The economics of the "Greek crisis" and beyond

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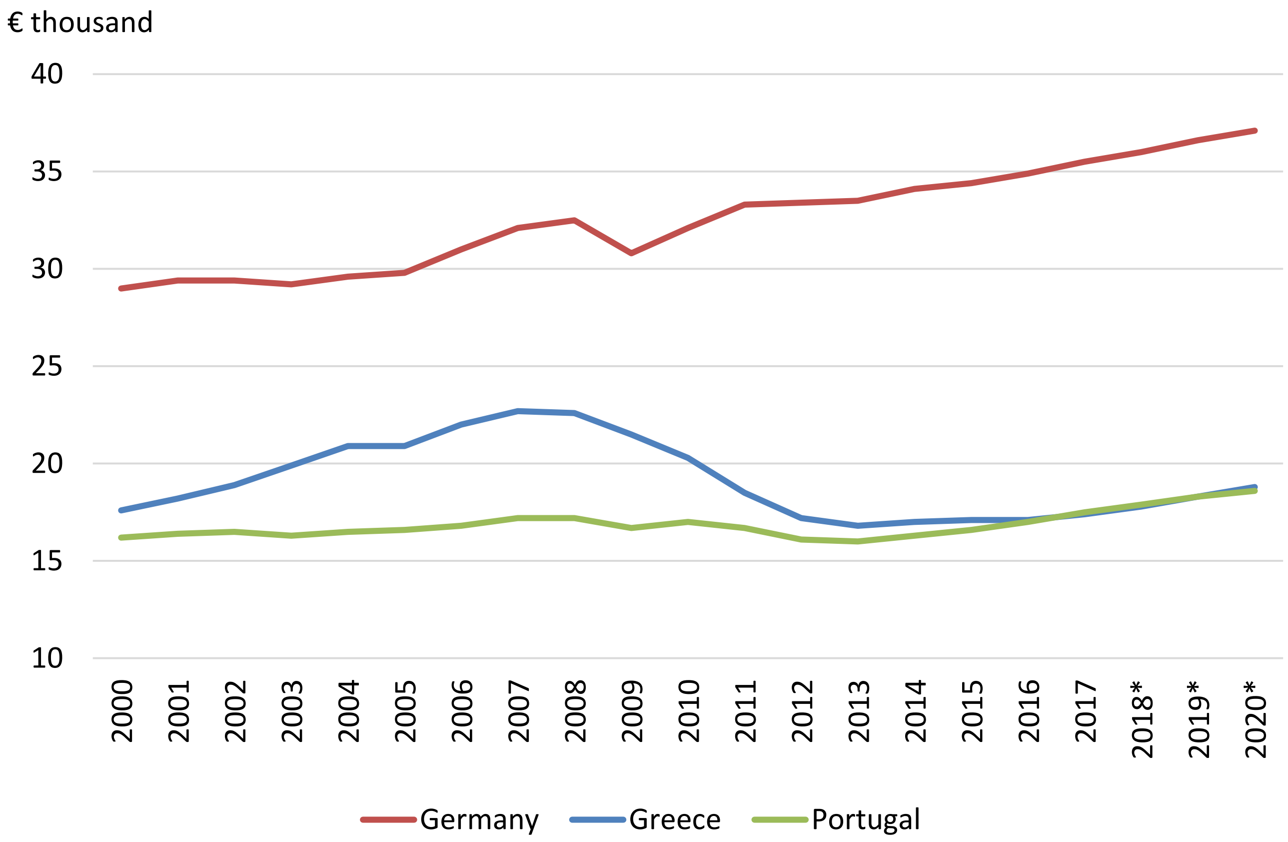
The "Greek crisis" and the Eurozone

GDP per capita (constant, 2010 prices)



Source: Eurostat

Main macroeconomic figures

(unless otherwise stated, % annual change)	2009	2014	2017	2019	2020*
GDP	-3.1	0.7	1.3	1.9	-8.0
Unemployment (% labour force)	9.5	26.5	21.5	17.3	18.0
General Government Balance[1] (% GDP)	-15.6	-3.6	0.7	1.5	-7.5
Current Account Balance (% GDP)	-14.4	-1.6	-1.5	-1.7	-6.0
HICP	1.3	-1.4	0.8	0.5	-1.3
Gross Fixed Capital Formation	-13.7	-2.8	8.1	-4.6	-7.5

[1] State aid to banks included

* IOBE forecasts

Sources: Eurostat, EL.STAT.

End of the three rescue and adjustment programs, August 2018. Prospects?

- Elimination of fiscal deficit

  Is the mix of taxes, expenses, and pensions consistent with growth?

- Elimination of trade deficits

  Primarily through reduction in imports. Sustainable?

- Competitiveness has been restored

  Primarily, through decrease in unit labor cost.

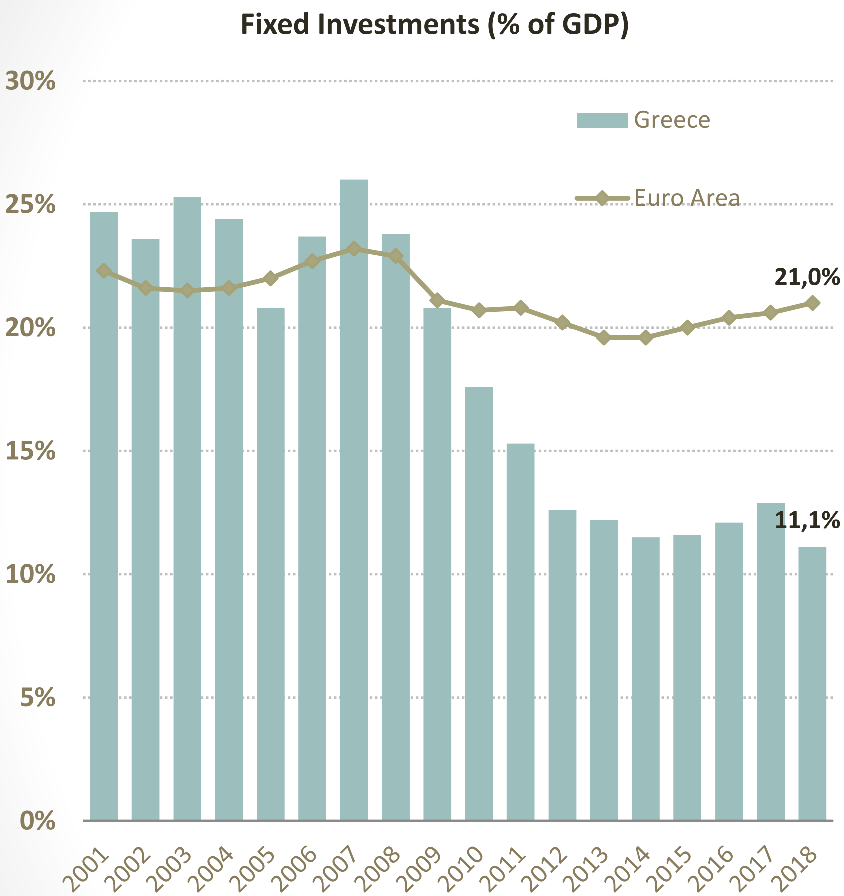
- Greece is back to growth.

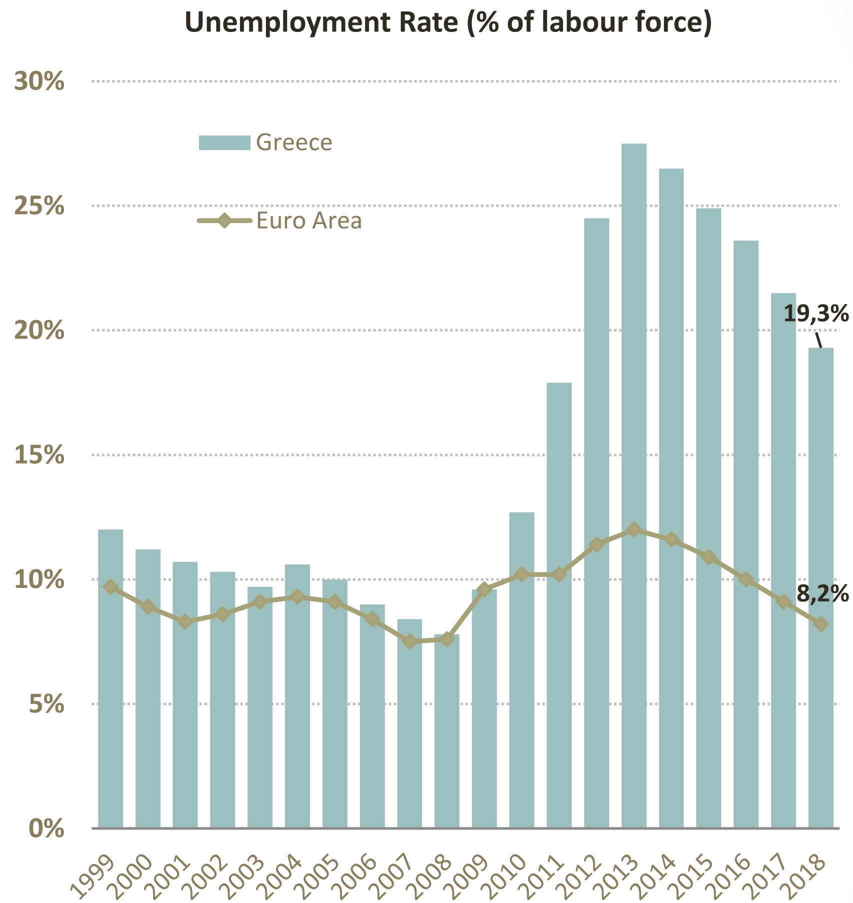
  Slow and anaemic, low investment.

- Greece has stayed in the euro-zone.

  But why was this even put on the table?

Investments extremely low, unemployment extremely high



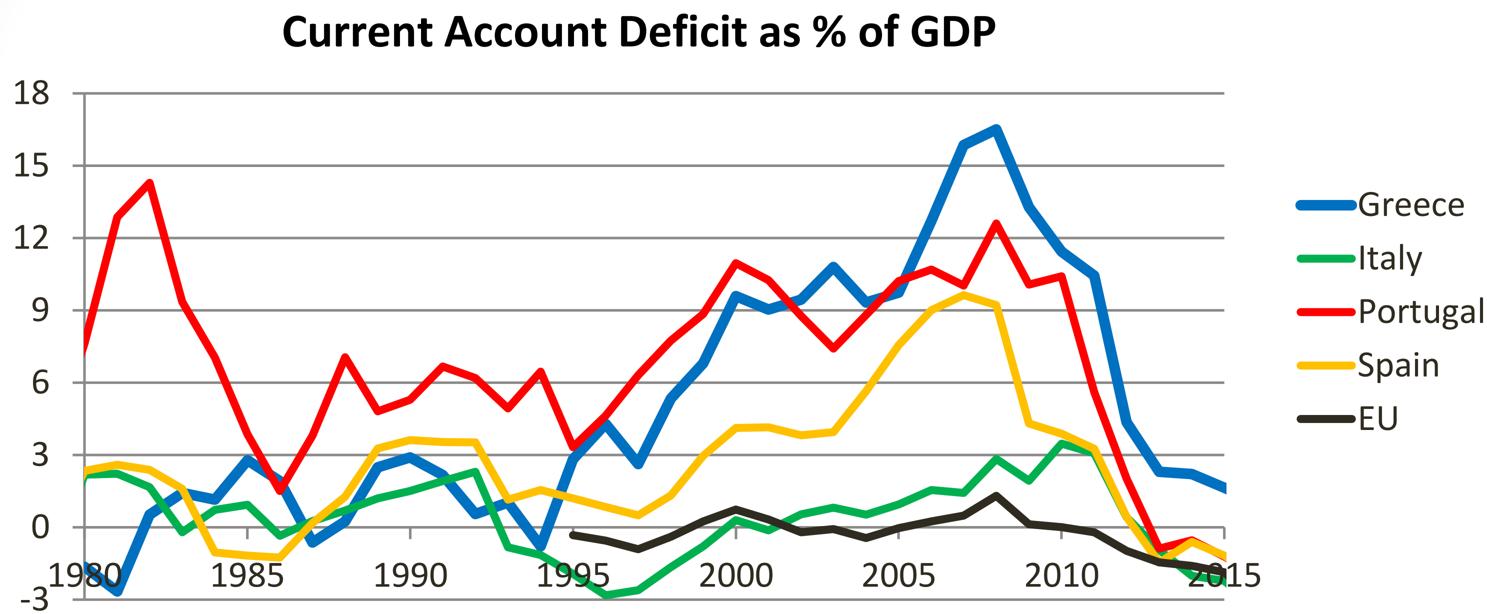


Source: Eurostat/ELSTAT

Unemployment has decreased, but remains extremely high

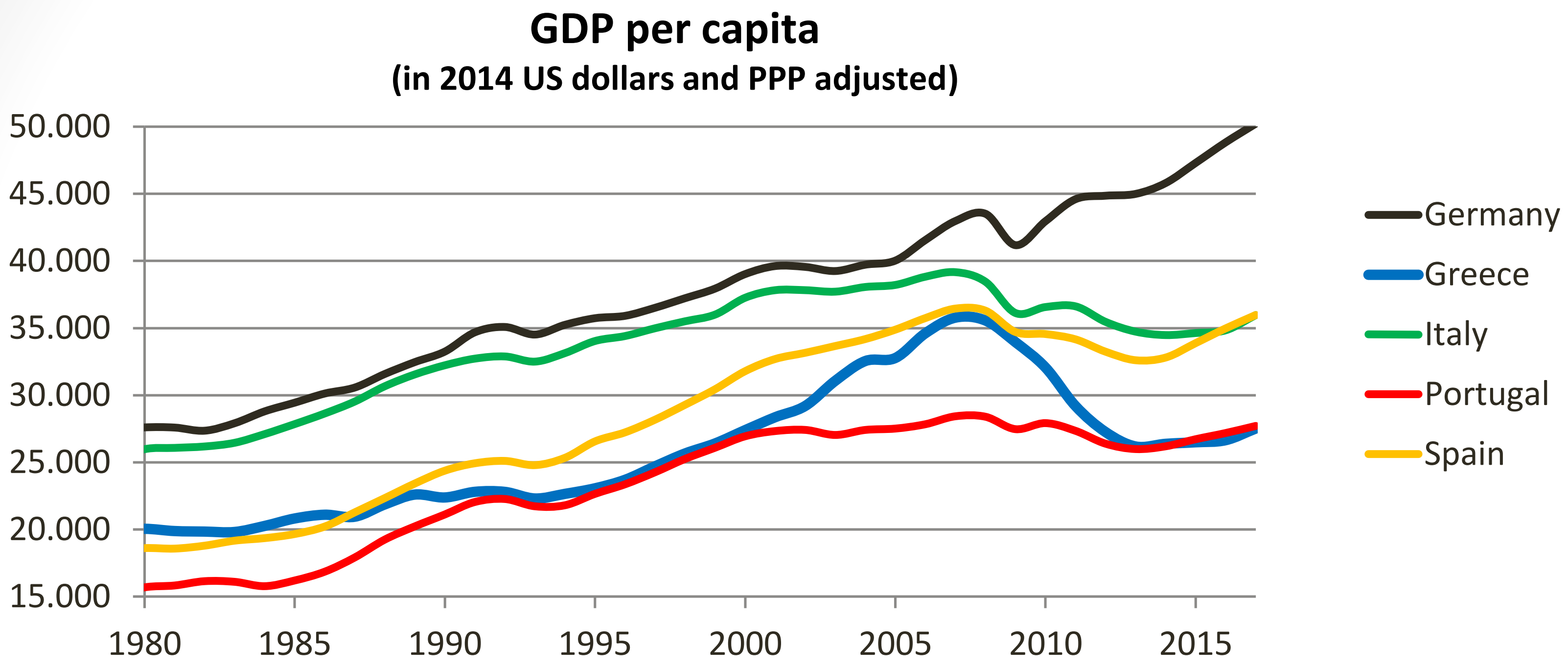
The long term view

Current Account Deficit



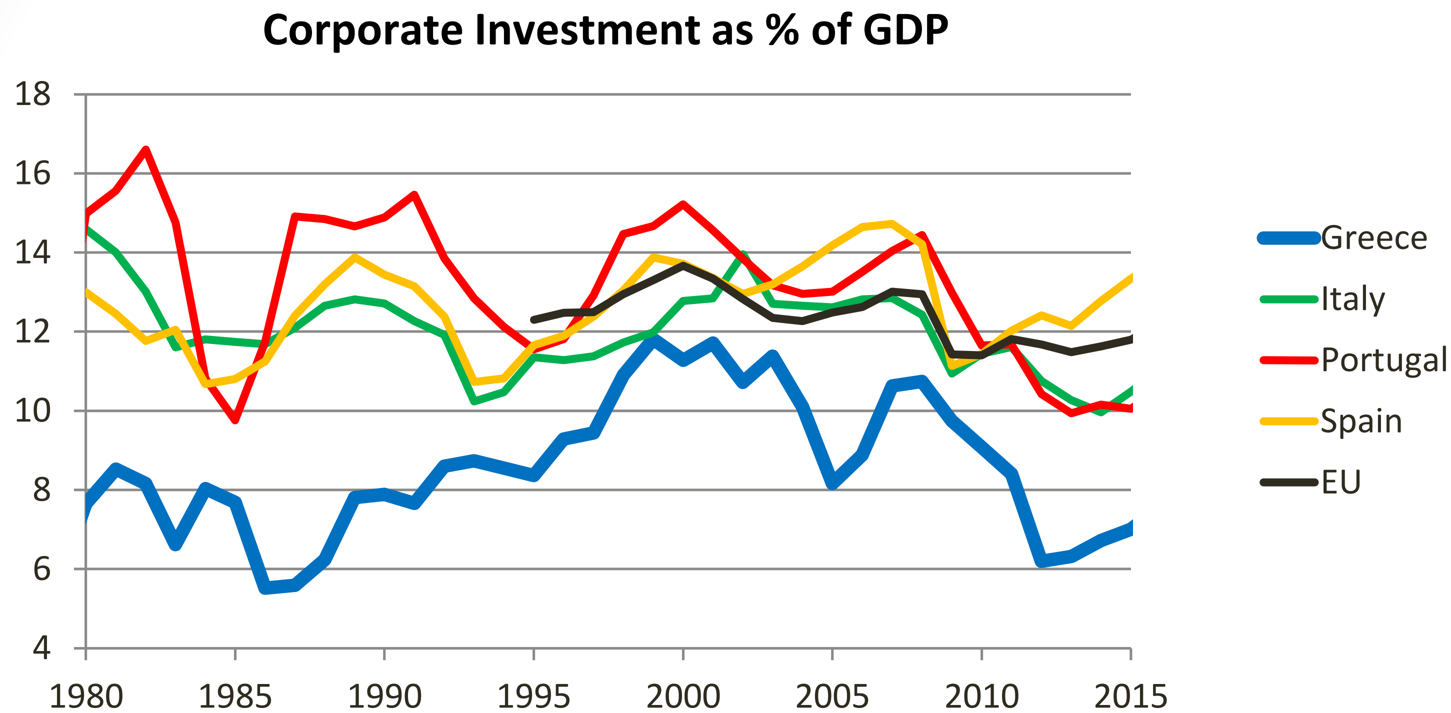
- Current account deficit rose significantly in the run-up to and after Euro entry.

