraction of nominal GDP, which offsets the marginal decrease in the effective interest rate.

The interest-growth differential has been the major aggravating factor in the 2009-2015 period, adding a cumulative 85.6 percentage points to the debt ratio. This compares with a cumulative contribution of 29.5 percentage points from primary balances over the same period. The contraction of nominal GDP has been decisive in this regard, counteracting the positive effect of the sharp decline in the effective nominal interest rate from 4.5% in 2009 to 2.2% in 2015.

A reduction in the debt ratio crucially hinges on the continued consolidation of public finances and the promotion of structural reforms in order to achieve a faster return of the economy to sustainable positive growth. On condition that the fiscal targets set out in the Financial Assistance Facility Agreement

27 According to available data based on ESA definitions, general government debt at the end of the third quarter of 2015 stood at €301,908 million (or 171.9% of GDP).
28 This amount relates to EFSF notes that were included in the €48 billion package for bank recapitalisation, but were not used.
29 See footnote 3.
30 See Chapter VII.

Table VI.7 Consolidated debt of general government[1]

(EUR millions)

	2008	2009	2010	2011	2012	2013	2014
Short-term	6,268	12,765	12,179	14,650	18,897	14,971	14,529
– securities	5,496	10,820	9,121	11,844	16,516	11,993	13,169
– loans	772	1,945	3,058	2,806	2,381	2,978	1,360
Medium- and long-term	257,626	286,760	317,107	340,484	285,020	305,688	299,999
– securities	219,953	251,953	253,434	239,832	76,927	67,212	57,678
– loans	37,673	34,807	63,673	100,652	208,093	238,476	242,321
Coin and deposits	728	1,477	1,005	820	774	819	995
Total	**264,659**	**300,876**	**330,372**	**356,003**	**304,814**	**319,215**	**317,117**
% of GDP	***109.4***	***126.7***	***146.2***	***172.0***	***159.4***	***177.0***	***178.6***
– euro-denominated debt	263,026	299,616	324,359	346,818	294,827	305,965	303,282
of which:							
to the Bank of Greece	*7,168*	*6,706*	*6,110*	*5,665*	*5,193*	*4,721*	*4,259*
to the IMF/EU			*27,121*	*65,379*	*174,557*	*199,915*	*204,472*
– non-euro denominated debt[2]	1,633	1,260	6,013	9,185	9,987	13,250	13,835
of which: to the IMF/EU			*4,704*	*7,831*	*8,541*	*13,237*	*13,453*

Source: State General Accounting Office.
1 According to the definition in the Maastricht Treaty.
2 Valuation using exchange rates as at 31 December of each year.

Table VI.8 Decomposition of changes in the general government debt-to-GDP ratio[1]

(percentage points of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
General government debt-to-GDP ratio	107.3	103.5	103.1	109.4	126.7	146.2	172.0	159.4	177.0	178.6	180.2
Changes in the general government debt-to-GDP ratio	4.6	-3.8	-0.5	6.3	17.3	19.5	25.8	-12.5	17.5	1.6	1.6
– Primary balance	1.5	1.5	2.2	5.4	10.1	5.4	3.0	3.7	8.4	-0.4	-0.7
– Change in GDP and change in interest rates	1.8	-4.8	-2.1	0.9	7.1	12.3	20.7	19.3	13.6	6.8	5.9
– Deficit-debt adjustment[2]	1.3	-0.6	-0.6	0.1	0.1	1.8	2.1	-35.6	-4.5	-4.8	-3.5

Source: Ministry of Finance, General Directorate of Economic Policy, "Hellas: Macroeconomic Aggregates".
* Provisional data.
1 Changes in the debt ratio have been decomposed using the following formula:

$$\left[\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}}\right] = \frac{PB_t}{Y_t} + \left[\frac{D_{t-1}}{Y_{t-1}} * \frac{i_t - g_t}{1+g}\right] + \frac{SF_t}{Y_t}$$

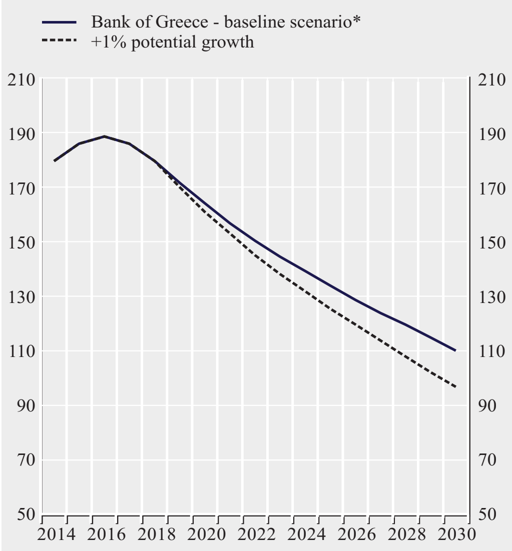
where D_t = general government debt
PB_t = primary balance (deficit (+) or surplus (-))
Y_t = GDP at current prices
g_t = nominal GDP growth rate
i_t = average nominal interest rate on government debt
SF_t = deficit-debt adjustment

2 The deficit-debt adjustment includes expenditure or liability assumption by general government that does not affect the deficit but increases debt, as well as revenue (e.g. privatisation proceeds) that does not affect the deficit but reduces debt.

are met, a 1% permanent increase in potential growth relative to the macroeconomic assumptions in the baseline scenario under the programme is expected to lead to a decrease in

Chart VI.5 The effect on the evolution of public debt from a 1% increase in potential growth

(% of GDP)



Source: Bank of Greece.
* The Bank of Greece baseline scenario for 2015-2017 follows the Eurosystem projections and assumes primary balances as defined in the Financial Assistance Facility Agreement. From 2018 onwards, the institutions' baseline scenario applies, which involves potential growth of 1.75%.

public debt by some 13 percentage points of GDP by 2030 (see Chart VI.5).[31]

3 2016 BUDGET

The Introductory Report on the 2016 Budget incorporates the fiscal measures included in the new Financial Assistance Facility Agreement of August 2015 and revises accordingly the fiscal targets for 2015 and beyond.

In particular for 2016 the general government deficit (according to ESA 2010) is projected at 2.1% of GDP, down from 3.2% of GDP in 2015. Under the Financial Assistance Facility Agreement, the general government primary balance is projected to meet the new programme's target for a surplus of 0.53% of GDP, compared with a deficit, as initially estimated, of 0.20% of GDP in 2015.

The above developments are based on the forecast for a recession of the Greek economy in 2016, with negative real GDP growth (-0.7%), mainly reflecting declines in private consumption (-0.7%), public consumption (-1.0%), gross capital formation (-3.7%) and employment (-0.4%). The improvement in the general government balance is expected to stem mostly from the improved balances of the state budget and of the Other Legal Entities' budget, while the balances of local governments and Social Security Funds are also expected to improve relative to 2015, though to a lesser extent.

The improved general government balance in 2016 is based on fiscal measures with a cumulative budgetary impact of some €5.7 billion or 3.3% of GDP over 2015-2016, in the form of higher ordinary budget revenue (excluding ANFA and SMP[32] revenue), lower ordinary budget primary expenditure and improved balances of the Other Legal Entities, local governments and Social Security Funds. While these measures mainly focus on the revenue side of the state budget (see the Annex below), they also involve cuts in military equipment expenditure and, importantly, the reform of the social security system.

The 2016 budget also relies on a higher absorption rate of funds under the Public Investment Programme, the implementation of the privatisation programme and the acceleration of structural reforms. With regard to privatisations, €2 billion of revenue is expected within 2016, mainly from concession agreements for Greek regional airports. Finally, reference is made to the intention to significantly reduce government arrears to suppliers of general government entities by the end of 2016 and accelerate the payment of pending tax refunds to beneficiaries. In this regard, an amount of €5.5 billion is projected to be paid in 2016.

31 For more information on public debt sustainability, see Bank of Greece, *Monetary Policy – Interim Report 2015*, Special feature V.2.
32 The Introductory Report on the 2016 Budget assumes ANFA and SMP revenue of €3,882 million for 2015 and €1,691 million for 2016, although the matter remains unclear. Such revenue is not included in the fiscal balance under the Financial Assistance Facility Agreement. See also footnote 3.

With regard to general government debt, the budget projects a further increase to €327,603 million or 187.8% of GDP in 2016. The projected debt figures take into account the closing of the cash deficit of the budget, the financing of government arrears clearance and a buffer of €3.4 billion. Moreover, the projection assumes the collection of ANFA and SMP revenue, as well as the use of the entire amount of €10 billion available for bank recapitalisation in 2015.

Box VI.3

THE DISTRIBUTIONAL IMPACT OF FISCAL MEASURES IN GREECE IN 2010-2015

The fiscal consolidation effort made by Greece in recent years has been undeniably huge. The general government primary balance turned from a deficit of 10.1% in 2009 into a surplus of 0.4% of GDP in 2014. The adjustment was even more remarkable in terms of the general government structural primary balance, which improved by around 16 percentage points of potential GDP in 2009-2014. But how have the costs of fiscal adjustment been allocated along the income distribution? How have poverty and inequality been affected by the measures implemented? Which measures have had the strongest impact and on which groups of the population? To answer these questions, we use EUROMOD, a multi-country tax-benefit microsimulation model for the European Union.[1]

Overview of the tax-benefit microsimulation model

The microsimulation technique enables to assess in a timely manner changes in income distribution and attribute them to specific policy changes or relate them to changes in the economy. EUROMOD is a research tool used by the academic community and international organisations and bodies involved in fiscal policy making and assessment, such as the European Commission, the IMF and the OECD.[2]

The present analysis focuses on investigating the first-order effects of the fiscal measures taken in 2010-2015 on household incomes. Thus, the results reported here do not take into account potential behavioural reactions (e.g. in consumption or in the labour market) to the fiscal measures in question.[3] Income data in nominal terms are derived from the EU-Statistics on Income and Living Conditions (EU-SILC) 2012 survey. As the EU-SILC 2012 refers to incomes earned in 2011, incomes are adjusted to their nominal levels for each year of the period 2010-2015.[4] This results in an artificial income distribution which may not fully reflect the actual changes. However, it should be noted that the analysis also incorporates estimates of personal income tax evasion.[5]

1 EUROMOD combines data derived from household income surveys with information on the tax-benefit rules in place in each Member State, in order to simulate the tax liabilities and benefit entitlements of households in each country. EUROMOD may thus simulate, at the micro level, changes in household income resulting from actual or hypothetical policy changes (see Sutherland, S. and F. Figari (2013), "EUROMOD: the European Union tax-benefit microsimulation model", *International Journal of Microsimulation*, 1 (6, 4-26). Microsimulation enables to investigate the distributional impact of fiscal measures as soon as these are specified, thereby ensuring greater timeliness versus income survey-based analyses, which are only possible with a lag of two to three years after the reference period, given the time needed for the processing of the income micro-data.

2 For more information, see https://www.euromod.ac.uk/research/impact.

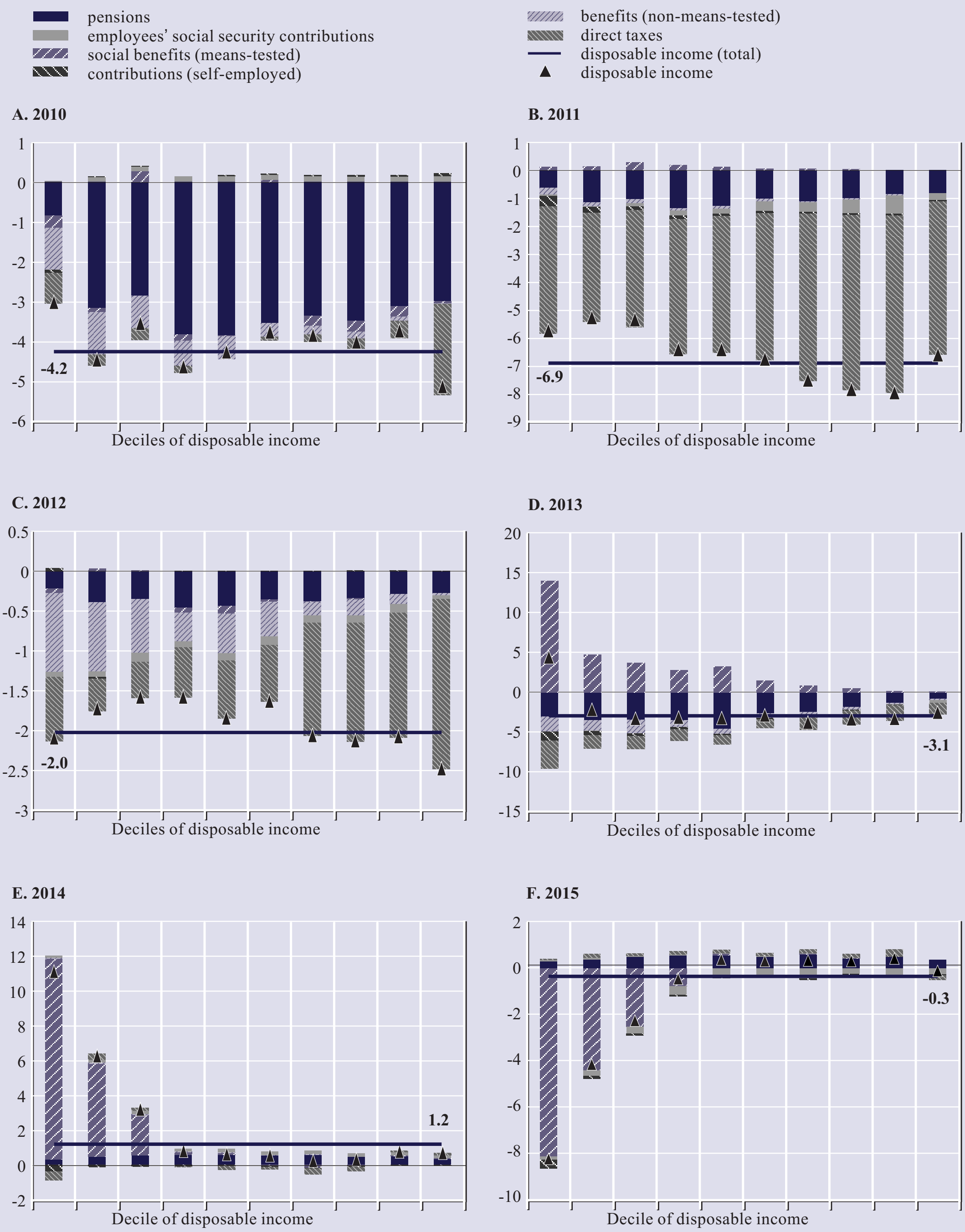
3 The present analysis assumes that fiscal consolidation has a zero effect on GDP (see Leventi, C. and M. Matsaganis (2016), "Estimating the distributional impact of the Greek crisis (2009-2014) – Technical background paper").

4 Annual household disposable income is calculated combining non-simulated incomes, e.g. labour income, and simulated benefits, e.g. disability benefits (see Jara, X.H. and C. Leventi (2014), "Baseline results from the EU27 EUROMOD (2009-2013)", EUROMOD Working Paper EM18/14, Colchester: ISER, University of Essex). Non-simulated incomes are adjusted to each year's nominal levels by applying updating factors calculated from available statistics.

5 Specifically, it assumes that income under-reporting (income that is tax-exempt or concealed for tax evasion purposes) is 5% for wage/salary income, 35% for self-employment income and 80% for farming income (see Leventi C., M. Matsaganis and M. Flevotomou (2013), "Distributional implications of tax evasion and the crisis in Greece", EUROMOD Working Paper EM17/13, Colchester: ISER, University of Essex).

The impact of fiscal measures on household disposable income

(percentage changes)



Source: Estimates based on the EUROMOD microsimulation model (version G2.75+).

Notes:

1. The (equivalised) household disposable income is calculated using the OECD equivalence scale, which assigns a value of 1 to the first household member, 0.5 to each subsequent person and of 0.3 to each child aged under 14, thus allowing to take into account economies of scale in consumption, family compositions and the differing needs of adults and children.
2. For identical household incomes (before taxes and social transfers) and employment levels and for identical household characteristics, the changes in the tax-benefit system that result from the measures implemented each year are calculated relative to the previous year.

Finally, the analysis does not take account of publicly-provided in-kind benefits (e.g. health care, education, food stamps) nor does it simulate the rules of indirect taxation.[6]

Results

As mentioned above, the focus of our analysis is on the annual first-order effects, ceteris paribus, of policy changes on disposable incomes. Its scope excludes the second-order effects of the measures on disposable incomes, via a reduction in aggregate demand. In other words, for given initial incomes and household characteristics, the effects of the fiscal policies implemented in period *t* are compared with those of the fiscal policies implemented in period *t-1*.[7]

The annual fiscal measures captured by the model for the period 2010-2015, broken down into six main areas[8], as well as their contributions to changes in household disposable income (at aggregate level and by decile of income distribution) are shown in Charts A to F. A brief account of the measures that contributed the most to changes in household disposable income per year is provided below.

In 2010 (see Chart A), the largest contributions came from: (i) pension cuts (abolition of the so-called "13th and 14th pensions"[9]), affecting the entire range of the income distribution; and (ii) direct taxation measures (introduction of a more progressive tax scale, imposition of a solidarity contribution and a pensioners' solidarity contribution and an extraordinary contribution levied on incomes over €100,000), which mostly affected those in the top income decile. The only non-progressive tax measure was a fixed annual charge of €300 imposed on sole proprietors and self-employed, which appears to have particularly affected those in the bottom income decile.

In 2011 (Chart B[10]), the largest contributions came from: (i) direct taxation measures (such as the introduction of an emergency property tax collected through electricity bills (EETIDE), the increase in the fixed charge on sole proprietors and the self-employed and in pensioners' solidarity contribution, an additional solidarity contribution levied on pensions and a special contribution on supplementary pensions) – cumulatively, these measures mostly affected households in the upper part of the income distribution;[11] and (ii) an increase in social contributions for unemployment insurance, which had a progressive distributional impact on employees, whereas among the self-employed those with lower incomes were the most negatively affected.

6 Methodological improvements in EUROMOD currently underway include: (i) the simulation of non-cash public benefits (see Paulus, A., H. Sutherland and P. Tsakloglou (2010), "The Distributional Impact of In-Kind Public Benefits in European Countries", *Journal of Policy Analysis and Management*, 29, 243-266), and (ii) the simulation of indirect taxation rules (see Decoster, A., R. Ochmann and K. Spiritus (2013), "Integrating Indirect Taxation into EUROMOD. Documentation and results for Germany", EUROMOD Working Paper EM 20/13, December, and A. Decoster, R. Ochmann and K. Spiritus (2014), "Integrating VAT into EUROMOD. Documentation and results for Belgium", EUROMOD Working Paper EM 12/14, June).

7 In greater detail, for each year up to 2011, the effect of fiscal measures is assessed on the basis of household characteristics and incomes in that year. For the years from 2012 onwards, the characteristics and incomes of the respective preceding year are used. It should also be noted that those tax and benefit figures that are expressed in nominal terms (e.g. income tax brackets, benefit amounts) are deflated using the annual Consumer Price Index (CPI).

8 Namely: (i) pensions; (ii) means-tested benefits; (iii) non-means-tested benefits; (iv) employees' social security contributions (including pensioners' healthcare contributions); (v) social security contributions of the self-employed; and (vi) direct taxes, in which real property taxes, solidarity contributions (including those paid by pensioners) and the fixed charge on personal businesses and the self-employed have been aggregated.

9 These were replaced by a flat bonus of €800 per year for pensions below a certain monthly level.

10 The negative impact of pensions appearing in Chart B reflects the effect of inflation rather than a nominal reduction in pensions year-on-year. The same applies to the impact of pensions shown in Charts C, E and F.

11 With the exception of the increase in the fixed charge on personal businesses and the self-employed (see also the measures mentioned for the year 2010) and of EETIDE, which was found to have had a regressive effect. This latter finding is sensitive to two sources of bias: first, the simulation of EETIDE necessarily involved a number of simplifying assumptions (see Leventi, C. and M. Matsaganis (2013), "Distributional Implications of the Crisis in Greece in 2009-2012", EUROMOD Working Paper EM 14/13, August); second, given that EU-SILC data provide information only on primary (main) home ownership, EETIDE has only been calculated for main residences and not any secondary ones. The finding regarding a regressive effect should therefore be interpreted with some caution. Still, it is worth noting that it is consistent with the findings of Giannitsis and Zografakis (see Giannitsis, T. and S. Zografakis (2015), "Greece: Solidarity and Adjustment in Times of Crisis", http://www.boeckler.de/pdf/p_imk_study_38_2015.pdf, Table 5.2, p. 70).

In 2012 (see Chart C), the largest contributions came from: (i) increases in personal income tax (a new increase in the fixed charge for sole proprietors and the self-employed, taxes on pensions over €1,000 and an additional contribution on supplementary pensions), affecting the entire income distribution but most notably its upper part; (ii) a reduction in benefit income, affecting predominantly households in the lower part of the income distribution, mainly due to a 22% cut in the regular unemployment benefit (from €454.25 to €360 per month).

In 2013 (see Chart D), the largest contributions came from: (i) pension cuts (abolition of the Christmas and Easter bonuses for main pensions and of the 13th and 14th payments of the non-contributory old age OGA pension that was also subject to stricter age-related eligibility requirements; (ii) to a lesser extent, the tax reform[12], including the new tax code which, relative to the previous regime, appears to have benefited the richer segments of the population; (iii) means-tested benefits as part of a redesigning of family benefits (introduction of a single allowance for child support, establishment of income-related eligibility criteria for the large family benefit —renamed to "special benefit for families with three or more children"—, abolition of the third child benefit, of the lump-sum maternity allowance and of the lifetime pension for mothers of many children, and an increase in the income threshold for the long-term unemployment benefit.

In 2014 (see Chart E), the largest contributions came from: (i) means-tested benefits (mostly for households in deciles 1-3) as a result of the payment of a social dividend[13] and a change in the eligibility criteria of the long-term unemployment benefit, which as from 2014 is also given to persons aged 20-66 (from 45-65 previously);[14] (ii) the abolition of social security contributions on family benefits; (iii) direct taxation (a marginally negative effect) due to the less favourable treatment of taxable benefits.[15] The effect of the ENFIA property tax on disposable incomes is shown to have been small and regressive.[16]

For 2015 (see Chart F), the measures envisaged in the draft law aimed to address the humanitarian crisis have not been included, as they largely consist of in-kind benefits.[17] Among the included measures, the most important were: (i) means-tested benefits due to the suspension of the 2014 extraordinary social dividend (which resulted in a reduction in the disposable income of the poorer households); (ii) an increase in pensioners' healthcare contributions (included in employees' social security contributions); (iii) direct taxation, i.e. the abolition of the privileged tax treatment of farmers and of the additional tax on rental income (the latter had a small positive effect on disposable income).

Overall, Charts A to F suggest that the measures taken in the first two years of fiscal consolidation (2010 and 2011) brought about the largest reductions in household disposable income (by 4.2% and 6.9% respectively). In the next two years, when the consolidation policy mix shifted gradually from taxes to expenditure cuts or restructuring, the decline in disposable income was more

12 In 2013, among other tax measures, the EETIDE tax was cut by 15% across-the-board and was renamed to Special Emergency Property Tax (EETA).
13 Specifically, in 2014, a total amount of €450 million from the previous year's primary surplus was distributed to support individuals and households with lower annual incomes. This "social dividend" was a lump-sum payment to households with an annual income of below €7,050 and started from a base level of €500 annually. Both amounts were subject to increases according to the family circumstances of the beneficiary.
14 At the same time, the income threshold for eligibility was lowered from €12,000 to €10,000, but this did not reverse the positive effect on disposable incomes from the less strict age-related eligibility criteria for long-term unemployment assistance.
15 Specifically, the taxable income threshold above which unemployment benefits are taxed was reduced from €30,000 to €10,000.
16 The caveats pointed out in footnote 11 with regard to the EETIDE tax also apply to this finding, along with the additional caveat that the EU-SILC does not contain land ownership information. Cautious interpretation is therefore warranted.
17 Measures to overcome the humanitarian crisis benefited a significant number of households living in extreme poverty conditions. For more details on the number of beneficiaries, see Chapter V.5.4, "Income inequality and poverty".

moderate (by 2.0% in 2012 and 3.1% in 2013). In 2014, the first year of fiscal relaxation after four consecutive years of austerity, household disposable income rose by 1.2%. The measures of 2015 seem to have caused a marginal (0.3%) reduction in household disposable income, although they have been partially included, as already mentioned.

The effects of fiscal measures on inequality and poverty indicators is illustrated in Tables A and B, respectively.

Table A The effects of fiscal measures on income inequality indicators

	Percentage change in income inequality indicators					
	Fiscal measures implemented in:					
	2010	2011	2012	2013	2014	2015
Gini coefficient	-0.6	-0.7	-0.2	0.2	-1.7	1.6
S80/S20 ratio	-1.3	-1.7	-0.3	-1.0	-5.7	6.2
S90/S10 ratio	-2.5	-0.3	-0.5	-3.0	-6.8	9.1

Source: Estimates derived from the EUROMOD microsimulation model (version G2.75+).
Notes:
1 For identical household incomes (before taxes and social transfers) and employment levels and for identical household characteristics, the changes in the tax-benefit system that result from the measures implemented each year are calculated relative to the previous year.
2 The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them. It ranges from 0% (all income equally distributed) to 100% (one person holds a country's entire income).
3 The S80/S20 index is the ratio of total income received by the 20% of the population with the highest income to that received by the 20% of the population with the lowest income.
4 The S90/S10 index is the ratio of income received by the 10% of the population with the highest income to that received by the 10% of the population with the lowest income.

Table B The effects of fiscal measures on poverty indicators

	Percentage change in poverty indicators					
	Fiscal measures implemented in:					
	2010	2011	2012	2013	2014	2015
Relative poverty threshold: 60% of median equivalised income						
Poverty headcount ratio	-0.4	-2.8	0.0	1.5	-7.1	8.0
Poverty gap index	-0.6	-2.9	0.4	-2.0	-9.7	11.1
Squared poverty gap (poverty severity) index	-1.0	-1.7	0.7	-4.4	-11.9	14.2
Relative poverty threshold: 50% of median equivalised income						
Poverty headcount ratio	-3.5	-3.3	-0.7	-0.8	-9.2	9.0
Poverty gap index	-1.4	-3.0	0.6	-3.4	-10.8	12.8
Squared poverty gap (poverty severity) index	-1.1	-0.6	1.0	-5.9	-13.2	16.1

Source: Estimates derived from the EUROMOD microsimulation model (version G2.75+).
Notes:
1 For identical household incomes (before taxes and social transfers) and employment levels and for identical household characteristics, the changes in the tax-benefit system that result from the measures implemented each year are calculated relative to the previous year.
2 Foster-Greer-Thorbecke (FGT) poverty headcount ratio (P0): The proportion of population living in a household with income below the poverty threshold.
3 FGT poverty gap index (P1): The (normalised) income shortfall of the poor from the poverty line.
4 FGT squared poverty gap ("poverty severity") index (P2): This measure captures the inequality among the poor.

Regarding their distributional impact, as shown in Table A, the policies pursued in the first two years (2010-2011), primarily affecting higher-income households, appear to have had a small mitigating first-order effect on income inequality. In 2010 in particular, before fiscal consolidation became more heavily based on direct tax measures, this outcome is more marked in terms of the inter-decile income share ratio S90/S10, which compares the income received by the richest decile with the income received by the poorest decile. A similar effect on income inequality is found in terms of the S90/S10 ratio in 2013, due to the positive impact of social transfers that favoured lower incomes in that year. The expansionary policies implemented in 2014, as could have been expected, led to even larger declines in all inequality indices.

As shown in Table B, the measures of the first two years reduced both relative poverty and the poverty gap.[18] The measures of 2012, on the other hand, had a broadly neutral effect. The 2013 measures had a poverty-reducing effect, especially for the poorer households, according to indicators based on an at-risk-of-poverty threshold of 50% of median equivalised disposable income. However, based on an at-risk-of-poverty threshold of 60% of median equivalised disposable income, the at-risk-of-poverty rate is higher. The 2014 measures, based on all indicators, had the expected poverty-reducing effect.

18 The relative poverty rate is the share of the population living in a household with income below the poverty threshold (also known as the "poverty line"). The relative poverty threshold is variable, and not fixed in real terms, and is defined as a given percentage of the median equivalised household disposable income. The poverty gap index measures the (normalised) income shortfall of the poor from the poverty line. It can also be interpreted as the cost of eliminating poverty.

ANNEX TO CHAPTER VI
TAX POLICY MEASURES

Tax measures taken in 2015[1] can be distinguished in two main categories: (a) tax provisions designed to alleviate the burden on particular social groups in line with the electoral commitments of the government; and (b) measures that fulfil requirements of the Financial Assistance Facility Agreement and are either structural or revenue-enhancing in nature, designed to increase tax revenue and address the large shortfall in tax revenue seen in the first half of 2015.

In particular, the tax law of April 2015 lays down a new scheme for the payment of tax arrears, while the tax law of June 2015 introduces favourable arrangements for the taxation of casual workers, farmers and Greeks living abroad. In July, against the backdrop of particularly adverse fiscal conditions and in order to allow negotiations for the Financial Assistance Facility Agreement to begin, a set of tax measures was adopted including inter alia the VAT reform, a phasing-out of the 30% VAT reduction for islands, an increase in corporate income tax rates, an increase in the advance corporate income tax, a modification of social solidarity levy rates and a retroactive tax increase and a broadening of the tax base for luxury living. The law ratifying the new Programme of August 2015 describes future prior actions, either structural or revenue-enhancing in nature and built around four pillars, and introduces provisions concerning, among other things, an increase in the rate applicable to advance tax payments for farmers and the self-employed, a tightening of the 100-instalment scheme for the payment of tax arrears, amendments to the VAT regime, as well as the abolition of the 26% cross-border withholding tax on imports. In line with the commitments undertaken in the above law, an omnibus law was adopted in October, which redefines tax evasion, reforms the framework applicable to tax violations by rationalising fines and introducing favourable terms for the settlement of pending cases of false and fictitious invoices and abolishes exemptions from the Unified Property Tax (ENFIA). Along these lines, the two omnibus laws adopted in November 2015 increase excise taxes on diesel oil for farmers, introduce a property criterion in the tax instalment scheme, establish stricter requirements for debtors to remain in this scheme, abolish VAT on private education, introduce a lottery tax and an excise tax on wine and redesign road taxes.

In more detail:

Law **4321/2015**[2] adopted in March 2015 establishes inter alia a new scheme for the payment of tax and social security contribution (SSC) arrears[3] and introduces a tax on triangular transactions. In particular:

- Debtors are given the option to pay tax arrears generated up to 1 March 2015 in up to one hundred instalments, irrespective of the initial amount of debt. The closing date for applications to join the scheme was 30 April 2015. For arrears of up to €5,000, no surcharge will be imposed, while for higher amounts an annual interest rate of 3% has been set. Law 4328/2015[4] facilitates natural persons and enterprises to join the scheme. Subsequent Law 4336/2015[5] readjusts the interest rate to 5.05%. Similarly, the interest rate on the 12-instalment scheme under Law 4152/2013 is also reduced from 8.05% to 5.05% as of 15 October 2015. The same law also stipulates that a debtor shall lose the benefit of the 100-instalment scheme if he fails to pay or defer the payment of any new tax debt within 30 days of its falling due. Law 4342/2015[6] incorporates a property criterion in the scheme, while Law 4346/2015[7] introduces stricter requirements for debtors to remain in the scheme. Similar provisions have been introduced regarding social secu-

1 Tax measures passed up to February 2015 are described in Bank of Greece, *Annual Report 2014*, pp. 123-126.
2 "Measures to revive the economy".
3 A previous scheme on tax and SSC arrears had been introduced by Law 4305/2014 of October 2014, see Bank of Greece, *Annual Report 2014*, p. 125. This was preceded by an earlier scheme introduced by Law 4152/2013, see Bank of Greece, *Annual Report 2013*, p. 117.
4 See below.
5 See below.
6 See below.
7 See below.

rity contribution arrears generated up to 2 March 2015. The annual interest rate is set at 3%. Subsequent circular 47/7.10.2015 of the Ministry of Finance increases the interest rate from 3% to 5% as of 1 November 2015. Interest rates under previous schemes have been readjusted accordingly: the interest rate under Law 4152/2013 has been reduced from 8% to 5%, while the interest rate under Law 4305/2014 has been increased from 4.56% to 5.05%.

– A 26% tax withholding for domestic business transactions has been introduced. This provision was later abolished by Law 4336/2015.[8]

Law **4328/2015**[9] adopted in May 2015 includes favourable provisions for farmers and natural persons. More specifically:

– Compensation for damage to agricultural production from natural disasters shall be tax-free (an earlier provision imposed a tax on such compensation at a rate of 13%[10] without any tax-free amount). Moreover, agricultural subsidies, on which taxation had been imposed at a rate of 13% without any tax-free amount, shall also be tax free up to the amount of €12,000. Advance tax payments of farmers have been reduced by half, i.e. they have been set at a rate of 27.5%, down from 55%. This provision was later abolished by Law 4336/2015.

– The law reinstates for natural persons the 2% discount on the total amount of tax due in case of full payment upon submission of the income tax return. This provision remained in force for fiscal year 2015, but was later abolished by Law 4336/2015.

– The law provides for measures intended to facilitate access to the 100-instalment scheme under Law 4321/2015 for natural persons and businesses who wish to enter the scheme but are unable to pay the amount required, because their bank accounts have been attached in favour of the State.