GDP



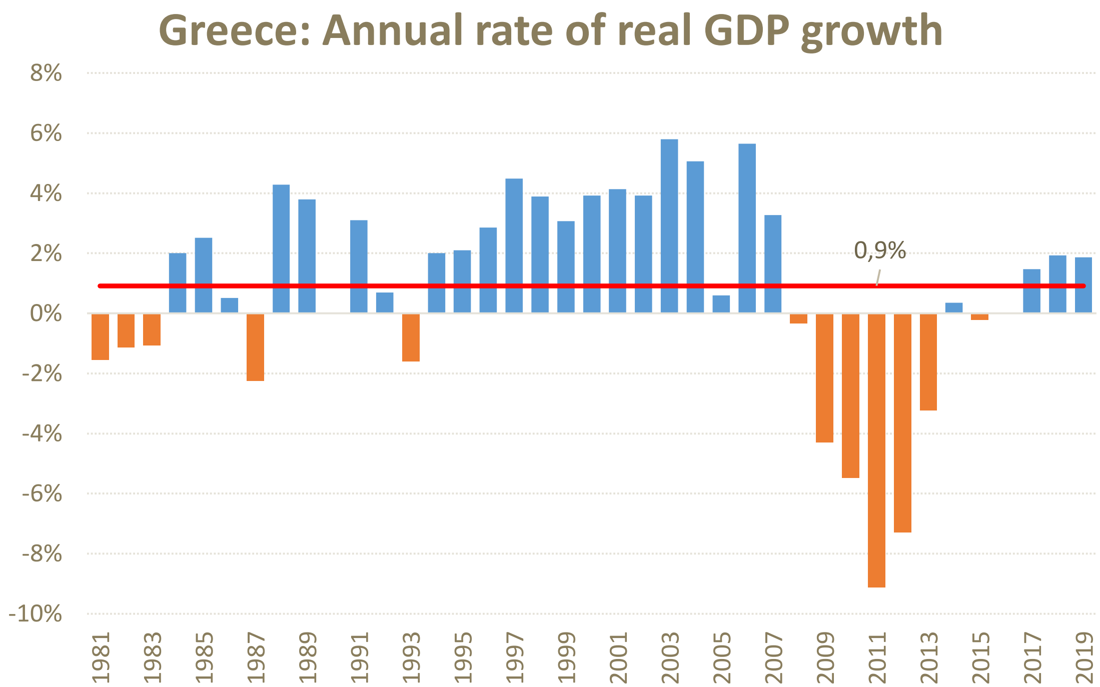
- Greece experienced a large growth and subsequent decline of GDP after Euro entry.
- Its growth over the long term (1980-2017) has been relatively small.

Corporate investment



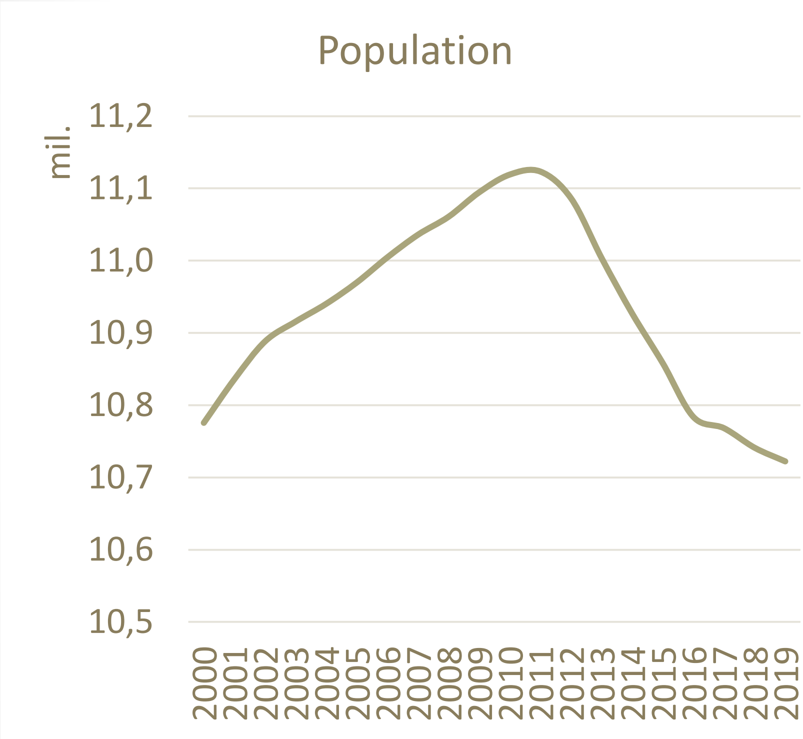
- Corporate investment in Greece has been relatively low.
  - But total investment (incl. housing) is comparable to EU average!
- It rose significantly in the run-up to Euro entry, but dropped again during the crisis.