Tax law **4330/2015**[11] of June 2015 introduces favourable arrangements for the taxation of casual workers with very low annual income, farmers and Greeks living abroad. The law aims at protecting the above groups from the tax burden brought about by the new Income Tax Code[12] of 2013 through provisions that were adopted in 2013, but entered into force at a later date (2014 income). In particular:

– Imputed income criteria are abolished for residents abroad. Regarding this group of taxpayers, the law reinstitutes the tax regime established by the previous Income Tax Code (Law 2238/1994) that was applicable to financial year 2014 (accounting period 2013). For these taxpayers, the obligation to enter in their income tax return all income generated in Greece, irrespective of amount, does not give rise to the application of imputed income criteria.

– Changes are introduced as regards the taxation of the added difference of income for taxpayers who have obtained income during 2014 only from capital, i.e. from interests, dividends or rentals of real property, or from capital gains (e.g. shares). In such cases, when a taxpayer's imputed income is higher than the declared one, the resulting difference in the taxable income shall be taxed at the rate applicable to the relevant tax bracket for employees and pensioners, for which a tax-free amount of €9,545 is applicable (rather than at a 26% tax rate) and with a prepayment against the tax liability of the following year, as long as the imputed income does not exceed the amount of €9,500.

– Tax reliefs are envisaged for casual workers.

– Farmers are exempted from the 11-13% tax liability for own use or the provision of agricultural land for free.

8 See below.
9 "Ratification of the Legislative Act dated 27 March 2015 re 'Urgent provisions on the viability of Hellenic Sugar Industry S.A. and tax arrears' (Government Gazette A 35) and other provisions".
10 Law 4172/2013.
11 "Amendments to provisions of the Income Tax Code and other provisions".
12 Law 4172/2013.

– Manufacturers of natural gas pipelines will be exempted from VAT.

Law 4334/2015[13] of July 2015 includes the first set of prior actions in the fiscal sector that were necessary for negotiations on the Financial Assistance Facility Agreement to begin.[14] Inter alia, this law lays down the following tax policy measures:

– The law establishes three VAT rates (6%, 13% and 23%) and specifies the goods moved from the reduced to the standard rate. In particular, the lowest rate (6%) applies to medicines and vaccines, books and magazines and theatre tickets. The reduced rate (13%) applies to staple food products and fresh food, energy, water and hotel accommodation (the latter has been transferred from the 6.5% rate). Finally, the standard rate (23%) applies to the remaining goods and services. It should be noted that items transferred from the reduced rate (13%) to the standard rate include public transport tickets, taxi fares, services provided by artists, writers and composers, the repair and maintenance of old dwellings, flowers-plants and food services,[15] while the VAT regime has been expanded to also cover private education[16] and insurance schemes.

– The new rates are applicable as of 20 July 2015, except for hotel accommodation, where they will apply as of 1 October 2015.

– The 30% VAT discount shall be phased out starting from 1 October 2015 for islands with more robust tourist development and higher per capita income and from 1 June 2016 for less developed islands. Subsequent Law 4335/2005[17] fully eliminates this discount for all islands by end-2016.

– The tax rate on profits of SAs increases by 3 percentage points, to 29%. It is applicable to profits generated from 1 January 2015 onwards.

– Advance tax for SAs increases from 80% to 100%. It is applicable to profits generated from 1 January 2014 onwards.

– Advance tax for other legal forms of business (general partnership, limited partnership, etc.) increases from 55% to 75% for profits generated in the tax year from 1 January 2015 to 31 December 2015.

– Tax on insurance premiums rises from 20% to 25% for fire insurance and from 10% to 15% for car insurance.

– Tax brackets for the social solidarity levy have been adjusted (upwards) and are applicable retroactively as of 1 January 2015 to gross income exceeding €30,000.

– Tax on luxury living rises retroactively from 10% to 13% and the relevant tax base is expanded to include a tax on leisure boats.

Law 4336/2005[18] ratifying the new Programme of August 2015 has also ratified the new Financial Assistance Facility Agreement. The law includes provisions on the implementation of the Financial Assistance Facility Agreement (prior actions) and a set of future actions built around four pillars: (a) restoring fiscal sustainability; (b) safeguarding financial stability; (c) enhancing competitiveness and growth; and (d) modernising the State and the Public Administration.

Interventions introduced by Law 4336/2015 include new tax measures concerning the following:

– Increase in the rate of advance tax for farmers from 27.5% to 55% as of 2015.

13 "Emergency provisions on the negotiation and conclusion of an agreement with the European Support Mechanism (ESM)".
14 See Law 4336/2015 below.
15 Although a 23% VAT rate on food services has been legislated already since 2012, the Greek government had managed to exceptionally impose a 13% rate on an annual basis.
16 This provision was ultimately abolished by Law 4346/2015 (see below).
17 See below.
18 "Ratification of the Draft Agreement on Financial Assistance from the European Stability Mechanism and provisions implementing the Financing Agreement".

– Increase in the rate of advance tax for partnerships and the self-employed from 55% to 75% as of 2016 and to 100% as of 2017.

– Limitation of tax exemptions for the shipping industry by the introduction of a 4% annual increase in tax and contribution rates from 2016 through 2020 for A class ships flying the Greek flag and Greek ships flying a foreign flag and extension of the special contribution of the shipping community[19] to 2018.

– Tightening of the 100-instalment scheme.[20] For taxpayers with debts over €5,000 and, under certain conditions, for those with debts below €5,000, the interest rate on monthly instalments has risen to 5.05%. At the same time, the tax administration has been enabled to introduce criteria in order to reduce the number of instalments.

– Amendments to the VAT regime, including a reduction of the VAT rate on beef from 23% to 13%,[21] the imposition of 23% VAT to private schools[22] and the total abolition of reduced VAT rates in all islands by end-2016.

– A lower garnishment threshold for debts to the State. In particular, the garnishment threshold for wages, pensions and social security benefits has been lowered from €1,500 to €1,000 and the garnishment ceiling has risen from 25% to 50-100%. Moreover, the garnishment threshold for deposits of natural persons has been lowered from €1,500 to €1,250.

– Arrangements regarding the Unified Property Tax (ENFIA). In particular, the law provides that the 2015 tax shall be paid in five monthly instalments from October 2015 to February 2016.

– Implementation of procedures to ensure a faster and more effective garnishment of bank deposits for those with debts to the State.

– Abolition of the 2% tax discount for the one-off payment of the income tax for incomes acquired after 1 January 2015.[23]

– Abolition of the 26% cross-border withholding tax on imports.[24]

Pursuant to Law 4336/2015, Law 4337/2015[25] was adopted in October. It includes inter alia provisions of a fiscal nature. More specifically, this law:

– Redefines the "crime of tax evasion" to include the hiding of income from any source whatsoever and the non-payment of VAT.

– Reshapes the framework applicable to tax violations by rationalising fines and introducing favourable terms for the settlement of pending cases of false and fictitious invoices in order to improve collectability.

– Provides that ENFIA will be imposed on the entire value of a property and that it will be applicable retroactively as from 1 January 2015 to traditional settlements and properties over 100 years of age.

Another set of fiscal interventions is included in Law 4342/2015[26] of November 2015, which stipulates the following:

– Excise taxes on diesel oil for farmers shall gradually rise from €66 to €200 per kilolitre as of 1 October 2015 and to €330 per kilolitre as of 1 October 2016.

19 Provided for by Law 4301/2014 and applicable for four years (2014-2017).
20 See above regarding Law 4321/2015.
21 The increased VAT rate on beef had already been introduced by Law 4334/2015.
22 This measure was initially suspended until 16 November 2015 and was finally abolished in November by Law 4346/2015 (see below).
23 It had been provided for by Law 4328/2015.
24 This provision was adopted by Law 4321/2015, see above.
25 "Measures for the implementation of the agreement on fiscal targets and structural reforms".
26 "Provisions regarding pensions, transposition into Greek law of Directive 2012/27/EU of the European Parliament and of the Council, of 25 October 2012, on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, as amended by Council Directive 2013/12/EU, of 13 May 2013, adapting Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, by reason of the accession of the Republic of Croatia and other provisions".

– The 100-instalment scheme has been amended[27] and a property criterion has been added. In particular, in case of an overdue debt to the State of up to €5,000, the interest rate remains at zero, as long as the total objective value of buildings and urban land owned by the debtor does not exceed the amount of €150,000. If it exceeds this ceiling, then instalments shall bear interest.

In line with the Financial Assistance Facility Agreement, Law **4346/2015**[28] of November 2015 introduced one more set of prior actions. In particular, the fiscal provisions in this law are as follows:

– Stricter requirements have been introduced for not expelling a debtor from the 100-instalment scheme. In particular, the 30-day time limit for paying an instalment in order for a debtor to remain within the scheme shall be phased out by 1 January 2018.

– A new provision has been adopted for the non-taxation of rents that have not been collected.

– VAT on private education is abolished.[29]

– A lottery tax has been introduced (as a first equivalent to VAT on education).

– An excise tax on wine has been introduced (as a second equivalent to VAT on education).

– Road taxes have been redesigned.

Finally, decision POL. 1009/18.1.2016[30] of the Ministry of Finance readjusted[31] zonal values under the system of objective determination of the value of real property, as well as the marketability rates. In particular, there has been no change for zonal values €400-€600 and €4,000-€8,800, while reductions for remaining zonal values range from 4% to 19%. Marketability rates have been reduced, whereas building rates, the tables of land plot values and the ground floor development rates, as well as the charts mapping zonal values have remained unchanged. The new zonal values and marketability rates are retroactively applicable as of 21 May 2015.

27 This provision was included in Law 4321/2015, see above.
28 "Reform of the Pension System in the Public Sector and similar provisions".
29 Provided for by Law 4336/2015 (see above), but never implemented.
30 "Readjustment of prices under the system of objective determination of the value of real estate in urban lands across Greece transferred for any reason whatsoever".
31 The last readjustment of zonal values had been made in 2007.

VII MONEY, CREDIT, BANKS AND INSURANCE UNDERTAKINGS[1]

Heightened uncertainty in the first half of 2015 adversely affected bank deposits, worsened the quality of banks' loan portfolios and eventually warranted the imposition of capital controls. Uncertainty did not substantially affect the progressive slowdown in the annual rate of decline in bank credit to the private sector of the Greek economy or the downward course of bank lending rates. Although uncertainty eased in the second half of the year, economic recession had already set in. This prompted a Comprehensive Assessment (from mid-August 2015), which found that the capital base of credit institutions needed to be enhanced. The recapitalisation of banks took place towards the end of the year, while important legislation was passed in order to address private sector NPLs.

1 OVERVIEW OF DEVELOPMENTS AND PROSPECTS

Uncertainty was a key driver of developments in bank deposits during 2015. The rekindling of uncertainty due to the protracted negotiations with Greece's international creditors in the first half of the year led to substantial deposit outflows, while the reduction of uncertainty following the agreement reached in the Euro Summit of early July and the new Financial Assistance Facility Agreement of August 2015, in conjunction with the imposition of capital controls, minimised outflows.

The decline in lending rates for non-financial corporations, both in nominal and real terms, combined with the favourable effect of the earlier restructuring and resolution of banks and the acceleration of the annual growth rate in 2014 and in early 2015, can explain the slowdown in the annual rate of decline in bank credit to non-financial corporations. By contrast, according to the bank lending survey, both supply and demand for loans to enterprises declined quarter-on-quarter in 2015. Box VII.1 examines the main drivers of supply and demand for corporate loans over the last 21 years and discusses developments over a period that more or less coincides with the Greek crisis.

Uncertainty and the concomitant economic downturn in 2015 affected the banking system. Indicatively, over the January-September 2015 period the ratio of non-performing exposures to total bank loans increased, capital adequacy ratios fell and losses rose compared with the corresponding period of 2014. Given these trends, in the third quarter of the year a Comprehensive Assessment exercise was conducted in order to identify, under two alternative scenarios, the capital needs of credit institutions, which were eventually covered mostly through private funding and secondarily with funds supplied by the Hellenic Financial Stability Fund.

Given the replenishment of banks' capital and the recent enhancement of the legal framework on NPLs, the credit system's capacity to support economic growth appeared improved at end-2015 and in early 2016.

2 BANK DEPOSITS AND INTEREST RATES

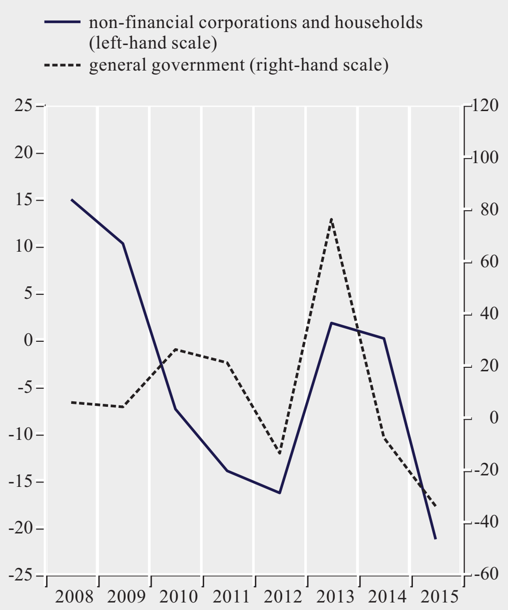
Uncertainty peaked during the protracted negotiations with international creditors in the first half of 2015. In spite of the fact that nominal GDP increased in the second quarter (following repeated quarterly decreases), deposits declined considerably (see Chart VII.1). The public hoarded banknotes, while part of deposits was transferred abroad.

The imposition of restrictions on cash withdrawals and capital transfers helped to contain outflows. Besides, incentives for deposit outflows weakened after 12 July 2015, when a new agreement was reached in principle between the Greek government and Greece's international creditors during the Euro Summit, which contributed to a decisive reduction of uncertainty. On 19 August 2015, the Financial Assistance Facility Agreement was signed, which

1 The cut-off date for information and data used in this Chapter is 4 February 2016.

Chart VII.1 Sectoral breakdown of deposits with domestic credit institutions (2008-2015)

(annual percentage change, annual average)



Source: Bank of Greece.

contributed to a further easing of uncertainty. Given the limit imposed on cash withdrawals, overnight deposits became increasingly important as a means of payment, particularly following the mass issuance of new cash cards, mainly debit cards. This development has helped to reduce transaction costs in the economy and can bring about multiple benefits if it prompts the adoption of new transaction habits.

Between November 2014 (when political developments started to fuel uncertainty) and June 2015, bank deposits of non-financial corporations and households,[2] the ones worst affected by uncertainty (and most benefiting from economic activity and deposit rates), decreased by €40.5 billion (i.e. by 26%). The outflow of deposits in January 2015 was the largest since the onset of the Greek crisis in the fourth quarter of 2009. Already as of end-2014, outflows started to be recorded also from general government deposits with the banking system, as well as from non-residents'[3] deposits.

It is estimated that the percentage of banknotes and coins outside the banking system in M3 in Greece[4] averaged almost 25% in the first half of 2015 (2014: 16%) due to hoarding, against 10% in the euro area as a whole. At the same time, the flight of capital in the first half of 2015 was the largest on a half-yearly basis since the end of 2009. In contrast with the past, when funds were mostly transferred to deposits outside Greece, capital outflows in early 2015 primarily took the form of investment in mutual funds. The amount of these holdings is likely to reflect expectations of capital gains as a result of the quantitative easing policy implemented by the Eurosystem and other major central banks internationally, but it can also reflect some improvement in the returns of money market funds in the euro area.

Following the decline in uncertainty and the imposition of capital controls, the deposits of non-financial corporations recorded an increase by €3.4 billion in the period July-December 2015, while household deposits continued to decline, although at a very slower pace (by €350 million on average per month, against an average monthly decline of €5 billion in the first half of the year). The decline in private sector deposits, which is consistent with the onset of recession and the drop in interest rates, was also attributable to the payment of household and corporate taxes due by the end of the year. Nevertheless, total deposits in Greek banks (excluding non-residents'[5] deposits) increased by €3.2 billion in the period July-December 2015. A return of banknotes to banks amounting to €2.8 billion

2 In addition to deposits of non-financial corporations and households, total deposits in the Greek banking system include the deposits of financial corporations, general government and non-residents, excluding interbank deposits.
3 The cumulative outflow from all deposit holding sectors in the period November 2014-June 2015 amounted to €52.9 billion or 27.5% of the initial outstanding balance in October 2014.
4 To be precise, "M3 in Greece" means the sum of banknotes and coins put into circulation by the Bank of Greece, plus the Greek contribution to the monetary aggregate M3 of the Monetary Union, i.e. total bank deposits in Greece with an initial maturity of up to two years, excluding, however, non-euro area residents', central government and interbank deposits.
5 Non-residents' deposits were strongly affected in November 2015 by technical factors in the context of banks' recapitalisation.

was recorded (by the end of the year), while in the period July-November 2015, for which data are available, deposits of €1.9 billion were repatriated.

Renewed confidence – as progress is made in the implementation of the new Financial Assistance Facility Agreement – and the completion of the recapitalisation of domestic credit institutions laid the ground for a return of more savings to Greek banks. Besides, the attractiveness of domestic deposits will increase as capital controls are relaxed.

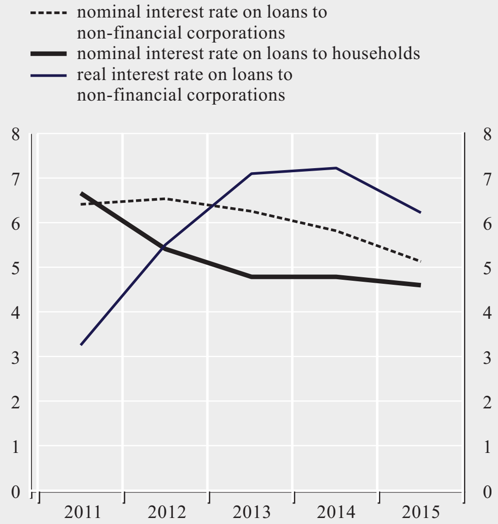
Interest rates on households' new time deposits, following continuous declines in previous years, were maintained almost unchanged to 1.8% in the first half of 2015. Interest rates on enterprises' new time deposits recorded a small increase. As large deposit outflows were recorded in this period, banks refrained from reducing interest rates so as not to worsen the situation. Banks cut interest rates on new time deposits only after weekly cash withdrawals from bank accounts were capped (average interest rate in the July-December 2015 period: 1.1% for households). The drop in interest rates was sharp in the July-August period, but seems to have slowed down noticeably ever since (average monthly reduction in households' time deposit interest rates in 2014: 8 basis points, July-August 2015: 31 basis points, September-December: 13 basis points). Compared with the interest rates on time deposits, overnight deposit rates (average interest rate in 2015: 0.2% for households) recorded very low volatility in 2015, as was also the case in previous years.

3 LENDING RATES AND BANK CREDIT

Interest rates on bank lending to non-financial corporations declined considerably (average 2015: 5.1%, 2014: 5.8%, see Chart VII.2). The overall cost of bank credit to households, including housing loans and consumer credit, declined slightly (average 2015: 4.6%, 2014: 4.8%).

Chart VII.2 Interest rate on new loans to businesses and households (2011-2015)

(percentages % per annum, yearly average)



Source: Bank of Greece.
Note: Real interest rate is the nominal interest rate minus the HCPI.

Lending rates fell also in real terms[6] (2015 average real interest rate on bank credit to non-financial corporations: 6.2%, to households: 5.7%), partly due to the slower decline of prices in relation to the levels in the beginning of the year. Real interest rates (calculated in a simple manner, i.e. ex post) are still relatively high, in comparison with the average in the period from January 2003 onwards, i.e. since the Eurosystem started to publish harmonised interest rate data (non-financial corporations: 3.6%, households: 4%). Real interest rates, however, have fallen from the highs (non-financial corporations: 9%, households: 7.5%) they had reached earlier during the crisis (to be precise, in November 2013).

6 The real interest rate in a given month is that month's nominal rate minus the year-on-year inflation rate of the same month. Given that for most of the year the inflation rate was negative, the real interest rate equals the nominal interest rate plus the absolute value of the deflation rate. This calculation may overestimate the long-term real interest rate, which, according to theory, should be imputed on the basis of long-term inflation expectations, given that negative inflation is a temporary phenomenon. Nevertheless, there is no published series for medium- or long-term expected inflation in our country.

This implies that incentives for undertaking fixed investment or purchasing consumer durables, as well as the dynamics of private debt to banks, have improved in comparison with the earlier phases of the crisis. Therefore, conditions are in place for setting in motion a virtuous circle between stronger aggregate demand and further improving financial conditions.

The decline in lending rates and the rise, in the first half of 2015, in real annual GDP are likely to have contributed to boosting demand for bank credit and mitigating credit risk, which encourages credit supply. These favourable effects in the first half of 2015 were partly reversed as the economy went into a new recession in the second half of the year. However, the recent restructuring and consolidation of the banking system are estimated to have created the appropriate conditions for increasing the supply of bank credit in 2015 as compared with the immediately preceding years.

Both demand and supply have been adversely affected, as would be expected, by the rekindling of uncertainty, in the first half of 2015, which contributed to a major decline in bank liquidity. In addition to the outflows of retail deposits it triggered, uncertainty also hampered banks' access to international financial markets. The loss of liquid assets was partly offset by commercial banks through recourse to central bank funding. Nevertheless, the total assets of the banking system shrank by 3% in 2015 (against a decrease of 2.4% in 2014). If, however, central bank funding had not increased, the decline in the total assets of commercial banks would have been larger and bank credit to the domestic private sector, instead of falling by 2.2% on average, would have recorded a stronger decline.

Finally, the stock of non-performing loans continued to constrain banks' lending capacity. Information on the empirical data and estimates of the four significant banks themselves regarding developments in supply and demand for bank credit to non-financial corporations in 2015[7] are provided in section VII.4.

The interaction between changes in supply and demand, which are deemed likely on the basis of the aforementioned analysis (and irrespective of banks' estimates), must be reflected in the evolution of the annual change rates of credit aggregates.[8] In 2015, the annual rate of decline in bank credit to non-financial corporations gradually decelerated (December 2015: -1.2%, 2014 (year average): -4.4%). Likewise, the annual rate of decline in consumer credit slowed down slightly (2015 average: -2.6%, 2014: -2.9%). This means that developments in corporate and consumer bank credit were less unfavourable in 2015 —in the sense that bank credit decreased, but at a slower pace— in comparison with 2014. On the other hand, the annual rate of decline in housing loans appears on average slightly stronger in 2015 (-3.4%) against the previous year (2014: -3.2%).

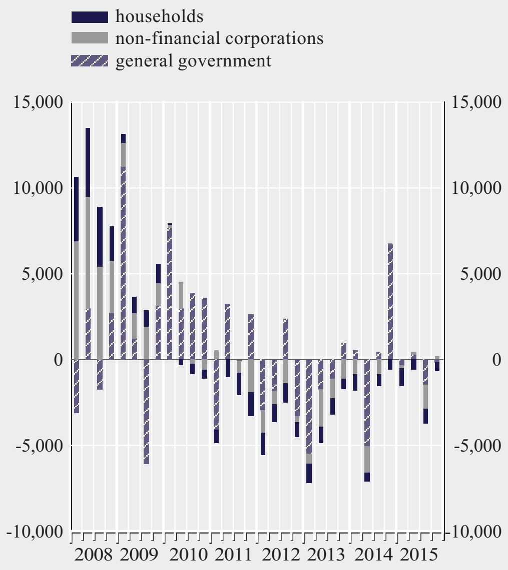
The annual rate of change in credit to general government by the domestic banking system remained positive and overall accelerated in 2015 (11.6% on average in 2015, against -8.1% in 2014). Thus, the share of general government in total current credit provided by domestic credit institutions to the domestic economy increased from 13% in 2014 to 14.4% in 2015. This is explained by the fact that up to July 2015 no borrowed funds flowed into the country from international creditors. Thus, the general government borrowing requirement was met by the domestic banking system, which, on the one hand, absorbed the bulk of central government's regular Treasury bill issues and, on the other hand, granted short-term loans. It should be pointed out that a net positive flow of bank credit to general government was recorded in the second half of 2014 (the largest half-yearly net flow since the second half of 2010), while in 2015 the cumulative net flow of bank credit to general government was negative (see Chart VII.3).

7 The survey compares conditions in each quarter of 2015 with those in the immediately previous quarter, rather than with the corresponding period 12 months earlier, as is the case in the present section.

8 The simplifying assumption is made that the credit aggregates recorded by statistics coincide with the "equilibrium level", i.e. the intersection of the credit supply and demand curves.

Chart VII.3 Bank credit to the private sector and general government (2008-2015)

(three-month cumulative net flow, in EUR millions)



Source: Bank of Greece.

The gradual decline in uncertainty has helped to strengthen the capacity of Greek banks to finance the real economy. Nevertheless, a more active management of loans in arrears is required, in order to mitigate their adverse impact on banks' lending capacity. The legal framework adopted recently encourages this necessary development. A similarly expansionary effect on the supply of credit will result from the recent recapitalisation.

As further progress is made with the implementation of the new Financial Assistance Facility Agreement in the run-up to the completion of the first review, it is reasonable to expect that: (a) the Governing Council of the ECB will reinstate the waiver for Greek government bonds in Eurosystem monetary policy operations; and (b) these bonds will be included in the Eurosystem's expanded asset purchase programme. These measures would considerably strengthen the liquidity (and, therefore, the lending capacity) of Greek banks at a very lower funding cost in comparison with 2015. Finally, the EU guarantee and co-financing programmes for loans granted by Greek banks will continue to support credit supply. It should be noted, however, that the absorption rate of these programme funds, on the basis of recent data covering most of 2015, fell by almost 45% year-on-year, a development which has to be reversed as soon as possible.

4 RESULTS OF THE BANK LENDING SURVEY REGARDING CREDIT TO NON-FINANCIAL CORPORATIONS[9]

Credit standards[10] for loans to non-financial corporations started to tighten in the second quarter of 2015, after remaining unchanged for about one year and a half.

Credit institutions attributed the tightening of credit standards to: (1) the difficulties they encountered in attracting deposits and accessing open financial markets for funding to finance their lending activities; (2) the ensuing pressures on their liquidity, which had become evident already since early 2015; and (3) pressures on their capital base as of the third and fourth quarters of 2015. It should be pointed out that constraints on banks' capacity to raise liquidity or on their capital adequacy had last been recorded in the bank lending survey of the first quarter of 2013.

Indeed, as mentioned above in Section VII.1, in the first half of 2015 large deposit outflows were recorded (in monetary and banking statistics). There is also evidence that credit institutions' access to the cross-border interbank market was drastically limited. Nevertheless, these developments were reversed in the third quarter of 2015, a fact not reflected in the survey results. However, responses to the survey were consistent with an increase in the percentage of non-performing exposures, as

9 Responses to the survey are described as aggregated for the whole of the sample (rather than on an individual bank basis). Namely, the evolution of the unweighted average of the responses of the four significant domestic banks is described.
10 A definition of credit standards is given in Box IV.3.

pointed out in Section VII.6, according to data for the first nine months of 2015.

Banks reported that the tightening of credit standards was also due to a deterioration of expectations as from early 2015 regarding: (1) Greece's macroeconomic outlook and, in particular, (2) developments by sector of economic activity. It should be pointed out that a tightening of credit standards as a result of macroeconomic or sectoral developments had to be reported since 2013. Another reason reported for tightening credit standards was (3) a worsening of credit institutions' estimates regarding the "liquidity" of collateral (i.e. the ease of liquidating collateral and the realisable value of collateral). Furthermore, another reason for the tightening of credit standards reported by banks was (4) their reduced risk tolerance.

Undoubtedly, forecasts of economic developments in Greece were revised downwards during 2015. Thus, banks justifiably considered, as shown by the survey, that Greece's macroeconomic outlook had deteriorated. As regards the liquidity of collateral, it should be noted, by way of illustration, that according to the indices published by the Bank of Greece, the prices of real estate (both residential and commercial), which is the predominant form of collateral that backs bank lending, indeed declined constantly between the fourth quarter of 2014 and the fourth quarter of 2015, while it is well-known that the value of transactions in the real estate market is progressively declining. These developments justify the aforementioned finding of the bank lending survey, i.e. that banks estimate that the liquidity of collateral has declined.

As regards developments in the terms (interest rate and non-interest rate) and conditions of bank lending[11] to non-financial corporations, a worsening was recorded throughout 2015. According to banks' responses, changes included: (1) a widening of their margins; (2) with the exception of the first quarter, increased non-interest rate charges; (3) reduced amount and maturity of the loans granted; (4) imposition of stricter loan covenants;[12] and, finally, (5) a tightening of collateral requirements on borrowers. As regards demand for bank loans, demand from non-financial corporations fell gradually throughout 2015, after one and a half year of continuous increases.

The quarterly net flow of new corporate loans, which is calculated in the context of monetary and banking statistics, declined in the first quarter and, most notably, in the third quarter of 2015, while it increased in the second and fourth quarter-on-quarter (see Chart VII.3). If, alternatively, to better match statistics with the concept of the survey questions, available data on gross monthly flows[13] are taken into account, banks' lending activity increased between the fourth quarter of 2014 and the first quarter of 2015, and progressively declined in the second and third quarters, before recovering in the fourth quarter to levels close to those of the first quarter. The reduced credit flows in the second and third quarters of 2015 and the continuous decline throughout 2015 in the levels of bank credit to non-financial corporations are basically consistent with the picture of simultaneous declines in both supply (as evidenced by the aforementioned tightening of credit standards

11 A definition of the terms and conditions of bank lending is given in Box IV.3.

12 Loan covenants are designed to protect lenders by preventing borrowers from taking certain actions which could weaken their repayment capacity. They include affirmative, restrictive, negative and default covenants. Affirmative covenants lay down various obligations of the debtor, such as to maintain a minimum amount of working capital and mandatory approval of changes in the management of the debtor company by the lender. Restrictive covenants (i.e. covenants that limit the scope of certain actions of the borrower) may cap the dividends that a debtor may distribute and the remuneration and benefits (e.g. loans) paid to the borrower's staff, as well as the fixed investment it is allowed to make. Negative covenants (i.e. covenants by which a debtor pledges to refrain from certain actions) may prohibit the borrower from mobilising its assets as collateral in favour of third parties (i.e. other than the lender), selling certain assets or merging with another enterprise. Finally, when default occurs, the loan becomes immediately due and payable. For example, a default covenant is often triggered if the borrower defaults on a payment not only to the lender (e.g. if the loan is not duly serviced), but also to third parties, if the information submitted to the bank by the borrower is deemed untrue, etc.

13 That is, if principal payments on existing corporate loans during a month are not deducted from the monthly disbursement of new loans.

and lending terms) and demand for corporate credit drawn by the survey results.[14]

In their responses to the bank lending survey, banks reported that the fall in demand for corporate loans is mainly accounted for by (1) a decrease in enterprises' financing needs for fixed investment and working capital. In addition, they reported that a significant dampening effect came from (2) the relative scarcity of mergers and acquisitions and other similar restructuring in the corporate sector; (3) the level of lending rates; and (4) the use of internal financing (through saving).

It is a fact that the nominal value of private gross capital formation (as recorded in national accounts) declined in the first three quarters of 2015. Nominal GDP also followed a broadly downward path from end-2014, a development at first sight consistent with a lower need for working capital.[15]

Also, the survey posed *ad hoc* questions to the banks and the responses suggest the following:

– After more than two years of continuous improvements (or no change) on a quarterly basis in credit institutions' ability to raise deposits from the retail market, as well as from the *unsecured* interbank market, during the whole of 2015 the sample banks reported the sharpest deterioration in their access to such markets —most notably in the first, second and third quarters— since 2007, when the relevant questions were first included in the survey.

– In the second and fourth quarters of 2015, Greek banks were asked about their participation in the targeted longer-term refinancing operations (TLTROs) of March and December 2015, respectively, as well as about their expectations in relation to the next TLTROs. Many of the Greek banks in the sample responded that the funds obtained through TLTROs were used, on the one hand, for granting new corporate loans (and, to a lesser extent, consumer loans) and, on the other hand, as a substitute for retail deposits, as well as to repay other Eurosystem refinancing operations. Some positive impact of TLTROs can also be detected in banks' profitability and liquidity. It appears that although Greek securities, which form an important part of domestic credit institutions' securities portfolio, could not be accepted as collateral, the Greek banking system continued to benefit to a certain degree from the non-standard measures implemented by the Eurosystem.

5 RESULTS OF THE SURVEY ON THE ACCESS TO FINANCE OF SMALL AND MEDIUM-SIZED ENTERPRISES IN GREECE

The answers given by a sample of small and medium-sized[16] enterprises in Greece in the context of the last two rounds of the Survey on the access to finance of enterprises (SAFE),[17] which cover the period April-September 2015 and October 2014-March 2015 ("reviewed period"),[18] are as follows:[19]

Access to (external) financing remained a dominant concern in Greece in 2015 (average

14 Nevertheless, if a comparison is made between 2015 and 2014 rather than between successive quarters, the negative cumulative net flow of bank credit to non-financial corporations has shrunk dramatically by about 65% in absolute terms (which suggests relatively more ample bank financing in 2015 as compared with 2014). On the other hand, the cumulative gross flow of bank loans to non-financial corporations was lower in the first half of 2015 than in the second half of 2014 and registered a further strong decline (of about 50%) in the second half of 2015 in comparison with the first half of the year, which is consistent with the survey finding of a progressive decline in both supply and demand for bank financing in 2015. The algebraic increase in the net flow of bank credit to non-financial corporations in 2015 in comparison with 2014, in combination with indications of a decrease (between successive six-month periods) in the gross flow of bank credit, suggests that new credit in 2015 did not increase, but rather principal payments on existing bank loans to non-financial corporations declined in comparison with 2014.

15 On the other hand, employment increased in the second and third quarters of 2015, although wage costs (total dependent labour wages) across the economy declined.

16 These enterprises are divided into micro (1-9 employees), small (10-49 employees) and medium-sized (50-249 employees) enterprises.

17 The Survey is conducted by the European Commission and the ECB every six months in the euro area countries.

18 Below we refer jointly to these two periods as the "reviewed period", which stretches from October 2014 to September 2015.