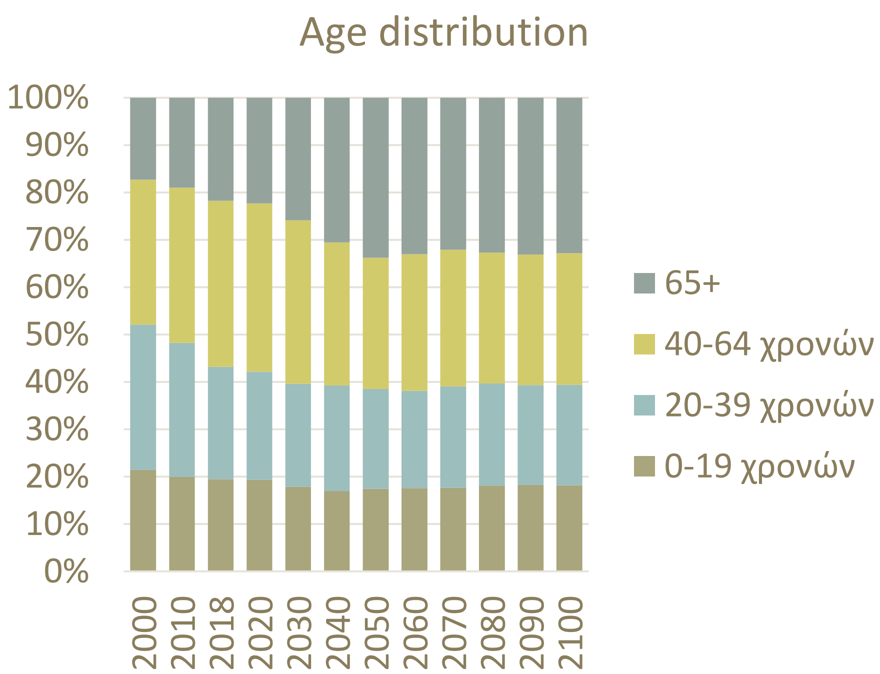
Growth dynamics and prospects



Sources: Eurostat, Ameco

Adverse demographics

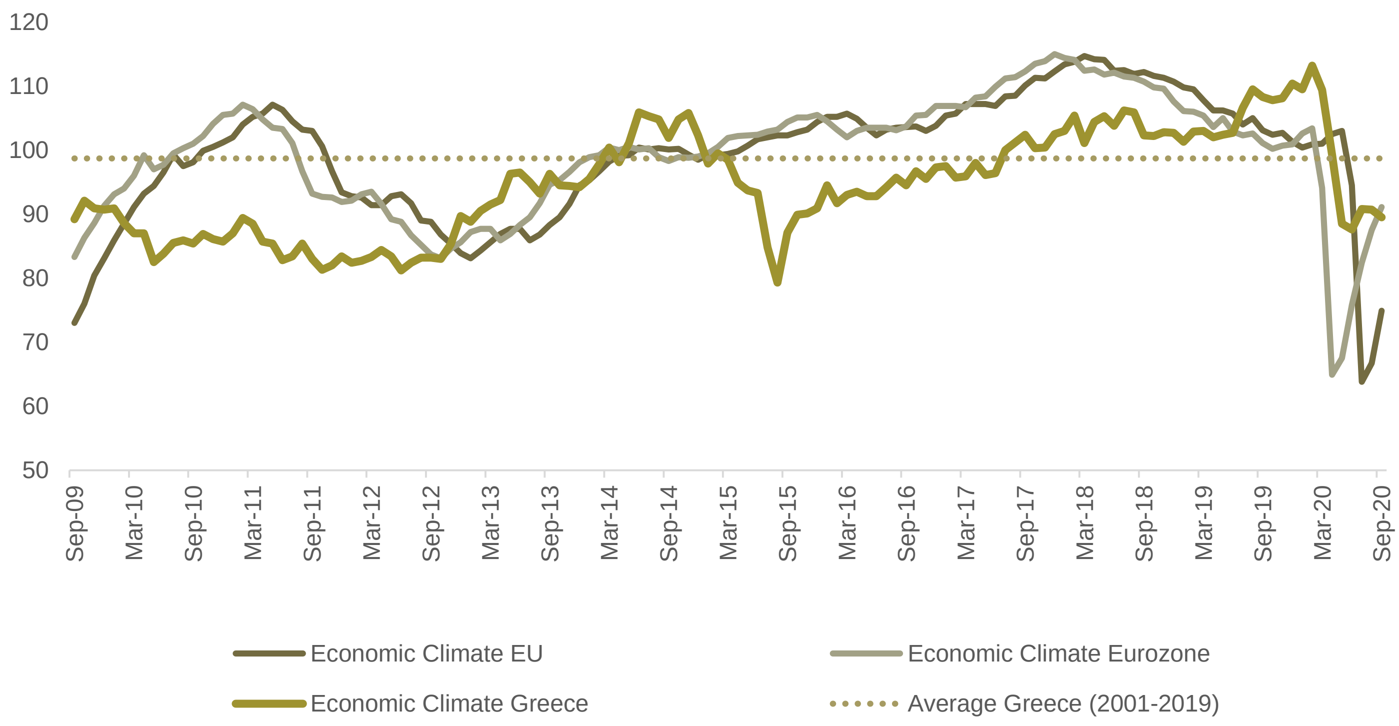




Sources: Eurostat

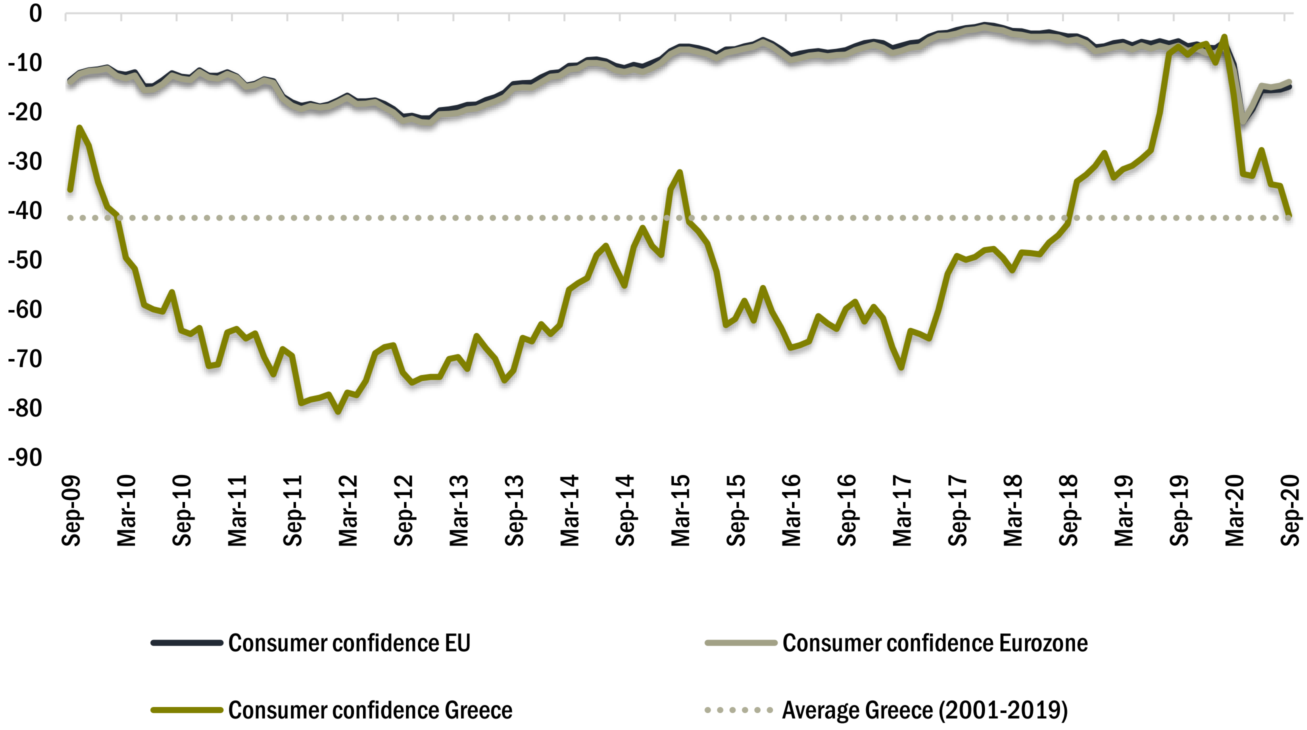
Economic climate

Economic Climate Indicator



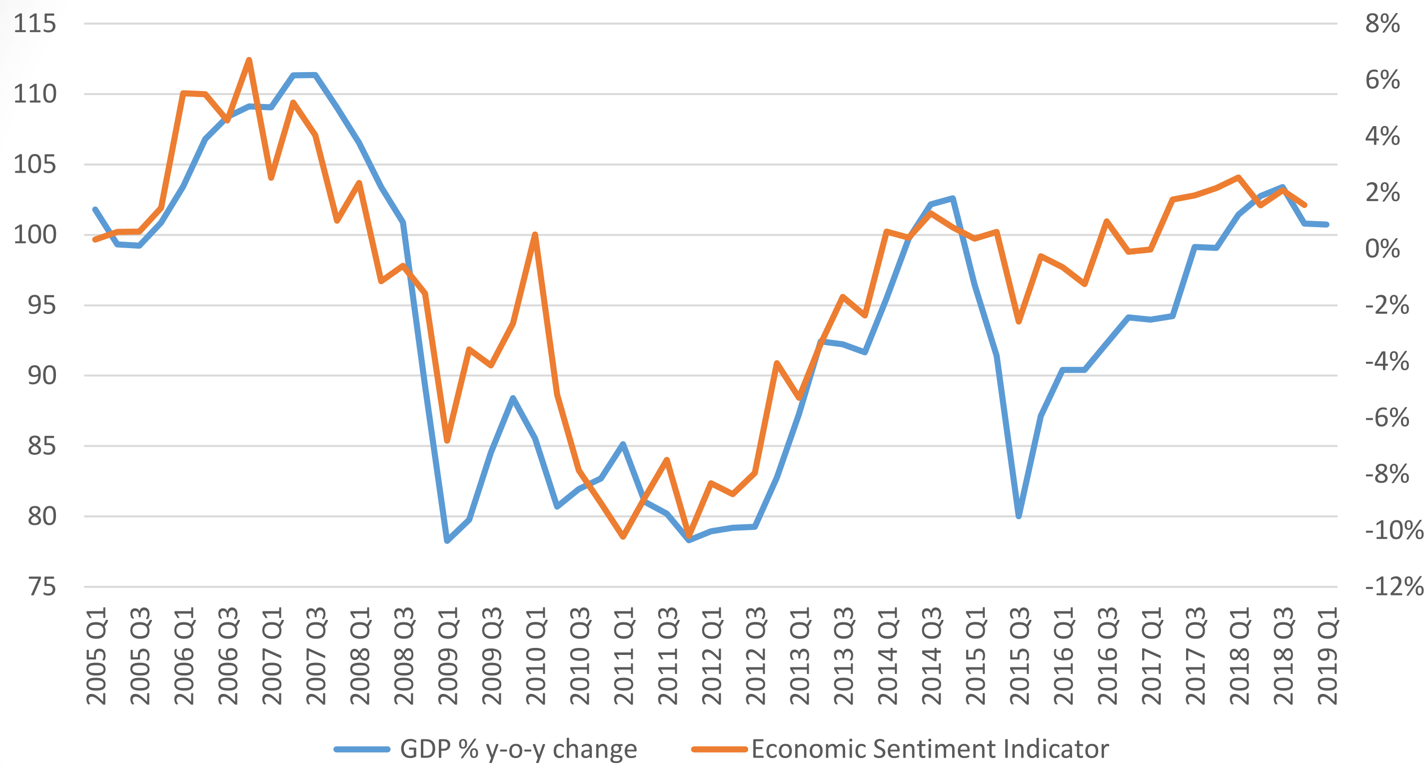
Sources: European Commission, IOBE

Consumer Confidence Indicator



Sources: European Commission, IOBE

Economic Climate Indicator & GDP change

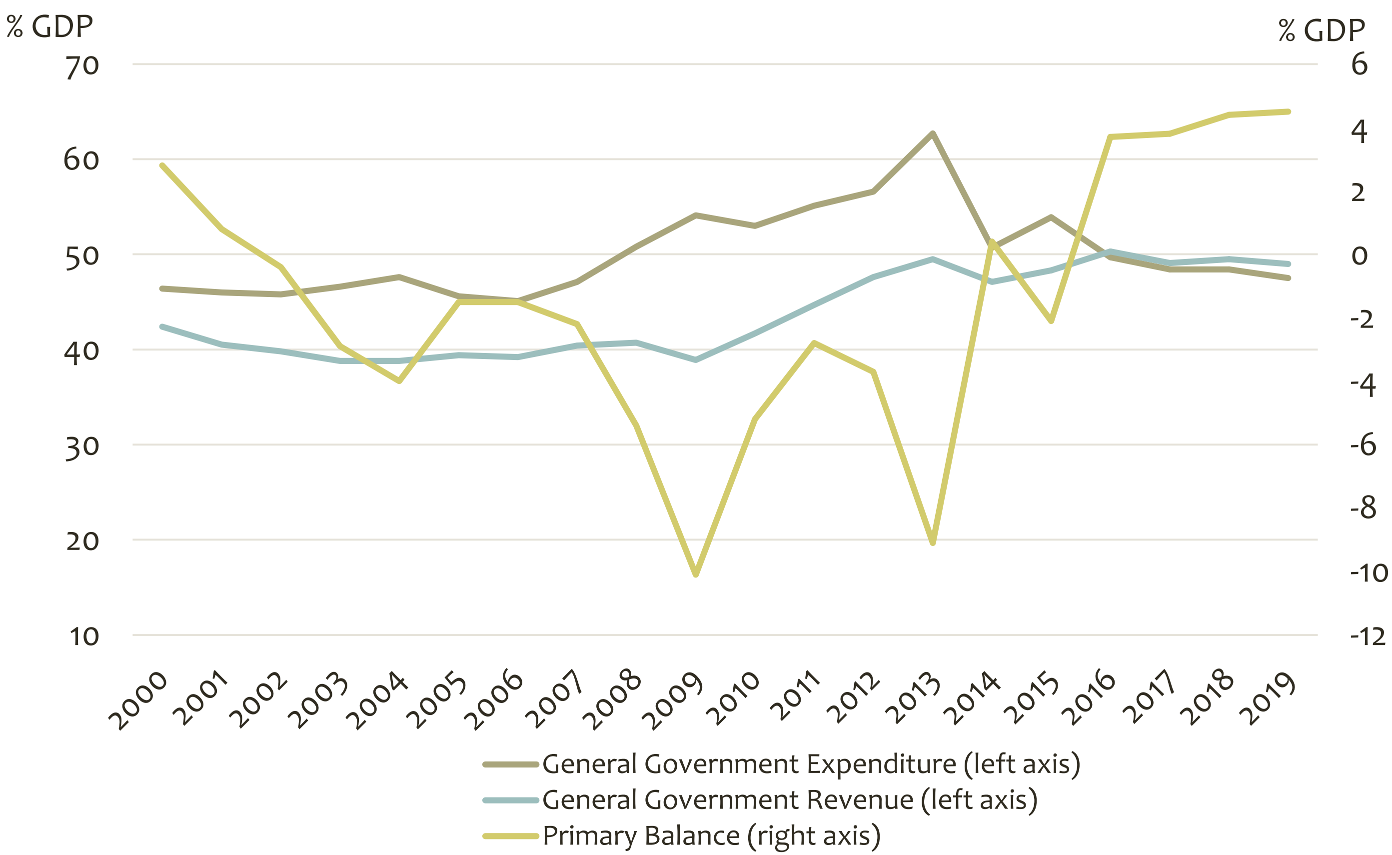


Correlation Coefficient: 0.873

Sources: ELSTAT, European Commission, IOBE

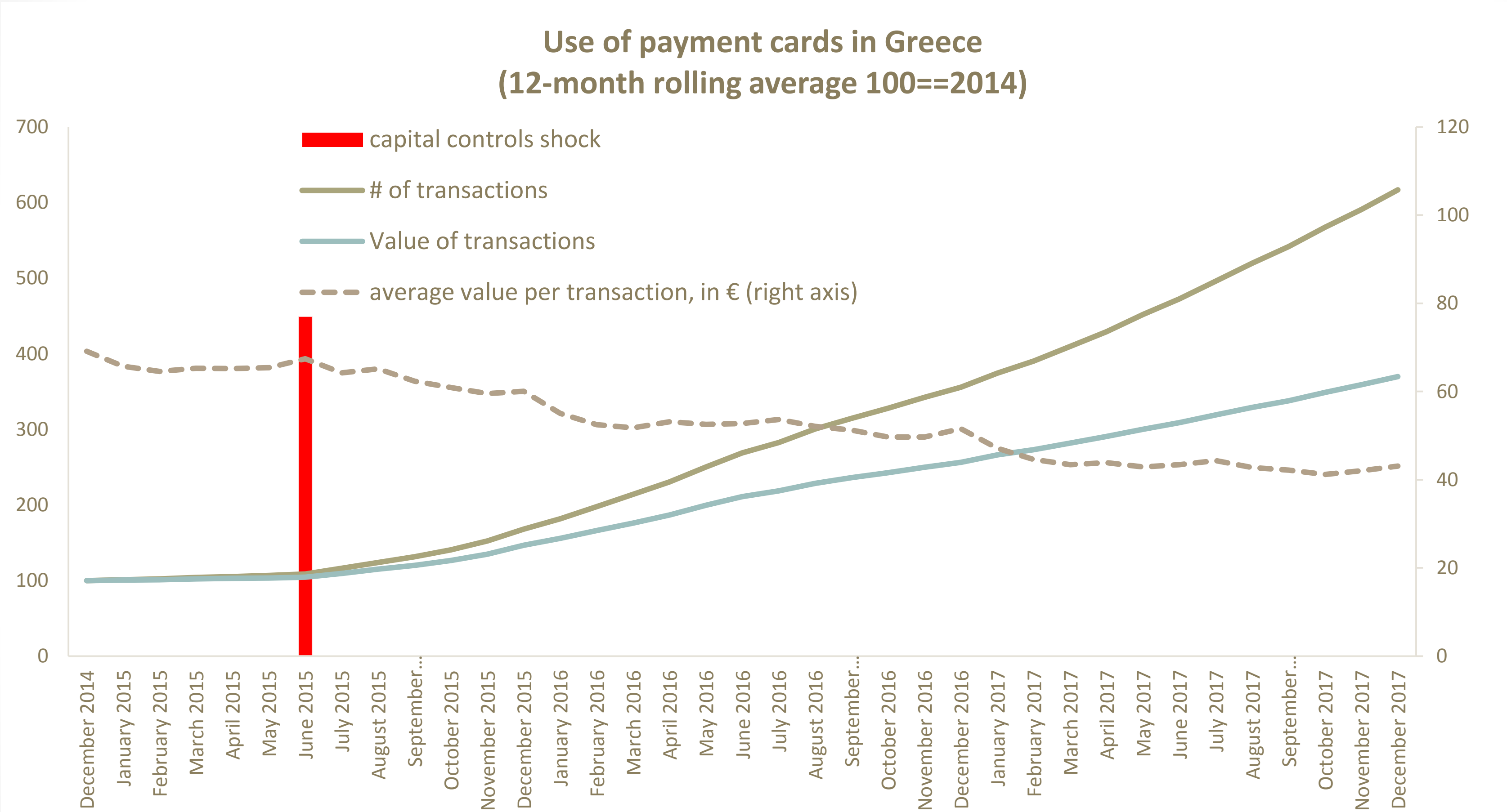
Fiscal balance

Government Expenditure, Spending, Primary Balance (% GDP)



Source: Eurostat

The number of card transactions has increased by six times after the imposition of capital controls

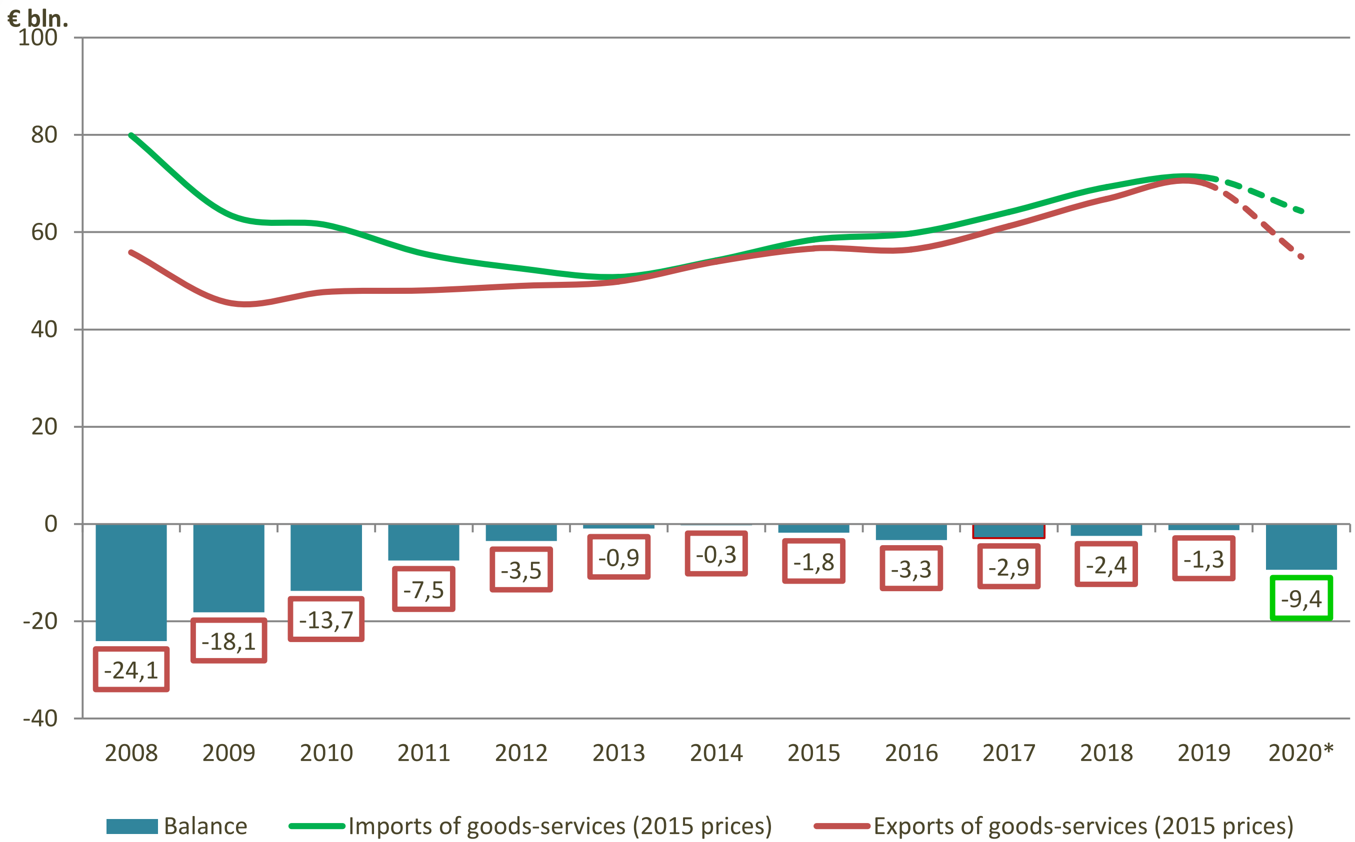


Sources: Member banks of Hellenic Bank Association, Data Analysis: IOBE
Note: Prepaid cards are not included

The number & value of card payments kept growing in 2016, 2017 and 2018, but at a decelerating pace

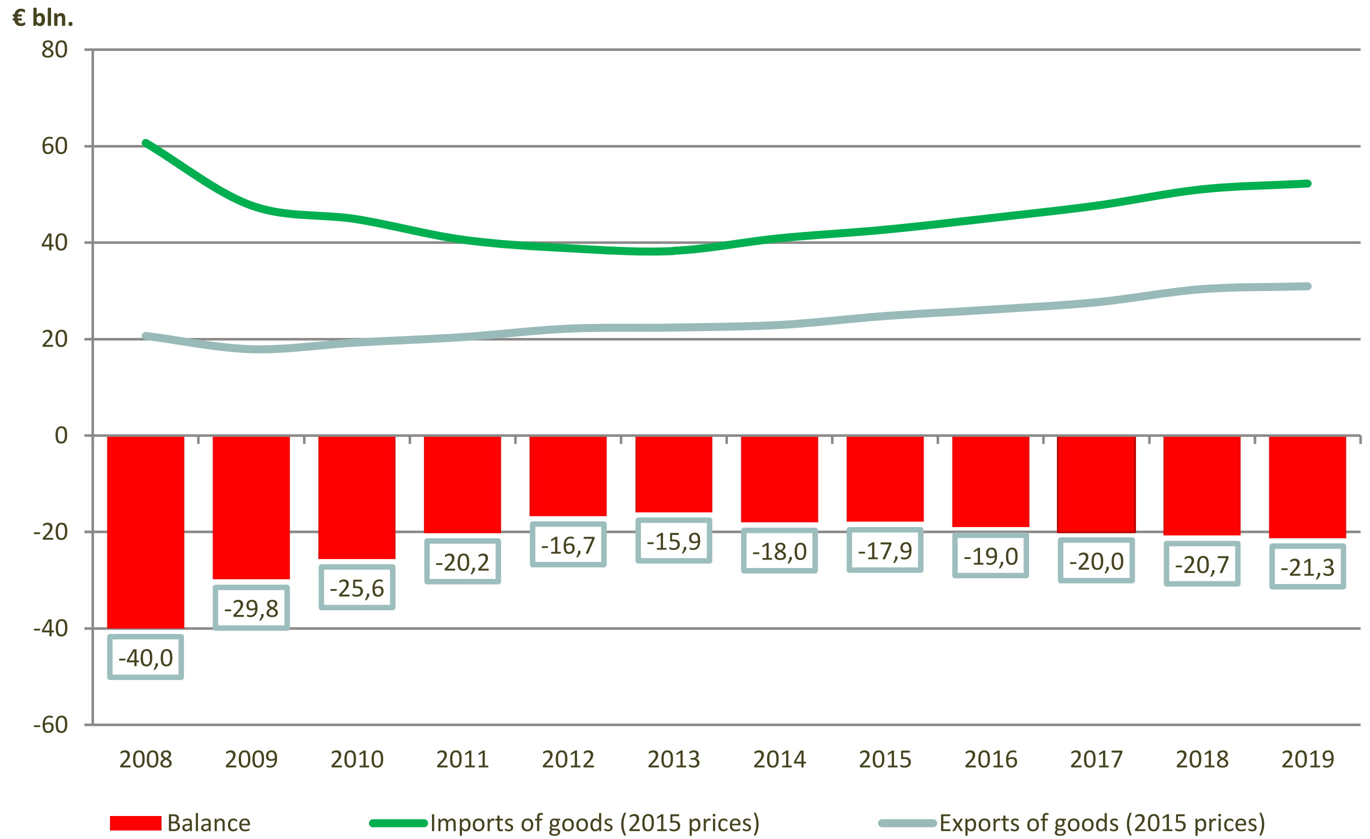
External balance

Trade balance (goods and services)



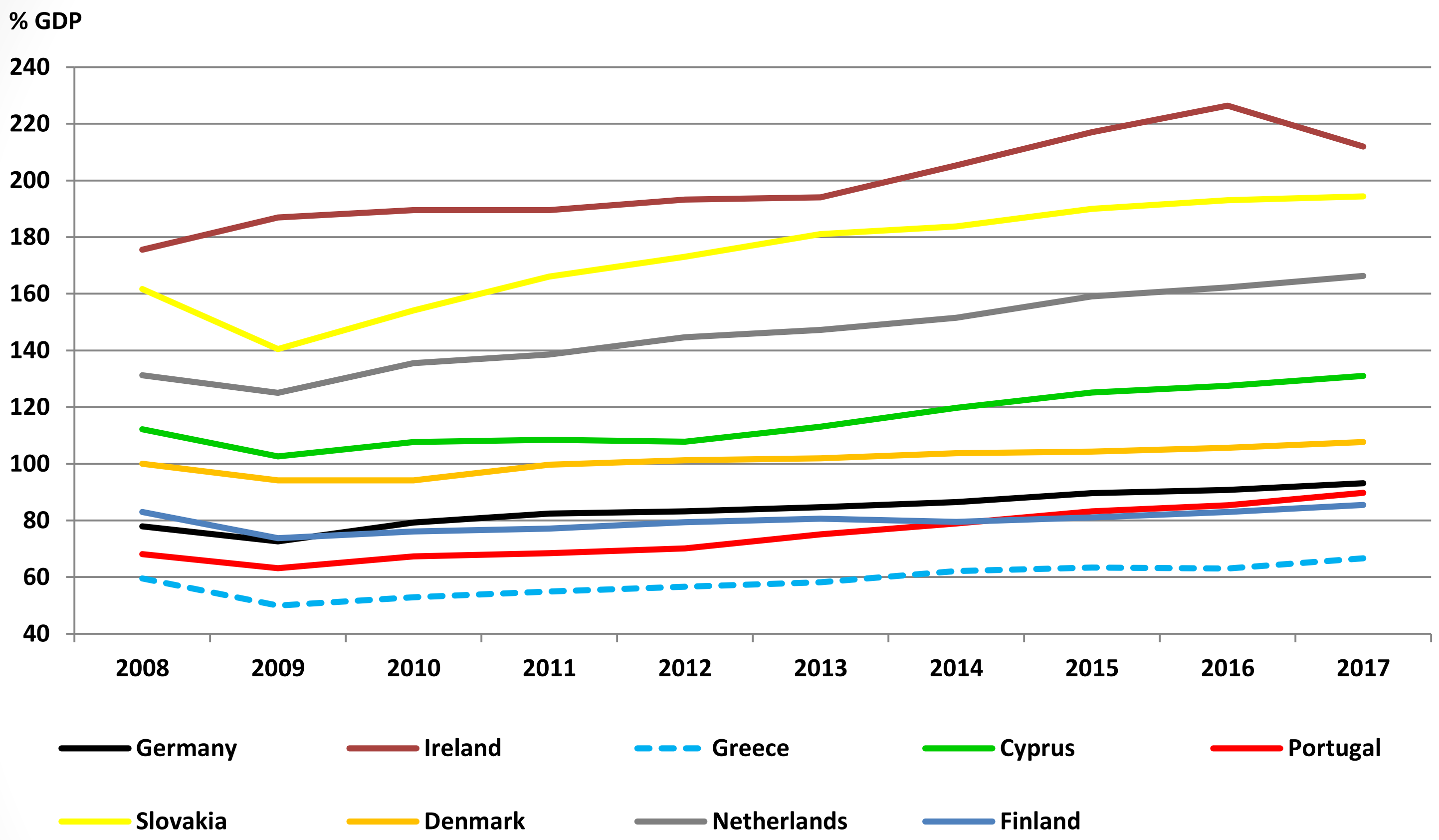
*European Economic Forecast, autumn 2020, European Commission
Source: ELSTAT

Trade balance (goods)



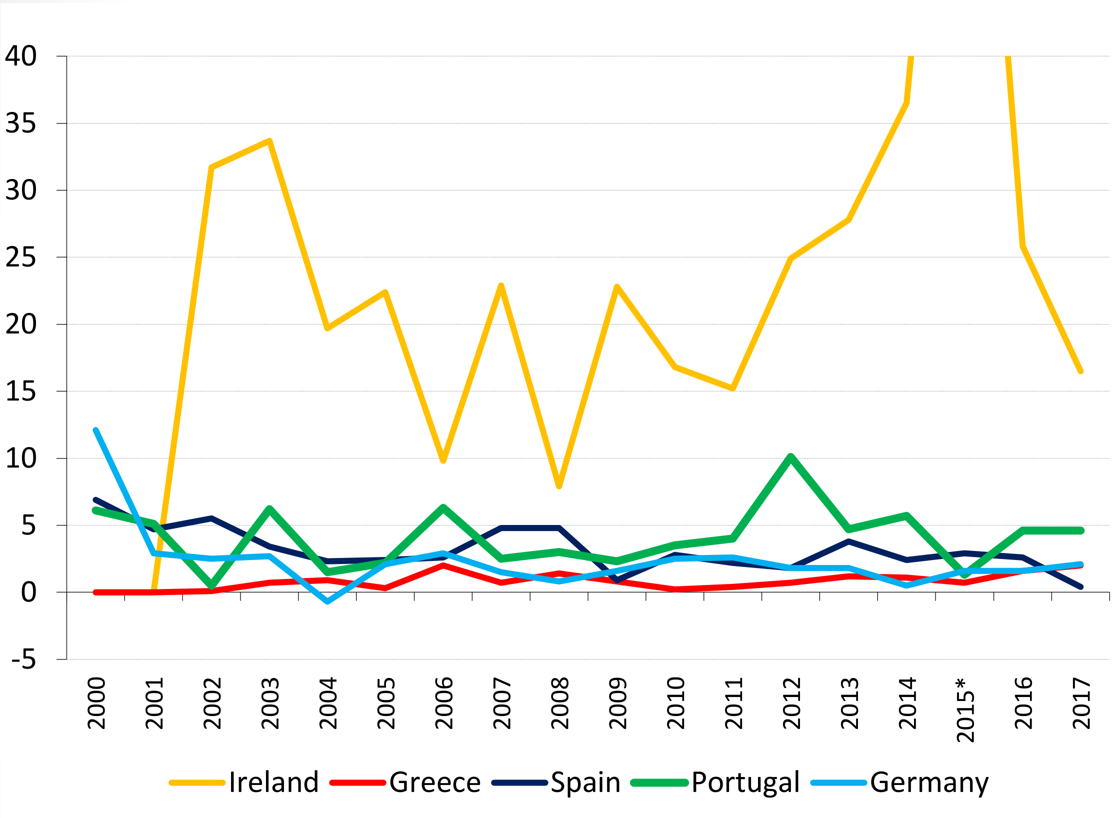
*European Economic Forecast, autumn 2020, European Commission
Source: ELSTAT

A relatively closed economy



Source: Eurostat

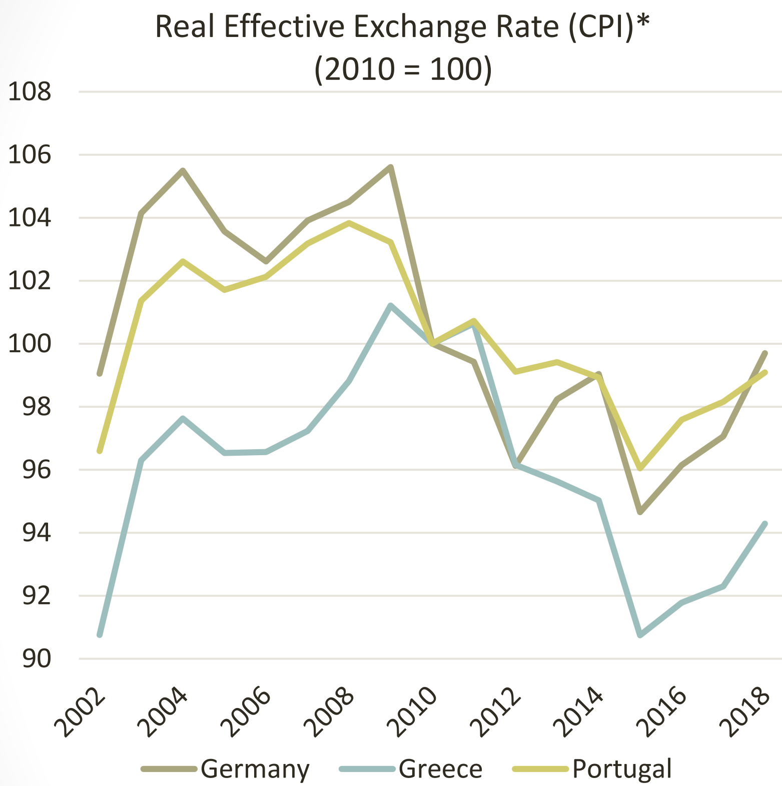
Foreign Direct Investment (% GDP)

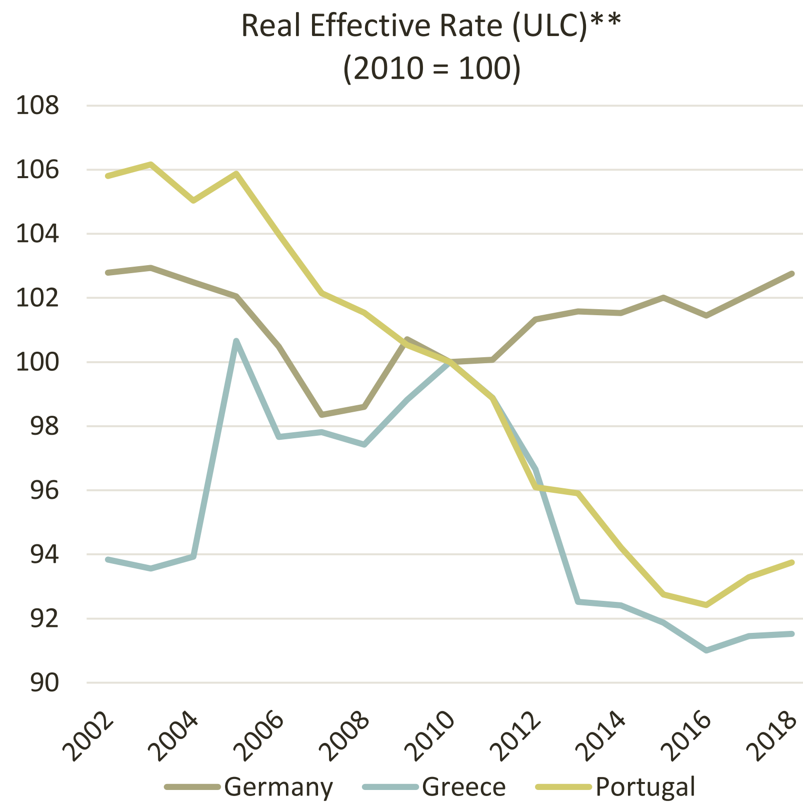


FDI (% GDP)		
	2000-2008	2009-2017
Germany	3.0%	1.8%
Ireland	16.5%	29.8%
Greece	0.7%	1.0%
Spain	4.2%	2.2%
Portugal	3.7%	4.5%