19 Specifically, as from 2010 the sample of Greek enterprises includes around 500 enterprises from industry, construction, trade and services, with the exception of the period October 2014-March 2015, when the number of enterprises was expanded to around 800.

percentage of enterprises that reported this as their most important problem in the reviewed period: 32%), as in all previous rounds of the survey. In the last survey, enterprises in Greece rated this problem with an 8 (from 7 in previous years) on a scale of 1-10 (10 being the most important). Other problems with much lower ranking include finding customers (10%, significantly milder since 2012); competitive pressures; the regulatory and supervisory framework; the costs of production or labour; and the availability of skilled labour.

Regarding sources of financing, the survey confirms that trade credit[20] constitutes the commonest form of corporate finance (63% of enterprises replied that they had been financed through trade credit in the period April-September 2015), followed by straight bank loans and co-financed bank loans, i.e. credit of a precise amount with a fixed maturity (53% and 49% respectively); short-term bank finance[21] and leasing (31%); equity capital (27%); internal financing and other non-bank loans[22] (17%); and, finally, factoring (15%).

On the side of *demand* for external financing, the survey found that the needs of Greek enterprises increased in the reviewed period, continuing a trend already observed. Specifically, the need for bank loans (with a fixed maturity) continued to rise in the last two rounds of the survey for a gradually increasing net percentage[23] (average net percentage October 2014-September 2015: 31%, against 25% in the April-September 2014 period). It should be pointed out, however, that the net percentage of enterprises reporting increased needs for bank loans remained well below the high recorded in the April-September 2012 period (51%).

The last rounds of the survey recorded an increased need for short-term bank financing[24], as compared with other sources of financing – actually, the frequency of such reports rose in the course of 2015 (average net percentage of enterprises reporting an increased need for this type of financing in the reviewed period: 42%, against 40% in the April-September 2014 period and 51% in the same period of 2012). The need for trade credit also increased in the sample (average net percentage of enterprises reporting an increased need for this type of financing in the reviewed period: 36%, up from 32% in the period April-September 2014, against 40% in the same period of 2012). The heightened need for short-term bank financing and trade credit probably reflects the economic upturn in the first half of 2015, as well as the more pressing liquidity problems facing mainly smaller-sized enterprises in the second half of the year following the imposition of capital controls.

Generally, according to enterprises' responses to the relevant question of the survey, the purpose of financing (from internal or external sources) in the reviewed period was mainly to cover current needs in inventory and working capital (average percentage of enterprises which replied that this factor was the main purpose of financing: 42%, against 35% in April-September 2014) and, secondarily, to refinance or pay off old debts (36%, against 25% in April-September 2014). Developing and launching new products (average percentage of enterprises in the reviewed period: 24%, against 17% in April-September 2014), fixed investment (22%, against 18%) and hiring and training of employees (11%, against 6%) were cited as primary sources of financing needs in the beginning of the reviewed period (i.e. during October 2014-March 2015); however, the importance of these factors declined subsequently, in line with a downward revision of expectations for economic growth in the coming years.

On the supply side of external financing, an increasingly large number of enterprises

20 Trade credit means, according to the survey, paying suppliers at a later agreed date, usually 30, 60 or 90 days after the delivery of the purchased goods or services.
21 Namely, overdrafts on current accounts and credit lines.
22 For instance, loans from family or friends, a related enterprise (e.g. a company belonging to the same group) or shareholders.
23 Net percentage of enterprises means the percentage of enterprises that reported increased financing needs minus the percentage of enterprises that reported reduced financing needs.
24 See footnote 21.

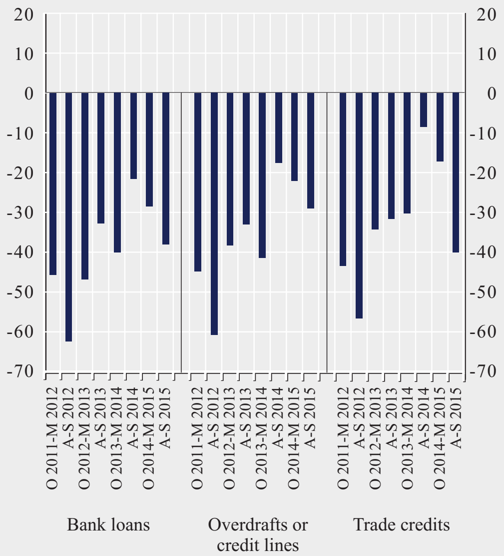
reported that in the reviewed period the availability of bank financing (in the form of loans or bank overdrafts and credit lines, see Chart VII.4) was reduced (net average percentage[25] of enterprises which reported reduced availability of bank financing in the reviewed period: -29%, against -19% in the period April-September 2014). It should be noted that the April-September 2014 period saw the smallest deterioration in the availability of bank and trade credit since the conduct of the survey began (2009). However, in spite of the recent worsening in the availability of bank financing, the frequency of relevant reports by enterprises is well below the April-September 2012 trough (-61%). A similar picture is also evident in the frequency of reports of reduced availability of trade credit, whose recent deterioration was, however, fairly stronger (net average percentage of enterprises which reported that the availability of trade credit was reduced in the reviewed period: -40%, from -17% in the period April-September 2014, against -56% in the same period of 2012). This probably reflects the fact that the imposition of capital controls on the banking system in mid-2015 hindered the circulation of post-dated cheques as a means of trade credit for various reasons, and reduced their acceptance by creditor entrepreneurs.

All rounds of the survey since 2009 have recorded an external financing gap for Greek enterprises, i.e. a positive difference between the needs of enterprises and the availability of external financing (in aggregate terms across all the alternative means of financing examined by the survey). According to the estimates of Greek enterprises, this gap seems to have widened anew in the two recent surveys (net average percentage: 31%), after gradually narrowing from the high recorded in the April-September 2012 period (53%) to the April-September 2014 low (24%).

Greek enterprises attributed the recent deterioration in the availability of external financing primarily to a worsening of the outlook of the Greek economy (net average percentage of enterprises[26] in the reviewed period: -75%, against -39% in the April-September 2014 period, see Chart VII.5). This negative estimate of enterprises regarding the macroeconomic outlook is stronger in 2015 even in relation to 2012 (-54%). The rekindling of uncertainty since the end of 2014 and, subsequently, the bank holiday and the capital controls imposed on banks in mid-2015 seem to have fuelled concerns among enterprises, while the perceived deterioration of economic condi-

Chart VII.4 Change in the availability of external financing for enterprises in Greece

(over the preceding six months[1]; net percentage of respondents[2])

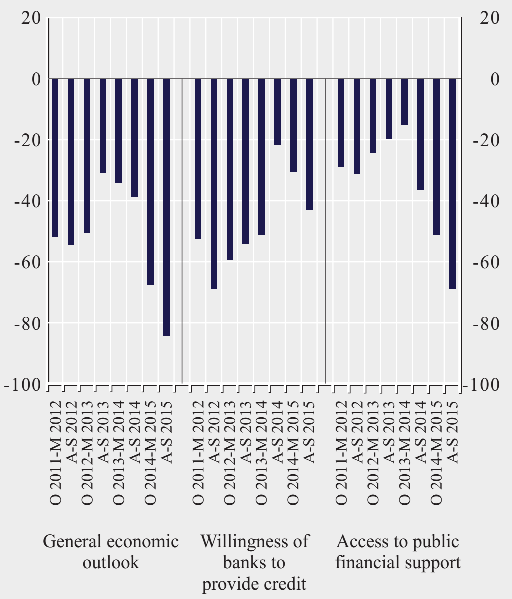


Source: EC/ECB, Survey on the access to finance of enterprises in the euro area.
1 The survey is conducted every six months and from round five onwards figures refer to rounds six (October to March) to thirteen (April to September) of the survey.
2 Net percentages refer to the difference between the percentage of firms reporting an increase and that of those reporting a decline.

25 Net percentage of enterprises means the percentage of enterprises that reported increased availability of financing minus the percentage of enterprises that reported reduced availability.
26 Net percentage of enterprises means the percentage of enterprises which replied that a specific factor affecting the availability of external financing (i.e. the general economic outlook or the firm-specific outlook, the willingness of banks to provide credit or the willingness of suppliers to provide trade credit and access to public financial support) improved and contributed to an increase in the availability of external financing in the reviewed period, i.e. in the last six months, minus the percentage of the enterprises which answered that a specific factor deteriorated and contributed to a decline in the availability of external financing.

Chart VII.5 Change in factors having an impact on the availability of external financing to enterprises in Greece

(over the preceding six months[1], net percentage of respondents[2])



Source: EC/ECB, Survey on the access to finance of enterprises in the euro area.
1 The survey is conducted every six months and from round figures refer to rounds six (October to March) to thirteen (April to September) of the survey.
2 Net percentages refer to the difference between the percentage of firms reporting an increase and that of those reporting a decline.

tions was corroborated, as mentioned above, by the downward revisions of growth forecasts for 2015 and the ensuing years in Greece. Enterprises' access to public financing programmes worsened substantially (-60%, from -36%), a finding consistent with the fact that the absorption rate of funds under programmes run by the Hellenic Fund for Entrepreneurship and Development (ETEAN) and the EIB fell in 2015, as pointed out above, by more than half compared with the previous year. The impact of factors such as the willingness of banks to provide credit (-37%, from -22%) and of suppliers to provide trade credit (-22%, from -2%), as well as the firm-specific outlook (-25%, from +5%), also gradually became more negative, without, however, approaching the strongly negative percentages recorded in 2012.

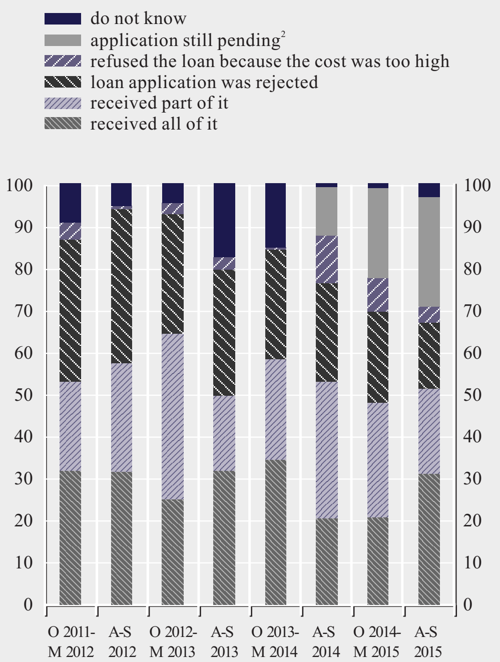
The percentage of enterprises having applied for a bank loan is low in Greece, according to all rounds of the survey, which shows the weakness of demand for bank credit, but also the implications of the strong supply constraints during the financial crisis. Specifically, during the reviewed period, the percentage of enterprises that applied for a bank loan reached 24% in Greece, against 30% in the euro area.

The main reason why enterprises opted not to apply for bank credit in the reviewed period is reportedly the fear of rejection (average of enterprises in the reviewed period: 31%, against 29% in the April-September 2014 period, euro area: 8%), while the percentage of enterprises which reported that they did not apply due to sufficient internal funds is declining (23%, against 26% in the April-September 2014 period). However, the percentage of enterprises having applied for a bank loan increased on average in the reviewed period (24%, from 18% in the April-September 2014 period), while in the latest survey the percentage of requests that were fully or partly satisfied improved (51%, from 48% in the October 2014-March 2015 period) and the percentage of requests that were rejected declined (16%, from 21%, see Chart VII.6). The finding that more loan requests were accepted by banks at first sight is not consistent with the progressive decline in the cumulative gross flow of bank loans (with fixed maturity) to non-financial corporations (of all sizes) between October 2014-March 2015 and April-September 2015 or the increase (in absolute terms) in the negative cumulative net flow of bank credit, which is calculated by monetary and banking statistics. By contrast, the evolution of cumulative bank credit seems to be more in line with the aforementioned finding of the survey rounds that the availability of bank loans, overdrafts or credit lines (at least as regards small and medium-sized enterprises) declined from the period October 2014-March 2015 onwards.

On an *ad hoc* question asked, the Greek enterprises reported that the interest rate on credit

Chart VII.6 Outcome of applications for bank loans in Greece[1]

(over the preceding six months[1]; percentage of enterprises that have applied for a bank loan)



Source: EC/ECB, Survey on the access to finance of enterprises in the euro area.
1 The survey is conducted every six months and from round five onwards figures refer to rounds six (October to March) to thirteen (April to September) of the survey.
2 Due to the introduction of the new category "application still pending" as of April-September 2014, caution should be exercised when comparing the previous results with those of the last three rounds.

lines or overdrafts from checking accounts amounted to 8.5% (median of responses) in the April-September 2015 period, against 8% in the surveys that covered the periods October 2014-March 2015 and April-September 2014. Moreover, in the last survey, 26% of Greek enterprises reported that they had applied for a loan of €25,000-€100,000, 23% for a loan of €250,000-€1,000,000, 21% for a loan of over €1 million, 17% for a loan of €100,000-€250,000 and 11% for a loan of up to €25,000.

Regarding the terms and conditions of bank lending, the majority of Greek enterprises continued to report increases in bank lending rates. Actually, such increases were reported more frequently during the reviewed period than earlier in 2014 (net average percentage of enterprises[27] which reported an increase in interest rates: 18%, against 9% in the April-September 2014 period). These percentages are low in comparison with the high recorded in the April-September 2011 period (78%). With regard to loan terms other than interest rates:

- The net percentage of enterprises which reported an increase in banks' collateral requirements gradually declined in the reviewed period (to 39%, from 54% in the April-September 2014 period and 62% in the April-September 2012 period).

- The net percentage of enterprises which reported a decline in the amount of available bank credit increased in the last two rounds of the survey (to 21% on average, against 13% in the April-September 2014 period and 43% in the April-September 2012 period). Similarly, the net percentage of enterprises which reported a decrease in the available maturity of bank loans rose to 3% on average, against a net percentage of -3% in the April-September 2014 period (when the majority of enterprises had reported an increase in maturity).

- Finally, the net percentage of enterprises which reported a tightening in other bank[28] requirements rose (53%, from 43% in the period April-September 2014).

The evolution of some lending terms and conditions explains why bank loans are not a relevant source of financing for many Greek enterprises. Although many enterprises reported that in the reviewed period they simply did not need a bank loan (44% of the sam-

27 Net percentage of enterprises means the percentage of the enterprises that reported a deterioration in specific terms and conditions of bank lending (i.e. interest rates, collateral requirements, the available amount or maturity of the loan and other bank requirements) minus the percentage of enterprises which reported an improvement.
28 Other requirements include e.g. banks' requirements for credit guarantees, reporting requirements, procedures and in particular the time needed for the approval of a loan or the various clauses incorporated in loan contracts.

ple, against 35% in the April-September 2014 period), several enterprises reported that no bank loans were available to them (22%, against 23% in the April-September 2014 period). Furthermore, 21% of enterprises (against 26% in the April-September 2014 period) reported that the cost of loans was prohibitive, while 8% of enterprises (against 6% in the April-September 2014 period) cited insufficient collateral or guarantees as the main reason why they do not use bank loans as a source of financing.

6 DEVELOPMENTS IN THE BANKING SECTOR

The successful recapitalisation of Greek banks, the bank holiday and the imposition of restrictions on cash withdrawals, cross-border payments, cross-border capital movement and other banking transactions, as well as the smaller than expected impact of capital controls on banks' aggregates are the most important developments in the banking sector for 2015. Specifically with regard to parameters having an impact on the stability of the system, data for the first nine months of 2015 suggest that the quality of banks' loan portfolios deteriorated, while their operating results proved resilient.

In more detail, taking into account the impact of uncertainty during the first half of 2015 as a result of the protracted negotiations with international creditors (e.g. deposit outflow, deterioration in the quality of banks' loan portfolios and, eventually, imposition of capital controls), and pursuant to the decisions of the Euro Summit of 12 July 2015 and the Agreement between the Greek government, the Bank of Greece and the European Stability Mechanism of 19 August 2015, the Single Supervisory Mechanism (SSM) launched a new Comprehensive Assessment exercise in the third quarter of 2015. The Comprehensive Assessment comprised an asset quality review and a stress test on the four significant banks (National Bank of Greece, Alpha Bank, Piraeus Bank, Eurobank). The aim of the exercise was to reassess banks' capital needs in the light of new conditions, which could not have been predicted so as to be incorporated in the assumptions of the Comprehensive Assessment that had been completed a year earlier, in October 2014. A similar exercise was conducted by the Bank of Greece for Attica Bank. The Bank of Greece also stress-tested cooperative banks.

The Comprehensive Assessment, the assumptions of which were particularly conservative,[29] demonstrated the need for a prudential recapitalisation of the four significant banks amounting to €4.4 billion and €14.4 billion under the baseline and adverse scenarios, respectively, and to €857 million and €1,021 million, respectively, for Attica Bank. At the same time, the recapitalisation needs of the cooperative banks totalled €100 million. The release of the results was followed by the determination of the basic principles and terms (Law 4340/2015) under which the Hellenic Financial Stability Fund (HFSF) could participate in the capital increases of the significant banks, if private participation was not sufficient to fully cover their capital needs.[30]

Thereafter banks submitted for approval their capital plans, explaining how they intended to address their capital shortfalls (e.g. liability management exercises, evidence of intent to sell assets). Taking into account these plans, the SSM reduced the initially estimated capital needs of the four significant banks by €0.7 billion, while the Bank of Greece reduced the capital needs for Attica Bank by €0.3 billion.

29 For instance, the required minimum Common Equity Tier 1 (CET1) ratio was set at 9.5% in the baseline scenario and at 8% in the adverse scenario, while the macroeconomic assumptions used were particularly pessimistic (e.g. -2.5% growth rate for 2015).

30 The same law lays down, among other things, the rights of HFSF representatives in banks, as well as the procedures and criteria for the assessment of members of banks' boards of directors. Moreover, Cabinet Act 36/2.11.2015 stipulated that the participation of the HFSF in the capital increase would be in the form of acquisitions of common shares (25%) and contingent convertible bonds (CoCos, 75%). These bonds will bear an interest rate of 8% for the first seven years and an adjustable interest rate after this period (as defined in detail in the Cabinet Act) and will be converted into common shares if the Common Equity Tier 1 Ratio of the credit institution, calculated on a consolidated or on a solo basis, falls below 7%.

Subsequently, the four banks raised an amount of €8 billion through capital increases, of which €2.7 billion through voluntary liability management exercises.[31] All commercial banks covered the capital needs identified in the baseline scenario. Actually, Alpha Bank and Eurobank Ergasias also covered their needs under the adverse scenario through private investors (following the approval of capital mitigating measures). Attica Bank covered about 91% of its needs under the adverse scenario through private investors.

The HFSF covered the remaining capital needs of National Bank of Greece and Piraeus Bank under the adverse scenario (totalling €5.4 billion, of which €1.4 billion euro was covered by shares and the remaining amount by contingent convertible bonds), after the mandatory conversion of the aforementioned banks' preference shares, hybrid capital and junior and senior debt into common shares. Cooperative banks successfully covered their capital needs, with the exception of the Cooperative Bank of the Peloponnese, to which resolution measures were implemented. In particular, deposits with this bank were transferred to National Bank of Greece.

In the January-September 2015 period, banks' net income (before provisions) improved year-on-year, whilst remaining unchanged at banking group level (see Table VII.1). In more detail, net interest income remained almost flat, as a considerable decrease in interest payments offset a decline in interest income. Interest payments fell in spite of increased recourse to emergency liquidity assistance (ELA) from the Bank of Greece, as deposit rates were significantly lower than in the corresponding period of 2014. Net income from commissions and financial operations also declined, while cost-cutting continued.

Additionally, taking into account the new conditions prevailing in the economy, but also the results of the Asset Quality Review, banks considerably increased provisioning for credit risk, as well as for other assets (such as participating interests, bond holdings, etc.) Consequently, banks and banking groups posted significant losses, which were larger than in the corresponding period of 2014.

The quality of banks' loan portfolios deteriorated, reversing the 2014 picture. The ratio of non-performing exposures[32] to total exposures (NPE ratio) rose to 43.6% at end-September 2015, against 39.9% at end-December 2014, deteriorating across all loan categories. Among the various categories of loans, the highest NPE ratio is recorded in consumer loans (55.4%, December 2014: 51.3%), followed by corporate loans (43.3%, December 2014: 39.8%) and housing loans (39.8%, December 2014: 35.6%). Specifically with regard to corporate exposures, in September 2015 high NPE ratios were recorded among micro enterprises and sole proprietors (66.5%), small and medium-sized enterprises (58.2%) and real estate developers (46.3%). Lower NPE ratios have been recorded among large enterprises (28.5%) and shipping companies (26.7%).

The coverage ratio of non-performing exposures (accumulated provisions to NPEs) increased to 48.8% in September 2015 (from 44% in December 2014), as banks duly followed a conservative credit risk provisioning policy. In the January-September 2015 period, banks wrote off loans amounting to €660 million.

At the same time, banks continued their efforts to manage more actively their non-performing loans, to the extent permitted by the uncertainty surrounding the macroeconomic outlook and the course of negotiations with international creditors. Following the completion of recapitalisation, these efforts were intensified.

31 Specifically, the four significant banks submitted proposals for a voluntary swap of their junior and senior bonds for new shares in the context of their capital increases.

32 It should be noted that a uniform definition of the concept of non-performing exposures for all EU countries is given in the Technical Standards of the European Banking Authority (EBA). The main difference between non-performing exposures and non-performing loans, as defined by the Bank of Greece in the past, lies in the fact that non-performing exposures also include exposures that are either performing or are less than 90 days past due, but the debtor is assessed as unlikely to pay its credit obligations in full without realisation of collateral.

Table VII.1 Financial results of Greek commercial banks and banking groups (January-September 2014 – January-September 2015)

(EUR millions)

	Banks			Banking groups		
	Jan.-Sept. 2014	Jan.-Sept. 2015	Change (%)	Jan.-Sept. 2014	Jan.-Sept. 2015	Change (%)
Operating income	**5,185**	**5,242**	**1.1**	**7,978**	**7,663**	**-4.0**
Net interest income	4,392	4,427	0.8	6,417	6,347	-1.1
– Interest income	8,156	7,378	-9.5	11,383	10,604	-6.8
– Interest expenses	3,764	2,952	-21.6	4,966	4,257	-14.3
Net non-interest income	792	815	2.9	1,562	1,316	-15.8
– Net fee income	458	397	-13.4	1,066	993	-6.8
– Income from financial operations	69	-142	-	89	0	-
– Other income	265	560	111.1	407	322	-20.8
Operating costs	**-3,178**	**-2,760**	**-13.1**	**-4,641**	**-4,300**	**-7.3**
Staff costs	-1,796	-1,476	-17.8	-2,531	-2,240	-11.5
Administrative costs	-1,140	-1,078	-5.4	-1,689	-1,679	-0.6
Depreciation	-243	-207	-14.9	-421	-382	-9.2
Net income (operating income less costs)	**2,006**	**2,481**	**23.7**	**3,337**	**3,362**	**0.8**
Provisions for credit risk	-6,115	-9,874	61.5	-6,994	-10,614	51.8
Other impairment losses[1]	-224	-1,135	407.0	-236	-1,055	346.5
Non-recurring profits/losses	53	-156	-	135	-64	-
Pre-tax profits (+)/losses (-)	**-4,280**	**-8,684**	**102.9**	**-3,758**	**-8,370**	**122.8**
Taxes	3,129	3,812	21.8	2,989	3,656	22.3
Profits (+)/losses (-) from discontinued operations	-57	-91	58.5	-236	-163	-30.9
After tax profits (+)/losses (-)	**-1,208**	**-4,963**	**310.8**	**-1,004**	**-4,877**	**385.8**

Source: Financial statements of Greek commercial banks.
1 Impairment losses on securities as well as on tangible and intangible assets.

Moreover, a positive impact is anticipated from the establishment of specific targets for the management of non-performing exposures by the Bank of Greece, which banks are required to achieve. The Bank of Greece will monitor the achievement of these targets by banks on a quarterly basis.

In addition to banks' efforts, a positive development is the first steps taken to accelerate the administration of justice in cases involving non-performing loans, insolvency and bankruptcy with the adoption of Laws 4335/2015 and 4336/2015, as well as government plans to develop methods, tools and independent bodies for the provision of financial education and advice to households and enterprises.[33]

The completion of the institutional framework on the development of a secondary loan market and the operation of firms that will undertake the management of distressed debt (e.g. asset management companies, servicing companies) will contribute positively to the resolution of the problem of non-performing loans. It is self-evident that the development of the above will require the establishment of a stringent regulatory framework for the authorisa-

33 See e.g. the Credit Review Offices (http://www.creditreview.ie) and Money Advice and Budgeting Services (https://www.mabs.ie/) in Ireland, as well as a special publication of the European Banking Federation on best practices and strategies followed by various countries at the European level (http://www.ebf-fbe.eu/wp-content/uploads/2013/11/GoodPracticesReport_European Money-Week-FINAL.pdf) in the direction of educating citizens on financial issues.

tion and supervision of the companies operating in this market. In this direction, the necessary authorisation conditions will have to be laid down promptly, while it must be made clear that the companies operating in the loan market will be subject to strict rules with regard to consumer protection. Besides, companies' actions will have to comply with the provisions of the Code of Conduct. This framework should provide for severe penalties, including withdrawal of authorisation, in case of violation of operating rules.

Notwithstanding the aforementioned actions and their speedy implementation, it is necessary to take measures in order to gradually reduce the burden of non-performing loans on banks and to promote reforms leading to stronger economic activity and, consequently, increased income and reduced unemployment.[34]

Turning to capital adequacy, Common Equity Tier 1 (CET1) on a consolidated basis (i.e. at banking group level) stood at 11.1% in September 2015 (against 13.8% in 2014) and the Capital Adequacy Ratio (CAR) at 11.3% (from 14.1% in 2014). It should be pointed out that, following the completion of banks' capital increases in the fourth quarter of 2015, the above ratios improved significantly. Indicatively, CET1 and CAR ratios are estimated (pro forma) to have reached around 18% at end-December 2015, which is higher than the corresponding European averages (12.5% and 16%). Therefore, an adequate capital buffer has been formed which can absorb the negative impact from increased loan-loss provisions.

7 DEVELOPMENTS IN THE PRIVATE INSURANCE SECTOR

Pursuant to Directive 2009/138/EC, the new supervisory framework for insurance and reinsurance undertakings, known as "Solvency II", entered into force in the European Union on 1 January 2016. As this framework brings about extensive and significant changes in the operation of the private insurance market, 2015 was a year of preparation for both insurers and supervisors across Europe.

Insurance undertakings took large-scale and far-reaching actions to streamline their governance systems, upgrade and modernise their infrastructures, including appropriate management action to limit the risks they are exposed to and improve their solvency. Extensive adjustments were also applied to their information systems, in the context of preparations for the submission of the data and reports required under Solvency II to the supervisory authorities as from 2016.

Low interest rates in the euro area continue to pose challenges to the profitability and the sustainability of undertakings, particularly those in the life insurance industry, hindering their efforts to fulfil guaranteed interest rate commitments.

In Greece, the protracted recession and the decline in consumers' real income continue to negatively affect growth in the private insurance sector. Gross written premiums of insurance undertakings established in Greece, as at 30 September 2015, were lower by €92.7 million year-on-year. This fall was primarily due to declining activity in non-life insurance and, most importantly, in civil liability insurance for motor and land vehicles, as growing competition in compulsory car insurance led to a further drop in the average premium. Activity in life insurance, mainly in the sectors of health, group retirement and unit-linked insurance plans, recorded a slight increase of just €20.6 million. According to available data as at 30 September 2015, total written premiums amounted to €2.9 billion, of which €1.54 billion euro (52.9%) from non-life insurance and €1.37 billion (47.1%) from life insurance.

In the 2014-2015 period, insurance undertakings in Greece:

34 As regards the impact of economic activity on non-performing loans, see Bank of Greece, *Annual Report 2014*, Box VII.1, pp. 141-143.

a) focused on improving the technical result, irrespective of their insurance class, as investment revenue continues to form a small part of their income;

b) opted for the promotion of insurance products without long-term commitments and high guarantees, a trend observed across the European insurance market;

c) made considerable efforts to modernise their systems and procedures in order to improve corporate governance and comply with Solvency II requirements;

d) through their investment policy, sought to reduce investment risks. European government bonds, foreign corporate bonds, foreign mutual funds and fixed-term deposits constitute the principal options of insurance undertakings in their investment portfolio.

Total assets of insurance undertakings supervised by the Bank of Greece, on the basis of the regulatory balance sheet as at 30 September 2015, amounted to €15.61 billion and total insurance liabilities (technical reserves) stood at €11.85 billion, recording a slight decrease. Of them, €8.4 billion regards life insurance, of which €2.1 billion pertains to insurance provisions of unit-linked contracts, while the remaining €3.45 billion concerns technical provisions for non-life insurance.

The capital adequacy of the insurance market remained stable in spite of the adverse economic environment owing to measures taken by the management of insurance undertakings to ensure adaptation to, and compliance with, the requirements of Solvency II. According to data as at 30 September 2015, the available regulatory capital amounted to €2.51 billion, against a €0.8 billion requirement for the entire market. The corresponding aggregates as at 31 December 2014 were €2.64 billion and €0.82 billion.

On 31 December 2015, 64 insurance undertakings operated in the domestic private insurance market under the right of establishment: 45 of them were based in Greece, 2 were branches of insurance undertakings from third (non-EU/EEA) countries and 17 were branches of insurance undertakings based in EU/EEA Member States which are supervised by the competent supervisory authorities of the home countries.

Box VII.1

BANK CREDIT TO NON-FINANCIAL CORPORATIONS IN GREECE: DEMAND AND SUPPLY FACTORS BEFORE AND AFTER THE COLLAPSE OF LEHMAN BROTHERS

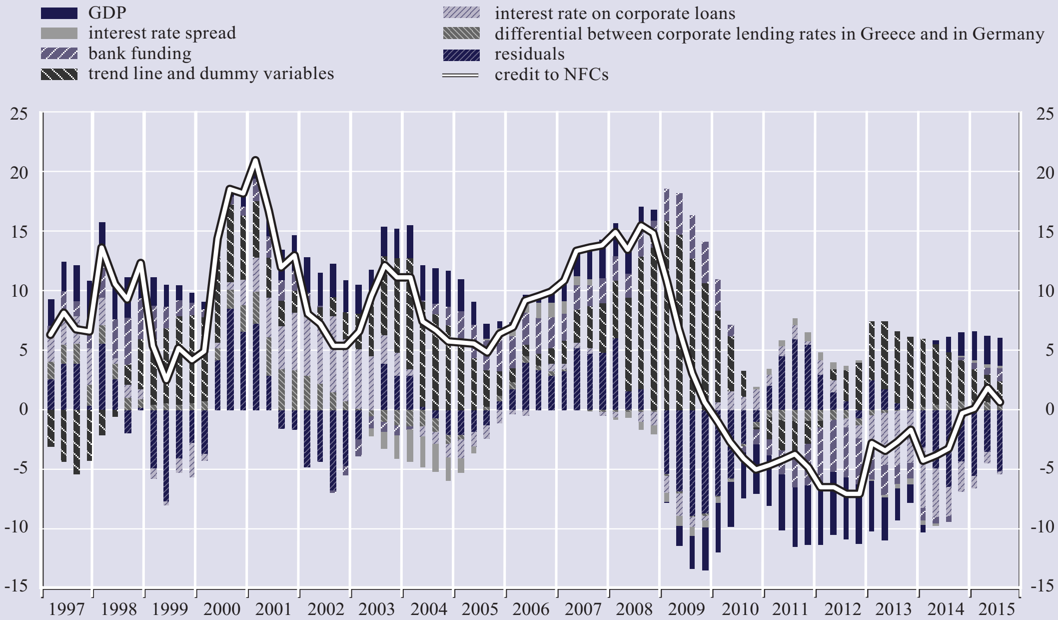
In Greece, bank credit to non-financial corporations has continued to record negative annual rates of change (December 2015: -1.2%). The recovery of bank credit to Greek firms is necessary to stimulate the real economy. Therefore, it is essential to identify the factors that could contribute more effectively to such recovery. To date, the credit contraction has been associated with both loan demand and supply factors. Against this backdrop, it would be useful to assess the extent to which the evolution of credit is driven by weaker demand for new loans by businesses, in line with weak actual production or investment data as captured by GDP, or by strong supply-side effects such as banks' balance sheet constraints. Such an assessment would be relevant for a better targeting of policy measures.