*Ireland: 81.7% of GDP
Source: Eurostat

Real Effective Exchange Rate



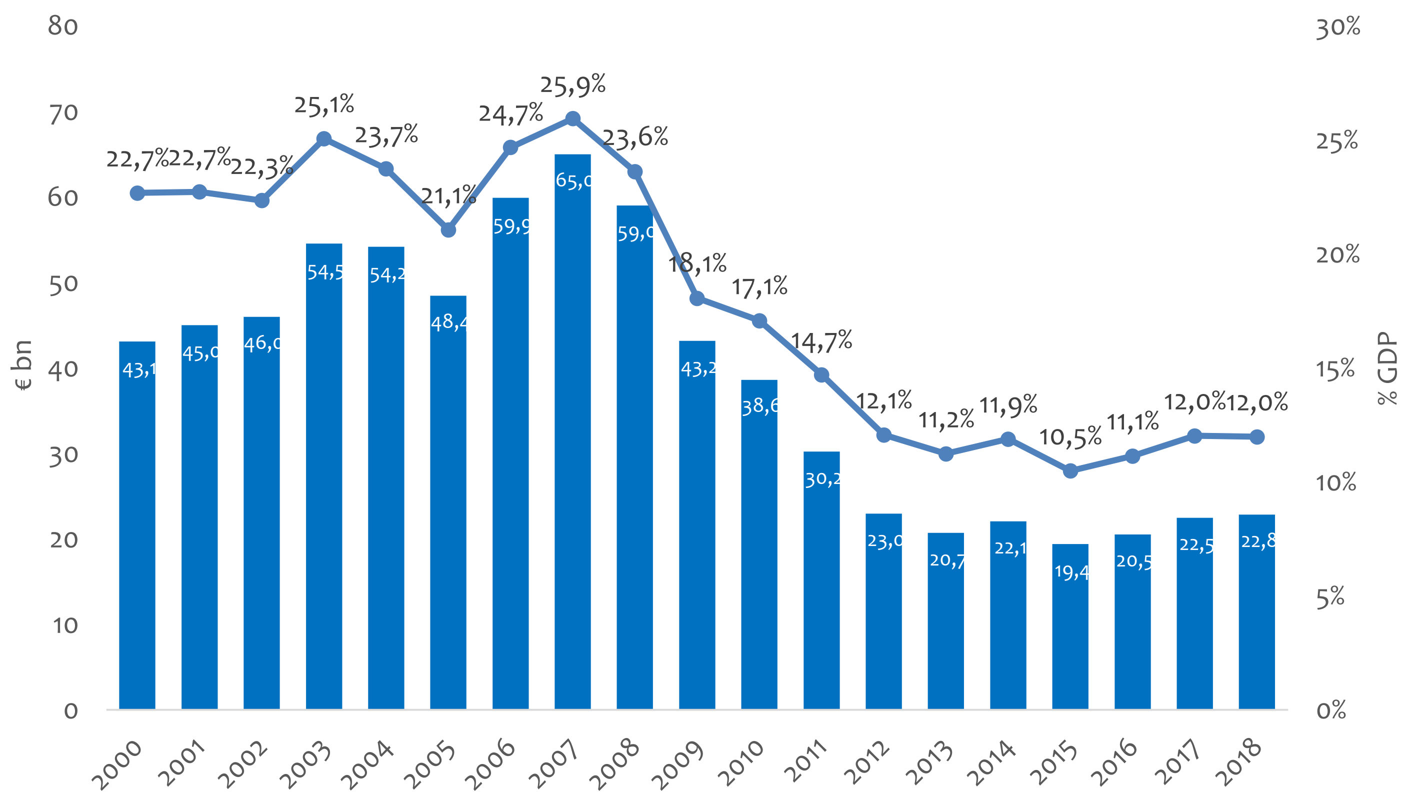


*against 42 trading partners
Source: Eurostat

*against 37 trading partners
Source: AMECO

Housing, construction, and energy

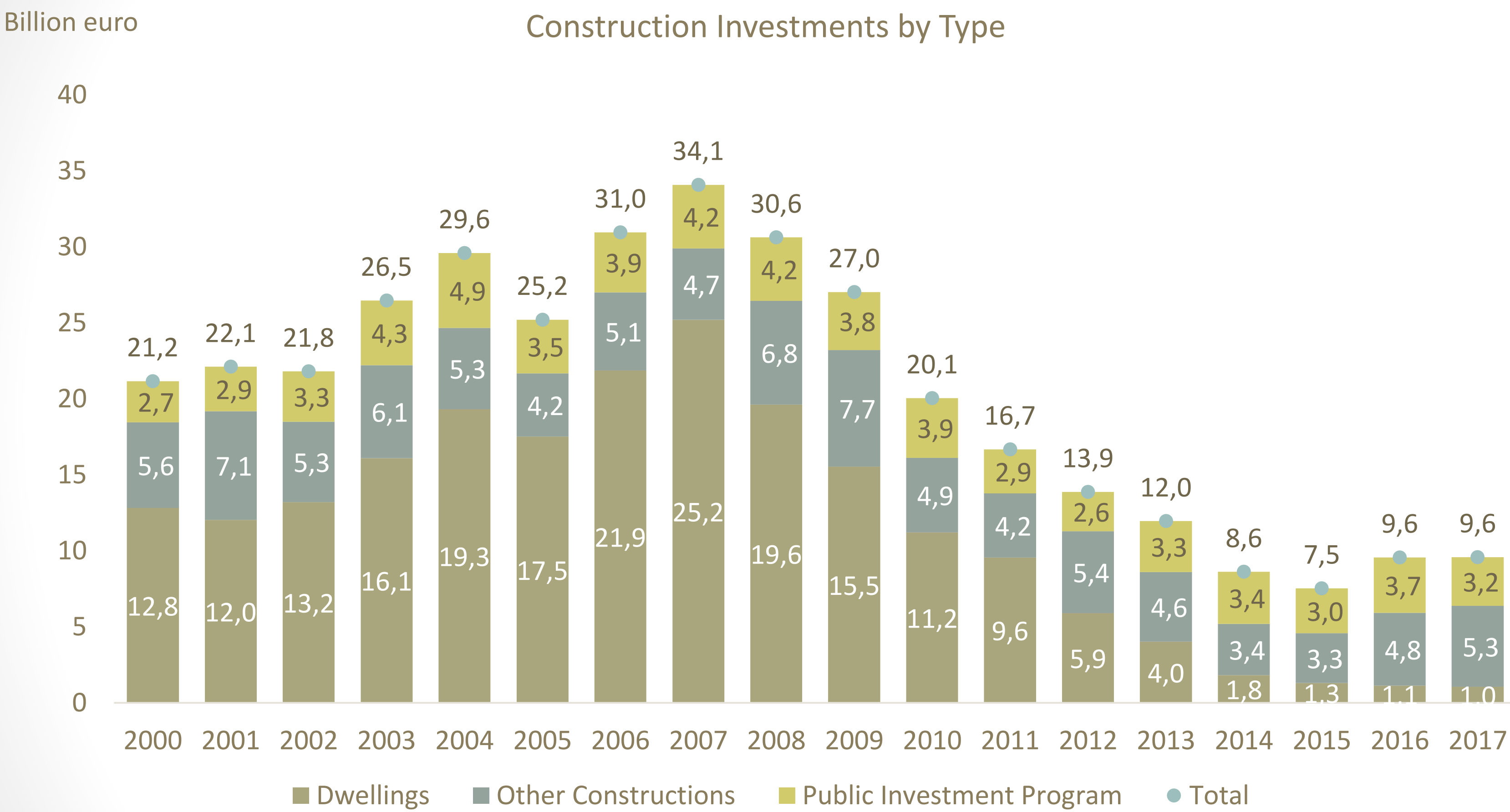
Investment collapses



Sources: Eurostat/ELSTAT

- Highest investment level in 2007 (€65.0 bn)
    - Highest level of investment as a % of GDP in the same year (25.9%)
- Significantly lower investment in 2015 (€19.4 bn, 10.5% of GDP)

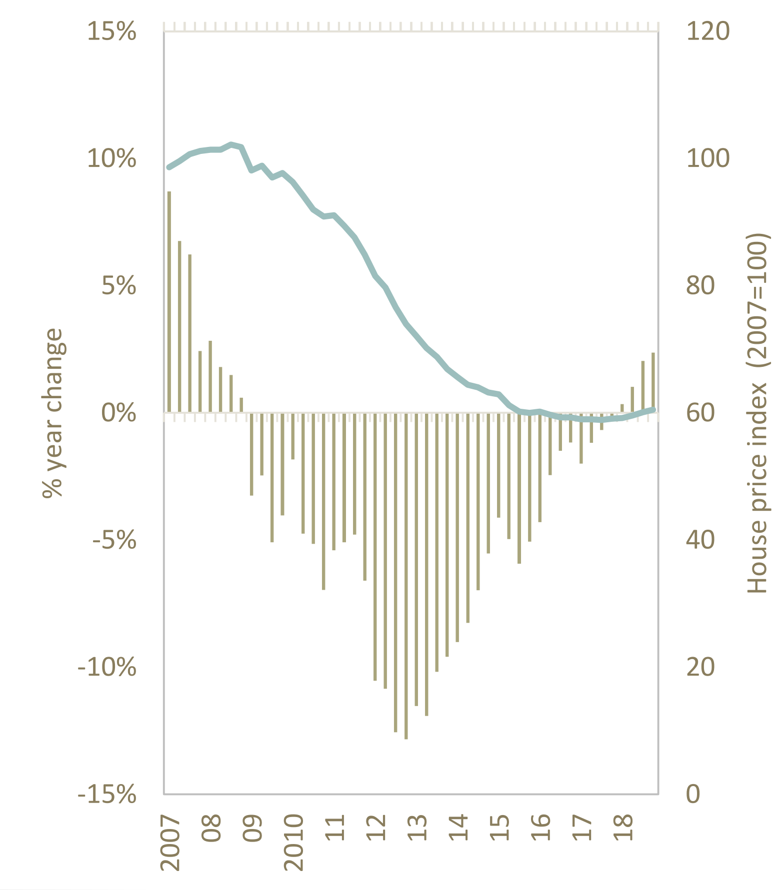
Total investment for construction projects decreased from €33.6 billion in 2007 to €9.6 billion in 2017 (¼ of the 2007 level)

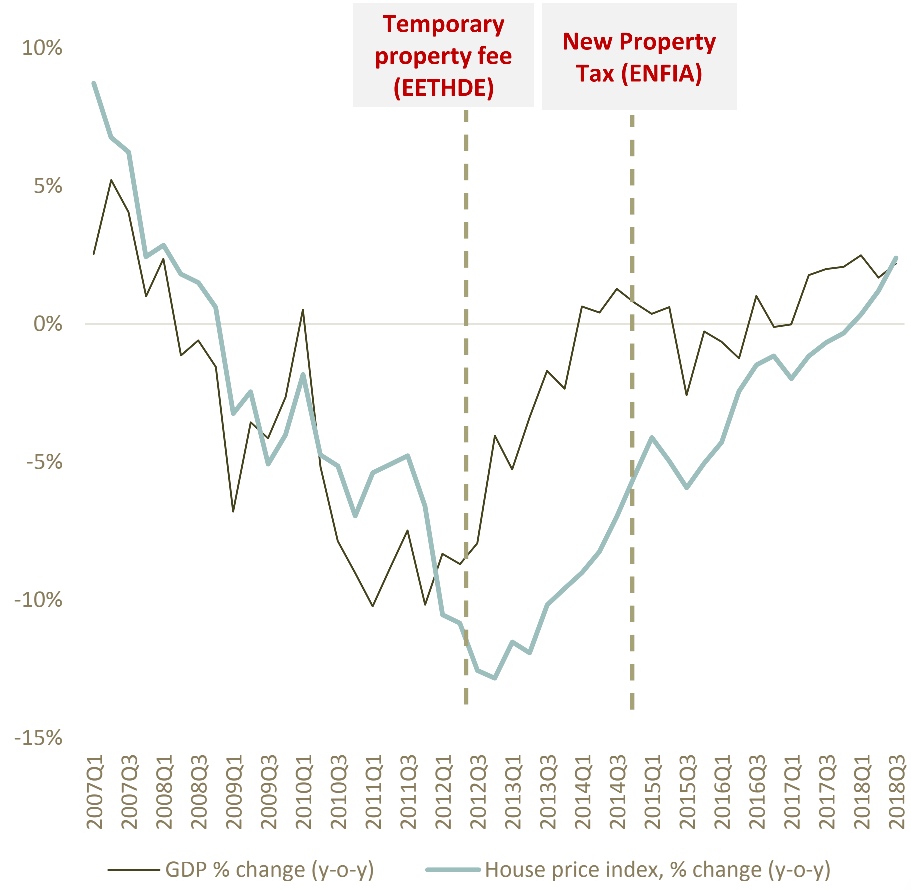


- Annual housing investments declined by 95.4%, reaching 1.1 billion in 2017, compared with €24.8 billion in 2007
- The bulk of the fall in total investment for construction projects is due to the shrinking investment in housing

Sources: Eurostat. Ministry of Finance

41% decrease in new apartments prices between 2007 and 2018 (2nd largest in the EU-28)



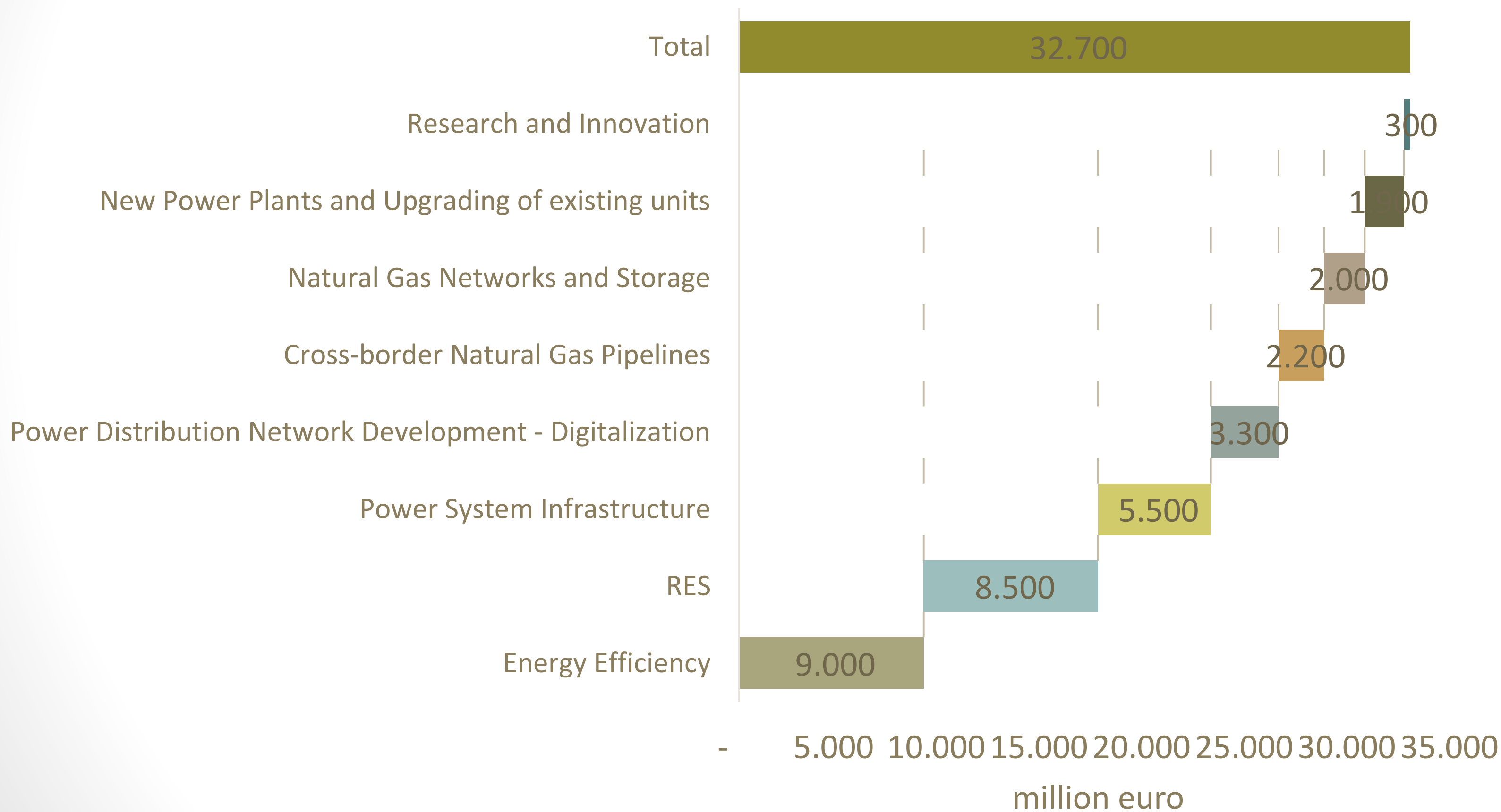


The fall in the house price index has accelerated after the third quarter of 2011 reflecting the imposition of a new tax on property

Sources: Eurostat, Bank of Greece, IOBE Analysis

According to the National Energy Plan, the energy investments most needed over the next decade include: i) Improvement of energy efficiency, ii) Further penetration of RES in power generation, and iii) Strengthening of the infrastructure of the power system

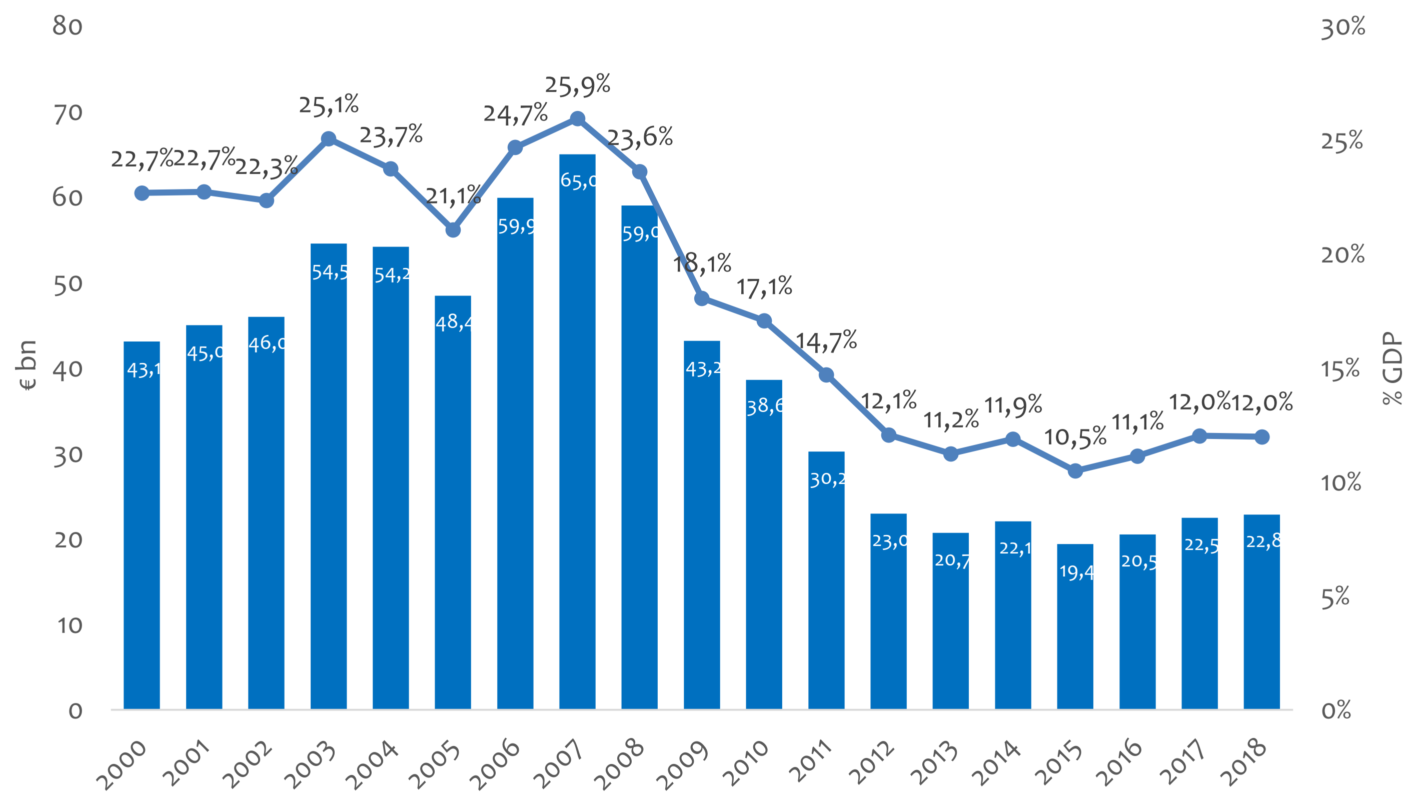
Estimated Investments in key areas of the Greek Energy System for 2020-2030 (in million euros)