Analysis and empirical results

In order to investigate the relative quantitative contributions of the supply and demand variables to the evolution of bank credit to non-financial corporations, a model using quarterly data is esti-

Chart A Contributions to the rate of change in bank credit to non-financial corporations (NFCs)

(in real terms, annual percentage changes, contributions in percentage points)



Sources: Bank of Greece, econometric estimations, ECB (Statistical Data Warehouse) and ELSTAT.
Contributions are based on the results (regarding the evolution of financing) of different dynamic simulations using the model, successively for each variable. During simulation exercises, it is assumed that the variable remains constant across the sample of observations.

mated for the 1995-2014 period which includes the crisis period, starting soon after the collapse of Lehman Brothers (third quarter of 2008), and the so-called Greek crisis.[1]

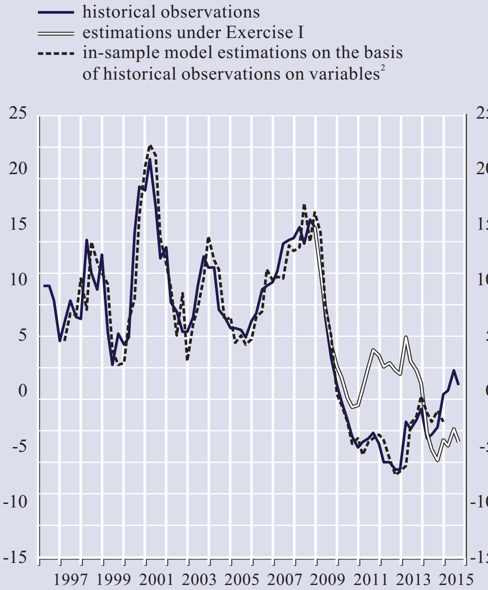
The model[2] includes the outstanding amount of loans (in real terms)[3] as a dependent variable, and real Gross Domestic Product (GDP) and a composite real interest rate on new corporate loans as explanatory variables of loan demand. The explanatory variables of supply comprise: (a) the nominal interest rate margin on corporate loans; (b) the outstanding amount of total bank funding[4] (in real terms) from sources other than domestic banks, i.e. from the central bank, deposits (other than interbank), interbank borrowing from foreign credit institutions and the issuance of bank bonds; and (c) the interest rate spread between Greece and Germany with respect to new corporate lending.[5]

The results show that before the crisis (between 1997 Q1 and 2008 Q4, i.e. in the first two years of the sample period), the growth of corporate loans (in real terms), was driven, in equal measure, by real

1 More specifically, a Vector Error Correction Model (VECM) is estimated using the Johansen methodology, while a long-term supply curve and a long-term loan demand curve are identified. See also a similar study by Sorensen, C.K., D. Marqués-Ibáñez and C. Rossi (2009), "Modelling loans to non-financial corporations in the euro area", ECB Working Paper No. 989, estimating a VECM for bank lending to non-financial corporations across the euro area.
2 The full model is discussed in detail in the technical note: Garganas, E. "Demand and supply of credit to non-financial corporations: model estimates for the BMPE loan projections" (August 2015), Bank of Greece, mimeo.
3 Estimations were based on time series drawn from the ECB Statistical Data Warehouse (SDW) database, as well as on Bank of Greece time series, which have been processed.
4 Data were derived from the monthly financial statements of credit institutions.
5 The coefficient of this variable is expected to have a negative sign: the higher the risk premium embedded in the cost of bank lending to Greek firms compared with the corresponding risk premium in Germany, the higher the interest rate spread. For further details, see Al-Eyd, A. and S. Pelin Berkmen (2013), "Fragmentation and Monetary Policy in the Euro Area", IMF Working Paper, WP 13/208.

Chart B Bank credit to non-financial corporations: Exercise I[1]

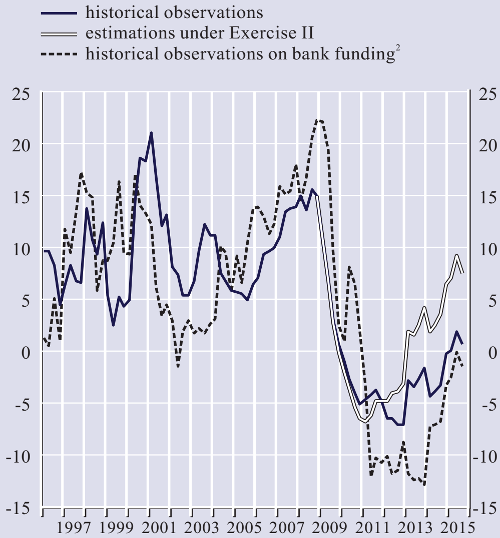
(annual percentage change, in real terms)



Source: Bank of Greece, econometric estimations.
1 Exercise I consists of a dynamic simulation of a model on bank financing of non-financial corporations (NFCs), under the assumption that GDP from Q1 2009 onwards remains unchanged at the level observed in Q4 2008.
2 The estimations indicate that the model fits the sample's historical data (i.e. using a static model).

Chart C Bank credit to non-financial corporations: Exercise II[1]

(annual percentage change, in real terms)



Source: Bank of Greece, econometric estimations.
1 Exercise II consists of a dynamic simulation of a model on bank financing of non-financial corporations, under the assumption that the variable "bank funding" from alternative, non-domestic bank sources from Q1 2009 onwards remains unchanged at the level observed in Q4 2008.
2 Comprising the outstanding amount of funds raised by credit institutions from alternative, non-domestic bank sources, i.e. from the central bank, the accumulation of non-interbank deposits, interbank lending from foreign credit institutions and the issuance of bank bonds.

GDP growth and bank funding availability (in real terms) (see Chart A). The annual declines in the real interest rate on corporate loans and in the interest rate differential between Greece and Germany had broadly positive contributions, particularly during the period when Greek nominal interest rates converged to European levels and borrowers benefited from the steep decline in interest rates.[6,7]

During the crisis (from 2009 Q1 to 2015 Q3, i.e. three quarters after the end of the sample), the recession had obviously the largest contribution to the contraction of corporate loans, a contribution that was considerably higher relative to the pre-crisis period. The return of GDP to positive growth rates had a positive contribution over the 2014 Q2-2015 Q3 period. Declines in bank funding had the second largest negative contribution after GDP. The positive annual change in the real interest rate after 2011, as a result of higher bank lending rates amid heightened credit risk in the Greek economy,[8] also had a sizeable negative contribution.[9]

6 Namely, the sub-period between the first quarter of 1997 and the fourth quarter of 2005.
7 For more details regarding the interpretation of the time trend variable during the pre-crisis period, see pp. 148-150, Brissimis, S.N., E.N. Garganas and S.G. Hall (2014), "Consumer credit in an era of financial liberalization: an overreaction to repressed demand?", *Applied Economics*, 46(2), 139-152.
8 The annual change in the corporate lending rate spread between Greece and Germany and the annual change in the interest rate margin had minor contributions over this period. The time trend continued to make significant positive contributions. The positive contribution of this variable during the crisis may reflect banks' policy to minimise credit contraction despite liquidity constraints, a policy which is profitable in the long run provided that credit is channelled into likely viable businesses. On the demand side, the time trend may capture firms' increased current financing needs – possibly including distress borrowing in the face of an abrupt fall in firms' cash flows as a result of the crisis – as well as demand for the refinancing of existing loans.
9 The contribution of factors not included in the model is accounted for by residuals and is neither negligible nor excessive, as the model fits well the sample's data (see also Chart B).

The results of two counterfactual simulation exercises focus on the crisis period and the two main drivers identified above (see Charts B and C). **According to the results of Exercise I, assuming zero, instead of negative, real GDP growth after 2008, credit growth over the 2011-2013 period would have been stronger**, showing positive annual rates of up to 6.7% in nominal terms and an average annual nominal rate of +3.6% between 2011 Q1 and 2013 Q4, compared with an actual -3.3%.[10] Conversely, for the 2014 Q1-2015 Q3 period, the change in credit under this scenario would have been more strongly negative, reflecting the assumed zero output growth versus the positive actual growth during that period.

On the other hand, Exercise II, illustrated in Chart C, **assumes unchanged bank funding (in real terms) after 2008**. Under this scenario, over the 2009-2011 period, the contraction of credit would have been stronger than was actually the case as bank funding was still on the rise at the time.[11] By contrast, after 2011, when considerable deleveraging of bank balance sheets occurred, the assumed stable levels of bank funding, instead of the actual sharp decline (of a cumulative 34.0% between 2010 Q4 and 2015 Q3, in real terms), would have strengthened the rate of change in bank lending to non-financial corporations, with positive nominal rates from the first quarter of 2012 onwards and an average of 6% during the first three quarters of 2015 (2011 Q1-2015 Q3: average growth rate of corporate loans under Exercise II: +0.7%, actual: -3.2%).[12]

Conclusions

In sum, the negative annual rates of change in credit to non-financial corporations that were recorded during the crisis can be primarily attributed to the magnitude of the recession in Greece, as well as to the considerable decline in bank funding availability. These two factors are identified as the key drivers of loan demand and supply, respectively, although the interactions between them should not be overlooked. Accordingly, a rebound to positive GDP growth, a return of deposits to the banking system and an improvement in banks' access to money and capital markets can be expected to rapidly bring the rate of change in lending to non-financial corporations back to positive territory.

10 According to the model, positive loan dynamics would have resulted (i) from higher demand for loans, under the assumption about the evolution of income, and (ii) on the supply side, from a slightly upward (instead of the actual strongly downward) path of bank funding.
11 Bank funding increased mainly on account of banks' recourse to central bank funding (through the monetary policy operations and the marginal lending facility of the Eurosystem and, in 2011, also through the emergency liquidity assistance (ELA) provided by the Bank of Greece).
12 Apart from the positive supply-side contribution to credit growth during this period, the model also predicts —as a result of the evolution of bank funding— a significant decline in the corporate lending rate, which would in turn feed back into higher loan demand.

VIII FORMULATION AND IMPLEMENTATION OF MACROPRUDENTIAL POLICY BY THE BANK OF GREECE[1]

Under Article 55A of its Statute, the Bank of Greece "shall exercise, inter alia, its macroprudential tasks with a view to strengthening the resilience of the financial system and decreasing the build-up of systemic risks. In particular, the Bank shall identify, monitor and assess such risks and adopt the measures provided for by law". The ultimate objective of the macroprudential policy (macroprudential tasks) of the Bank of Greece is to contribute to safeguarding the stability of the financial system as a whole, by strengthening its resilience and reducing the build-up of systemic risks, thereby ensuring the financial sector's sustainable contribution to economic growth.

As part of the formulation and implementation of the macroprudential policy during 2015, the Bank of Greece: (a) defined a policy strategy for the exercise of its macroprudential tasks, in implementation of Recommendation ESRB/2013/1 of the European Systemic Risk Board of 4 April 2013 on intermediate objectives and instruments of macroprudential policy; (b) developed a methodology to define the percentage of the countercyclical capital buffer for Greece, based on Recommendation ESRB/2014/1 of the European Systemic Risk Board of 18 June 2014 on guidance for setting countercyclical buffer rates; (c) set the countercyclical capital rate for Greece, for the first quarter of 2016, at "zero per cent" (0%), following the concurrent opinion of the Hellenic Capital Market Commission; (d) identified the other systemically important institutions (O-SIIs) in Greece for the year 2015 in implementation of the relevant guidelines of the European Banking Authority (EBA/GL/ 2014/10); and (e) set the O-SII buffer rate, for the year 2016, at "zero per cent" (0%).

1 MACROPRUDENTIAL POLICY OBJECTIVES AND INSTRUMENTS

In order to achieve its ultimate macroprudential policy objective, the Bank of Greece pursues intermediate objectives, which concern the national financial system as a whole. Such intermediate objectives were defined on the basis of Recommendation ESRB/2013/1 of the European Systemic Risk Board as operational specifications of the ultimate macroprudential policy objective and include:

1) ensuring an appropriate level of credit growth and leverage, including preventing and mitigating any excessive credit growth and leverage;

2) preventing and mitigating excessive maturity mismatch and market illiquidity;

3) limiting direct and indirect exposure concentration;

4) limiting the systemic impact of misaligned incentives with a view to reducing moral hazard;

5) strengthening the resilience of financial infrastructures.

The Bank of Greece pursues the intermediate objectives and, through them, the ultimate objective of macroprudential policy using the macroprudential instruments available to it, as provided by the applicable institutional framework. More specifically, Law 4261/2014,[2] transposing Directive 2013/36/EU[3] into national legislation, and Regulation (EU) No 575/2013[4] envisage a set of macroprudential instruments that are available to the Bank of Greece[5] and include:

1 The cut-off date for information and data used in this Chapter is 31 December 2015.
2 Law 4261/2014 "Access to the activity of credit institutions and prudential supervision of credit institutions and investment firms (transposition of Directive 2013/36/EU), repeal of Law 3601/2007, and other provisions".
3 Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.
4 Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.
5 The Bank of Greece takes these macroprudential measures in its capacity as the designated or, where appropriate, the competent authority within the meaning of Law 4261/2014 and Regulation (EU) No 575/2013.

1) the countercyclical capital buffer;

2) the capital buffer of global systemically important institutions (G-SII buffer);

3) the capital buffer of other systemically important institutions (O-SII buffer);

4) the systemic risk buffer;

5) the measures envisaged by Article 458 of Regulation (EU) No 575/2013, subject to the requirements specified therein; such measures apply to institutions (as defined in Article 4 of Regulation (EU) No 575/2013) authorised in Greece or to a subset of those institutions and relate to the level of own funds, requirements for large exposures, public disclosure requirements, the level of capital conservation buffer, liquidity requirements, and risk weights for targeting asset bubbles in the residential and commercial property sector or intra-financial sector exposures;

6) the measures envisaged by Articles 124(2) and 164(5) of Regulation (EU) No 575/2013; such measures include the possibility of setting a higher risk weight for exposures secured by mortgages on residential or commercial real property, as well as the possibility of setting higher minimum LGD (Loss Given Default) values for exposures secured by mortgages on residential or commercial real property.

2 POLICY STRATEGY FOR THE EXERCISE OF MACROPRUDENTIAL TASKS

By Executive Committee Act No. 53/14.12.2015,[6] the Bank of Greece defined a policy strategy for the exercise of its macroprudential tasks, in implementation of Recommendation ESRB/2013/1 of the European Systemic Risk Board.

Specifically, the Executive Committee Act links the intermediate macroprudential objectives with macroprudential instruments available to the Bank of Greece. Moreover, the framework for the conduct of macroprudential policy is defined, which consists of the following four steps:

1) a risk monitoring stage, where relevant indicators help to detect vulnerabilities in the financial system (relative to the intermediate objectives of macroprudential policy) and to identify the associated systemic risks;

2) an instrument selection and calibration stage, with a view to preventing and mitigating the relevant systemic risks and achieving the ultimate and the intermediate objectives of macroprudential policy;

3) an implementation stage, where decisions are made on the use (activation, calibration, de-activation) of the appropriate macroprudential instruments for the achievement of the ultimate and the intermediate objectives of macroprudential policy; and

4) an evaluation stage, where the impact of macroprudential instruments is assessed and relevant conclusions are drawn.

3 IMPLEMENTATION OF THE COUNTERCYCLICAL CAPITAL BUFFER IN GREECE

3.1 MEANING AND OBJECTIVE OF THE COUNTERCYCLICAL CAPITAL BUFFER

Under Law 4261/2014 (Article 127), the Bank of Greece is responsible for setting the countercyclical buffer rate for Greece, on a quarterly basis, first applicable as from the first quarter of 2016. Bank of Greece decisions setting the countercyclical capital buffer rate are made in agreement with the Hellenic Capital Market Commission.

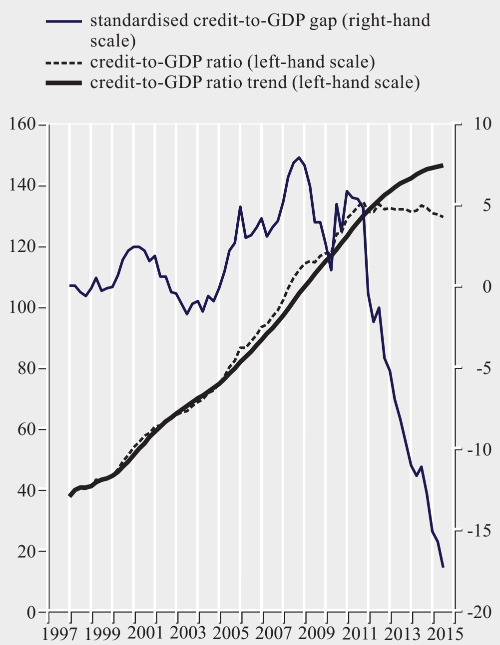
6 Executive Committee Act No. 53/14.12.2015 “Definition of a policy strategy for the exercise of the macroprudential tasks of the Bank of Greece”.

The countercyclical capital buffer aims to address the procyclicality of credit growth and leverage, i.e. ensuring an appropriate level of credit growth and leverage in both the upward and the downward phase of the business cycle. The countercyclical buffer rate ranges from 0% to 2.5%, calibrated in steps of 0.25 percentage points or multiples of 0.25 percentage points, and it is expressed as a percentage of the total risk exposure amount[7] of institutions (credit institutions and investment firms) that are exposed to credit risk in Greece.[8]

In an economic upturn, the setting of the countercyclical buffer rate at above 0% results in creating a capital stock beyond the minimum requirements in the context of microprudential supervision, achieving the prevention and mitigation of the excessive credit growth and leverage. Conversely, in a downturn, reducing the countercyclical buffer rate can encourage the extension of credit to the real economy, thereby mitigating the impact of the recession.

Chart VIII.1 Standardised credit-to-GDP gap

(non-seasonally adjusted GDP, Hodrick-Prescott one-sided filter)



Sources: Bank of Greece, ELSTAT and Bank of Greece calculations.

3.2 SETTING THE COUNTERCYCLICAL BUFFER RATE

By Executive Committee Act No. 55/18.12.2015,[9] the Bank of Greece disclosed its methodology for setting the countercyclical buffer rate on a quarterly basis and set that rate for the first quarter of 2016 at "zero per cent" (0%), with effect from 1 January 2016. The countercyclical buffer rate was set at the lowest possible level and therefore does not affect the capital requirements for credit institutions and investment firms.

The methodology developed by the Bank of Greece for setting the countercyclical buffer rate is based on Recommendation ESRB/ 2014/1 of the European Systemic Risk Board. According to this methodology, the countercyclical buffer rate is set mainly on the basis of the calculation of the standardised credit-to-GDP gap, as defined in Recommendation ESRB/2014/1, which reflects the deviation of the ratio of credit to gross domestic product (GDP) from its long-term trend. A high positive value of the standardised credit-to-GDP gap indicates excessive credit growth relative to GDP growth, which poses increased risks to the financial system, thus requiring the setting of the countercyclical buffer rate at a level above 0%.

In the case of Greece, however, the standardised credit-to-GDP gap has remained in negative territory since the end of 2011, maintaining a downward trend (see Chart VIII.1); the countercyclical buffer rate was therefore set at 0% for the first quarter of 2016.

Further to the standardised credit-to-GDP gap, the Bank of Greece examines a number of additional indicators to monitor the build-up

7 The total risk exposure amount is calculated in accordance with Article 92(3) of Regulation (EU) No 575/2013.
8 For the purposes of paragraph 2 of Article 130 of Law 4261/2014, the designated authority may set the countercyclical buffer rate in excess of 2.5%, where justified on the basis of the considerations set out in paragraph 3 of Article 127 of Law 4261/2014.
9 Executive Committee Act No. 55/18.12.2015 "Implementation of a countercyclical buffer in Greece – Setting of the countercyclical buffer rate for the first quarter of 2016".

of cyclical systemic risk. In particular, indicators are measures of: credit developments; potential overvaluation of property prices; private sector debt burden; the strength of bank balance sheets; potential mispricing of risk; and external imbalances. The analysis of the additional indicators examined by the Bank of Greece confirms the view of an absence of excessive credit growth.

4 IDENTIFICATION OF THE SYSTEMICALLY IMPORTANT INSTITUTIONS (O-SIIS) AND SETTING OF THE O-SII BUFFER

Under Law 4261/2014 (Article 124), the Bank of Greece is also responsible for identifying other systemically important institutions (O-SIIs) among credit institutions authorised in Greece. Other systemically important institutions are opposed to those characterised as global systemically important institutions (G-SIIs).

Identification of other systemically important institutions is conducted on an annual basis to determine the appropriateness of applying the O-SII buffer.[10] This buffer consists of Common Equity Tier 1 (CET1) and its rate is set by the Bank of Greece at a level of up to 2% of the total risk exposure amount[11] and reviewed at least annually.

The O-SII buffer aims to limit the systemic impact of misaligned incentives with a view to reducing moral hazard, i.e. reducing excessive risk-taking in the belief that the credit institution is too big to fail.

In this context, the Bank of Greece assessed credit institutions authorised in Greece[12] and identified, for 2015, "other systemically important institutions", by applying the criteria and methodology set out in the relevant guidelines issued by the European Banking Authority (EBA/GL/2014/10).[13] These guidelines specify harmonised criteria, indicators, scoring methodology and threshold in order to achieve convergence in terms of identifying O-SIIs across EU Member States and to make the assessment of O-SIIs comparable, transparent and comprehensible.

According to the EBA guidelines, the competent authorities should, for each bank falling under their jurisdiction, calculate relative scores indicating the systemic importance of each bank based on specific criteria. These criteria relate to size; importance for the economy; complexity, including the additional complexities from cross-border activity; and interconnectedness of the institution with the financial system. These four criteria each consist of one or more mandatory indicators which will be used as a minimum by the competent authorities in calculating the score of each credit institution. The competent authorities may designate further relevant entities as O-SIIs based on additional qualitative and/or quantitative indicators of systemic importance. The score of each credit institution is expressed in basis points (bps). Credit institutions with a total score equal to or higher than 350 bps are identified as O-SIIs. This threshold may be raised up to 425 bps as a maximum or decreased to 275 basis points as a minimum to take into account the specificities of each Member State's banking sector and to ensure the homogeneity of the group of O-SIIs designated in this way based on the OSIIs' systemic importance.

In calculating the scores of Greek banks, the Bank of Greece used only the mandatory indicators (see Table VIII.1), with the criteria and the individual indicators for each criterion to be weighted equivalently (25% and 8.33%, respectively), and selected a threshold of 350 basis points. As a result, the following credit institutions were identified as O-SIIs for 2015:

10 Identification of O-SIIs is conducted on an individual, sub consolidated or consolidated basis, as applicable, and the O-SII buffer is set accordingly.
11 The total risk exposure amount is calculated in accordance with Article 92(3) of Regulation (EU) No 575/2013.
12 Three small commercial banks (Aegean Baltic Bank S.A., Credicom Consumer Finance Bank S.A., Investment Bank of Greece S.A.) and all cooperative banks were excluded from this assessment, after taking into account their importance and size.
13 Guidelines on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs), EBA, 16 December 2014.

Table VIII.1 Mandatory indicators for the scoring

Criterion	Indicators	Weight
Size	Total assets	25%
Importance	Value of domestic payment transactions	8.33%
	Private sector deposits from depositors in the EU	8.33%
	Private sector loans to recipients in the EU	8.33%
Complexity/ Cross-border activity	Value of OTC derivatives (notional)	8.33%
	Cross-jurisdictional liabilities	8.33%
	Cross-jurisdictional claims	8.33%
Interconnectedness	Intra-financial system liabilities	8.33%
	Intra-financial system assets	8.33%
	Debt securities outstanding	8.33%

Source: Guidelines on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs), EBA, 16 December 2014.

- National Bank of Greece S.A.
- Eurobank Ergasias S.A.
- Piraeus Bank S.A.
- Alpha Bank S.A.

In view of the need to restart the flow of bank credit to the real economy as well as the recent recapitalisation of banks, the Bank of Greece decided to set a zero O-SII buffer for 2016 for all aforementioned O-SIIs.

The decision of the Bank of Greece on the identification of O-SIIs for 2015 and setting the O-SII buffer at 0% for 2016 was made by virtue of Executive Committee Act 56/18.12.2015.[14]

14 Executive Committee Act 56/18.12.2015 "Adoption of the guidelines of the European Banking Authority (EBA) on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD IV) in relation to the assessment of other systemically important institutions (O-SIIs) (EBA/GL/2014/10) – Identification of O-SIIs and determination of capital buffer requirements".

IX CAPITAL MARKETS[1]

Despite the favourable conditions that prevailed in the European economic environment, mainly on account of the Eurosystem's quantitative easing programme, security prices in Greece stood at much lower levels compared with 2014. Particularly in the first half of 2015, (government or corporate) bond prices dropped considerably as uncertainty increased amid protracted negotiations between the Greek government and the country's international creditors. After a new agreement with the European partners was reached in mid-July 2015, prices kept rising almost relentlessly, while share price fluctuations throughout 2015 highlighted the importance of factors other than investor uncertainty.

1 OVERVIEW OF DEVELOPMENTS AND PROSPECTS

The main determinant of Greek government bond yields was the course of the government's protracted negotiations with its international creditors. Heightened uncertainty that prevailed until early July 2015, compounded by the possibility of Greece's exit from the euro area, brought about a sharp decline in bond prices, while the slope of the yield curve turned all the more negative. When uncertainty started to subside after the first half of the year, bond prices picked up and the slope of the yield curve was reversed, turning positive towards the end of 2015.

The path of yields on corporate bonds issued by Greek corporations in the international market mirrored to a large extent the path of medium to long-term government bond yields. Yields stood at levels that were more or less prohibitive to new issues. Share prices declined between 2014 and 2015, while their course was greatly affected by the suspension of trading on the Athens Exchange, which remained closed for nearly two months in the context of the bank holiday and the imposition of capital controls. The decline was visibly larger for the banking sub-index relative to the industrial sub-index, as bank shares appear to have been harder-hit by escalating uncertainty in the first half and, later on, by the need to perform capital increases.

2 INTERNATIONAL CREDIT MARKETS

The uncertainty surrounding the growth dynamics of the global economy, the slowdown of activity in major developing economies, increased geopolitical risks and a growing divergence in the monetary policy stance mainly between the euro area and the United States were the main developments underlying the path of international financial markets in 2015. The above developments led to a renewed demand for highly rated government bonds, despite the persistence of yields at historically low levels (see Chart IX.1).

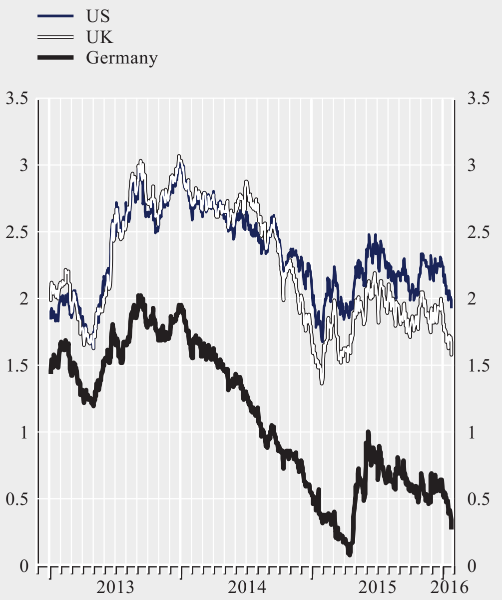
For most of the year, these developments discouraged any changes in the US monetary policy stance, in spite of expectations of an increase in the target range for the federal funds rate in the third quarter of 2015. The Federal Reserve's decision to temporarily postpone a rate hike had a positive effect on financial conditions in developed economies, as it helped contain volatility in equity and bond markets.

Meanwhile, the continued implementation of the Eurosystem's decision to purchase sovereign bonds contributed to a further narrowing of yield spreads across euro area government bonds. Thus in the second half of 2015, euro area government bond yields embarked on a renewed downward course, particularly so the yields of short-term bonds, which returned to zero or even negative levels. Similarly, the yields of new bonds issued by euro area countries that have completed (Portugal) or are about to complete (Cyprus) an EU/IMF adjustment programme, as well as of corporate bonds issued by European non-financial corporations reached historic lows. Against this

1 The cut-off date for information and data used in this Chapter is 5 February 2016.

Chart IX.1 US, UK and German 10-year government benchmark bond yields (January 2013 - January 2016)

(daily data, yields in percentage points)



Source: Thomson Reuters Datastream.

backdrop, several euro area countries and European non-financial corporations have proceeded to new bond issues with a very low coupon.

The improved financial conditions in the United States in the last quarter of the year, despite the turmoil in emerging markets, and the weak impact of the turmoil on the US economic activity allowed for an interest rate hike by the US Federal Reserve on 16 December 2015, for the first time in almost a decade. Nevertheless, at the Federal Open Market Committee (FOMC) meeting concerns were aired about the continued weakness of commodity prices and the slowdown in emerging market economies.

These concerns are reflected in a renewed increase in volatility and a drop in stock and corporate bond prices in both the US and Europe. As a result, pressures mounted during the first meetings of 2016 due to renewed strong turbulence in emerging markets.

3 GREEK GOVERNMENT BONDS

Throughout 2015, developments in Greek government bond yields reflected the course of the government's protracted negotiations with its international creditors. In the first half of 2015 and in view of the referendum of 5 July 2015, yields reached levels comparable to those observed in the third quarter of 2012, although Greek economic aggregates have significantly improved since then.

Against this background, the yield of the 10-year Greek government bond (maturing on 24 February 2025) increased from the beginning of the year until early July 2015 by about 1,000 basis points (2 January 2015: 9.6%; 8 July 2015: 19.3%, see Chart IX.2). Heightened uncertainty triggered a comparatively stronger increase in shorter-term bond yields than in 10-year bonds, which points to the proximity and the magnitude of risks (yield spread between 10-year and 2-year bonds: -3,787 b.p. on 8 July 2015, against -370 b.p. on 2 January 2015, see Chart IX.3).

Given the credibility of the Eurosystem's quantitative easing (QE), the adverse domestic developments had only a weak effect on the government bonds of the remaining euro area Member States and, overall, did not affect financial stability in the euro area.[2] The lack of any volatility contagion effects to other euro area markets had already been apparent in advance, as also suggested by a Bank of Greece analysis.[3]

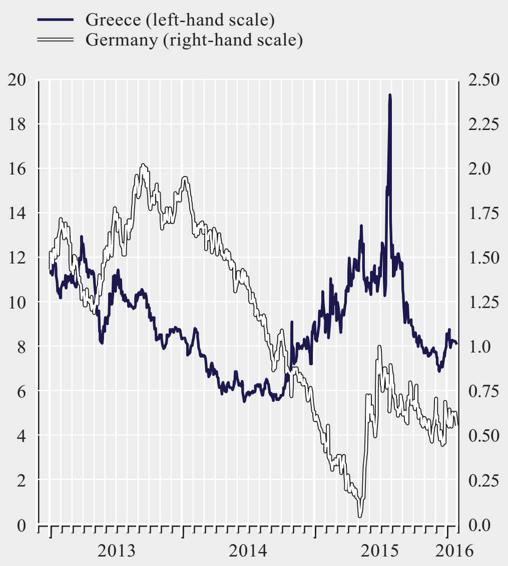
Striking an agreement with the European partners on 12 July 2015 led to an easing of uncertainty. The yields of Greek government bonds started to decline and by December 2015 had returned to levels that had been observed towards the end of 2014 (31 December 2015, 10-year bond: 8.46%). The yield spread

2 See European Central Bank, "Financial developments", Section 2, Issues 5 and 6/2015 of *Economic Bulletin*, mentioning however the impact of developments in Greece on the equity markets of other Member States around mid-2015.

3 See Special feature III.1, Bank of Greece, *Monetary Policy 2014-2015*, June 2015.

Chart IX.2 Yields on 10-year Greek and German government bonds (January 2013-January 2016)

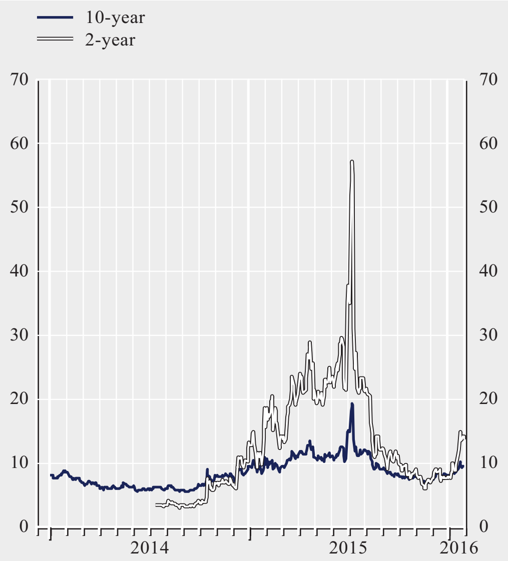
(daily data, yields in percentage points)



Source: Bank of Greece.

Chart IX.3 Greek sovereign bond yields (January 2014-January 2016)

(daily data, yields in percentage points)



Source: Bank of Greece and Thomson Reuters Datastream.
Note: The HDAT remained closed between 29.6.2015 and 31.7.2015 following the "Legislative Act on a bank holiday of short duration and on the restrictions on cash withdrawals and capital transfers", Government Gazette 65/28 June 2015. The source for the data regarding this period is Thomson Reuters Datastream and data refer to transactions outside Greece.

between Greek and German government bonds moved along a similar path (2 January 2015: 875 b.p.; 8 July 2015: 1,865 b.p.; 31 December 2015: 795 b.p.).[4] The decline in yields was larger for shorter-term bonds (1 January 2015: 2-year bond 13.3% and 4-year bond 10.9%, against 57.2% and 36.4% on 8 July 2015; and 7.86% and 10.9% on 31 December 2015, respectively). Thus, the slope of the yield curve, which had turned strongly negative in the run-up to the new agreement, returned to positive territory towards the end of October 2015 and remained positive for the largest part of the remaining period until the end of the year (yield spread between 10-year and 2-year bond: +60 b.p. on 31 December 2015). Since the beginning of 2016, Greek government bond yields have followed an upward trend as a result of the worsening investor confidence in the Greek economy (on 5 February 2016 10-year bond yield: 9.58%; 2-year bond yield: 12.1% and yield spread between Greek and German 10-year bond: 928 b.p.).

The deterioration in investor climate as regards Greek government bonds compressed the value of transactions on the secondary market.[5] In the primary market, the regular issues of Treasury bills (January-December 2015: €40.8 billion; January-December 2014: €40 billion) helped to cover in part the financing needs of the Greek State, albeit at an elevated cost. Specifically, the weighted average interest rate on Treasury bills for the 2015 issues stood at 2.8%, compared with 2.4% in 2014.

4 GREEK CORPORATE BONDS

The yields on bonds issued by Greek non-financial corporations in international capital

4 In average annual terms, the 10-year bond yield stood at 10.03% in 2015, against 6.93% in 2014, while the yield spread between Greek and German government bonds came to 9.49, from 5.69 percentage points, respectively.

5 In particular, the average daily value of transactions in the Electronic Secondary Market for Securities (HDAT) shrank in 2015 (1.1.2015-31.12.2015) to about €5 million, compared with €40 million year-on-year. Furthermore, the average daily value of transactions in the Book-Entry Securities System decreased by about 70% to €96 million in 2015, against €292 million in 2014.

markets were adversely affected by increased risks inherent in Greek government bonds, which were exclusively associated with idiosyncratic factors of the Greek economy. Thus, the negative deviation of the market price of such bonds from par value (100) widened in connection with the worsened investor confidence in Greece in the first seven months of 2015. As a result, Greek corporate bond yields reached levels corresponding to very low-rated bonds, which is not justified by a deterioration in the key aggregates of issuing corporations.

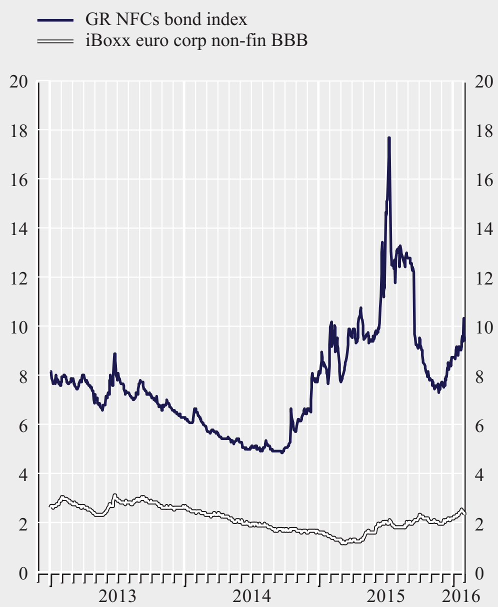
Namely, the Bank of Greece index for Greek non-financial corporate bonds (BoG GR NFC index) rose in the first seven months of 2015 (1 January 2015: 8.1%; 8 July 2015: 17.7%, see Chart IX.4), while the yields of corporate bonds with a comparable rating issued by corporations in the other euro area Member States followed a downward trend, on the back, among other things, of the favourable effect of the Eurosystem's QE. The yield spread between the Bank of Greece index and the respective euro area index (iBoxx NFC EA BBB) widened considerably (to 1,570 b.p. on 8 July 2015, from about 615 b.p. on 1 January 2015).

Thereafter, amid declining uncertainty, the valuations of Greek corporate bonds improved, thereby contributing to lower yields (weighted average yield on 31 December 2015: 8.8%).[6] In December 2015, the telecommunications company OTE issued an international bond of limited issuance size.

The persistently high yields following the signing of an agreement with the international partners-creditors and a gradual further decline in uncertainty during the period running up to the adoption of the envisaged measures, in line with the four pillars of the new Financial Assistance Facility Agreement, are related with overall developments in the international capital markets. Specifically, they are attributable to higher risk aversion after the turmoil in developing markets, which strongly affected the corporate bond markets. Nevertheless, since the beginning of 2016 Greek corporate bond yields embarked once again on an upward path (on 5 February 2016 the Bank of Greece index for Greek non-financial corporate bond yields stood at 9.16%) in connection with the worsened investor sentiment in the Greek economy.

Chart IX.4 Greek and euro area corporate bond yields (January 2013-January 2016)

(daily data; yields in percentage points)



Sources: Bank of Greece (GR NFCs bond index), Thomson Reuters Datastream (iBoxx euro corp non-fin BBB).
Note: The index depicts the weighted average yields of bonds of Greek non-financial corporations which have issued securities to foreign markets from December 2012 onwards. The index construction methodology is discussed in P. Migiakis, "The international financial markets as a source of funding for Greek non-financial corporations", Bank of Greece, *Economic Buletin, No 40*, December 2014.

As a result, Greek corporate bond yields still remain elevated, thereby weighing on further funding efforts. Therefore, it becomes apparent how important it is to support investor confidence in the Greek economy, which is inextricably linked with the successful implementation and the eventual completion of the programme. Against this backdrop, raising funds through bond issues will regain attractiveness

6 In average annual terms, the yield came to 9.9% in 2015, against 5.7% in 2014.

for Greek corporations with sound economic aggregates and a high degree of extroversion, once funding conditions in the international markets have improved.

5 EQUITY MARKETS

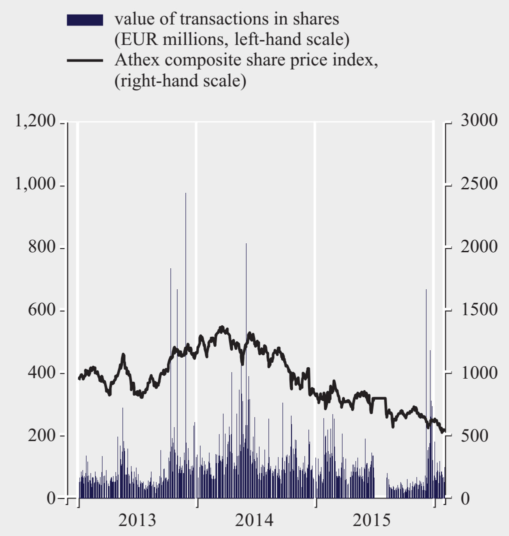
In 2015 the stock market was marked by high volatility, the temporary shutdown of the Athens Exchange for almost two months as a result of the bank holiday and the imposition of capital controls, as well as plummeting bank share prices. As in the case of Greek government and corporate bonds, the factors underlying these developments are associated with a substantial deterioration of confidence in the Greek economy during the first half of 2015.

Over the first eight months of 2015 the Athex composite index plunged by about 25% (amid heightened volatility), only to hover in marginally positive territory until the end of the year (1 September 2015-31 December 2015: +1.6%, see Chart IX.5), while volatility declined to levels close to its long-term average (2%).

Reference should be made to the large differential between banking and industrial share prices. Specifically, bank shares came under substantial stress throughout 2015 (banking sub-index, 2 January 2015-31 December 2015: -94%), a development which is associated, among other things, with the loss of confidence and mass deposit outflows in the first half of the year and, more recently, with uncertainties surrounding the recapitalisation process. By contrast, share prices in the industrial goods and services sector followed an upward path, which is partly due to the release of improved results by some firms[7] in the first half of the year (returns between 2 January 2015 and 26 June 2015: +8.5%), and thus the total annual decline in the industrial sub-index was comparatively modest (returns between 2 January 2015 and 31 December 2015: -5%). Lastly, for the reasons mentioned in previous sections of this Chapter, stock prices in the Athens Exchange have dropped substantially since the beginning of 2016 (1 January 2016-5 February 2016, Athex composite index: -19%; banking sub-index: -45%; industrial sub-index: -12%).

Chart IX.5 Athens Exchange composite share price index and value of transactions (January 2013-January 2016)

(daily data)



Source: Athens Exchange.
Note: The Athens Exchange was closed between 29.6.2015 and 31.7.2015 due to the bank holiday and capital controls.

The total capitalisation of Athex-listed companies stood at €39 billion on 31 December 2015 (down from €46 billion on 31 December 2014). The average daily value of transactions dropped by 35%, compared with 2014 as a whole, and came to €83 million on the back of capital controls (January-June 2015: €102 million; 3 August 2015-31 December 2015: €61 million).

7 For a discussion on the interaction between the economic cycle and corporations' key profitability and efficiency ratios, see Box IX.1.

Box IX.1

THE INTERACTION BETWEEN THE ECONOMIC CYCLE AND KEY PROFITABILITY, EFFICIENCY AND LIQUIDITY RATIOS OF ATHENS EXCHANGE-LISTED NON-FINANCIAL CORPORATIONS

The global financial crisis that started in 2007 has highlighted the need to re-examine the interaction between the financial cycle and the economic cycle. As a result of the crisis, the literature which explores the impact of the financial cycle on the economic cycle and the link between firms' financial results and the phases of the economic cycle (recession or growth) has rekindled researchers' interest.[1] One of the main findings is that turning points in the financial cycle typically lead those in the economic cycle.

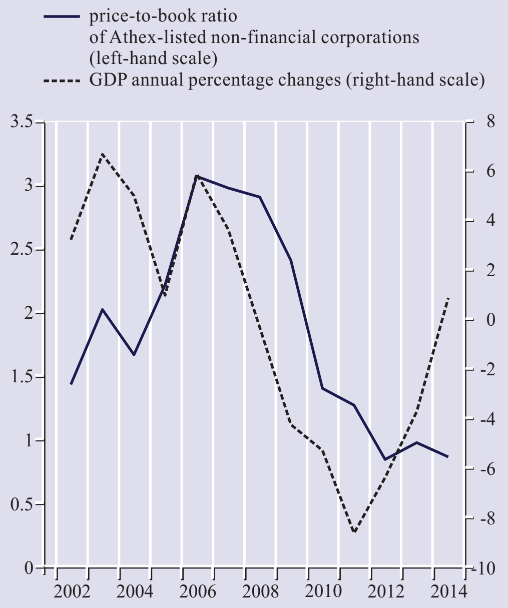
Against this backdrop, the following analysis attempts, first, to describe the relationship between the financial ratios of the Athex-listed non-financial corporations and GDP in Greece and, second, using an econometric model, to identify those corporations the financial indicators of which performed systematically better during the recession, compared with what could have been predicted by the GDP profile alone.[2]

The evolution of key financial ratios of the Athex-listed non-financial corporations

For the purposes of this study, annual data on operating profits (earnings before interest, taxes, depreciation and amortisation – EBITDA), liquidity and return on investment (ROI) for about 200[3] non-financial corporations, as well as data on domestic GDP (at constant prices), were drawn from Thomson Reuters Datastream, covering the 2002-2014 period. Given the wide range of activities of the corporations under review, the conclusions from the present analysis capture the systematic developments in different sectors.

The high correlation between GDP changes and the relative valuation of Athex-listed non-financial corporations (see Chart A) may reflect the interaction between economic and financial cycles. The examined sample of corporations generated EBITDA amounting to €5.6 billion in 2014, while the arithmetic average of the price-to-book ratio stood at 0.66 (or 0.78, if weighted by corporations' market capitalisation). The recent drop in stock market

Chart A Valuation of listed non-financial corporations and economic activity



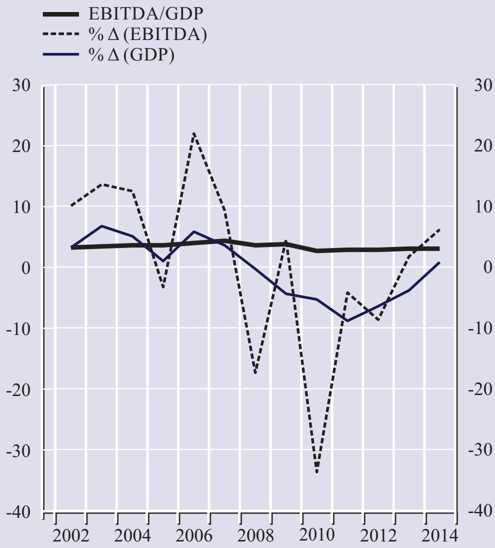
Source: Thomson Reuters Datastream.
Note: Data refer to weighted average ratios, weighted by corporations' market capitalisation.

1 See for example Borio, C. (2012), "The financial cycle and macroeconomics: What have we learnt?", Bank for International Settlements, Working Paper 395, and Claessens, S., M. Kose and M. Terrones (2011), "Financial cycles: What? How? When?", International Monetary Fund, Working Paper 11/76.

2 The present study opted for the use of data from firms' financial accounts rather than the course of their stock prices, as, according to the literature, stock returns (a) are subject to shorter cycles, (b) reflect a closer relationship with the short-term component of economic activity, and (c) are more volatile than other variables.

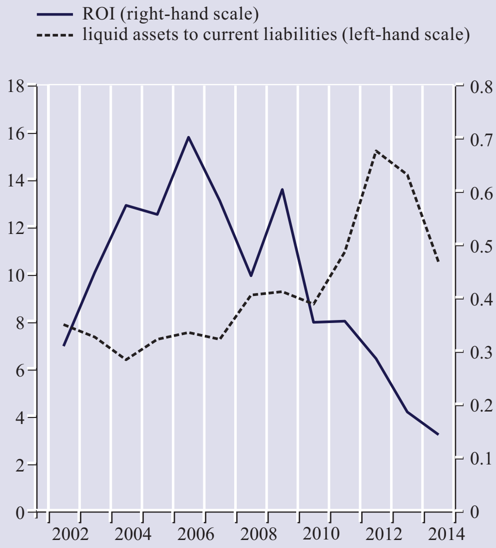
3 The number of corporations included in the present analysis ranges over time between a minimum of 152 and a maximum of 202 corporations.

Chart B Evolution of operating results and economic activity



Source: Thomson Reuters Datastream.

Chart C Liquid assets and return on investment



Source: Thomson Reuters Datastream.
Note: Data refer to weighted average ratios, weighted by corporations' market capitalisation.

valuation, which may be largely attributed to the shrinking Greek GDP over the past few years and is consistent with the findings of the aforementioned literature, has prompted an investigation of whether the key aggregates of Athex-listed corporations have evolved in a uniform way.

This interaction becomes all the more apparent if the paths of EBITDA and GDP are compared to each other (see Chart B). It is a telling fact that the correlation coefficient between changes in EBITDA and GDP comes to 67%, suggesting a close link between profitability and the economic cycle. Furthermore, the EBITDA-to-GDP ratio has been remarkably stable, which points to a close relationship between these two indicators.

Another characteristic of the financial data of the reviewed corporations was the increased holdings of liquid assets and other readily realisable assets[4] during the crisis. This increase does not seem to be associated with a corresponding rise in current liabilities, as the ratio of liquid assets to short-term liabilities almost doubled during the crisis, especially in periods when investor uncertainty had peaked (see Chart C). Nevertheless, it shows that corporations proceeded to a "defensive" management of liquid assets; in other words, they increased their available liquidity to ensure business continuity, amid heightened financial uncertainty. Lastly, reduced fixed capital formation (buildings or equipment) as well as its low rate of return are also reflected in ROI, which appears to be on a downward path before 2008, when the economic upswing in Greece had started to reverse.

For a more thorough investigation of the relationship between the profitability, liquidity and ROI of those corporations and GDP, an econometric model was constructed. Thus, using both the cross-

4 The increase in liquid assets may be due to the higher levels of inventories and claims on customers as a result of the recession.

Corporations with systematically better-than-estimated ratios on the basis of economic activity

(%)

Criterion	2002-2009	2010-2014
Earnings before interest, taxes, and depreciation and amortisation (EBITDA)	0.50	23.90
Return on investment (ROI)	17.70	46.30
Liquidity	21.80	26

Note: The table shows the Athex-listed non-financial corporations with higher than estimated ratios-criteria, on the basis of the Greek business cycle, respective values for at least half of the months of each period, as a percentage of total Athex-listed non-financial corporations.

section and time-series dimensions of the data,[5] the systematic GDP component in each indicator of the examined corporations was initially estimated for the periods 2002-2009 and 2010-2014, i.e. before and during the fiscal crisis in Greece.[6] On the basis of the model's results, the expected values of (a) profitability, (b) ROI and (c) liquidity ratios, as predicted by the domestic economic activity, were then estimated for each corporation. The estimated values were compared with the actual ones and those corporations were identified for which operating profit, ROI and liquidity ratios were higher than the values expected from the relationship with the domestic economic activity for the largest part of the periods before and during the debt crisis.

The table summarises the results and shows the percentages of the corporations for which the values of (a) EBITDA, (b) ROI and (c) liquidity were higher than those that were estimated in relation to the economic activity for at least half of the years in each period.

The results show that prior to the fiscal crisis, i.e. to a large extent during the period which coincided with the upswing in the Greek economy following the country's EMU entry, corporations' performance, especially as regards EBITDA, were largely determined by developments in GDP, while performances deviated from the estimated ones only for a small number of corporations. By contrast, the economic downturn (2010-2014 on the basis of annual data on GDP) saw a lower number of corporations whose operating results were disconnected from domestic economic conditions. In other words, the crisis acted as a catalyst for distinguishing corporations, on the one hand, into those which had grown only on the back of low interest rates, abundant bank credit and strong aggregate domestic demand or even high government spending and, on the other hand, into those which had grown on sound foundations by creating the conditions that helped them weather the crisis-induced difficulties. Besides, the policy measures adopted in response to the crisis in Greece are likely to have had uneven effects on listed non-financial corporations. It is interesting that about one in four corporations (on the basis of EBITDA and the liquidity ratio) and around half of them on the basis of ROI appear to have outperformed the results anticipated from the economic cycle.

By way of illustration, 24% of corporations generated higher EBITDA than what was expected from the path of GDP. In fact, the majority of those corporations systematically exceeded the estimated figures on an annual basis, compared with the remaining non-financial corporations, and

5 The model was estimated using the generalised method of moments (GMM), taking into account any random effects on the cross-sectional dimension and correcting, respectively, for errors to ensure a consistent estimation of the estimators' significance.
6 The results of the model confirm the statistical significance of the GDP rate of change in determining the levels of, and the changes in, profitability, ROI and liquidity ratios. On the basis of the above, the expected values of financial indicators were estimated for each corporation.

therefore, managed to better adapt to the adverse conditions. Most of these corporations, on the basis of disaggregated annual data, are either characterised by a high degree of export-orientedness or produce goods, for which demand was not greatly affected by the domestic economic cycle. Nevertheless, at the same time, the correlation of corporations with higher than expected operating results on account of respectively higher return on fixed investment is weak. Therefore, the better than expected results are likely to be due to a more efficient use of existing fixed investment rather than new investment. This observation suggests that there is still room for improvements in the operating profits and results of such corporations, namely through increased ROI, which can be achieved with new investments.

Conclusions and policy recommendations

In sum, the performance of the majority of Athex-listed non-financial corporations, as regards operating profits, ROI and liquid asset management, is determined by domestic economic developments. However, it has been observed that a relatively small number of corporations, which are characterised by export-orientedness, inelastic demand and a strong capital base, succeeded in overcoming the challenges posed by the economic downturn. Thus it becomes apparent that there are corporations which can provide a basis for upgrading investor confidence in the Greek stock exchange. The financing of those corporations with the aim of increasing their ROI, the subsequent expansion of their activities, as well as the aspiration of other firms to acquire certain features that will reduce their reliance on the economic cycle are expected to contribute to the overall productive restructuring of the Greek economy.

In any event, there is a strong case for a discussion on targeted interventions that will facilitate a higher stock market presence of healthy corporations, which are flexible enough to adapt to a worsening economic environment. A stock market that is made up of such corporations will be more resilient to the impact of the domestic economic cycle, while —most importantly— it will enhance the credibility of the domestic capital market, thereby making it easier to finance investments. This development would contribute to the restoration of investor confidence in the prospects of the Greek economy and will help create a virtuous feedback loop between macroeconomics and financial performance, with the ultimate goals of increasing the potential output of the Greek economy and raising employment.

X ENVIRONMENT, ENERGY AND CLIMATE CHANGE[1]

A significant positive development in 2015 was the unanimous adoption of the legally binding Paris Agreement on Climate Change. The Agreement set a long-term goal of keeping the increase in global average temperature to well below 2°C and of pursuing efforts to limit the temperature increase to 1.5°C, recognising that "this would significantly reduce risks and the impacts of climate change".

In Greece, a public consultation was held on the "National Strategy for Adaptation to Climate Change (NSACC)". This document was prepared with the key contribution of the Climate Change Impacts Study Committee (CCISC) of the Bank of Greece.

1 CLIMATE CHANGE: INTERNATIONAL POLICIES AND MAIN RESEARCH DEVELOPMENTS IN 2015

2015 was marked by the 21st yearly session of the UN Conference on Climate Change, also known as the 21th Conference of the Parties (COP21), held in Paris from 30 November 2015 to 12 December 2015. After a long period of tough negotiations, which began during the 2014 UN Climate Change Conference (COP20) in Lima, and discussions through "structured expert dialogue",[2] an agreement was unanimously adopted by 195 countries in Paris under the UN Framework Convention on Climate Change (UNFCCC). The agreement, known as the "Paris Agreement", contains specific, legally binding targets for reducing or limiting greenhouse gas emissions (see Box X.1). In line with the Lima decisions, all countries had put forward their plans to cut emissions (in the form of Intended Nationally Determined Contributions – INDCs)[3] well in advance of the Paris Conference. Under the EU's INDC, submitted in March 2015 in accordance with the relevant European Council decisions of October 2014, the EU and its 28 Member States committed to a target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990, "to be fulfilled jointly".[4]

Key factors for the success of the COP21 included: (a) a call from religious leaders, political leaders, business leaders, scientists and development practitioners, who met in the Vatican in April 2015 for a summit convened on the initiative of the Pope and proclaimed that, among other things, "i*n the face of the emergencies of human-induced climate change, social exclusion, and extreme poverty [....] human-induced climate change is a scientific reality, and its decisive mitigation is a moral and religious imperative for humanity*";[5] (b) the "Sustainable Development Goals" adopted by the UN in September 2015, including the goal "[to] take urgent action to combat climate change and its impacts";[6] (c) a joint French-Chinese statement during French President François Hollande's official visit to China in favour of a "legally binding" climate agreement;[7] (d) the resolve of the United States;[8] and (e) a major initiative by Bank of England Governor Mark Carney to establish an industry-led Climate Disclosure Task Force[9] to design a voluntary standard for disclosure by those companies "that produce or emit carbon", so as to address the implications of climate change for financial stability.

1 The cut-off date for information and data used in this Chapter is 10 February 2016.
2 UNFCCC, *Report on the structured expert dialogue on the 2013-2015 review*, Note by the co-facilitators of the structured expert dialogue, 4.5.2015.
3 See UNFCCC, *Synthesis report on the aggregate effect of the intended nationally determined contributions*, Note by the secretariat, 30.10.2015.
4 *Intended Nationally Determined Contribution of the EU and its Member States*, Submission by Latvia and the European Commission on behalf of the European Union and its Member States, 6.3.2015.
5 "Declaration of Religious Leaders, Political Leaders, Business Leaders, Scientists and Development Practitioners", 28.4.2015, www.endslavery.va/content/endslavery/en/events/protect/declaration.html.
6 Goal 13. See UN General Assembly, 69th session, *Draft outcome document of the United Nations summit for the adoption of the post-2015 development agenda*, 12.8.2015; and "U.N. Adopts Ambitious Global Goals After Years of Negotiations", *The New York Times*, 26.9.2015.
7 "Climat: François Hollande se félicite du soutien de Pékin", *Le Monde* 2.11.2015; and "COP21: la Chine apporte à la France un soutien de poids pour un accord", *Les Echos* 3.11.2015.
8 As shown throughout 2015 and expressed in US President Barack Obama's speech at the Paris Conference on 30.11.2015.
9 Under the chairmanship of Michael Bloomberg. See "Breaking the tragedy of the horizon – climate change and financial stability", speech by Mark Carney, 29.9.2015; "Michael Bloomberg to head global taskforce on climate change", *The Guardian*, 4.12.2015; and "Michael Bloomberg urges companies to reveal climate change impact", *Financial Times*, 9.2.2016.

Leading reports and scientific papers published in the last 12 months on the subject of climate change include: (a) an OECD report on climate change mitigation policies;[10] (b) a paper by the World Bank on managing the impacts of climate change on poverty;[11] (c) the World Economic Forum *Global Risks Perception Survey 2015*, in which failure of climate change mitigation and adaptation is identified as the main risk for 2016 (especially, when combined with other risks, such as large-scale involuntary migration);[12] (d) a report by the Health and Climate Change Commission of the reputable British medical journal "The Lancet", on policy responses to climate change to protect public health;[13] (e) a working paper by the IMF on global energy subsidies;[14] (f) a paper by French government experts on financing low-carbon investment in Europe;[15] and (g) research papers establishing a link between climate change and increasingly frequent weather extremes.[16]

Finally, on 20 January 2016 it was announced that 2015 saw the highest globally average temperature in the 136-year period of record (1880-2015).[17]

10 OECD, *Climate Change Mitigation: Policies and Progress*, 20.10.2015.
11 World Bank, *Shock Waves: Managing the Impacts of Climate Change on Poverty*, 8.11.2015.
12 WEF, *The Global Risks Report 2016*, 14.1.2016.
13 The Lancet Commissions, *Health and Climate Change: Policy Responses to Protect Public Health*, 23.6.2015.
14 David Coady et al., "How Large Are Global Energy Subsidies?", IMF WP/15/105, 18.5.2015. See also: (a) Rabah Arezki and Maurice Obstfeld, "The price of oil and the price of carbon", voxeu.org 3.12.2015; and (b) Christine Lagarde and Jim Yong Kim, "The Path to Carbon Pricing", *Project Syndicate*, 19.10.2015.
15 Michel Aglietta et al., "A proposal to finance low carbon investment in Europe", Department of the Commissioner General for Sustainable Development [France], March 2015.
16 See (a) Wenju Cai et al., "Increased frequency of extreme La Niña events under greenhouse warming", *Nature Climate Change*, 26.1.2015; and (b) E.M. Fischer & R. Knutti, "Anthropogenic contribution to global occurrence of heavy-precipitation and high-temperature extremes", *Nature Climate Change*, 27.4.2015.
17 See National Centers for Environmental Information-National Oceanic and Atmospheric Administration, *State of the Climate Reports-Global Analysis-Annual 2015*, 20.1.2016; and "2015 Was Hottest Year in Historical Record Scientists Say", *NY Times*, 21.1.2016.

Box X.1

KEY POINTS OF THE "PARIS AGREEMENT" ON CLIMATE CHANGE

The Agreement[1] sets a long-term goal of keeping the increase in global average temperature to well below 2°C and of pursuing efforts to limit the temperature increase to 1.5°C, "recognising that this would significantly reduce the risks and impacts of climate change". It also highlights the need to increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production. Moreover, commitments were made (a) to making financial flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development; (b) to implementing the Agreement to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

Furthermore, it urges developed countries to scale up their level of financial support to developing ones, with a concrete roadmap to achieve *by 2020* the set goal[2] of jointly providing USD100 billion annually for mitigation and adaptation.

The agreement was generally welcomed as a positive step forward.[3] But there were also constructive warnings from eminent scientists, such as Professor Simon Lewis, who argued that containing the temperature increase to 2°C (and all the more so to 1.5°C) would require not only a reduction

1 See http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600008831.
2 See Bank of Greece *Annual Report 2014*, p. 154.
3 See e.g. Martin Wolf, "The Paris climate change summit is one small step for humankind", *Financial Times*, 15.12.2015.

of emissions, but also the development of negative emissions technologies (NET) to remove carbon dioxide from the atmosphere and store it "somewhere else".[4]

On the Greek side, it was indicated that "*the Paris Agreement is only the beginning of a transition to clean, green forms of energy, and now we all need to move away from polluting fossil fuels*".[5]

4 Simon Lewis, "The Dirty Secret of the Paris Climate Deal", Foreign Policy, 17.12.2015.
5 See press release of the Ministry for Environment and Energy, 15.12.2015 (in Greek).

2 RECENT DATA ON GREENHOUSE GAS EMISSIONS IN THE EU AND GREECE (2013-2014)[18]

Greenhouse gas emissions (GHG) in the EU-28 decreased by 21%, or 1,203 million tonnes of CO_2-equivalent, from 1990 to 2013, and reached their lowest level in the last year of this period. The decrease occurred even as GDP rose by 45%, leading to a complete decoupling of the two aggregates. This was the result of growing shares of renewables, less carbon-intensive fuels in the energy mix and improvements in energy efficiency.

The declining trend continued and intensified in 2014, with GHG emissions falling by 4.1% year-on-year (compared with a year-on-year drop of 1.9% in 2013). As a result, the difference in GHG emissions between 1990 and 2014 widened further in 2014 (-24.4% or -1,389.2 million tonnes of CO_2-equivalent). Another factor behind this was the evolution of climate factors which affected the behaviour of businesses and households. 2014 was Europe's hottest year on record up to that point. As the winter was warmer than in 2013, demand for heating dropped and emissions from businesses and households declined. The significantly larger reduction in GHG emissions in 2013-2014 (-185.2 million tonnes of CO_2-equivalent) than in 2012-2013 (-85.9 million tonnes of CO_2-equivalent) was mainly due to a 4.3% and a 7.5% drop in German and French emissions (compared with an increase in 2013), respectively, as well as to a further 8.7% decrease in UK emissions (see Table X.1).

Between 1990 and 2013, GHG emissions decreased in the majority of key sectors,[19] with the exception of transport, cooling and air-conditioning, where they increased sharply (by 119 and 91 million tonnes of CO_2-equivalent, respectively). The largest decreases came from manufacturing, electricity and heat production, and the residential sector. According to the European Environment Agency, some of the main reasons for the reduction in GHG emissions were the improved energy efficiency of power and other industrial plants, energy savings by households and businesses as a result of improvements in building insulation standards, and structural changes in the economy. However, the economic recession that began in 2008 also played a part in the decline in emissions in several industrial sectors.[20]

Germany, the United Kingdom, France and Italy continued to account for the largest share of EU-28 GHG emissions in 2013 (with a combined 55% of the total), although the shares of the first two countries were slightly smaller and those of the last two countries larger than in 1990. In any case, the majority of countries had a very small share, whereas 17 out of the 28 countries had a share of less than 2%.[21]

18 Data for 2015 are not available. Only estimated data have been released for 2014.
19 Final and disaggregated data for 2014 are not yet available.
20 European Environment Agency, "Annual European Union greenhouse gas inventory 1990-2013 and inventory report 2015", Technical Report No 19/2015, 27.11.2015.
21 In 2013, Germany, the UK, France and Italy accounted for a share of 21.2%, 12.8%, 10.9% and 9.8%, respectively, of European GHG emissions, compared with 22%, 14.1%, 9.7% and 9.2% in 1990. With a share of 0.1% in total EU emissions, Malta was the smallest contributor, followed by Cyprus, Latvia and Luxembourg (with 0.2% each). German, UK, French and Italian GHG emissions were, respectively, 297.2, 231.6, 59.2 and 83.8 million tonnes of CO_2-equivalent below 1990 levels in 2013.

Table X.1 Greenhouse gas emissions[1]

(in million tonnes of CO_2 equivalents)

Country	1990	2013	Change 2012-2013	Change 2013-2014	Change 1990-2013	Change 1990-2014
	(million tonnes)		(percentage changes)			
Austria	78.7	79.6	-0.2	-4.3	1.2	-3.2
Belgium	147.1	119.4	0.2	-3.2	-18.8	-21.5
Bulgaria	109.4	55.9	-8.6	5.0	-48.9	-45.9
Croatia	35.1	24.5	-4.0	-6.1	-30.3	-32.8
Cyprus	5.6	8.3	-8.9	1.8	49.7	59.1
Czech Republic	193.4	127.1	-2.6	-0.6	-34.2	-34.7
Denmark	69.3	54.6	3.8	-7.8	-21.2	-28.0
Estonia	40.0	21.7	12.0	-5.8	-45.7	-48.8
Finland	71.1	63.0	1.0	-5.0	-11.4	-16.0
France	549.4	490.2	0.1	-7.5	-10.8	-17.5
Germany	1247.9	950.7	2.4	-4.3	-23.8	-27.1
Greece	*105.0*	*105.1*	*-6.6*	*-3.3*	*0.1*	*-3.2*
Hungary	94.2	57.4	-4.3	-1.2	-39.1	-39.8
Ireland	56.7	58.8	-1.3	-0.9	3.7	2.7
Italy	521.1	437.3	-6.7	-4.6	-16.1	-19.9
Latvia	26.2	10.9	-0.5	0.4	-58.3	-57.9
Lithuania	47.8	19.9	-6.1	-1.8	-58.3	-59.4
Luxembourg	12.9	11.1	-5.1	-2.5	-13.5	-15.7
Malta	2.0	2.8	-12.1	-1.6	39.4	37.1
Netherlands	219.5	195.8	-0.2	-4.5	-10.8	-14.9
Poland	473.9	394.9	-1.0	-1.7	-16.7	-18.1
Portugal	60.4	65.1	-2.8	-1.6	7.7	6.6
Romania	253.3	110.9	-8.3	0.4	-56.2	-56.2
Slovakia	75.5	43.7	-0.1	-3.4	-42.2	-44.1
Slovenia	18.6	18.2	-3.9	-7.7	-2.1	-9.7
Spain	290.7	322.0	-7.7	1.1	10.8	12.0
Sweden	71.8	55.8	-2.7	-3.4	-22.4	-25.0
United Kingdom	803.7	572.1	-2.3	-8.7	-28.8	-34.9
EU-28	**5,680.2**	**4,476.8**	**-1.9**	**-4.1**	**-21.2**	**-24.4**

Sources: European Environment Agency Technical Report no. 19/2015, *"Annual European Union greenhouse gas inventory 1990-2013 and inventory report 2015"*, 27.11.2015. For 2014: European Environment Agency Technical Report no. 15/2015, *"Approximated EU GHG inventory: Proxy GHG emission estimates for 2014"*, 30.9.2015.
1 Total emissions excluding land use, land use change and forestry.

However, the countries with the largest shares were also the ones with the largest decreases, a trend which continued also in 2014. As a result, German, UK, French and Italian GHG emissions were respectively 337.9, 281.5, 96.5, and 103.8 million tonnes of CO_2-equivalent less than in 1990.