Source: Ministry of Energy and Environment (2018) National Energy Plan

Investment, domestic savings, and banks

Investment collapses



Sources: Eurostat/ELSTAT

- Highest investment level in 2007 (€65.0 bn)
  - Highest level of investment as a % of GDP in the same year (25.9%)
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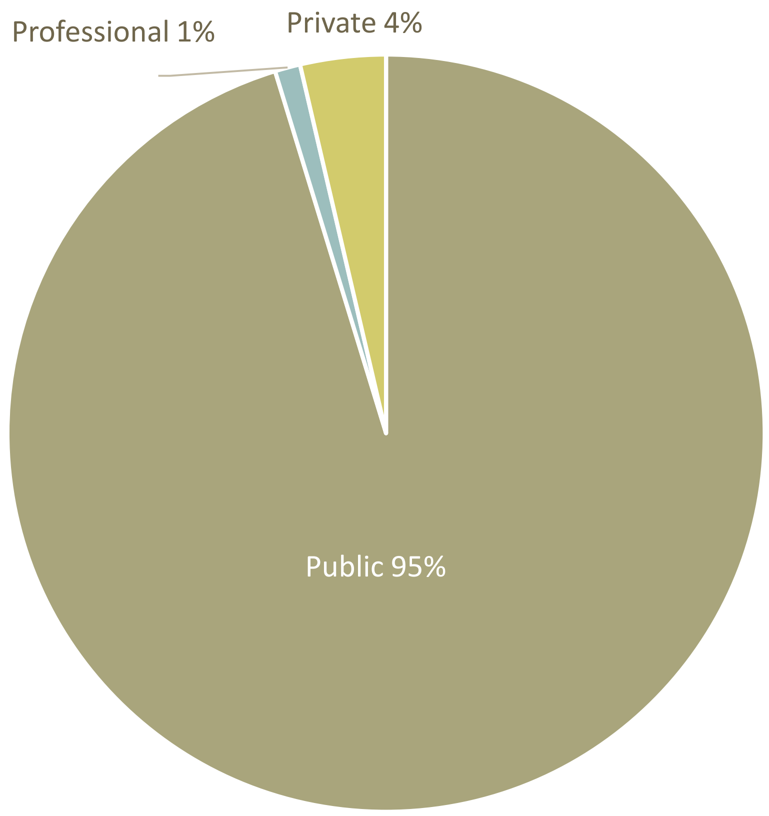
The size of fully funded pension pillars is strikingly small in Greece

Pension contribution payments composition by pillar, 2017



Source: ELETEA, EAEE, **Data processing**: IOBE

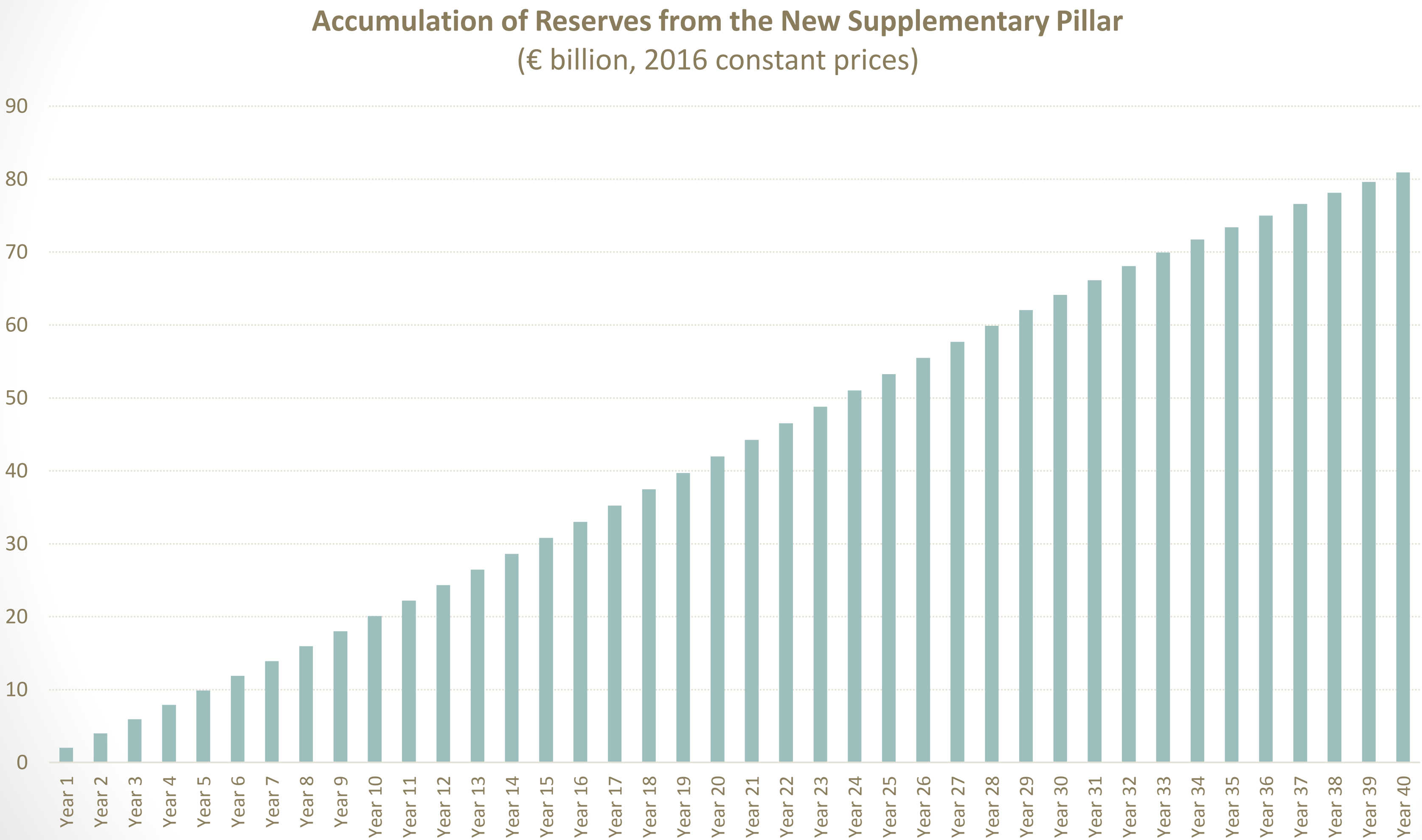
Mandatory fully funded schemes are missing,
while the exposure to fiscal and demographic risk remains particularly high

Greece is last in investments from pension contributions

Very small size of investment from voluntary pension savings in Greece in relation to other countries

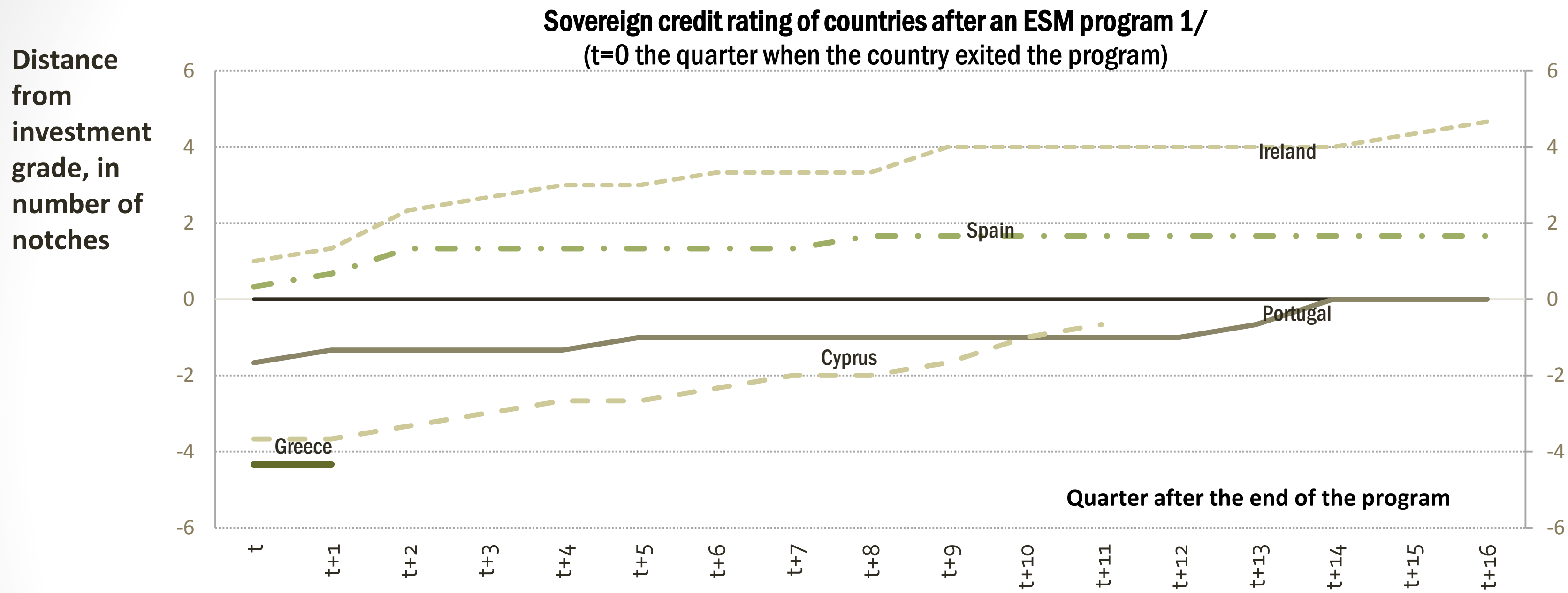
Source: OECD
Note: Data covers investments by occupational funds in the case of Greece

A mild pension reform is expected to generate EUR 80 billion in capital reserves over a 40-year period



Source: IOBE pension proposal and estimates
Note: It is assumed that the average nominal annual yield of the reserves is 3%.
(This corresponds to an average real yield of 1%, with an average inflation rate of 2%)

Long time is required for program countries to recover their sovereign credit ratings



1/ Equally weighted average rating by S&P, Moodys, Fitch.

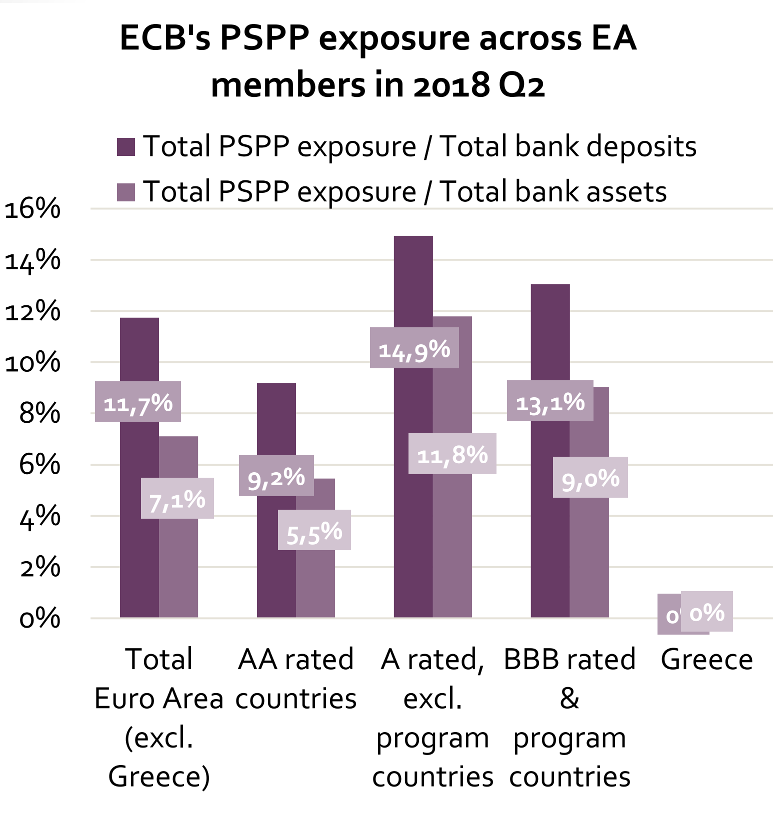
Restoring investment confidence has been a lengthy and gradual process

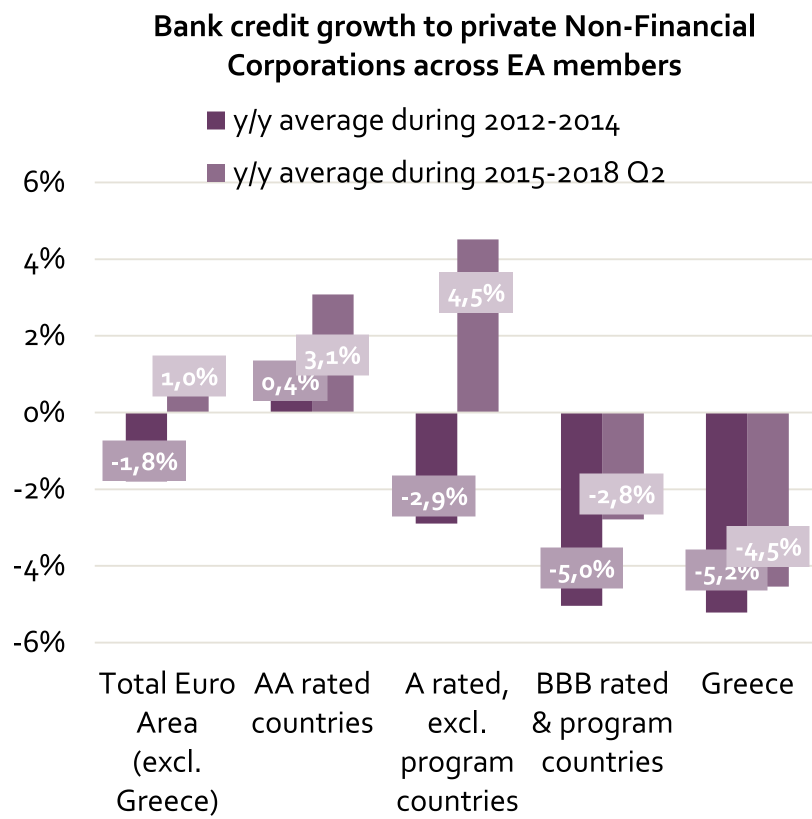
- Portugal: 3.5 years before rebounding to investment grade
- Cyprus: average rating still marginally below investment grade, after almost 3 years

Greece => necessary to insist on reform policies, to gain confidence

- Remains on average 4.3 notches below investment grade
- Partial debt refinancing from markets will likely be necessary, before full recovery of investment grade rating

Greece’s exclusion from the Q-E had significant opportunity cost for its banks’ credit capacity



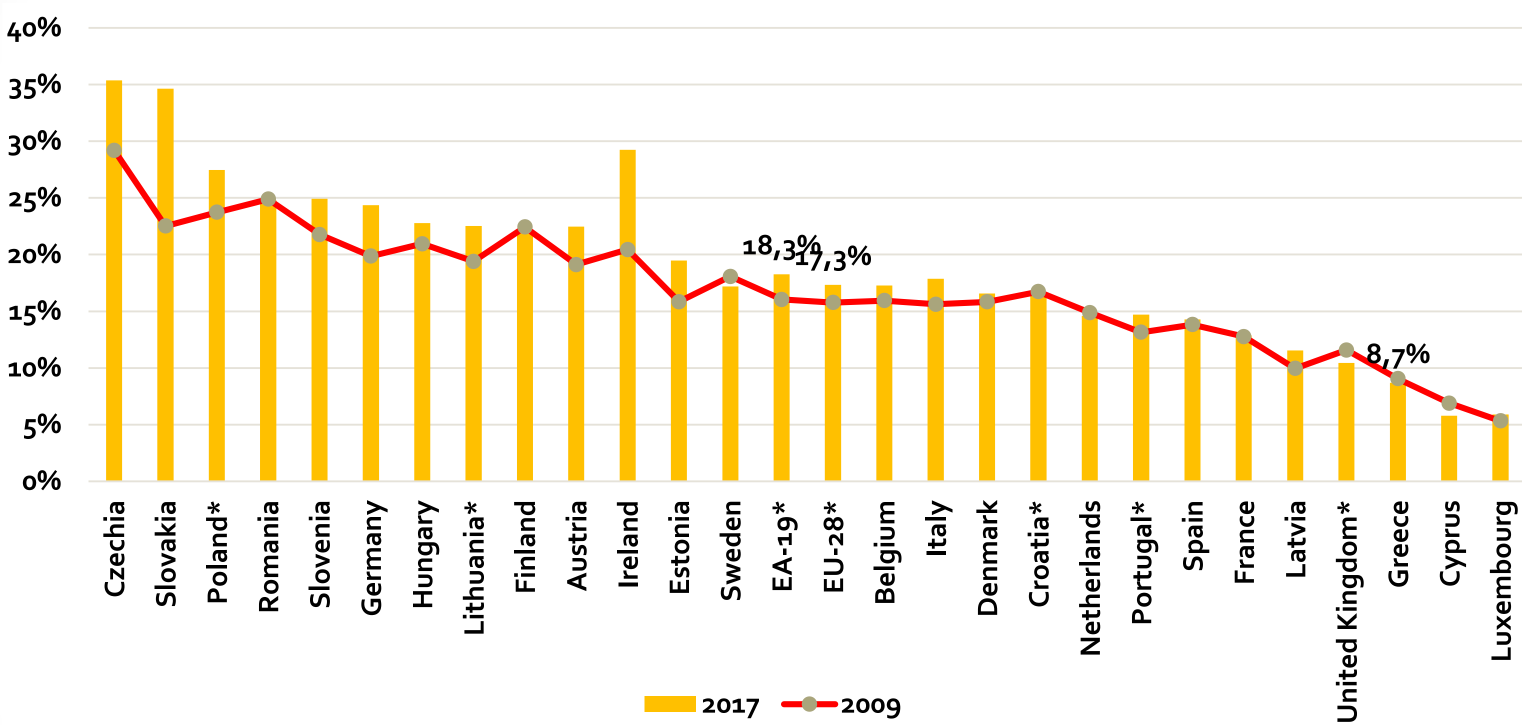


During the latest Q-E program (2015-2018), the flow of bank credit to firms strengthened:

- **by 2.8 ppts in the Euro Area excluding Greece**
- **by 7.4 ppts in countries which received the largest stimulus from Q-E**
- **by only 0.7 ppt in Greece which was excluded from the Q-E**

Manufacturing

Small share of Manufacturing to GDP: 8.7% in 2017



***** Data for 2016
Source: Eurostat-National Accounts

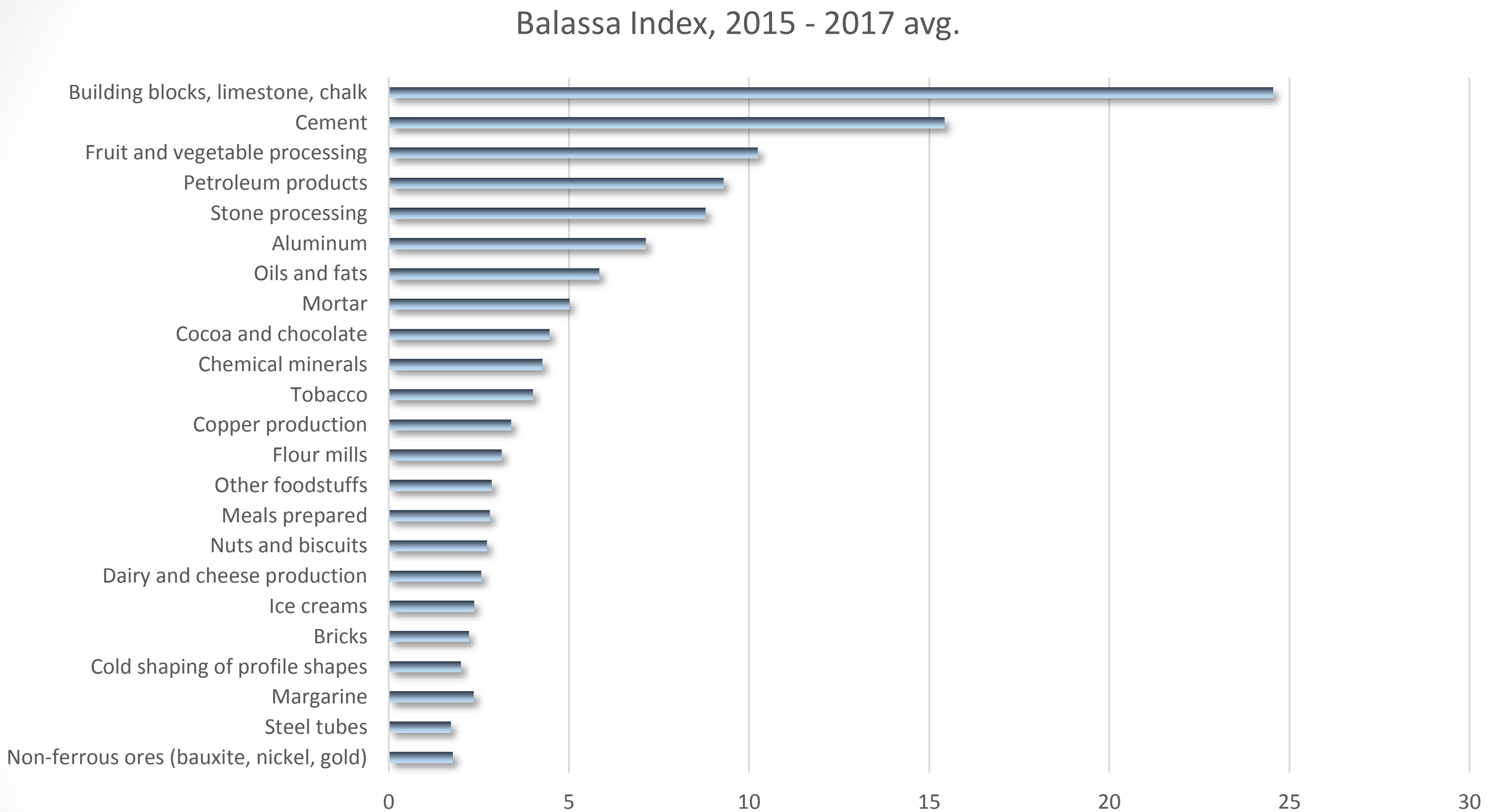
Share increase in Greece from 2015 onwards

Products with the largest export share

Excluding petroleum products, Aluminum has the biggest share in Manufacturing exports, with an average value of €1.5 bn. during 2015-17

		Value of exports, mil. €	Share to exports of manufacturing products	Share to exports (excl. petroleum products)
1	Petroleum products	7,693.4	35.2%	
2	Aluminum	1,432.6	6.6%	10.1%
3	Fruits and vegetables	1,031.3	4.7%	7.3%
4	Oils and fats	687.4	3.1%	4.9%
5	Dairy and cheese products	562.5	2.6%	4.0%
6	Copper	471.3	2.2%	3.3%
7	Steel	335.7	1.5%	2.4%
8	Tobacco products	296.2	1.4%	2.1%
9	Cement	218.3	1.0%	1.5%
10	Steel tubes	208.5	1.0%	1.5%

Manufacturing products with (revealed) comparative advantage



- Top -<u>5 exporting products 2015-2017 (combination of indicators):</u>

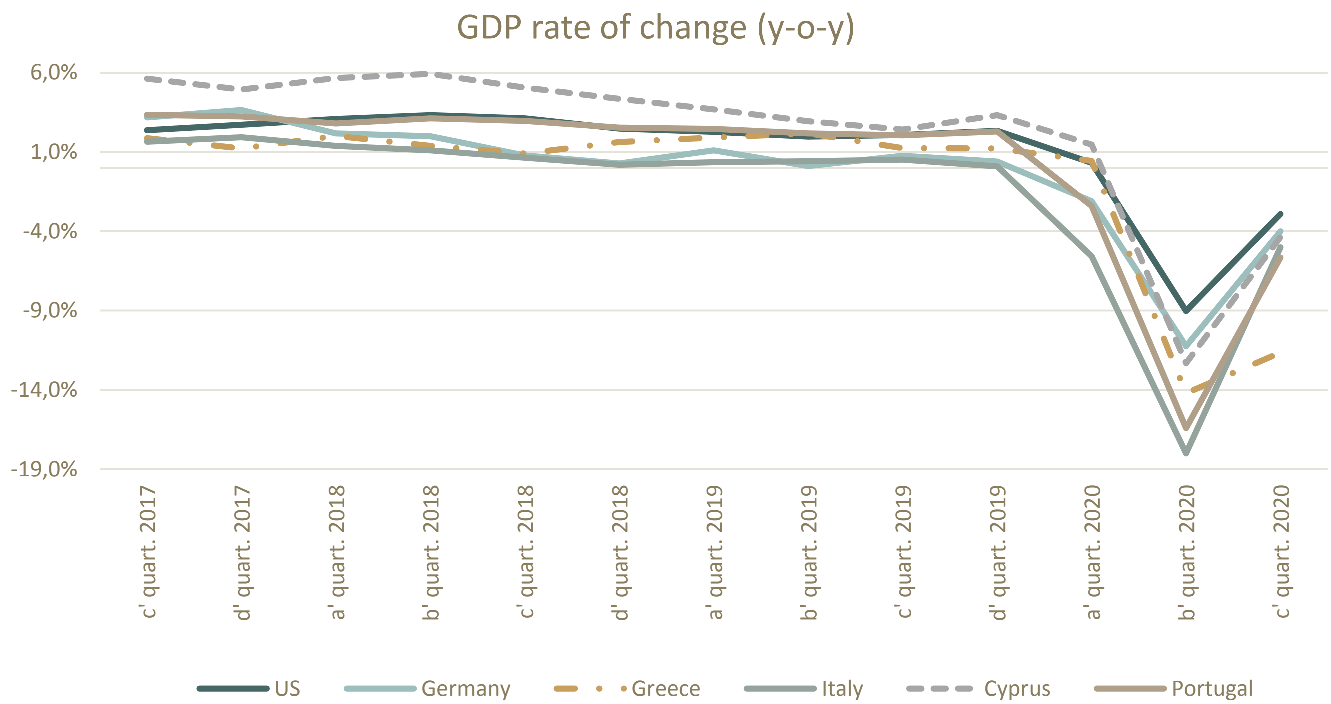
  Petroleum Products, Aluminum, Fruits and Vegetables, Cement and Marbles

Source: International Trade, (ComExt database), Eurostat, **Data processing**: IOBE

Covid-19 impact

GDP collapses

Strong recession in the second (-14.2%) and third quarter 2020 (-11.7%). -8.5% during January – September 2020.



Sources: Eurostat, OECD.Stats.

Greece: Strong recession in Q2/2020 due to the implementation of public health measures

Q2/2020 GDP change: **-15.2%,** versus -0.5% in Q1/2020 and +2.8% in Q2/2019. However, the change is close to the euro area average (-14.7%)

Major changes in GDP components:

- Exports declined by 32.1% because of the tourism lockdown (from +5.2% in 2019)
    - Mainly from a very large drop in service exports (-49.4%, from +6.9% a year ago). Significantly smaller decline of goods exports (-15.4%, from +4.7%)
    - Smaller decrease in imports (-17.2%, from +3.9%), which worsened the external balance
- Household consumption spending shrank by 11.6% (from +0.1% last year)
    - Public consumption spending declined, despite the emergency support measures, due to its high level in the same quarter last year (-3.2%, from +9.8%)
- Investment fell by 9%, following a slight increase a year ago (+2.8%)
    - Fixed capital formation was reduced by 10.3%, following a decrease of 5.2% in the same quarter of last year. Stocks expanded slightly more than a year earlier (+€67 million)

State Budget: below targets in January – August period due to the pandemic

- **State Budget balance: deficit of €9.7 billion, against a deficit target of €2.9 billion**
- **Primary balance: deficit of €5.5 billion, against a surplus target of €1.15 billion**

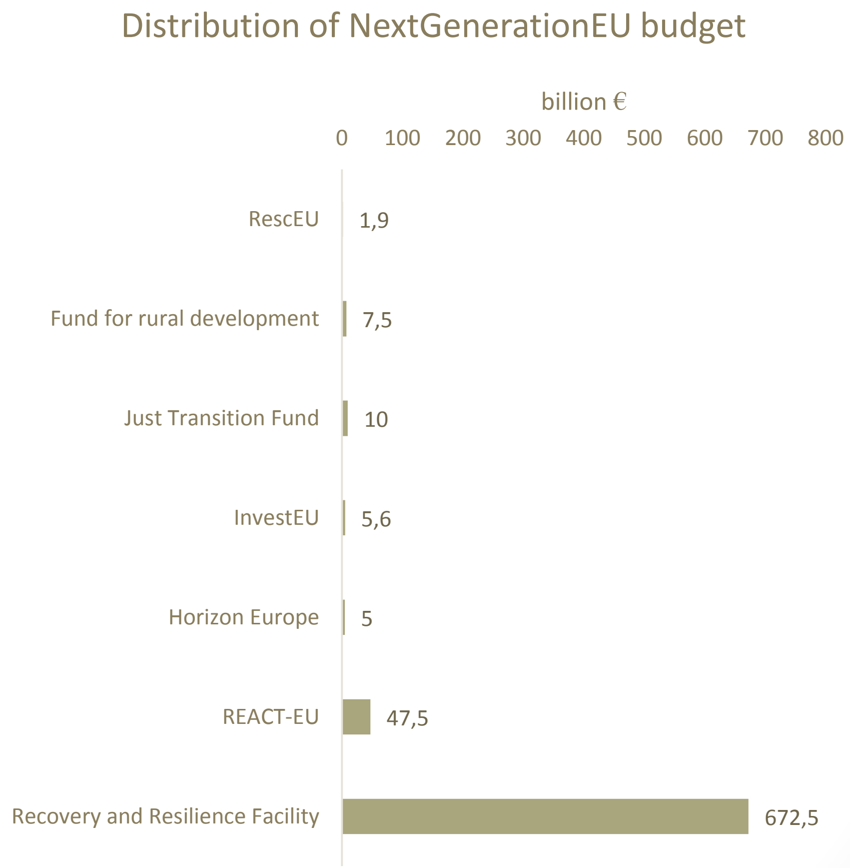
- Below target mainly because of higher expenditure (+€4.4 billion) due to:
  - More transfers (€3.1 billion) for household support measures, and higher expenditure for the Public Investments Program (+€1.88 billion)

- Less revenue (-€2.4 billion) due to:
  - Lower VAT receipts (-€1.9 billion), lower income tax payments (-€655 million), and fewer excise duties receipts (-€312 million)

The European Commission proposed a broad plan for recovery in May 2020

A broad package of interventions was proposed, of € 1,824.3 billion total. It combines the Multiannual Financial Framework (MFF) 2021-2027, of €1,074.3 billion, and an emergency financing instrument "NextGenerationEU" (NGEU), of €750 million, (a.k.a. the European Recovery Fund (ERF) in Greece).

- The package will mainly support **investments in green growth and digital transition.**
- ERF resources will come from **borrowing funds** from the capital markets; **borrowing will stop by the end of 2026.**
- The loan funds can be used **for loans totaling up to €360 billion and grants of up to €390 billion**.
- **Legal commitments** for ERF programs are due by December 31st, 2023. Relevant **payments** will be made by **December 31st, 2026**.
- **In total, Greece is expected to receive €32 billion from NextGenerationEU, of which €19.3 billion are designated for grants and €12.7 billion are designated for loans**



Source: European Council, Note 21 July 2020, EUCO 10/20

Trends in short-term indicators of economic activity

Industry

- In the first eight months of 2020, industrial production decreased by 3.9%. In 2019, it had increased by 0.5%. It dropped by 7.4% in the second quarter of 20200, while a year ago there was an increase of 2.4%.
- Eurozone (Q2): -20.7%, versus -1.0% a year ago

Construction

- Large decline in Construction in the second quarter (-26.6%). There was an increase of 7.0% in the same period last year
- 18.6% decline in Building activity in Q2. Large losses in Civil Engineering (-31.3%)

Tourism

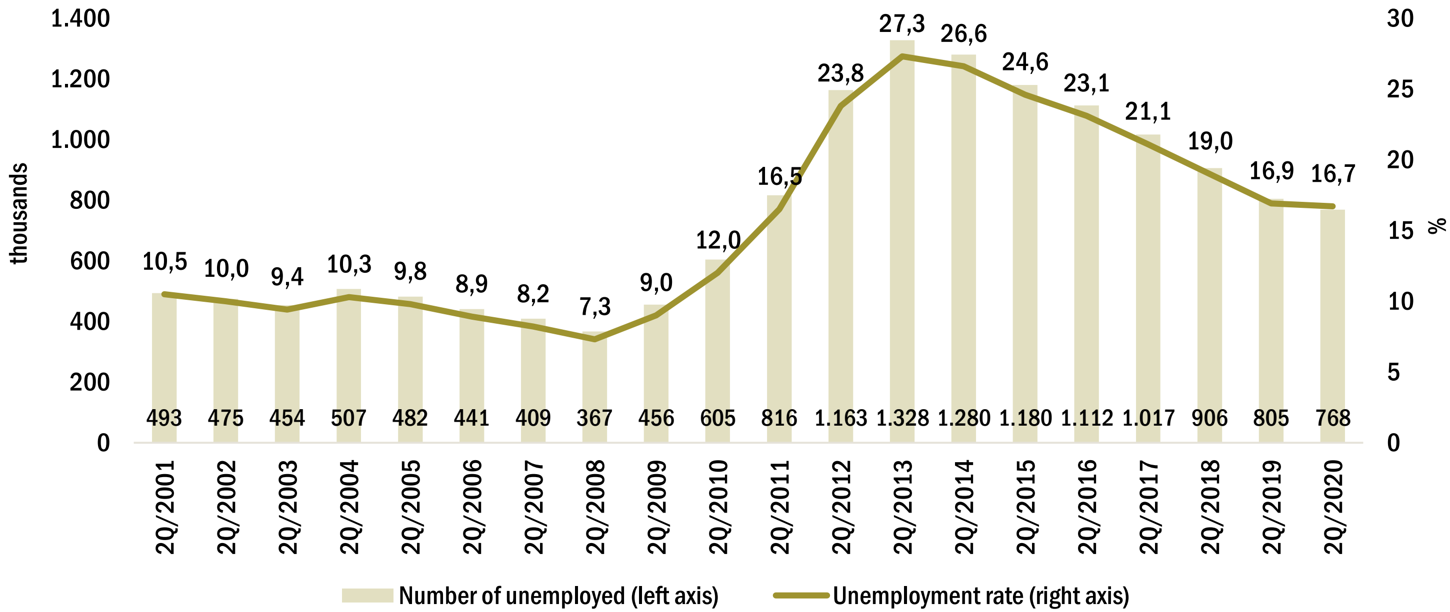
- Sharp decline – turnover losses of 64.6% in Q1, following a 6.0% decrease a year ago. 84.6% decline in Q2.