Breaking down the emissions of the six main greenhouse gases in the EU-28 in 2013, carbon dioxide (CO_2) accounts for the largest share (81.5%, compared with 78.5% in 1990), followed by methane (CH_4) and nitrous oxide (N_2O) with 10.5% and 5.8%, respectively (compared with 13.2% and 7.3% in 1990). As

Table X.2 Greenhouse gas emissions by source: EU-28 and Greece

(in million tonnes of CO_2 equivalents)

	1990	1995	2000	2005	2010	2011	2012	2013
EU-28								
Energy	4,356	4,088	4,018	4,115	3,798	3,650	3,604	3,524
Industrial processes	511	491	443	449	376	374	360	360
Agriculture	569	495	481	455	442	442	439	441
Waste	244	248	235	205	170	164	159	152
Other	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01
*Total **	*5,680*	*5,322*	*5,177*	*5,224*	*4,786*	*4,630*	*4,563*	*4,477*
Greece								
Energy	77	81	97	106	93	91	87	79
Industrial processes	11	13	15	15	12	10	11	12
Agriculture	10	10	10	9	9	9	9	9
Waste	6	7	7	5	5	5	5	5
Other	-	-	-	-	-	-	-	-
*Total **	*105*	*111*	*128*	*136*	*119*	*116*	*113*	*105*

Sources: European Environment Agency, *"Annual European Union greenhouse gas inventory 1990-2013 and inventory report 2015"*, 27.11.2015.
* Total emissions excluding land use, land use change and forestry.

regards the trends of these emissions, CO_2 accounted for the largest decrease in emissions. Reductions in carbon and methane peroxides were also significant, reflecting lower levels of mining activities, as well as lower emissions from waste management. In greater detail, CO_2 emissions in 2013 came to 3,650 million tonnes (down by 18.2% from 1990), while CH_4 and N_2O came to 468 and 258 tonnes of CO_2-equivalent, 37.7% and 37.5%, respectively, less than in 1990.

As for the source of gas emissions (see Table X.2), energy-related activities are the major source of greenhouse gases, with 78.7% in 2013 in the EU-28 (3,524 million tonnes of CO_2-equivalent). Agriculture is the second most important source with a share of 9.9% (441 million tonnes of CO_2-equivalent), followed by industrial processes and waste, with shares of 8.0% and 3.4% (360 and 152 million tonnes of CO_2-equivalent, respectively).[22]

As regards Greece in particular, domestic GHG emissions followed an upward trend from 1990 to 2005. From that point onwards, however, they began to decline continuously, returning to their 1990 levels[23] by 2013. Subsequently, in 2014, they fell by 3.3% year-on-year, *decreasing cumulatively by 3.2% over the period 1990-2014.* Energy-related activities were the main contributor to the decrease in emissions, a development largely associated with recent years' downturn.

As far as the EU targets under the Kyoto Protocol are concerned, in 2010 the EU committed under the UNFCCC[24] to reduce its GHG emissions to 20% below 1990 levels over the second commitment period of the Kyoto Protocol (2013-2020), while it also made a conditional commitment to raise this target to 30%. Indeed,

22 The average annual change from 1990 to 2013 was: -19.1% for emissions from energy-related activities, -22.5% for emissions from agriculture, -29.5% for emissions from industrial processes and -37.7% for emissions from waste.

23 It should be recalled that, instead of a reduction in existing emission levels, the target set for Greece under the Kyoto Protocol was for the *increase* in emissions over the period 2008-2012, relative to the base year (in most cases, 1990), to be *contained* at 25%. This target was over-achieved, largely thanks to a decrease in emissions following the onset of the economic crisis. See also *Annual Report 2014*, pp. 155-157.

24 European Environment Agency, "Trends and projections in Europe 2015", EEA Report, No 4/2015.

the amendment adopted in Doha in December 2012 ("Doha Amendment") (ratified by Greece in November 2015 by Law 4345/2015), which replaced Annex B to the Kyoto Protocol, contained a common EU-wide target of an 8% emission reduction compared with 1990 levels over the period 2008-2012 (*to be collectively achieved by the Member States*) and of a 20% emission reduction by 2020 compared with 1990 levels (again to be collectively achieved), along with a conditional pledge to move to a 30% reduction by 2020 compared to 1990 levels, provided that other developed countries commit themselves to comparable emission reductions and developing countries contribute adequately according to their respective capabilities. However, according to the European Council orientations of October 2014 and the EU's INDC submission of March 2015, a clearly more ambitious common EU-wide emission reduction target of a 40% emission reduction by 2030 compared with 1990 levels applies now in parallel.

3 RECENT GREEK LEGISLATION AND OTHER MEASURES ON THE ENVIRONMENT, ENERGY AND CLIMATE CHANGE

The main measures taken in the past 12 months include:

- In April 2015, Article 17 of Law 4324/2015 annulled the price increases in the special fee for reducing emissions of atmospheric pollutants decided by the Regulatory Authority for Energy (RAE). The increases were supposed to take effect from 2015.

- On 30 July 2015, a new revised version of the National Waste Management Plan (NWMP) was released.

- In late September 2015, a first tranche was disbursed under a €15 million worth indoor natural gas installation subsidy programme implemented by the Ministry of Environment and Energy, in cooperation with the gas supply companies (EPAs) of Attica, Thessaloniki and Thessaly.

- In November 2015, Law 4342/2015 transposed Directive 2012/27/EU on energy efficiency into Greek law and made provisions for Green Public Procurement (GPP) and an Energy-Poverty Action Plan.

- In the same month, as mentioned previously, Law 4345/2015 ratified the so-called "Doha Amendment" to the Kyoto Protocol.

- On 30 November 2015, it was announced that, after the conclusion of talks between the Ministry of Environment and Energy and Trans-Adriatic Pipeline AG, all the then outstanding issues had been settled within schedule.

- On 10 December 2015, during an official ceremony held in Sofia, the Final Investment Decision (FID) for the Gas Interconnector Greece-Bulgaria (IGB) pipeline project was signed by the representatives of the companies involved.

- On 16 December 2015, talks between the Greek government and the representatives of the Institutions concluded with an agreement on the issue of the Independent Power Transmission Operator (IPTO).

- On 13 January 2016, the Minister of Energy and Environment adopted a set of decisions endorsing the plans for the installation and route of the Trans-Adriatic Pipeline (TAP) through 13 Regional Units of Greece.

4 SUMMARY OF THE ACTIVITIES OF THE CLIMATE CHANGE IMPACTS STUDY COMMITTEE (CCISC) IN THE LAST 12 MONTHS

National Strategy for Adaptation to Climate Change (NSACC)[25]

In 2015, CCISC's work focused on the challenges posed by climate change adaptation.

25 CCISC (2015), National Strategy for Adaptation to Climate Change. For more information, visit http://www.ypeka.gr/Default.aspx?tabid=226&locale=en-US&language=el-GR

Thus, as part of a Memorandum of Cooperation, signed in December 2014 between the Ministry of Environment, Energy and Climate Change, on the one hand, and the Athens Academy Biomedical Research Foundation and the Bank of Greece, on the other, in order to tackle the repercussions of climate change in Greece and benefit from CCISC's expertise in its economic and non-economic impacts, it contributed to the preparation of the National Strategy for Adaptation to Climate Change (NSACC), which was released for public consultation in December 2015.

The NSACC is a first step towards a continuous and flexible process for the development and implementation of the necessary adaptation measures at the national, regional and local levels. Its overarching aim is to contribute to strengthening the country's resilience to the impacts of climate change. It provides for an initial five-year horizon for building the capacity for adaptation and prioritising and implementing an initial set of actions. Because of the uncertainties surrounding climate change and its impacts, the deluge of new information and developments and the ever-changing views on what would be an appropriate way to promote adaptation, continuous assessment, education and expert analysis are required. The NSACC is an opportunity for Greece to develop its own strategy for adaptation to climate change, by setting in motion a process of continuous consultation and of constant review, update and realignment of this strategy.

Key objectives of the NSACC are to:

- systematise and improve short- and long-term adaptation decision-making;

- link adaptation to the promotion of a sustainable growth model through regional and local action plans;

- foster adaptation actions and policies in all sectors of the economy, with emphasis on the most vulnerable ones;

- create a monitoring, assessment and update mechanism for adaptation actions and policies;

- build the adaptation capacity of the Greek society through information and awareness-raising.

It also envisages the use of risk and vulnerability assessments covering the following sectors: agriculture and livestock breeding, forestry, biodiversity, aquaculture, fishing, water resources, coastal zones, tourism, energy, infrastructure and transport, health, built environment, mining industry, cultural heritage and the insurance sector. Priority is given to those sectors expected to be the most affected by climate change, and to averting those impacts that would entail the highest costs for the economy.

The NSACC is a strategic orientation document aimed at formulating climate change adaptation guidelines. It does not constitute a thorough analysis of the necessary sectoral adaptation policies nor does it express opinions on the advisability of individual adaptation measures and actions at the local or regional level. Neither does it attempt to set priorities among alternatives proposed as an example of possible measures and actions. These issues fall within the scope of Regional Action Plans which will specify the NSACC guidelines by identifying priorities for adaptation in each region.

Monitoring scheme – Observatory of the implementation of the National Adaptation Strategy of Greece

As a follow-up to the National Strategy for Adaptation to Climate Change, in autumn 2015 the National Technical University of Athens (NTUA), in cooperation with the Bank of Greece, the Ministry of Environment and Energy, the Academy of Athens and other entities, submitted a proposal to the European Commission requesting funding for an integrated project under the LIFE 2015 sub-programme for Climate Action. The proposal, which was entitled "Monitoring scheme – Observatory of the implementation of the National Adaptation Strategy of Greece", concerned the creation of a special Climate Change Adaptation Observatory, complete with monitoring indicators and tools for the 13 Regions of Greece for a 5-year period from 2017 to 2021, as part of the implementation of the NSACC. The project successfully passed stage one evaluation.

Public Consultation "Athens World Wide Views on Climate and Energy"

On 6 June 2015, the CCISC, the Mariolopoulos-Kanaginis Foundation for the Environmental Sciences and the post-graduate programme "Environment and Health – Capacity building for Decision Making" of the Medical School of the National and Kapodistrian University of Athens co-organised a public consultation entitled "Athens World Wide Views on Climate and Energy". This was the Greek version of an international consultation entitled "WWviews on Climate and Energy". This latter consultation, the largest ever global public consultation on climate and energy, took place on the same day in 76 countries and involved 9,000 citizens. Its results were published on the internet,[26] presented to environmental and energy policy-makers and submitted to the COP21.

26 More information (in Greek) and the results of the consultation, by country and globally, can be found at: http://www.bankofgreece.gr/Pages/el/Bank/News/PressReleases/DispItem.aspx?Item_ID=5001&List_ID=1af869f3-57fb-4de6-b9ae-bdfd83c66c95.

ANNEX

ANNUAL ACCOUNTS FOR THE YEAR 2015

AND AUDITOR'S REPORT

CONTENTS

To the Shareholders of BANK OF GREECE A.E

Report on the Financial Statements

We have audited the accompanying financial statements of BANK OF GREECE A.E. (the "Bank") which comprise the balance sheet as of 31 December 2015 and the statement of income, the appropriation account for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the accounting principles prescribed by the European Central Bank (ECB) as adopted by the Bank in Article 54A of its Statute and the Greek accounting principles, where the Guideline of the ECB does not provide specific direction, as well as for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements give a true and fair view of the financial position of BANK OF GREECE A.E. as at 31 December 2015 and of its financial performance for the year then ended in accordance with the accounting principles prescribed by the ECB as adopted by the Bank in Article 54A of its Statute and the Greek accounting principles, where the Guideline of the ECB does not provide specific direction.

Report on Other Legal and Regulatory Requirements

We verified that the contents of the Report of the General Council relating to the statement of income for 2015 to the Annual Shareholders Meeting are consistent and correspond with the accompanying financial statements within the scope set by the provisions of C.L. 2190/1920.

Athens, 18 January 2016

KPMG Certified Auditors A.E.
AM SOEL 114

Nikolaos Vouniseas	Ioannis Achilas
Certified Auditor Accountant	Certified Auditor Accountant
AM SOEL 18701	AM SOEL 12831

BALANCE SHEET AS AT 31 DECEMBER 2015
EIGHTY-EIGHTH YEAR

(in euro)

ASSETS	31.12.2015	31.12.2014
1. Gold and gold receivables	**4,655,876,333**	**4,720,522,384**
2. Claims on non-euro area residents denominated in foreign currency	**2,046,275,257**	**1,570,953,046**
2.1 Receivables from the International Monetary Fund (IMF)	635,957,699	947,944,540
2.2 Balances with banks and security investments, external loans and other external assets	1,410,317,558	623,008,506
3. Claims on euro area residents denominated in foreign currency	**613,387,274**	**599,521,200**
3.1 General government	306,522,843	288,310,529
3.2 Other claims	306,864,431	311,210,671
4. Claims on non-euro area residents denominated in euro	**23,881**	**23,881**
4.1 Balances with banks, security investments and loans	23,881	23,881
4.2 Claims arising from the credit facility under ERM II	0	0
5. Lending to euro area credit institutions related to monetary policy operations denominated in euro	**38,599,000,000**	**56,039,400,000**
5.1 Main refinancing operations	26,570,000,000	47,149,400,000
5.2 Longer-term refinancing operations	12,000,000,000	8,890,000,000
5.3 Fine-tuning reverse operations	0	0
5.4 Structural reverse operations	0	0
5.5 Marginal lending facility	29,000,000	0
5.6 Credits related to margin calls	0	0
6. Other claims on euro area credit institutions denominated in euro	**68,914,635,432**	**1,095,137**
7. Securities of euro area residents denominated in euro	**39,764,480,573**	**31,056,804,080**
7.1 Securities held for monetary policy purposes	20,711,295,716	5,786,493,862
7.2 Other securities of euro area residents denominated in euro	19,053,184,857	25,270,310,218
8. General government long-term debt denominated in euro	**4,843,627,573**	**5,249,170,866**
9. Intra-Eurosystem claims	**1,781,727,954**	**1,773,729,971**
9.1 Participating interest in the ECB	564,765,496	564,765,496
9.2 Claims equivalent to the transfer of foreign reserves to the ECB	1,178,260,606	1,178,260,606
9.3 Net claims related to the allocation of euro banknotes within the Eurosystem	0	0
9.4 Net claims arising from balances of TARGET2 accounts	0	0
9.5 Other claims within the Eurosystem (net)	38,701,852	30,703,869
10. Items in course of settlement	**0**	**0**
11. Other assets	**2,294,067,038**	**2,146,353,296**
11.1 Coins	58,024,469	56,067,754
11.2 Tangible and intangible fixed assets	801,561,779	809,329,992
11.3 Other financial assets	93,405,313	91,609,288
11.4 Off-balance-sheet instruments revaluation differences	82,318	229,653
11.5 Accruals and prepaid expenses	743,311,071	614,144,364
11.6 Sundry	597,682,088	574,972,245
TOTAL ASSETS	**163,513,101,315**	**103,157,573,861**

(in euro)

LIABILITIES	31.12.2015	31.12.2014
1. Banknotes in circulation	**28,792,125,675**	**27,172,060,740**
2. Liabilities to euro area credit institutions related to monetary policy operations denominated in euro	**1,387,143,530**	**3,076,270,299**
2.1 Current accounts (covering the minimum reserve system)	1,258,943,530	2,926,270,299
2.2 Deposit facility	0	150,000,000
2.3 Fixed-term deposits	0	0
2.4 Fine-tuning reverse operations	0	0
2.5 Deposits related to margin calls	128,200,000	0
3. Other liabilities to euro area credit institutions denominated in euro	**0**	**0**
4. Liabilities to other euro area residents denominated in euro	**5,085,184,765**	**4,377,583,848**
4.1 General government	3,749,122,957	3,520,526,264
4.2 Other liabilities	1,336,061,808	857,057,584
5. Liabilities to non-euro area residents denominated in euro	**1,227,986,892**	**1,438,395,120**
6. Liabilities to euro area residents denominated in foreign currency	**646,431,879**	**302,447,427**
7. Liabilities to non-euro area residents denominated in foreign currency	**2,666**	**2,391**
7.1 Deposits and other liabilities	2,666	2,391
7.2 Liabilities arising from the credit facility under ERM II	0	0
8. Counterpart of special drawing rights allocated by the IMF	**0**	**932,888,415**
9. Intra-Eurosystem liabilities	**113,977,496,400**	**54,502,387,704**
9.1 Liabilities related to promissory notes backing the issuance of ECB debt certificates	0	0
9.2 Net liabilities related to the allocation of euro banknotes within the Eurosystem	19,590,587,680	5,183,480,790
9.3 Net liabilities arising from balances of TARGET2 accounts	94,386,908,720	49,318,906,914
9.4 Other liabilities within the Eurosystem (net)	0	0
10. Items in course of settlement	**955,123**	**2,558,265**
11. Other liabilities	**1,310,063,399**	**706,238,137**
11.1 Off-balance-sheet instruments revaluation differences	17,549,614	523,582
11.2 Accruals and income collected in advance	16,430,532	14,007,249
11.3 Sundry	1,276,083,253	691,707,306
12. Provisions	**7,198,507,643**	**6,788,684,202**
13. Revaluation accounts	**3,071,705,530**	**3,042,557,641**
14. Capital and reserves	**815,497,813**	**815,499,672**
14.1 Capital	111,243,362	111,243,362
14.2 Ordinary reserve	111,243,362	111,243,362
14.3 Extraordinary reserve	84,500,000	84,500,000
14.4 Special reserve from the revaluation of land and buildings	507,247,856	507,247,856
14.5 Other special reserves	1,263,233	1,265,092
TOTAL LIABILITIES	**163,513,101,315**	**103,157,573,861**

PROFIT AND LOSS ACCOUNT FOR THE YEAR 2015

(in euro)

	2015	2014
1. Net interest income	**1,725,725,824**	**957,672,264**
1.1 Interest income	1,784,046,402	1,049,114,258
1.2 Interest expense	-58,320,578	-91,441,994
2. Net result of financial operations, write-downs and risk provisions	**22,840,471**	**39,587,522**
2.1 Realised gains arising from financial operations	22,840,471	39,587,522
2.2 Write-downs on financial assets and positions	-5,209,328	-1,740,761
2.3 Transfer from provisions for foreign exchange rate, interest rate, credit and gold price risks	5,209,328	1,740,761
3. Net income from fees and commissions	**89,837,658**	**73,515,465**
3.1 Fees and commissions income	90,793,604	74,854,516
3.2 Fees and commissions expense	-955,946	-1,339,051
4. Income from equity shares and participating interests	**31,565,454**	**29,004,290**
5. Net result of pooling of monetary income	**15,265,637**	**6,276,926**
6. Other income	**12,261,807**	**12,134,922**
Total net income	**1,897,496,851**	**1,118,191,389**
7. Staff costs and pension benefit expenses	**-256,804,316**	**-258,748,290**
8. Other administrative expenses	**-49,656,441**	**-46,964,051**
9. Depreciation of tangible and intangible fixed assets	**-13,378,128**	**-13,918,569**
10. Consultancy fees for the auditing of the banking system	**-6,326,531**	**-13,956,549**
11. Provisions	**-408,482,232**	**-130,054,727**
Total expenses	**-734,647,648**	**-463,642,186**
PROFIT FOR THE YEAR	**1,162,849,203**	**654,549,203**

DISTRIBUTION OF PROFIT

(Article 71 of the Statute)

(in euro)

	2015	2014
Dividend to be distributed: €0.47712 per share for 19,864,886 shares	9,477,934	9,878,410
Tax on dividends (tax rate 29%, Articles 47 and 58, Law 4172/2013)	3,871,269	3,470,793
To the Government	1,149,500,000	641,200,000
	1,162,849,203	**654,549,203**

NOTES ON THE ANNUAL ACCOUNTS

As of 1 January 2001, the Bank of Greece became an integral part of the European System of Central Banks and acts in accordance with the guidelines and instructions of the European Central Bank (ECB).

European System of Central Banks (ESCB)

The European System of Central Banks (ESCB) comprises the ECB and the national central banks of all EU Member States regardless of whether or not they have adopted the euro.

Eurosystem

The Eurosystem comprises the ECB and the national central banks of the EU Member States whose currency is the euro. The Eurosystem and the ESCB will co-exist for as long as there are EU Member States outside the euro area.

Euro area

The euro area consists of those Member States of the European Union that have adopted the euro as their currency.

Key for subscriptions to the ECB's capital

The NCBs' shares in the capital of the ECB are calculated using a key. Each national central bank is assigned a weighting in this key which is equal to the sum of 50% of the share of its respective Member State in the gross domestic product of the EU and 50% of the share of its respective Member State in the population of the EU (Article 29.1 of the Statute of the ESCB).

The euro area NCBs have paid up their subscriptions to the ECB's capital in full according to their capital keys and are allocated the profits and losses of the ECB.

The non-euro area NCBs pay up only 3.75% of their subscribed capital as a contribution to the operational costs of the ECB.

Pursuant to Article 29.3 of the Statute of the ESCB, the weightings of the NCBs' keys for subscription to the ECB's capital are adjusted every five years after the establishment of the ESCB. Also, according to Article 48.3 of the ESCB Statute, the subscribed capital of the ECB is automatically increased whenever a new Member State accedes to the EU and its respective NCB joins the ESCB. The increase is determined by multiplying the prevailing amount of the subscribed capital by the ratio, within the expanded capital key, between the weighting of the entering NCB and the weighting of those NCBs that are already members of the ESCB.

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The NCBs' capital keys

National Central Banks	Capital key as at 31 December 2015 *(in percentages)*	Capital key as at 31 December 2014 *(in percentages)*
Nationale Bank van België/Banque Nationale de Belgique	2.4778	2.4778
Deutsche Bundesbank	17.9973	17.9973
Eesti Pank	0.1928	0.1928
Central Bank of Ireland	1.1607	1.1607
Τράπεζα της Ελλάδος	2.0332	2.0332
Banco de España	8.8409	8.8409
Banque de France	14.1792	14.1792
Banca d'Italia	12.3108	12.3108
Central Bank of Cyprus	0.1513	0.1513
Latvijas Banka	0.2821	0.2821
Lietuvos bankas	0.4132	-
Banque centrale du Luxembourg	0.2030	0.2030
Central Bank of Malta	0.0648	0.0648
De Nederlandsche Bank	4.0035	4.0035
Oesterreichische Nationalbank	1.9631	1.9631
Banco de Portugal	1.7434	1.7434
Banka Slovenije	0.3455	0.3455
Národná banka Slovenska	0.7725	0.7725
Suomen Pankki	1.2564	1.2564
Total of euro area NCBs	**70.3915**	**69.9783**
Българска народна банка (Bulgarian National Bank)	0.8590	0.8590
Česká národní banka	1.6075	1.6075
Danmarks Nationalbank	1.4873	1.4873
Hrvatska narodna banka	0.6023	0.6023
Lietuvos bankas	-	0.4132
Magyar Nemzeti Bank	1.3798	1.3798
Narodowy Bank Polski	5.1230	5.1230
Banca Naţională a României	2.6024	2.6024
Sveriges Riksbank	2.2729	2.2729
Bank of England	13.6743	13.6743
Total of non-euro area NCBs	**29.6085**	**30.0217**
Total	**100.0000**	**100.0000**

The Bank of Greece's key

Bank of Greece	31.12.2015 *(in percentages)*	31.12.2014 *(in percentages)*
Capital key	2.0332	2.0332
Eurosystem key[1]	2.8884	2.9055
Banknote allocation key[1]	2.6575	2.6730

1 The Bank of Greece's Eurosystem key and banknote allocation key changed in 2015 due to Lithuania's entry into the Eurosystem on 1 January 2015.

ACCOUNTING POLICIES

General principles regarding the preparation of the Bank's accounts

The annual accounts of the Bank of Greece, under Article 54A of its Statute, are prepared in accordance with the accounting rules and principles applicable to the European System of Central Banks (ESCB), as set out by the European Central Bank (ECB) in its Guideline ECB/2010/20 of 11 November 2010, as amended.

These rules and practices are based on internationally accepted accounting standards and have been adjusted to reflect the specific status of the national central banks (NCBs) of the Eurosystem.

Any issues that are not covered by the aforementioned rules or ECB guidelines or are governed by non-mandatory provisions are to be treated either in accordance with the ECB recommendations or in accordance with the Bank's Statute, Codified Law 2190/1920 on sociétés anonymes and Law 4308/2014 "Greek Accounting Standards, relevant arrangements, and other provisions".

Main accounting principles

The main accounting principles that apply to the Eurosystem (i.e. the ECB and the euro area NCBs, including the Bank of Greece) are the following:

- ***Transparency:*** accounting and financial reporting must reflect the Bank's real financial situation.

- ***Prudence:*** Unrealised valuation gains on gold, financial instruments in foreign currency and securities are not recognised as income in the Profit and Loss Account, but are recorded directly in revaluation accounts. Unrealised valuation losses at the year-end in excess of previous unrealised valuation gains are recognised as expenses and are taken to the Profit and Loss Account.

- ***Post-balance-sheet events:*** Assets and liabilities are adjusted for events that occur between the annual balance sheet date and the date on which the financial statements are approved if they affect the condition of assets or liabilities at the balance sheet date. No adjustment shall be made for assets and liabilities, but disclosure shall be made of those events occurring after the balance sheet date if they do not affect the condition of assets and liabilities at the balance sheet date, but which are of such importance that non-disclosure would affect the ability of the users of the financial statements to make proper evaluations and decisions.

- ***Materiality***

- ***Going concern basis***

- ***The accruals principle:*** Income and expenses are recognised in the accounting period in which they are earned or incurred and not in the period in which they are received or paid.

- ***Consistency and comparability:*** The criteria for balance sheet valuation and income recognition are applied consistently to ensure comparability of data in the financial statements.

Accounting approaches

- Transactions denominated in euro are recorded on value date using the cash approach.

- Foreign exchange transactions, financial instruments denominated in foreign currency and related accruals are recorded using the economic approach, according to which:

  – Transactions are recorded on off-balance-sheet accounts on the transaction/trade date.

  – On the settlement/value date the off-balance-sheet booking entries are reversed and the transactions are booked on balance sheet accounts.

  – Applying the economic approach, the foreign currency positions, realised gains and losses arising from net sales and the calculation of average cost are affected on the trade date.

  – Interest, premium or discount accrued related to financial instruments denominated in foreign currency is calculated and booked daily, and the foreign currency position is also affected daily.

Balance sheet valuation rules

- Assets and liabilities in foreign currency and gold are converted into euro at the exchange rate prevailing at the balance sheet date, as derived from the ECB's daily quotation of reference exchange rates.

- Income and expenses are converted into euro at the exchange rate prevailing on the trade date.

- No distinction is made between price and currency revaluation differences for gold. Instead, a single gold valuation is accounted for on the basis of the price in euro per fine ounce of gold, which is derived by converting into euro the year-end USD price of gold on the London market using the euro/USD exchange rate of the same day, on the basis of the ECB's daily quotation of reference exchange rates.

- The revaluation of foreign exchange assets and liabilities, including on-balance-sheet and off-balance-sheet instruments, is performed on a currency-by-currency basis.

- Securities held for monetary policy purposes are valued at amortised cost subject to impairment, regardless of the holding intention.

- Marketable securities, other than those classified as held for monetary policy purposes, are valued at the mid-market prices prevailing at the balance sheet date, on a security-by-security basis, using the ISIN code as the security identifier, provided they are not classified as held-to-maturity. Any options embedded in securities should not be treated separately for valuation purposes. For the year ending 31 December 2015, mid-market prices of 31 December 2015 were used. Marketable securities classified as held-to-maturity and non-marketable securities are valued at amortised cost subject to impairment.

Income recognition

- Realised gains and losses arising from the sale of foreign currency, gold and securities are taken to the Profit and Loss Account. Such realised gains and losses are calculated by reference to the average cost of the respective asset on the date they are realised.

- Unrealised gains (revaluation gains) are not recognised as income but are transferred directly to revaluation accounts.

- Unrealised losses (revaluation losses), when in excess of previous revaluation gains registered in the corresponding revaluation account, are taken at year-end to the Profit and Loss Account and are not netted against new revaluation gains in subsequent years. Such unrealised losses on any one security or currency or on gold holdings are not netted against unrealised gains on other securities or currencies or gold. The average cost of a financial asset giving rise to an unrealised loss at year-end is adjusted to the year-end exchange rate or market price.

- Premiums or discounts arising on purchased securities are calculated and presented as part of interest income and are amortised over the remaining contractual life of the securities.

- Impairment losses are taken to the Profit and Loss Account and are not reversed in subsequent years unless the impairment decreases and the decrease can be related to an observable event that occurred after the impairment was first recorded.

Off-balance-sheet instruments

Foreign exchange forward transactions, forward legs of foreign exchange swaps and other currency transactions involving an exchange of one currency for another at a future date are included in the net foreign currency positions for the purpose of calculating average purchase costs and foreign exchange gains and losses.

Banknotes in circulation

The ECB and the euro area NCBs, which together comprise the Eurosystem, issue euro banknotes.[2] The total value of euro banknotes in circulation is allocated to the Eurosystem central banks on the last working day of each month according to their banknote allocation key.[3]

The ECB has been allocated a share of 8% in the total value of euro banknotes in circulation, while the remaining 92% is allocated to the NCBs according to their Eurosystem key. The share of banknotes in circulation that has been allocated to the Bank of Greece is disclosed under liability item 1 "Banknotes in circulation".

The difference between the value of euro banknotes allocated to each NCB according to its banknote allocation key and the value of euro banknotes that the NCB actually puts into circulation produces "Intra-Eurosystem claims/liabilities". These interest-bearing claims or liabilities[4]

2 Decision of the ECB of 13 December 2010 on the issue of euro banknotes (recast) (ECB/2010/29), OJ L35, 9.2.2011, p. 26, as amended.
3 "Banknote allocation key" means the percentages that result from taking into account the ECB's share (8%) in the total euro banknote issue and applying the subscribed capital key to the NCB's share in this total.
4 Decision of the ECB of 25 November 2010 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (recast) (ECB/2010/23), OJ L35, 9.2.2011, p. 17, as amended.

are disclosed under the sub-item “Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem”.

For the year of the euro cash changeover and the following five years, intra-Eurosystem balances arising from the allocation of euro banknotes are adjusted in order to avoid significant changes in the monetary income of NCBs relative to previous years.

The amounts of these adjustments were calculated taking into account the differences between the average value of banknotes in circulation of each NCB during the reference period (referring to the 24-month period beginning 30 months before the adoption of the single currency by the relevant Member State) and the average value of banknotes that would have been allocated to them in the same period according to their ECB capital key.

The small further adjustments of balances made henceforth reflect changes in the balances of NCBs joining the Eurosystem, which affect those of already participating NCBs. In 2015, adjustments arise from the entry of the NCBs of Estonia (1 January 2011), Latvia (1 January 2014) and Lithuania (1 January 2015).

Interest income and interest expenses on these claims/liabilities are cleared through the accounts of the ECB and are disclosed in the Profit and Loss Account of each Eurosystem NCB under “Net interest income”.

ECB profit distribution

The Governing Council of the ECB has decided that the ECB’s income from its share (8%) of the total euro banknote issue and income arising from securities purchased for monetary policy purposes under the Securities Markets Programme (SMP), the third Covered Bond Purchase Programme (CBBP3), the Asset-Backed Securities Purchase Programme (ABSPP) and the Public Sector Purchase Programme (PSPP) is due in full to the NCBs and must be recorded in the financial year in which it accrues. Unless otherwise decided by the Governing Council, the ECB distributes this income in January of the following year by means of an interim profit distribution.[5] It is distributed in full to the NCBs, unless the ECB’s net profit for the year is less than its income earned from such sources, and subject to any decisions by the Governing Council to make transfers to the ECB’s provision for foreign exchange rate, interest rate, credit and gold price risks. The Governing Council may also decide to charge costs incurred by the ECB in connection with the issue and handling of euro banknotes against income earned on euro banknotes in circulation.

The amounts distributed to the NCBs are disclosed under “Income from equity shares and participating interests” in the Profit and Loss Account.

Intra-ESCB balances/intra-Eurosystem balances

Intra-Eurosystem balances result from cross-border payments between EU central banks (for the most part initiated by private entities). They are mostly effected through the TARGET2 system[6] and give rise to bilateral balances in the TARGET2 accounts of EU central banks. These bilat-

5 Decision (EU) 2015/298 of the ECB of 15 December 2014 on the interim distribution of the income of the European Central Bank (recast) (ECB/2014/57), OJ L53, 25.2.2015, p. 24.
6 TARGET2: Trans-European Automated Real-time Gross settlement Express Transfer system.

eral balances are netted out and then assigned to the ECB on a daily basis, leaving each NCB with a single net bilateral position vis-à-vis the ECB only. Euro-denominated intra-Eurosystem balances of the Bank of Greece vis-à-vis the ECB arising from TARGET2 are presented on the balance sheet as a single net asset or liability position and disclosed under "Net claims/liabilities arising from balances of TARGET2 accounts".

Intra-ESCB balances vis-à-vis non-euro area NCBs, arising from payments not effected through the TARGET2 system, are disclosed either as "Claims on non-euro area residents denominated in euro" or as "Liabilities to non-euro area residents denominated in euro".

Various other intra-Eurosystem balances denominated in euro (such as the ECB interim profit distribution and the redistribution of monetary income) are recorded on the balance sheet of the Bank of Greece as a single net asset or liability position under "Other claims within the Eurosystem (net)"or "Other liabilities within the Eurosystem (net)".

Intra-Eurosystem claims arising from the Bank's share in the capital of the ECB and its contribution to the reserves and provisions of the ECB are disclosed under "Participating interest in the ECB".

Intra-Eurosystem balances arising from the transfer of foreign reserve assets to the ECB by NCBs joining the Eurosystem are denominated in euro and reported under "Claims equivalent to the transfer of foreign reserves to the ECB".

Intra-Eurosystem balances arising from the allocation of euro banknotes in circulation among the NCBs are included as a single net asset or liability position under "Net claims related to the allocation of euro banknotes within the Eurosystem" or "Net liabilities related to the allocation of euro banknotes within the Eurosystem".

Special Drawing Rights (SDRs): Change of accounting treatment

On 9 December 2015, an agreement on the keeping and operation of SDR allocations accounts was signed between the Bank of Greece and the Hellenic Republic.

In this context, it was agreed to change the accounting treatment of SDR allocations from the International Monetary Fund (IMF), for reasons of clarity and fully in line with the fact that these allocations are owned by the Hellenic Republic, which has a relevant liability to the IMF. As from the date of entry into force of the agreement (23 December 2015), the SDR allocations account appears among the accounts of the Hellenic Republic and is mirrored by an off-balance-sheet account of the Bank of Greece.

The balance of SDR holdings, resulting from the decisions of the IMF and the Hellenic Republic and the operations conducted by the Bank of Greece on behalf of the Hellenic Republic, will be disclosed on the liabilities side of the balance sheet of the Bank of Greece, as a liability of the Bank of Greece to the Hellenic Republic (liability item "Liabilities to euro area residents denominated in foreign currency"). The balance of such account will be mirrored in an equivalent balance on the "SDR holdings account" on the assets side of the balance sheet of the Bank of Greece (asset item "Receivables from the International Monetary Fund (IMF)").

As a result, the Hellenic Republic assumes all benefits and risks arising from its relationship with the IMF.

NOTES ON THE BALANCE SHEET

ASSETS

1. Gold and gold receivables

Gold and gold receivables	31.12.2015	31.12.2014	Change
Volume in fine troy ounces (thousands)	4,784.0	4,779.0	5.0
Volume in tonnes	148.8	148.6	0.2
Value (€ millions)	4,655.9	4,720.5	-64.6

The amounts reported above comprise the Bank's holdings of gold and gold sovereigns (3,621.1 thousand ounces), gold receivables from the Greek State (985.6 thousand ounces) corresponding to Greece's participation in the IMF (the gold component of Greece's quota has been paid by the Bank of Greece on behalf of the Greek State) and non-international standard gold and gold coins (177.3 thousand ounces). A significant part of the gold holdings is kept with banks abroad.

Gold and gold receivables increased slightly (by 5 thousand ounces), reflecting mainly sales and purchases of gold sovereigns and gold coins. The €64.6 million decrease in their euro-denominated value is attributed to the valuation of gold.

Gold is valued on the basis of the euro price per fine troy ounce as at year-end, which is derived by converting into euro the year-end USD price of gold on the London market using the euro/USD exchange rate of the same date, as listed in the ECB euro foreign exchange reference rates. The price of gold as at 31.12.2015 was €973.225 per ounce, down from €987.769 as at 31.12.2014.

The valuation result of gold (value as at 31 December 2015, compared with the average acquisition cost) came to €2,844.2 million and is disclosed under liability item 13 "Revaluation accounts". This amount represents unrealised profit and serves as a buffer against potential losses from gold price movements.

2. Claims on non-euro area residents denominated in foreign currency

This item includes receivables from the IMF (in SDRs), current account balances with correspondent banks abroad, fixed-term deposits, securities holdings, and the value of foreign banknotes held in the Bank's vaults.

2.1 Receivables from the International Monetary Fund (IMF)

These arise from Greece's participation in the IMF and include the following:

- The Bank's holdings of special drawing rights (SDRs);
- The SDR component of Greece's quota in the IMF.

Both these amounts are mirrored in equivalent liabilities to the Greek State (liability item 6 "Liabilities to euro area residents denominated in foreign currency").

Receivables from the IMF (in millions)	31.12.2015 SDR	Euro	31.12.2014 SDR	Euro	Change SDR	Euro
SDR holdings	258.6	329.2	554.0	660.6	-295.4	-331.4
SDR component of Greece's quota in the IMF	241.0	306.8	241.0	287.3	0.0	19.5
Total	**499.6**	**636.0**	**795.0**	**947.9**	**-295.4**	**-311.9**

- **SDR holdings**

The largest part of Greece's SDR holdings with the IMF comes from SDR allocations to Greece in 2009 in the context of IMF's general SDR allocation, equivalent to USD 250 billion, to all its member countries, which was approved by the IMF Board of Governors on 7 August 2009 and entered into force on 28 August 2009.

This allocation aimed to provide liquidity to the global economic system by boosting the foreign reserve assets of the IMF member countries according to their quotas.

The SDR holdings are foreign reserve assets of Greece.

- **SDR component of Greece's quota in the IMF**

This account shows the SDR component of Greece's quota in the IMF. Greece's total quota as at 31 December 2015 amounted to SDR 1,101.8 million.

The increase in the euro equivalent of these claims reflected year-end adjustments on account of the depreciation of the euro vis-à-vis the SDR. Valuation was based on the SDR/euro exchange rate as at 31 December 2015, as derived from the ECB euro foreign exchange reference rates, i.e. SDR 1 = €1.2728, compared with €1.1924 as at 31 December 2014.

2.2 Balances with banks and security investments, external loans and other external assets

This item consists of claims on non-euro area residents denominated in foreign currency, e.g. fixed-term deposits, current account balances with correspondents abroad, bonds, Treasury bills and foreign banknotes in the Bank's vaults.

Categories of claims	31.12.2015 (in € millions)	31.12.2014	Change
Fixed-term deposits with banks abroad	889.0	578.4	310.6
Current account balances with correspondents abroad	18.0	16.5	1.5
Marketable securities (bonds, Treasury bills)	475.7	8.2	467.5
Cash holdings of foreign currency	27.6	19.9	7.7
Total	**1,410.3**	**623.0**	**787.3**

As at 31 December 2015, most of these claims were denominated in US dollars and pounds sterling.

3. Claims on euro area residents denominated in foreign currency

This item includes claims on general government arising from long-term loans and fixed-term deposits with correspondent banks abroad.

3.1 General government

These claims include:

- loans in SDRs granted by the Bank of Greece to the Greek State to finance the SDR component of its quota in the IMF;
- loans in US dollars and a gold-linked loan to the Greek State to finance its participation in international organisations.

These claims as at 31 December 2015 rose to €306.5 million, from €288.3 million as at 31 December 2014. The increase mainly reflected year-end revaluation adjustments due to exchange rate variations and gold price movements in 2015.

3.2 Other claims

The balance as at 31 December 2015 represents foreign currency (USD, GBP and NOK)-denominated fixed-term deposits with euro area counterparties and reverse transactions (in USD) with domestic credit institutions.

Categories of claims	31.12.2015	31.12.2014	Change
	(in € millions)		
Fixed-term deposits	192.1	311.2	-119.1
Reverse transactions with domestic credit institutions	114.8	0.0	114.8
Total	**306.9**	**311.2**	**-4.3**

The balance of fixed-term deposits was €192.1 million as at 31 December 2015, compared with €311.2 million as at 31 December 2014.

The Bank of Greece supplied liquidity to domestic credit institutions (amounting to USD 125 million as at 31 December 2015).

These operations are conducted in line with a temporary reciprocal currency arrangement (swap lines) between the European Central Bank (ECB) and the Federal Reserve System (FED). Under this agreement, the FED makes US dollars available to the ECB through a temporary reciprocal currency arrangement (swap line) in order to provide short-term liquidity in US dollars to euro area credit institutions.

In turn, the ECB conducts swap operations with the National Central Banks (NCBs) of the Eurosystem, which use these funds to conduct liquidity-providing operations in US dollars to euro area credit institutions through reverse operations and swap lines against adequate eligible collateral.

4. Claims on non-euro area residents denominated in euro

4.1 Balances with banks, security investments and loans

This item includes interest-bearing current account balances with banks abroad totalling €24 thousand as at 31 December 2015.

5. Lending to euro area credit institutions related to monetary policy operations denominated in euro

This item consists of the outstanding balances of loans granted by the Bank of Greece to domestic credit institutions in the context of the euro area single monetary policy.

Total Eurosystem financing through monetary policy operations came to €559.0 billion, of which the Bank of Greece granted €38.6 billion to domestic credit institutions.

Categories of operations	31.12.2015	31.12.2014	Change
	(in € millions)		
Main refinancing operations (MROs)	26,570.0	47,149.4	-20,579.4
Longer-term refinancing operations (LTROs)	12,000.0	8,890.00	3,110.0
Marginal lending facility	29.0	0.0	29.0
Total	**38,599.0**	**56,039.4**	**-17,440.4**

Liquidity is provided to counterparties via refinancing operations (main and longer-term) and under the marginal lending facility against adequate collateral in the form of marketable and non-marketable assets that meet the Eurosystem's collateral eligibility criteria.

It should be noted that, under Article 32.4 of the Statute of the ESCB and of the ECB, income and losses arising from Eurosystem monetary policy operations are allocated among the NCBs according to their respective Eurosystem keys.

Losses can only materialise if both the counterparty fails and the proceeds from the realisation of the collateral provided by the counterparty are not sufficient. When specific assets are not eligible as Eurosystem collateral but are accepted as eligible collateral by an NCB, the risk is borne by the NCB accepting the collateral concerned and is not shared among the Eurosystem.

In particular, the following should also be noted:

5.1 Main refinancing operations

The main refinancing operations are executed through reverse liquidity-providing transactions with a maturity of one week, usually through regular weekly tenders. These operations play a key role in achieving the objectives of the monetary policy pursued. Since October 2008, these operations have been conducted as fixed rate tenders with full allotment.

5.2 Longer-term refinancing operations

These operations aim to provide counterparties with additional longer-term refinancing. They are executed as reverse transactions with a maturity of one reserve maintenance period (up to

35 days), but also with maturities of 3, 6, 12 and 36 and 48 months. Since October 2008, they have been conducted as fixed rate tenders with full allotment.

In June 2014, the Governing Council of the ECB decided to conduct a series of targeted longer-term refinancing operations (TLTROs). As at 31 December 2015, the total outstanding amount of €12.0 billion stems from TLTROs, which will mature in September 2018.

5.3 Fine-tuning reverse operations

Fine-tuning operations are executed on an ad hoc basis with the aim of managing the liquidity situation in the market and steering interest rates, in particular in order to smooth the effects on interest rates caused by unexpected liquidity fluctuations in the market. Their frequency and maturity are not standardised.

5.4 Structural reverse operations

These are open market transactions executed on the basis of standard tenders to adjust the structural position of the Eurosystem vis-à-vis the financial sector.

5.5 Marginal lending facility

Through these operations, NCBs provide overnight liquidity to the counterparties at a pre-specified interest rate against eligible collateral.

5.6 Credits related to margin calls

This item shows cash paid to counterparties when the market value of assets pledged as collateral in Eurosystem credit operations exceeds an established trigger point.

6. Other claims on euro area credit institutions denominated in euro

Categories of claims	**31.12.2015**	**31.12.2014**	**Change**
	(in € millions)		
Current account balances with correspondents abroad	0.6	1.1	-0.5
Emergency Liquidity Assistance (ELA)	68,914.0	0.0	68,914.0
Total	**68,914.6**	**1.1**	**68,913.5**

In addition to current account balances with banks other than those related to monetary policy, this item includes Emergency Liquidity Assistance (ELA) to credit institutions.

ELA operations provide emergency liquidity to solvent domestic credit institutions facing temporary liquidity problems. They are not part of the single monetary policy of the Eurosystem, but are conducted by NCBs on the basis of the applicable institutional framework of the Eurosystem with the approval of the Governing Council of the European Central Bank.

For ELA operations providing Emergency Liquidity Assistance (ELA) to credit institutions the Bank of Greece receives adequate collateral, while the Greek State provides a guarantee directly to the Bank of Greece for the total of these operations. The Bank of Greece fully assumes the risks and benefits arising from ELA operations.

7. Securities of euro area residents denominated in euro

7.1 Securities held for monetary policy purposes

This item includes securities purchased under the Eurosystem's first and third Covered Bond Purchase Programmes (CBPP),[7] public debt securities purchased under the Securities Markets Programme (SMP)[8] and securities purchased under the Public Sector Purchase Programme (PSPP).[9]

These securities are valued at amortised cost subject to impairment.

These securities' amortised cost (book value) and market value are given in the table below solely for comparability reasons.

Categories of securities	31.12.2015		31.12.2014		Change	
	Book Value	Market Value	Book Value	Market Value	Book Value	Market Value
	(in € millions)					
CBPP1	847.1	872.9	1,013.0	1,070.4	-165.9	-197.5
CBPP3	3,806.9	3,779.1	808.9	810.6	2,998.0	2,968.5
SMP	2,975.2	3,303.0	3,964.6	4,315.6	-989.4	-1,012.6
PSPP	13,082.1	13,031.9	0.0	0.0	13,082.1	13,031.9
Total	**20,711.3**	**20,986.9**	**5,786.5**	**6,196.6**	**14,924.8**	**14,790.3**

— Securities purchased under CBPP1

This item includes covered bank bonds issued in the euro area and purchased by the Bank of Greece under CBPP1.

This programme ended on 30 June 2010. The Eurosystem's holdings of CBPP1 bonds as at 31 December 2015 amounted to €20.6 billion.

— Securities purchased under CBPP2

On 3 November 2011, the ECB decided to launch a second Covered Bond Purchase Programme (CBPP2), in which the Bank of Greece did not take part. This programme ended on 31 October 2012. The Eurosystem's holdings of CBPP2 bonds as at 31 December 2015 amounted to €9.7 billion.

— Securities purchased under CBPP3

On 2 October 2014, the Governing Council of the ECB announced the details of the Eurosystem's third Covered Bond Purchase Programme (CBPP3), under which the ECB and the NCBs

7 Decision of the ECB of 2 July 2009 on the implementation of the covered bond purchase programme (ECB/2009/16) (2009/522/EC), OJ L175, 4.7.2009, p.18; Decision of the ECB of 3 November 2011 on the implementation of the Second Covered Bond Purchase Programme (ECB/2011/17) (2011/744/EU), OJ L297, 16.11.2011, p. 70; and Decision of the ECB of 15 October 2014 on the implementation of the third covered bond purchase programme (ECB/2014/40) (2014/828/EU), OJ L335, 22.11.2014, p. 22.

8 Decision of the ECB of 14 May 2010 establishing a securities markets programme (ECB/2010/5) (2010/281/EU), OJ L124, 20 May 2010, p. 8.

9 Decision of the ECB of 4 March 2015 on a secondary markets public sector asset purchase programme (ECB/2015/10), OJ L 121, 14 May 2015, p. 20.

purchase euro-denominated covered bonds in order to improve liquidity conditions in the real economy.

The Eurosystem's holdings of CBPP3 bonds as at 31 December 2015 amounted to €143.3 billion.

— Securities purchased under the Eurosystem's Securities Markets Programme – SMP

Under the Eurosystem's Securities Markets Programme (SMP), established in May 2010, the ECB and the NCBs were able to purchase euro area public and private debt securities to address the malfunctioning of certain segments of the euro area debt securities market and restore the proper functioning of the monetary policy transmission mechanism across the euro area. In September 2012, the ECB Governing Council decided to discontinue this programme.

Under the SMP, the Eurosystem NCBs and the ECB purchased euro area government bonds totalling €123.0 billion as at 31 December 2015.

— Securities purchased under the Eurosystem's Asset-backed Securities Purchase Programme – ABSPP[10]

On 2 October 2014, the Governing Council of the ECB announced the details of the Asset-backed Securities Purchase Programme (ABSPP), under which the Eurosystem may purchase senior and guaranteed mezzanine tranches of asset-backed securities (ABSs) in both primary and secondary markets in order to boost the provision of credit to the euro area economy.

— Securities purchased under the Eurosystem's Public Sector Purchase Programme – PSPP

On 22 January 2015, the Governing Council of the ECB decided that asset purchases should be expanded to include a secondary markets public sector asset purchase programme. This programme aims at further easing monetary and financial conditions, including those relevant to the borrowing conditions of euro area non-financial corporations and households, thereby supporting aggregate consumption and investment spending in the euro area and ultimately contributing to a return of inflation rates to levels below but close to 2% over the medium term.

Under this programme, the Eurosystem NCBs and the ECB may purchase euro-denominated marketable debt securities issued by central governments of a Member State whose currency is the euro, recognised agencies located in the euro area, international organisations located in the euro area and multilateral development banks located in the euro area.

As at 31 December 2015, the Bank of Greece only held supranational securities in this portfolio.

Under this programme, the Eurosystem NCBs and the ECB hold securities with an amortised cost of €491.3 billion (€431.5 billion in government bonds and €59.8 billion in supranational securities) as at 31 December 2015.

In terms of the size of the ABSPP, the CBPP3 and the PSPP, the liquidity provided to the market by the combined monthly purchases will amount to €60 billion. Purchases will be continued until at least March 2017.

10 Decision of the ECB of 19 November 2014 on the implementation of the asset-backed securities purchase programme (ECB/2014/45).

Under Article 32.4 of the Statute of the ECB, profits and losses from security holdings acquired under the SMP, the CBPP3 and the PSPP (only for supranational securities), if they were to materialise, are shared in full by the Eurosystem NCBs, according to their Eurosystem keys.

The Governing Council of the ECB assesses, on a regular basis, the financial risks associated with securities purchased under these programmes.

In the impairment test carried out at end-2015, the Governing Council of the ECB decided that the Hellenic Republic's failure to meet the payment due to the IMF and the Bank of Greece on 30 June 2015 did not warrant an impairment of the SMP portfolio.[11]

Consequently, no impairment losses relating to these monetary policy portfolios were identified at end-2015.

7.2 Other securities of euro area residents denominated in euro

This item includes euro-denominated bonds and Treasury bills issued by euro area governments, including the Greek State, as well as mutual fund shares/units. These portfolios are part of the Bank's own fund investment.

Categories of securities	31.12.2015	31.12.2014	Change
	(in € millions)		
A. Marketable securities issued by euro area governments (other than those classified as held-to-maturity)			
Euro area securities, other than Greek government securities			
Bonds	760.2	864.1	-103.9
Treasury bills	7,247.4	13,283.4	-6,036.0
Greek government securities			
Bonds	0.0	11.1	-11.1
Treasury bills	1,335.7	1,490.4	-154.7
Total A	**9,343.3**	**15,649.0**	**-6,305.7**
B. Marketable securities classified as held-to-maturity			
Greek government bonds	3,091.3	3,305.3	-214.0
Bonds issued by other euro area governments	6,615.6	6,313.1	302.5
Total B	**9,706.9**	**9,618.4**	**88.5**
C. Mutual fund shares/units	**3.0**	**2.9**	**0.1**
Grand total	**19,053.2**	**25,270.3**	**-6,217.1**

11 The IMF repayment and the payment of the loan instalment to the Bank of Greece were settled in July 2015.

Category A securities were valued at the mid-market prices prevailing on 31 December 2015 on a security-by-security basis, using the ISIN code as security identifier. Revaluation gains of €15.3 million were transferred to revaluation accounts, whereas €4.5 million of losses were covered by the provision established for this purpose.

Securities which are to be held to maturity were valued at amortised cost subject to impairment. The impairment test carried out at end-2015 found no evidence warranting an impairment of these assets.

Mutual fund shares/units were valued at the closing price prevailing on 31 December 2015 and revaluation gains of €1.2 million were transferred to revaluation accounts.

8. General government long-term debt denominated in euro

This item refers to long-term loans in euro granted by the Bank of Greece to the Greek State.

Specifically, it consists of:

– interest-bearing loans granted to the Greek State until 31 December 1993;

– interest-bearing loans granted by the Bank of Greece to the Greek State on 31 December 1993, in settlement of the balance of the account "Exchange rate valuation differences – Law 1083/80";

– interest-free loans in euro granted by the Bank to the Greek State for the purpose of financing the euro component of Greece's quota in the IMF. These loans shall be paid back to the Bank of Greece if and when the IMF ceases operations or if Greece ceases to be an IMF member. The part of this quota which is deposited by the IMF with the Bank is disclosed under liability item 5 "Liabilities to non-euro area residents denominated in euro".

Outstanding balance as at 31.12.2015	€4.843,6 million
Outstanding balance as at 31.12.2014	€5.249,2 million
Decrease	€405,6 million

The decrease was mainly driven by the gradual repayment of the interest-bearing loans.

9. Intra-Eurosystem claims

9.1 Participating interest in the ECB

The data presented in the table below relate to the Bank's share in the ECB's capital and its contribution to its reserves and provisions.

As at 31.12.2015	***(%)***	***(in € millions)***
ECB's subscribed capital (applying to all 28 EU Member States)		**10,825.0**
Bank of Greece's key for subscription to the ECB's capital (capital key)	2.0332	

ECB capital paid up by the 19 Eurosystem NCBs		**7,619.9**
Eurosystem key	2.88842	
Bank of Greece's share in the capital of the ECB		220.1
Bank of Greece's contribution to the ECB's reserves and provisions		344.7
Total participating interest in the ECB as at 31.12.2015		**564.8**

Pursuant to Article 28 of the Statute of the European System of Central Banks (ESCB) and of the ECB, the national central banks of the ESCB are the sole subscribers to and holders of the capital of the ECB.

Subscription to the ECB capital is based on a key assigned to each NCB.

Pursuant to Article 29.3 of the Statute of the ESCB, the weightings of the NCBs' keys for subscription to the ECB's capital are adjusted every five years after the establishment of the ESCB (latest adjustment: 1 January 2014).

The Bank's share in the capital of the ECB is €220.1 million and has been paid up in full. It corresponds to 2.88842% (Eurosystem key) of the ECB capital paid up by the 19 Eurosystem NCBs, which, following Lithuania's entry into the Eurosystem on 1 January 2015, stands at €7,619.9 million.

The remaining amount (€344.7 million) relates to the Bank's contribution to the ECB's "reserves" and "provisions equivalent to reserves".

9.2 Claims equivalent to the transfer of foreign reserves to the ECB

As at 31.12.2015	*(%)*	*(in € millions)*
Total foreign reserves transferred to the ECB by the 19 NCBs of the Eurosystem		40.792,6
Eurosystem key	2,88842	
Claims equivalent to the transfer of foreign reserves to the ECB as at 31.12.2015		**1.178,3**

This item represents the Bank's claims arising from the transfer of foreign reserve assets to the ECB in accordance with the Treaty establishing the European Community (Article 30 of the Statute of the ESCB).

Out of these foreign reserve assets, determined on the basis of the Bank's share in the paid-up capital of the ECB, 85% were transferred in the form of assets denominated in USD and JPY and 15% in the form of gold.

These euro-denominated claims are remunerated on a daily basis at 85% of the latest available marginal rate for the Eurosystem's main refinancing operations (MROs), the 15% difference reflecting a zero return on the gold component.[12]

9.3 Net claims related to the allocation of euro banknotes within the Eurosystem

The net balance arising from the allocation of euro banknotes in circulation within the Eurosystem as at 31 December 2015 was a liability of the Bank of Greece and is therefore disclosed under liability item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem".

9.4 Net claims arising from balances of TARGET2 accounts

The net balance related to the ESCB balance (TARGET2) as at 31 December 2015 was a liability of the Bank and is therefore disclosed under liability item 9.3 "Net liabilities arising from balances of TARGET2 accounts".

9.5 Other claims within the Eurosystem (net)

Other claims within the Eurosystem (totalling €38.7 million) stemmed from:

– The Bank's net result (income of €15.5 million) from the allocation of the Eurosystem's monetary income for 2015.[13] The monetary income pooled by the Bank of Greece was lower than its share according to its Eurosystem key, namely:

Monetary income pooled by the Bank of Greece	€244.5 million
Monetary income allocated to the Bank according to its Eurosystem key	€260.0 million
....Positive net result	€15.5 million

– €0.3 million paid by the Bank due to corrections to monetary income reallocation of previous years.

– €23.5 million received by the Bank from the ECB's interim profit distribution for 2015.

10. Items in course of settlement

As at 31 December 2015, the outstanding balance of this item was zero.

11. Other assets

11.1 Coins of euro area

This item represents the Bank's holdings of euro coins issued by euro area countries.

Value as at 31.12.2015	€58.0 million
Value as at 31.12.2014	€56.1 million
....Increase	€1.9 million

12 Guideline of the ECB of 3 November 1998 as amended by the Guideline of 16 November 2000 on the composition, valuation and modalities for the initial transfer of foreign-reserve assets, and the denomination and remuneration of equivalent claims (ECB/2000/15), OJ L336, 30.12.2000, p. 114.

13 The amount of monetary income to be allocated to the Bank of Greece has been calculated on the basis of the latest available provisional ECB data as at the date of preparation of this balance sheet and its approval by the General Council of the Bank.

11.2 Tangible and intangible fixed assets

Fixed assets comprise real estate (land, buildings and fixtures, buildings under construction), furniture, machinery, hardware and software, and are valued at acquisition cost, adjusted for depreciation and impairment.

The value of fixed assets as at 31 December 2015, less accumulated depreciation, is reported.

Depreciation is calculated on a straight-line basis over the expected useful life of the asset.

Net book value of fixed assets

Asset category	31.12.2015	31.12.2014	Change	Depreciation rate (%)
	(in € millions)			
Land	542.3	542.3	0.0	0
Buildings and fixtures	220.3	225.9	-5.6	2.5
Buildings under construction and advance payments of asset acquisitions	16.2	16.1	0.1	0
Other equipment	20.0	23.3	-3.3	8-24
Capitalised expenses (software costs, etc.)	2.8	1.7	1.1	20-24
Total	**801.6**	**809.3**	**-7.7**	

11.3 Other financial assets

This item comprises the Bank's participating interests in DIAS Interbanking Systems SA, the Hellenic Deposit and Investment Guarantee Fund (HDIGF), Hellenic Exchanges – Athens Exchange SA, the Society for Worldwide Interbank Financial Telecommunication (SWIFT), as well as a participating interest, denominated in SDRs, in the Bank for International Settlements (BIS).

As at 31 December 2015, the value of these assets, which are valued at acquisition cost, was €29.1 million.

Also included here are the assets of defined contribution plans amounting to €64.3 million as at 31.12.2015.

11.4 Off-balance-sheet instruments revaluation differences

Outstanding balance as at 31.12.2015	€82 thousand

This item represents unrealised revaluation gains on Greek government securities (warrants) recorded in revaluation accounts. These security positions are disclosed in off-balance-sheet accounts at par value.

11.5 Accruals and prepaid expenses

This item includes purchased accrued interest on securities and also interest and other income accrued but not collected until 31 December 2015. The latter are to be collected in the next financial year and relate mainly to interest income on loans granted by the Bank in the context of the Eurosystem's single monetary policy, securities holdings and deposits with banks, as well as to interest receivable on claims equivalent to the transfer of foreign reserve assets to the ECB.

Outstanding balance as at 31.12.2015	€743.3 million
Outstanding balance as at 31.12.2014	€614.1 million
Increase	€129.2 million

11.6 Sundry

This item consists of the year-end inventories of the Printing Works Department (IETA), balances on the Bank's suspense debit accounts, the outstanding balances of loans to the Bank's staff and other sundry assets.

Outstanding balance as at 31.12.2015	€597.7 million
Outstanding balance as at 31.12.2014	€575.0 million
Increase	€22.7 million

LIABILITIES

1. Banknotes in circulation

Outstanding balance as at 31.12.2015	€28.792,1 million
Outstanding balance as at 31.12.2014	€27.172,1 million
Increase	€1.620,0 million

This item consists of the Bank's share of the total euro banknotes in circulation at Eurosystem level, calculated on the basis of its banknote allocation key (2.6575%).

	31.12.2015	31.12.2014	Change
	(in € millions)		
Value of euro banknotes put into circulation by the Bank of Greece	48,382.7	32,355.5	16,027.2
Less: Liability resulting from the ECB's share in the total euro banknotes in circulation (8% of the total value of euro banknotes in circulation multiplied by the Eurosystem key)[14]	-2,503.5	-2,362.8	-140.7
Less: Liability resulting from the allocation of euro banknotes within the Eurosystem[14]	-17,087.1	-2,820.6	-14,266.5
Value of euro banknotes put into circulation by the Bank of Greece according to the banknote allocation key	**28,792.1**	**27,172.1**	**1,620.0**

The total value of euro banknotes put into circulation by the Eurosystem in 2015 rose by 6.6% (31 December 2015: €1,083.4 billion, 31 December 2014: €1,016.5 billion). As at end-2015, the value of euro banknotes in circulation that corresponds to the Bank of Greece on the basis of its banknote allocation key was €28,792.1 million, compared with €27,172.1 million as at end-2014. The value of euro banknotes actually put into circulation by the Bank of Greece increased considerably by 49.5%, from €32,355.5 million in 2014 to €48,382.7 million in 2015. As the value of euro banknotes actually put into circulation by the Bank was higher than the value of euro banknotes that would have been allocated to it according to its banknote allocation key, the difference (€19,590.6 million) (2014: €5,183.4 million) is disclosed under liability item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem" (see "Banknotes in circulation" under "Accounting policies").

2. Liabilities to euro area credit institutions related to monetary policy operations denominated in euro

2.1 Current accounts (covering the minimum reserve system)

These accounts include reserves held by domestic credit institutions in current accounts with the Bank of Greece serving to fulfil reserve requirements and also used for settlement purposes. Cur-

14 Disclosed under liability item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem".

rent account holdings of credit institutions with the Bank of Greece are remunerated on a daily basis at the prevailing main refinancing operation (MRO) rate of the Eurosystem. Excess reserves are remunerated at the lower of zero per cent or the deposit facility rate, which in 2015 was negative.

Outstanding balance as at 31.12.2015	€1,258.9 million
Outstanding balance as at 31.12.2014	€2,926.3 million
Decrease	€1,667.4 million

The average balance of these accounts stood at €1.5 billion in 2015, down by €0.4 billion from 2014.

2.2 Deposit facility
This item relates to the deposit facility offered by the Eurosystem in the context of the euro area single monetary policy.

In particular, it consists of overnight deposits placed by credit institutions with the Bank of Greece at a pre-specified interest rate.

Outstanding balance as at 31.12.2015	€0.0 million
Outstanding balance as at 31.12.2014	€150.0 million
Decrease	€150.0 million

2.3 Fixed-term deposits
Liquidity absorbing fine-tuning operations in the form of collection of fixed-term deposits.

2.4 Fine-tuning reverse operations
Operations serving to counter large liquidity imbalances.

2.5 Deposits related to margin calls
This item refers to deposits made by counterparties in those instances when the market value of the assets pledged as collateral in Eurosystem credit operations falls short of an established trigger point (asset item 5).

Outstanding balance as at 31.12.2015	€128.2 million
Outstanding balance as at 31.12.2014	€0.0 million
Increase	€128.2 million

4. Liabilities to other euro area residents denominated in euro

4.1 General government
This item comprises deposits by the Greek State (central government), public entities and the Consignment Deposits and Loans Fund.

Outstanding balance as at 31.12.2015	€3,749.1 million
Outstanding balance as at 31.12.2014	€3,520.5 million
Increase	€228.6 million

The average balance of these deposits decreased in the course of 2015 to €2.6 billion, from €6.4 billion in 2014.

4.2 Other liabilities

Outstanding balance as at 31.12.2015	€1,336.1 million
Outstanding balance as at 31.12.2014	€857.1 million
Increase	€479.0 million

This item comprises deposits by various entities, outstanding balances of securities companies and the deposit of the Hellenic Financial Stability Fund (HFSF).

5. Liabilities to non-euro area residents denominated in euro

Outstanding balance as at 31.12.2015	€1,228.0 million
Outstanding balance as at 31.12.2014	€1,438.4 million
Decrease	€210.4 million

The bulk of these liabilities (€1,095.6 million) pertains to a deposit account in euro held by the IMF with the Bank and corresponds to the euro component of Greece's quota in the Fund. Through this account, the Bank effects financial transactions with third countries, according to IMF instructions.

It also includes funds from the European Investment Fund and the European Investment Bank totalling €131.3 million (€410.1 million on 31 December 2014), which are intended to provide support to Greece in the fields of agricultural economy and enterprises.

6. Liabilities to euro area residents denominated in foreign currency

	31.12.2015 *(in € millions)*	31.12.2014	Change
– SDR liability to the Hellenic Republic arising from the IMF's SDR allocations	329.2	0.0	329.2
– Liability to the Hellenic Republic (SDR component of Greece's quota in the IMF)	306.8	287.3	19.5
– Other liabilities	10.4	15.1	-4.7
Total	**646.4**	**302.4**	**344.0**

The change in the SDR liability to the Hellenic Republic arising from the IMF's SDR allocations is attributable to the change in the accounting treatment of SDRs (see relevant note: "Special Drawing Rights (SDRs): Change in accounting treatment" under "Accounting policies").

7. Liabilities to non-euro area residents denominated in foreign currency

7.1 Deposits and other liabilities

This item includes €2.7 thousand of deposits by various entities.

8. Counterpart of SDRs allocated by the IMF

This item consists of a liability to the IMF stemming from the cumulative allocation of special drawing rights (SDR 782.3 million) to Greece. This amount was allocated by the IMF to Greece gradually. An amount of SDR 103.5 million was allocated between 1970 and 1981 and the remaining SDR 678.8 million in 2009. The latter allocation was effected in the context of IMF's general SDR allocation, equivalent to USD 250 billion, to all its member countries, which was approved by the IMF Board of Governors on 7 August 2009 and entered into force on 28 August 2009.

This allocation aimed to provide liquidity to the world economy by boosting the foreign reserve assets of the IMF member countries according to their quotas.

Outstanding balance as at 31.12.2015	€0.0 million
Outstanding balance as at 31.12.2014	€932.9 million
Decrease	€932.9 million

On 9 December 2015, an agreement was signed between the Bank of Greece and the Hellenic Republic, whereby it was agreed to change the accounting treatment of SDR allocations, so that the IMF's SDR allocations will be disclosed in the national accounts as a liability of the Hellenic Republic to the IMF. As a result, as from the date of entry into force of the agreement (23 December 2015), this liability is no longer disclosed in the Bank of Greece's balance sheet and is only recorded in an off-balance-sheet account of the Bank of Greece.

9. Intra-Eurosystem liabilities

9.2 Net liabilities related to the allocation of euro banknotes within the Eurosystem

This item includes liabilities resulting from the allocation of euro banknotes within the Eurosystem (see "Banknotes in circulation" under "Accounting policies").