Retail Trade

- Small decrease of 4.1% in the January-July 2020 period in Retail trade against a small decline of 0.9% in 2019

Decrease in unemployment in Q2/2020 compared to Q2/2019 but increase from Q1/2020

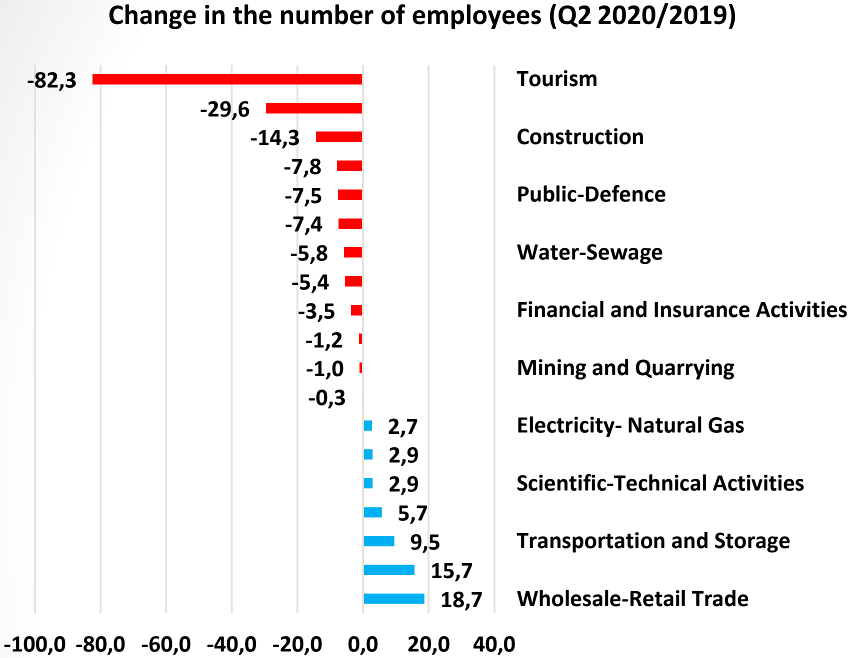
Number of unemployed and unemployment rate in Greece



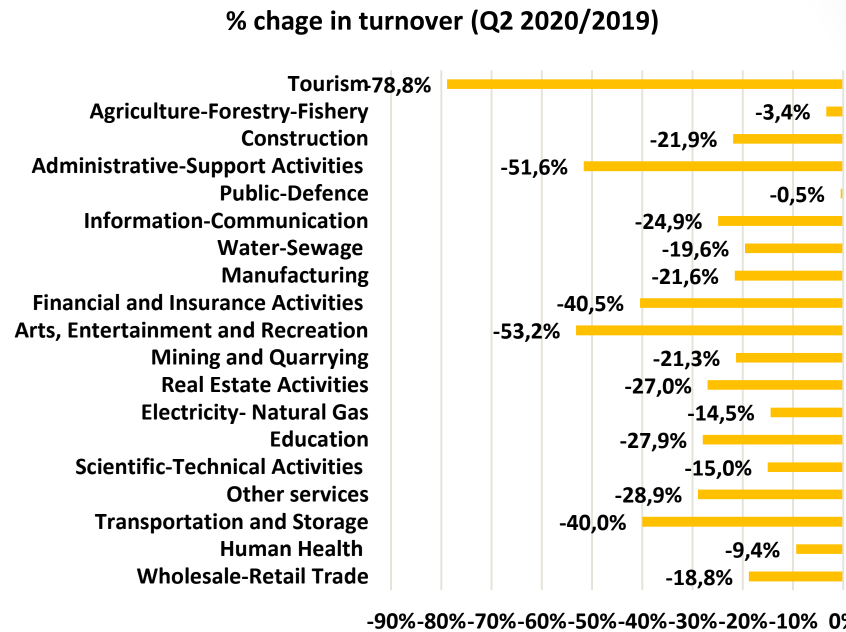
Source: ELSTAT

- **Decrease in the unemployment rate in Q2 compared to a year ago (16.7% from 16.9%).** However, it was 0.5 percentage points higher compared to Q1/2020 (16.2%)
- Unemployment did not increase as much from **the increase of the inactive population** (+109.2 thousands from Q2/2019)
- **Employment increased in 7 sectors.** Indicatively: Wholesale-Retail trade (+18.7 thousands), Health and social care (+15.7 thousands), Transport-Storage (+9.5 thousands)
- **Employment declined in 14 sectors.** Indicatively: Tourism (-82.3 thousands), Primary sector (-29.6 thousands), Construction (-14.3 thousands)

Effects of COVID-19 on employment in Q2/2020

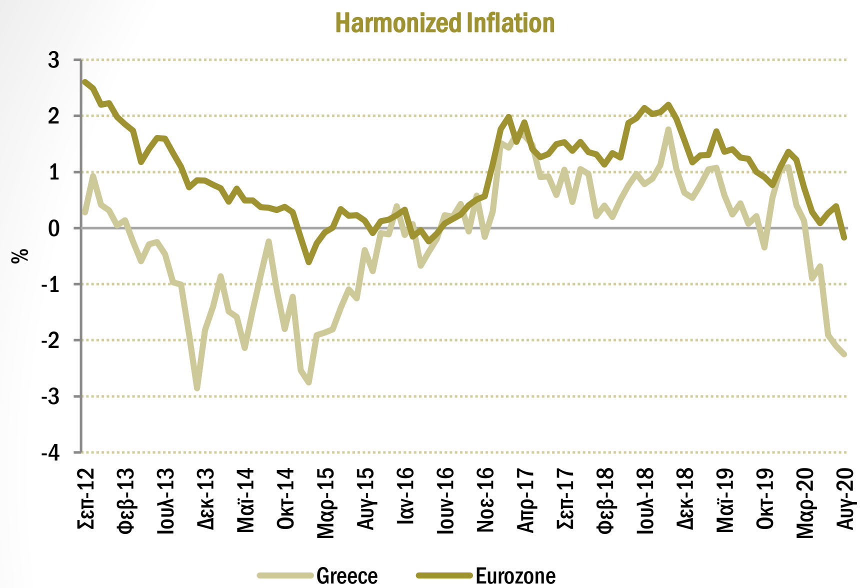


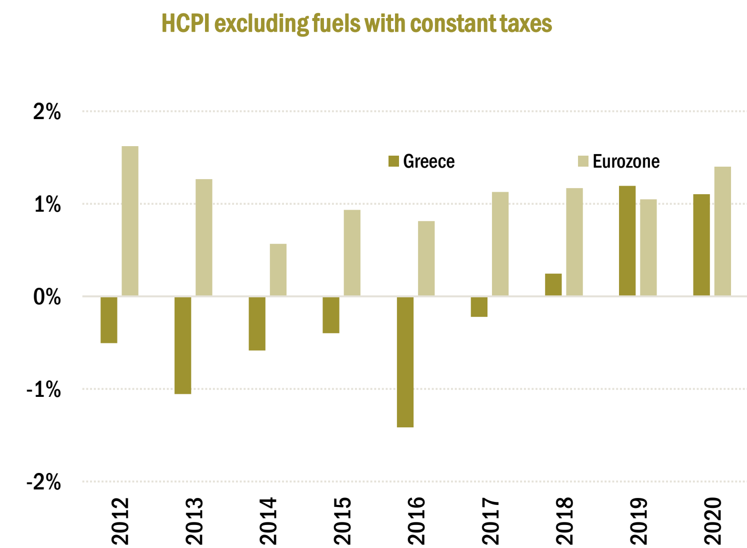
Source: ELSTAT



- There is no correlation between trends in employment and activity (e.g. Wholesale – Retail trade, Transport - Storage, Primary sector)
- Sectoral employment also appears to have been affected by policy interventions (e.g. rise in Wholesale – Retail Trade). However, this is not true in all sectors (e.g. Tourism)
- The hiring/firing balance in Q2/2020 (ERGANI) was significantly worse compared to a year ago. However, it was still positive because there was a large decrease in layoffs compared to last year (-205.2 thousands) ➔ effect of measures to support employment
- The percentage of people teleworking doubled in Q2/2020 compared to Q2/2019 (10.3% vs. 5.3% of employment)
- The share of part-time employment increased marginally in Q2/2020 compared to a year ago (9.2% from 9.1%) ➔ no obvious effect from the pandemic

Deflation in the first eight months of 2020, mainly due to indirect taxation





Sources: ELSTAT, Eurostat

Eurozone: Lower Inflation, at 0.5% compared to the first eight months of 2019 (+1.3%)

Greece: Negative change in prices, -0.8%, compared to +0.6% in the first eight months of 2019

- Negative effect from indirect taxes (-1.2%) – milder than that of energy goods (-0.7%). Boost from domestic demand – other factors

Producer Price Index (January - August 2020): Decline by 6.9%, compared to a small increase of 0.7% in the first eight months of 2019, mainly from Oil Products

The Recovery and Resilience Facility (RRF) is the central financing tool of NextGenerationEU (89.7% of resources)

Member States should draw up National Recovery and Resilience Plans (NRRP) in order to receive financial support through the RRF and submit them by the end of April 2021

The National Recovery Plans include reform and investment programs, relevant targets, milestones, and estimated costs up to 2026

They will be based on priorities in the context of the European Semester. More than 37% of the funds should be related to green transition and at least 20% to digital transformation.

Fiscal support measures implemented as of February 1st, 2020 are eligible for aid.

The funds will be disbursed if the implementation of the projects is in line with the milestones and objectives set out in the NRRP.

October 2020
Draft NRRP

April 2021
Final NRRP

Gradual disbursement of resources based on milestones

Source: European Council, Note 21 July 2020, EUCO 10/20

Macroeconomic forecasts 2020 - 2021

Predictions for 2020

- Public consumption: +2.0 to +3.0%
- Private consumption: -6.1 to -6.5%
- Investment: -6 to -7%
- Exports: -23 to -25%
- Imports: -15 to -17%
- **Recession: ≈ 8,0%**
- Unemployment: 18.0%
- Deflation: 1.2-1.4%

Predictions for 2021 (Baseline Scenario)

- Public consumption: -5.5 to -7.0%
- Private consumption: +3.5 to +4.5%
- Investments: +15 to +20%
- Exports: +16 to +20%
- Imports: +15%
- **Growth: ≈ 4.0 to 4.5%**
- Unemployment: 17.0%
- Inflation: 1.7%

Predictions for 2021 (Alternative Scenario)

- Public consumption: -2.0 to -4.0%
- Private consumption: -2.5% to -4.5%
- Investments: -5.0 to -10.0%
- Exports: -7.0 to -11.0%
- Imports: -10 to -12%
- **Recession: ≈ -2.5 to -4.0%**
- Unemployment: 19.5 - 20.5%
- Deflation: -0.4%

Growth Plan for the Greek Economy

Summary of the final report

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Athens, November 23, 2020

Exporting sectors

	Exports as a % of GDP, Greece, 2019	Exports as a % of GDP, EU-9, 2019
Total exports	**37.2**	**65.5**
Agricultural products, food and raw materials	4.4	6.4
Petroleum products	6.3	3.0
Industrial products	9.2	38.2
Transportation (mainly sea transport)	7.5	4.5
Tourism	7.8	4.0
Other services (health, education, IT etc.)	2.0	9.3

EU-9: EU countries comparable in terms of population to Greece: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Hungary, Netherlands, Sweden.

Significant shortfall in exports, particularly of industrial products.

Main points of the plan (I)

- Sustainable **income** growth must be based on expansion of productivity and of labor force participation.

- To increase **productivity**, it is necessary to boost investment and improve the business environment.

- Structural changes in the tax and social security systems, targeted measures such as an upgrade of vocational education training, and changes to maternity and paternity leave and child care systems, will contribute to the increase of **labor force participation**.

- Reforms improving public sector efficiency and the functioning of markets contribute to **social cohesion** and help lower-income households. Improving opportunity for young people and women is particularly important.

Main points of the plan (II)

- Increasing productivity and exports reinforce each other. Given the small size of the domestic market, **openness** allows businesses to attain a larger efficient scale and a specialization level that leads to cost reductions and higher product quality. Specialization improves comparative advantage and leads to more exports.

- Increased openness is associated with increased **use of new technologies in production,** supported by measures to boost research and investment in innovation**.**

- The growth plan promotes both **environmental and digital upgrade,** directions consistent with the European Union’s priorities that are very important for Greece.

Structure of the Growth Plan Report

A. Learning from the past, taking the present into account, looking at the future

- Main characteristics and trends of the Greek economy (Ch.1)
- Global trends and challenges (Ch.2)
- Vision and goals for growth of the Greek economy (Ch.3)

B. Identifying weaknesses, promoting reforms, utilizing tools

- Public sector rigidities and policy proposals (Ch.4)
- Market rigidities and policy proposals (Ch.5)
- Sectoral priorities and interventions (Ch.6)

C. Securing implementation and continuity

- Time horizon and financing (Ch.7)
- Priorities (Ch.7)
- Implementation and monitoring (Ch.7)

Macroeconomic balance: 2020-2030

	2019	Status quo	Positive scenario
Real GDP growth (annual %, 2020-2030)	1.9	1.7	3.5
Employment growth (annual %, 2020-2030)		0.2	1.0
Labor productivity growth (annual %, 2020-2030)		1.5	2.5
Exports as a % of GDP (2030)	37.2	44.5	50.5
GDP per capita as a % of the EU average (2030)	67.0	68.0	81.0
Unemployment rate (%, 2030)	17.0	9.0	7.0

Positive scenario outcomes

Employment growth

- Reduction of unemployment: 17.2% → 7.0%
- Increase in the labor force participation rate: Women and age groups 20-24 and 55-64→ EU average
- Decrease of the working-age population by 7.5%.

Labor productivity growth

- Increase in Total Factor Productivity (TFP): 1% annually.
  - Achievable target – observed during the period 1995-2002.
  - Increase of productive investments (public and private): 12.3% of GDP → 17.5% (EU average).

Directions of fiscal policy

Credibility

Stable, but mild and realistic primary budget surpluses over the long term, with some degree of flexibility.

Mild declining trajectory of public debt over the medium term.

Consistency regarding the level of public expenditure and revenue

Grow at a lower rate than GDP over the medium term, to reduce the Debt to GDP ratio.

Fiscal mix that supports growth

Expenditure: Strengthen the Public Investment Program, especially for projects with high growth impact, in contrast with general operational and pension expenditure. Public sector recruitment priorities should be redefined.

Revenue: Broaden the tax base so that the burden is more uniformly distributed, with targeted incentives for electronic payments. Lower tax burden on salaried employment.

Use of European recovery support measures

Over the short term, any **fiscal space** should be used to generate high growth multiplier effects.

Prioritization: principles

Capital → Products → Labor

- Interventions in the labor market are more effective if preceeded by a reduction of entry barriers in product markets.
  - Finding a job is easier in a more dynamic economy (fewer barriers of entry).
- Reduction of the entry barriers in product markets is more effective if preceeded by improvements in capital markets.
  - Expansion of production and entry of new businesses require easy access to financing.
- → Creating the right environment for new businesses and investments is a top priority.

Investment in physical and human capital

- Basis for future increases in productivity.
- Funding availability from European cohesion programs and the Recovery and Resilience Facility.

Reduce unemployment

- Growth and social cohesion.
- High level of unemployment is due to cyclical and structural reasons.

Prioritization: Actions

Production and investment

- Cut drastically labor income taxes and social contributions.
- Accelerate tax depreciation for investment in equipment and R&D.
- Energy efficiency upgrade of buildings.
- Investment in infrastructure, with a priority on freight transport and on transportation of residents and tourists through congested routes.
- Strengthen exporting manufacturing sectors.
- Waste management and circular economy.

Human capital

- New programs and facilities for training of employees and the unemployed.
- Organizational interventions in schools.
- Expand and improve pre-school education.
- Facilitate the integration of women in the labor market. Reform maternity and paternity leave.
- Improve institutional framework to incentivize cutting-edge research in universities and research centers that will support production clusters.

Public sector and administration

- Accelerate the digitization of public sector services.
- Enhance primary care and hospital units; emphasis on measuring and monitoring performance.
- Expand special sections in courts that deal with specific types of commercial disputes.
- Broaden and support out-of-court dispute resolution mechanisms.
- Strengthen financial regulations and supervision in the area of investor protection.

2020-2030: Two sub-periods

First half of the decade

- Significant growth potential from:
  - European and national public funds.
    - Investment in infrastructure.
    - Reforms for increasing productivity and labor force participation.
    - Leverage private funds (e.g. PPP, Development Bank).
- Reduce unemployment and investment gap.

Second half of the decade

- Growth potential mainly from private funds.
  - Fewer European funds and increased public debt refinancing requirements.
  - Attract investment and human capital.
  - Critical to implement the further reforms listed in the Report, to build on the strengths of the economy of the first half of the decade.

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