Outstanding balance as at 31.12.2015	€19,590.6 million
Outstanding balance as at 31.12.2014	€5,183.4 million
Increase	€14,407.2 million

The balance as at 31.12.2015 includes:

- €2,503.5 million relating to the value of euro banknotes issued by the Bank of Greece on behalf of the ECB (8% of the total value of banknotes in circulation is deemed to be issued on behalf of the ECB). The Bank's share in this amount is calculated on the basis of its Eurosystem key. As at 31 December 2015, this figure was up by €140.7 million from the previous year (31 December 2014: €2,362.8 million) on account of the general increase in euro banknotes in circulation at Eurosystem level.

- €17,087.1 million relating to the amount by which the value of euro banknotes actually put into circulation by the Bank of Greece was adjusted (reduced) after deducting 8% in favour of the ECB. The purpose of this adjustment is to equalise the Bank's share in total euro banknotes in circulation (liability item 1) with its share according to the banknote allocation key. In 2015, this figure increased by €14,266.5 million due to the rise in the value of euro banknotes actually put into circulation by the Bank in the same year (see liability item 1 "Banknotes in circulation").

9.3 Net liabilities arising from balances of TARGET2 accounts

This item represents the Bank's net liabilities vis-a-vis the ECB, arising from domestic credit institutions' transactions with European counterparties and the Bank's transactions with the other Eurosystem NCBs, the ECB and non-Eurosystem ESCB central banks participating in the TARGET2 system (Trans-European Automated Real-time Gross settlement Express Transfer system).

This balance is remunerated on a daily basis at the prevailing Eurosystem MRO rate.

TARGET2 account, year-end balances *(in € millions)*						
31.12.2009	**31.12.2010**	**31.12.2011**	**31.12.2012**	**31.12.2013**	**31.12.2014**	**31.12.2015**
49,036.1	87,088.1	104,750.0	98,355.2	51,115.9	49,318.9	94,386.9

TARGET2 account, average annual balances *(in € millions)*						
2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
37,647	77,022	93,090	105,084	63,893	40,476	96,486

These liabilities were originally created on 1 January 2001, when the Bank of Greece joined the Eurosystem.

9.4 Other liabilities within the Eurosystem (net)

The net balance of other transactions of the Bank of Greece with the Eurosystem as at 31 December 2015 was a claim of the Bank and is therefore disclosed under asset item 9.5 "Other claims within the Eurosystem (net)".

10. Items in course of settlement

This item consists mainly of the float of cheques, payment orders whose settlement is pending and interim account balances under settlement, totalling €1.0 million.

11. Other liabilities

11.1 Off-balance-sheet instruments revaluation differences

Balance as at 31.12.2015	€17.5 million

This item represents the result of the year-end revaluation of outstanding balances in foreign currencies recorded in off-balance-sheet (memorandum) accounts according to the economic approach.

11.2 Accruals and income collected in advance

This item represents interest expenses accrued up to 31 December 2015 and other expenses. Such expenses will be paid within the new financial year and mainly involve various categories of interest payable (on the outstanding balance of the TARGET2 account, on credit institutions' reserve holdings and on other liabilities).

Outstanding balance as at 31.12.2015	....	€16.4 million
Outstanding balance as at 31.12.2014	....	€14.0 million
	Increase	€2.4 million

11.3 Sundry

Sundry liabilities	31.12.2015	31.12.2014	Change
	(in € millions)		
– Dividends to be distributed	9.5	9.9	-0.4
– Tax on dividends	3.9	3.5	0.4
– Profit to be transferred to the Greek State	1,149.5	641.2	508.3
– Other liabilities	113.2	37.1	76.1
Total	**1,276.1**	**691.7**	**584.4**

This item comprises the distributable profit for the year, tax on dividends, profit to be transferred to the Greek State, other taxes to be paid, the balances of credit suspense accounts and other accounts on behalf of third parties (suppliers, etc.), as well as other liabilities.

12. Provisions

Category of provision	31.12.2015	31.12.2014	Change
	(in € millions)		
a. Special provisions against operational risk, unexpected losses and doubtful claims	135.2	127.8	7.4
b. Provision for pension benefits	2,125.3	2,112.4	12.9
c. Provision against financial risks (including risks associated with the Bank's investment activities and risks arising from Eurosystem monetary policy operations)	3,614.3	3,229.3	385.0
d. Provision against general risks under Article 71 of the Statute	1,323.7	1,319.2	4.5
Total	**7,198.5**	**6,788.7**	**409.8**

Total provisions amounted to €7,198.5 million.

The practice of establishing adequate provisions and reserves is followed in the context of the principle of prudence also followed by the ECB and the other Eurostystem NCBs. It aims to strengthen the Bank's financial position to enable it to best fulfil its mandate and live up to the risks it assumes.

The Bank reviews these provisions annually and adjusts them according to a risk assessment. Several factors are taken into account in this risk assessment, including but not limited to:

– the amount of risky assets;
– risk exposure;
– financial risk assessments and valuations;
– money market developments and general economic conditions in the euro area and Greece;
– current reserves and provisions;
– the outstanding balances of revaluation accounts.

In greater detail:

a. Special provisions against operational risk, extraordinary losses and doubtful claims
These are special provisions directly associated with the Bank's operation that cover, inter alia:

– administrative deficits;
– doubtful claims;
– compensation paid to employees upon retirement.

These provisions are established on the basis of actual needs and obligations and their level is determined following an estimation of the amounts likely to be required for covering risks and possible losses and any unrecoverable part of doubtful claims.

b. Provision for pension benefits
Pursuant to Article 64 of Law 3863/2010, the Bank has undertaken and provides social insurance for its staff in the main and supplementary pension plans.

The provision for pension benefits has been established to cover this obligation and to meet the staff's social insurance needs in general. Its level is subject to annual actuarial remeasurement.

c. Provision against financial risks (including risks from the Bank's investment activities and risks arising from Eurosystem monetary policy operations)
In 2015 the Bank, following its standard practice, which is in line with that of the ECB and of the other central banks of the euro area, and taking into account both the results of the relevant risk assessments by its own Risk Management Unit and by the ECB and the results of the impairment tests on its held-to-maturity portfolios of debt securities (SMP, CBPP1, CBPP3 and PSPP), determined the appropriate level of this provision.

Specifically, this provision is intended to cover:

- Credit risks arising from the provision of liquidity to the credit system and from securities purchased under the Securities Market Programme (SMP), the Covered Bond Purchase Programmes CBPP1 and CBPP3 and the Public Sector Purchase Programme (PSPP);

- Credit and market risks (interest rate risk, exchange rate risk) associated with securities and foreign exchange portfolios managed by the Bank.

It should be noted that income arising from Eurosystem monetary policy operations is allocated among all NCBs (including the Bank of Greece). In turn, each NCB makes a contribution to the risk provisions according to its Eurosystem key.

The current institutional framework governing the provision of sufficient eligible assets by credit institutions as collateral for Eurosystem liquidity and the control of risks is adequate.

Against this background and in order to protect against all possible risks, provisions are established as required by the prudence principle.

The extent to which these provisions will be used will depend on future money market developments.

d. Provision against general risks under Article 71 of the Statute

This provision is intended to cover potential general risks and obligations of the Bank of Greece arising from the performance of its functions as the country's central bank and under international agreements, as stated in Article 71 of its Statute.

13. Revaluation accounts

In accordance with the accounting rules and principles set out by the European Central Bank for the ESCB NCBs, and in particular the principle of prudence, unrealised valuation gains on gold, financial instruments in foreign currency and securities are not recognised as income in the Profit and Loss Account, but are transferred directly to revaluation accounts (serving as reserves for these particular assets only). By contrast, unrealised valuation losses at year-end are recognised as expenditure and are taken to the Profit and Loss Account (see "Income recognition" under "Accounting policies").

Valuation at end-2015 resulted in unrealised gains of €3,071.7 million (mostly on gold), which were transferred to the corresponding revaluation accounts (see breakdown in the table below).

Unrealised valuation gains	**31.12.2015** *(in € millions)*	**31.12.2014**	**Change**
– on gold	2,844.2	2,916.5	-72.3
– on foreign currency positions	210.9	100.6	110.3
– on securities	15.3	24.3	-9.0
– on mutual fund shares/units	1.2	1.1	0.1
– on warrants	0.1	0.1	0.0
Total	**3,071.7**	**3,042.6**	**29.1**

14. Capital and reserves

The Bank's capital and reserves amount to €815.5 million.

The Bank's capital and its ordinary reserve stand at €111.2 million each.

In more detail, capital and reserves are as follows:

14.1 Capital

The Bank's capital, after having been increased by Legislative Decrees 413/1970 and 889/1971, Laws 542/1977 and 1249/1982, Ministerial Decision E. 2665/1988, Law 2065/1992, Ministerial Decision 1281/30 October 1996 and Cabinet Acts 8/4 February 2000, 32/23 May 2002, 17/4 July 2005 and 8/10 June 2008, now stands at €111,243,362 and is divided into 19,864,886 shares of a par value of €5.60 each.

14.2 Ordinary reserve

The ordinary reserve amounts to €111,243,362, after reaching the level of the Bank's capital.

14.3 Extraordinary reserve

The extraordinary reserve amounts to €84.5 million, unchanged from the previous year.

14.4 Special reserve from the revaluation of land and buildings

This special reserve was established during financial years 2004 and 2007 with the capital gains from the restatement of land and buildings of the Bank at fair (market) value (as determined by an independent assessor).

In 2005 and 2008, part of these gains were capitalised through the allotment of bonus shares to shareholders, while a small part resulting from the sale of land and buildings was transferred to profit in 2008, 2009 and 2010.

As at 31 December 2015, the outstanding balance of this item was €507.2 million.

14.5 Other special reserves

These amount to €1.3 million and represent the value of artworks and fixed assets (mostly buildings) transferred gratis to the Bank.

OFF-BALANCE-SHEET (MEMORANDUM) ITEMS

	31.12.201	31.12.2014	Change
	(in € millions)		
1. Greek government securities relating to the management of the "Common Capital of Legal Entities in Public Law and Social Security Funds" according to Law 2469/97	27,038.7	24,816.7	2,222.0
2. Greek government securities and other debt securities relating to the management and custody of assets of public entities, social security funds and private agents*	4,754.0	16,239.5	-11,485.5
3. Assets eligible as collateral for Eurosystem monetary policy operations and intraday credit	40,054.6	72,152.5	-32,097.9
4. Assets accepted by the Bank of Greece as eligible collateral for emergency liquidity assistance to credit institutions	149,097.0	22,703.4	126,393.6
5. Other off-balance-sheet items**	21,873.2	27,799.9	-5,926.7
Total	**242,817.5**	**163,712.0**	**79,105.5**

* The decrease is mainly attributable to the return of unused EFSF securities granted to the Hellenic Financial Stability Fund (HFSF).

** "Other off-balance-sheet items" include:
- a non-interest bearing, non-negotiable promissory note of SDR 12.7 billion (the equivalent of 16.2 billion as at 31 December 2015) issued by the Greek government for the total outstanding loan amount received from the IMF until 31 December 2015 under the EU/IMF support package for Greece. The Greek government is solely responsible for repaying this loan. The note is kept at the Bank of Greece, which acts as depository and fiscal agent for the Hellenic Republic vis-à-vis the IMF;
- as from 2015, the Hellenic Republic' liability arising from SDR allocations of SDR 782.3 million (995.8);
- government-owned securities held for custody;
- documentary credits to be executed, third-party guarantees for good performance, out-of-circulation coins, etc.;
- fixed-term liabilities to the ECB arising from short-term USD financing of credit institutions. Under a temporary reciprocal currency arrangement (swap lines) between the European Central Bank (ECB) and the Federal Reserve System (FED), the FED makes US dollars available to the ECB. In turn, the ECB conducts swap operations with the National Central Banks (NCBs) of the Eurosystem, which use these funds to conduct liquidity-providing operations in US dollars to euro area credit institutions through reverse operations and swap lines.

GENERAL NOTES ON THE PROFIT AND LOSS ACCOUNT FOR 2015

The Bank's profit in 2015 amounted to 1,162.8 million, from 654.5 million in 2014.

ANALYSIS OF THE PROFIT AND LOSS ACCOUNT FOR 2015

INCOME

The Bank's net income from Eurosystem monetary policy operations, Emergency Liquidity Assistance (ELA) operations, interest, commission fees and other revenue from domestic and foreign activities totalled 1,897.5 million, compared with 1,118.2 million in 2014, an increase of 69.7%.

Specifically:

• ***Net income from interest, financial operations and the reallocation of Eurosystem monetary income*** was €1,763.8 million, up by 75.8% from €1,003.5 million in 2014.

• ***Net income from fees and commissions*** was €89.8 million, up by 22.2% from €73.5 million in 2014.

• ***Income from equity shares and participating interests*** rose by €2.6 million to €31.6 million, compared with €29.0 million in 2014.

• ***Finally, other income*** came to €12.3 million, up by 1.7% from €12.1 million in 2014.

EXPENSES

Total expenses rose by 271.0 million to 734.7 million in 2015, from 463.7 million in 2014, largely on account of higher provisioning.

Specifically:

• ***The Bank's general operating expenses excluding provisions*** (staff costs, pension benefits, depreciation and other expenses) fell by €7.4 million or 2.2% to €326.2 million, from €333.6 million in 2014. The extraordinary expenditure for auditing the banking system came to €6.3 million.

• ***Provisions*** in 2015 increased considerably year-on-year to €408.5 million (see notes on liability item 12).

NOTES ON NET OPERATING INCOME ACCOUNTS

The Bank's net income in 2015 from Eurosystem monetary policy operations, ELA operations, interest, commission fees and other revenue from domestic and foreign activities totalled €1,897.5 million, compared with €1,118.2 million in 2014, an increase of 69.7%.

Net income (as compared with last year's figures) breaks down as follows:

1. Net interest income

Net interest income (interest income less interest expense) was €1,725.7 million, up by 80.2% from €957.7 million in 2014.

Net interest income includes:

1.1 Interest income

Interest income increased by €734.9 million to €1,784.0 million, compared with €1,049.1 million in 2014, mainly owing to a considerable increase in interest income on ELA operations.

Interest income	**2015**	**2014**	**Change**
	(in € millions)		
a. Interest on lending to credit institutions related to monetary policy operations	29.6	90.9	-61.3
b. Interest on securities held for monetary policy purposes	265.0	306.7	-41.7
c. Interest on ELA operations	914.6	40.5	874.1
d. Interest on investment portfolios (excluding Greek government debt securities)	262.4	284.7	-22.3
e. Interest on the investment portfolio of Greek government debt securities	274.2	279.5	-5.3
f. Remuneration of long-term euro-denominated claims equivalent to the transfer of foreign reserve assets to the ECB	0.5	1.7	-1.2
g. Interest on long-term claims on the Greek State	34.4	42.2	-7.8
h. Interest on the IMF reserve tranche position and SDR holdings	0.2	0.7	-0.5
i. Interest on loans to the personnel of the Bank of Greece	1.7	2.2	-0.5
j. Other interest income	1.4	0.0	1.4
Total	**1,784.0**	**1,049.1**	**734.9**

In particular:

a) Interest on lending to credit institutions related to monetary policy operations

This item represents interest income on lending to domestic credit institutions through the Eurosystem's liquidity-providing open market operations, targeted longer-term refinancing operations (TLTROs) and under the marginal lending facility.

In 2015, this item fell to €29.6 million, from €90.9 million in 2014, mainly on account of a substantial cut in the main refinancing operation (MRO) rate from an average of 0.16% in 2014 to an average of 0.05% in 2015, as well as of a decline in the average amount of lending.

Interest by type of operation is as follows:

Interest on lending to credit institutions	**2015**	**2014**	**Change**
	(in € millions)		
– main refinancing operations (MROs)	16.3	85.7	-69.4
– longer-term refinancing operations (LTROs)	0.0	2.2	-2.2
– targeted longer-term refinancing operations (TLTROs)	12.8	2.3	10.5
– marginal lending facility	0.5	0.7	-0.2
Total	**29.6**	**90.9**	**-61.3**

b) Interest on securities held for monetary policy purposes

This item amounted to €265.0 million (2014: €306.7 million) and refers to interest on securities purchased by the Bank under the Eurosystem's Covered Bond Purchase Programme CBPP1, the Securities Markets Programme (SMP), the Covered Bond Purchase Programme CBPP3 and the Public Sector Purchase Programme (PSPP).

The amortised cost value of the Bank's holdings of CBPP1, SMP, CBPP3 and PSPP securities as at 31 December 2015 was €20.7 billion, up from €5.8 billion as at 31 December 2014.

c) Interest on ELA operations

This item amounted to €914.6 million (2014: €40.5 million) and refers to interest on emergency liquidity made available to credit institutions mainly through emergency liquidity assistance (ELA) operations (see note on asset item 6 "Other claims on euro area credit institutions denominated in euro").

d) Interest on investment portfolios (excluding Greek government debt securities)

This item consists mainly of interest on euro-denominated debt securities issued by euro area governments.

Interest by type of asset	2015	2014	Change
	(in € millions)		
– on debt securities	261.2	283.8	-22.6
– on fixed-term deposits and current accounts	1.2	0.9	0.3
Total	**262.4**	**284.7**	**-22.3**

The €22.3 million decrease in this item relative to the previous year was driven by lower yields on foreign debt securities.

e) Interest on the investment portfolio of Greek government debt securities

Interest on the Bank's portfolio of Greek government securities decreased by €5.3 million to €274.2 million, from €279.5 million in 2014.

f) Remuneration of long-term euro-denominated claims equivalent to the transfer of foreign reserve assets to the ECB

This item concerns interest on euro-denominated claims equivalent to the transfer of foreign reserve assets to the ECB, in accordance with Article 30 of the Statute of the ESCB. In 2014, this interest, which is calculated on the basis of 85% of the latest available marginal rate for the Eurosystem's main refinancing operations, fell by €1.2 million to €0.5 million (2014: €1.7 million), mainly on account of a cut in the MRO rate (from an average of 0.16% in 2014 to an average of 0.05% in 2015).

g) Interest on long-term claims on the Greek State

This item comprises interest on loans granted by the Bank of Greece to the Greek State up to 31 December 1993.

In 2015, this interest was €34.4 million, down by €7.8 million from the previous year's figure (€42.2 million), owing to a decrease in the 12-month euro LIBOR and LIBID rates applicable to all loans granted to the Greek State and resulting from the conversion of the debit balances of the account "Foreign exchange valuation differences under Law 1083/80" and to the gradual repayment of all loans.

h) Interest on the IMF reserve tranche position and SDR holdings

This item stood at €0.2 million in 2015 and consists mainly of interest on Greece's SDR quota in the IMF and on SDR holdings with the Fund which derive from the IMF's SDR allocation that took place in 2009 in the context of the general SDR allocation to all IMF member countries.

i) Interest on loans to the personnel of the Bank of Greece

Interest on (housing or personal) loans granted by the Bank of Greece to its staff amounted to €1.7 million (2014: €2.2 million).

j) Other interest income

This item totalled €1.4 million, up from €57 thousand in 2014. This increase is accounted for by higher interest income on third-party deposits as a result of the imposition of negative interest rates by the ECB.

1.2 Interest expense

Interest expense dropped by 36.2% to €58.3 million in 2015, from €91.4 million in 2014, mainly on account of lower interest rates and yields in 2015.

Interest expense	**2015**	**2014**	**Change**
	(in € millions)		
a. Interest on intra-ESCB balances (TARGET2)	48.9	69.5	-20.6
b. Interest on net liabilities related to the allocation of euro banknotes within the Eurosystem	8.7	13.5	-4.8
c. Interest on banks' current accounts in the context of monetary policy operations (including minimum reserves)	0.4	2.7	-2.3
d. Interest on deposits of the Greek State	0.0	4.1	-4.1
e. Interest on euro- and foreign currency-denominated deposits of various entities	0.0	0.5	-0.5
f. Interest on SDR allocations of the IMF	0.2	0.8	-0.6
g. Interest on deposits of the Hellenic Financial Stability Fund	0.0	0.3	-0.3
h. Other interest expense	0.1	0.0	0.1
Total	**58.3**	**91.4**	**-33.1**

Specifically:

a) Interest on intra-ESCB balances (TARGET2)

Interest expense on the TARGET2 account ***(in € millions)***						
2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
477.1	779.8	1,186.8	937.8	378.1	69.5	48.9

This interest expense is calculated on the basis of the daily net balance of the TARGET2 account dedicated to euro-denominated transactions with the ECB and the other ESCB NCBs.

The decrease in 2015 was driven by a decline in the key ECB interest rate on TARGET2 balances from an average of 0.16% in 2014 to an average of 0.05% in 2015, which was partly offset by a drop in the average daily balance of the TARGET2 account (2015: €96.5 billion, 2014: €40.5 billion).

b) Interest on net liabilities related to the allocation of euro banknotes within the Eurosystem
This item fell to €8.7 million, from €13.5 million in 2014, given that the value of euro banknotes actually put into circulation by the Bank in 2015 was higher than the value of euro banknotes that would have been allocated to it according to its banknote allocation key. Interest calculated on the basis of the key ECB interest rate and amounting to €8.7 million was paid on the resulting difference, which represents a liability of the Bank to the Eurosystem.

In greater detail, this interest expense is calculated on the basis of:

- the intra-Eurosystem claim/liability corresponding to the value of euro banknotes put into circulation by the Bank of Greece, adjusted to ensure that the Bank's share in total euro banknotes in circulation (after the deduction of the 8% share allocated to the ECB) corresponds to its share according to the Bank's banknote allocation key;

- the Bank's liability from the issue of euro banknotes on behalf of the ECB (a share of 8% of the total value of euro banknotes in circulation is allocated to the ECB);

- a compensatory amount corresponding to adjustments to the intra-Eurosystem balances on euro banknotes in circulation, calculated in order to compensate for any significant changes in the NCBs' income positions as a consequence of the introduction of euro banknotes and the subsequent allocation of monetary income. Each new entry to the Eurosystem gives rise to new compensatory amounts for a six-year period immediately following the relevant cash changeover year.

See section "Banknotes in circulation" under "Accounting Policies" and note on liability item 9.2 "Net liabilities related to the allocation of euro banknotes within the Eurosystem".

c) Interest on banks' current accounts in the context of monetary policy operations (including minimum reserves)
This item consists mainly of interest paid on banks' minimum reserves.

Pursuant to Decision ECB/2014/23, excess reserve holdings are remunerated at a negative interest rate as from 11 June 2014.

In 2015, this item fell by €2.3 million to €0.4 million, from €2.7 million in 2014, mainly on account of a cut in the key ECB interest rate to an annual average of 0.05% (2014: 0.16%) and the imposition of a negative interest rate on excess reserve holdings.

d) Interest on deposits of the Greek State
There was no interest expense of deposits of the Greek State in 2015. Due to the imposition of negative interest rates by the ECB, interest of €31 thousand was received, which is recognised under interest income.

e) Interest on euro- and foreign currency-denominated deposits of various entities
This item decreased to €59 thousand, from €0.5 million in 2014, due to a decline in the deposits of the European Investment Fund and the European Investment Bank and a reduction of the interest rate from an average of 0.12% in 2014 to an average of 0.0% in 2015.

f) Interest on SDR allocations of the IMF

Interest on the Bank's liabilities from the IMF's allocation of SDRs fell to €0.2 million, from €0.8 million in 2014.

g) Interest on deposits of the Hellenic Financial Stability Fund

This item showed a year-on-year decrease of €0.3 million in 2015, due to a reduction in the contractual interest rate.

2. Net result of financial operations, write-downs and risk provisions

The net result of financial operations fell by €16.8 million to €22.8 million in 2015, down from €39.6 million in 2014.

This outcome was a result of:

2.1 Net realised gains arising from financial operations	**2015**	**2014**	**Change**
	(in € millions)		
– foreign exchange operations	14.0	24.3	-10.3
– transactions in securities	6.4	15.2	-8.8
– foreign exchange valuation differences due to changes in the €/SDR parity	-1.9	-1.8	-0.1
– purchases and sales of gold coins	4.3	1.9	2.4
Total	**22.8**	**39.6**	**-16.8**
2.2 Write-downs on financial assets and positions (unrealised losses)			
– from the revaluation of securities and foreign currency positions	-5.2	-1.7	-3.5
Total	**-5.2**	**-1.7**	**-3.5**
2.3 Transfer from the provision for foreign exchange rate, interest rate, credit and gold price risks	**5.2**	**1.7**	**3.5**
Grand total	**22.8**	**39.6**	**-16.8**

As shown in the table, the €16.8 million decrease in the net result of financial operations was due to lower gains on foreign exchange and securities operations.

Moreover, the results for 2015 include €5.2 million of unrealised losses (2014: €1.7 million) on the year-end revaluation of securities and foreign currency positions (item 2.2). These were fully covered by the provision established for this purpose.

3. Net income from fees and commissions

Net income from fees and commissions rose by 22.2% to €89.8 million in 2015, from €73.5 million in 2014. This increase was mainly a result of an amendment in 2015 to the institutional framework on the transfer of legal entities' and social security funds' cash assets to cash accounts of the Bank of Greece.

A breakdown is provided in the table below.

Net income from fees and commissions	**2015**	**2014**	**Change**
	(in € millions)		
3.1 Fees and commissions income			
– from the management of Greek government securities	9.6	13.1	-3.5
– from payments and receipts on behalf of the Greek State	32.0	34.1	-2.1
– from the management of the "Common Capital of Legal Entities in Public Law and Social Security Funds according to Law 2469/97"	40.5	19.1	21.4
– from private insurance supervision	3.9	3.9	0.0
– other	4.8	4.7	0.1
Total	**90.8**	**74.9**	**15.9**
3.2 Fees and commissions expense	**-1.0**	**-1.4**	**0.4**
Total net income from fees and commissions	**89.8**	**73.5**	**16.3**

4. Income from equity shares and participating interests

Income from equity shares and participating interests rose to €31.6 million in 2015, up from €29.0 million in 2014.

Income from equity shares and participating interests	**2015**	**2014**	**Change**
	(in € millions)		
• income from the ECB			
– share in the interim profit distribution	23.5	24.4	-0.9
– share in the net profit distribution	4.3	1.7	2.6
• other income from equity shares and participating interests	3.8	2.9	0.9
Total	**31.6**	**29.0**	**2.6**

• ***Income from the ECB***
In 2015, the Bank received an amount of €23.5 million corresponding to its allocated share in the ECB's interim profit distribution. The Bank's share in the remaining distributable ECB income earned in 2014 benefited financial year 2015 and amounted to €4.3 million.

• ***Other income from equity shares and participating interests***
This item amounts to €3.8 million and consists mostly of receipts from payments of dividends for financial year 2014 in respect of the Bank's participating interests in the Bank for International Settlements (BIS), DIAS Interbanking Systems SA and Hellenic Exchanges – Athens Exchange SA.

5. Net result of pooling of monetary income

	2015	2014	Change
	(in € millions)		
Net monetary income pooled by the Bank of Greece	244.4	300.7	-56.3
Monetary income allocated to the Bank according to its capital key	260.0	289.0	-29.0
– Monetary income reallocation for this year[15]	15.6	-11.7	27.3
– Corrections to monetary income reallocation of previous years	-0.3	18.0	-18.3
Total	**15.3**	**6.3**	**9.0**

The net result of monetary income reallocation turned positive in 2015. There was a small decline due to corrections to monetary income reallocation of previous years.

In greater detail:

Net result of pooling and reallocation of Eurosystem monetary income

Monetary income is the income pooled by the NCBs in the performance of their monetary policy function.

The amount of each NCB's monetary income is equal to its annual income (actual and imputed) derived from its assets held against the "liability base".

The liability base is composed of the following items:

– banknotes in circulation;

– liabilities to euro area credit institutions related to monetary policy operations denominated in euro;

15 The amount of monetary income to be allocated to the Bank of Greece has been calculated on the basis of the latest available provisional ECB data as at the date of preparation of this balance sheet and its approval by the General Council of the Bank.

– net intra-Eurosystem liabilities arising from balances of TARGET2 accounts;

– net intra-Eurosystem liabilities related to the allocation of euro banknotes within the Eurosystem.

Any interest paid by an NCB on liabilities included within the liability base is to be deducted from the monetary income to be pooled by the NCB.

The assets that are held against the liability base ("earmarkable assets") are the following:

– lending to euro area credit institutions related to monetary policy operations denominated in euro;

– securities held for monetary policy purposes. These include securities issued by euro area credit institutions which have been purchased under the Covered Bond Purchase Programmes CBPP1 and CBPP3 and securities purchased under the Securities Markets Programme (SMP) and the Public Sector Purchase Programme (PSPP). Yields on covered bonds purchased under the CBPP1 and on securities purchased under the PSPP (government securities) are calculated daily on the basis of the latest available marginal rate for the Eurosystem's main refinancing operations, while for securities purchased under the SMP, CBPP3 and PSPP (only supranational securities) real yields are calculated.

– intra-Eurosystem claims equivalent to the transfer of foreign reserves to the ECB;

– net intra-Eurosystem claims arising from balances of TARGET2 accounts;

– net claims related to the allocation of euro banknotes within the Eurosystem;

– claims on euro area counterparties arising from swap lines between the ECB and the Eurosystem NCBs that yield a net revenue for the Eurosystem;

– interest accruing at quarter-end from monetary policy operations with a maturity of over one year;

– a limited amount of gold holdings according to each NCB's paid-up share in the capital of the ECB. Gold is considered to generate no income.

Where the value of an NCB's earmarkable assets exceeds or falls short of the value of its liability base, the return on the difference (gap) is calculated daily on the basis of the latest available marginal rate for the Eurosystem's main refinancing operations.

At the end of every financial year, the monetary income pooled by the Eurosystem is reallocated to the NCBs according to their paid-up shares in the capital of the ECB. Pooling and reallocating monetary income brings about net reallocation effects, owing to different yields earned by NCBs from earmarked assets and different debit interest paid on the liability base. Moreover, the level of the liability base and the level of the NCBs' earmarked assets usually differ from their corresponding levels on the basis of their Eurosystem key.

The positive result (€15.6 million) recorded in 2015 was due to the fact that the monetary income actually pooled by the Bank in 2015 (€244.4 million) was lower than the €260.0 million calculated on the basis of the Bank's Eurosystem key (see footnote 12). It also reflected a €0.3 million payment due to corrections to monetary income reallocation of previous years.

This method of allocation of the Eurosystem's monetary income was established by Decision ECB/2010/23 (as amended) of the Governing Council of the ECB.

6. Other income

Other income increased by €0.2 million to €12.3 million, from €12.1 million in 2014.

Other income includes revenue of €10.0 million from the activities of the Bank's Printing Works Department (IETA), derived from the production of items on behalf of the Greek State (coins, lottery tickets, passports, forms), as well as other revenue, amounting to €2.3 million, from accreditation fees, revenue from land and buildings, etc.

OPERATING COSTS, DEPRECIATION AND PROVISIONS

	2015	2014	Change
	(in € millions)		
• Staff costs and pension benefit expenses	256.8	258.7	-1.9
• Other administrative expenses	49.7	47.0	2.7
• Depreciation of tangible and intangible fixed assets	13.4	13.9	-0.5
Total expenses excluding consultancy fees for the auditing of the banking system and provisions	**319.9**	**319.6**	**0.3**
• Consultancy fees for the auditing of the banking system	6.3	14.0	-7.7
Total expenses excluding provisions	**326.2**	**333.6**	**-7.4**
• Provisions	408.5	130.1	278.4
TOTAL EXPENSES	**734.7**	**463.7**	**271.0**

NOTES ON THE EXPENDITURE ACCOUNTS

Total expenses in 2015 rose by €271.0 million to €734.7 million, from €463.7 million in 2014, mainly on account of higher provisioning.

In particular:

• **Operating costs excluding provisions (staff costs and pension benefit expenses, depreciation and other costs)** fell by €7.4 million or 2.2% to €326.2 million, from €333.6 million in 2014, mainly due to lower consultancy fees for the auditing of the banking system.

In greater detail:

– **Staff costs and pension benefit expenses** came to €256.8 million, down by €1.9 million or 0.7% from €258.7 million in 2014.

– **Other administrative expenses** rose by €2.7 million to €49.7 million, from €47.0 million in 2014. These include the expenditure of the Printing Works Department (IETA) for raw materials for the production of banknotes and other items on behalf of the Greek State (coins, lottery tickets, passports, forms), repair and maintenance costs for buildings and other equipment, insurance premiums, overhead costs, etc.

– **Depreciation of fixed assets** dropped by €0.5 million or 3.6% to €13.4 million, from €13.9 million in 2014.

– **Extraordinary consultancy fees for the auditing of the banking system** amounted to €6.3 million in 2015.

• **In 2015, provisions** for operating risks and other obligations of the Bank amounted to €408.5 million (see notes on liability item 12 "Provisions").

As at 31.12.2015, the total staff numbered 1,825.

DISTRIBUTION OF PROFIT

(Article 71 of the Statute)

Bank of Greece's profit amounted to €1,162.8 million in 2015, compared with €654.5 million in 2014.

The General Council proposes to the General Meeting of Shareholders that the profit be distributed as follows:

	2015	2014
	(in euro)	
Dividend to be distributed: €0.47712 per share on 19,864,886 shares	9,477,934	9,878,410
Tax on dividends (tax rate: 26%, Articles 47 and 58 of Law 4172/2013).	3,871,269	3,470,793
To the Government	1,149,500,000	641,200,00
	1,162,849,203	**654,549,203**

The gross dividend for financial year 2015 amounts to €0.6720 per share. Dividend to be distributed (€0.47712 per share) is subject to withholding tax at a rate of 10% in accordance with Law 4172/2013, Article 64 paragraph 1.

Athens, 18 January 2016

For the General Council
THE CHAIRMAN

YANNIS STOURNARAS
GOVERNOR OF THE BANK OF GREECE

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