

The Greek economy: crisis and growth

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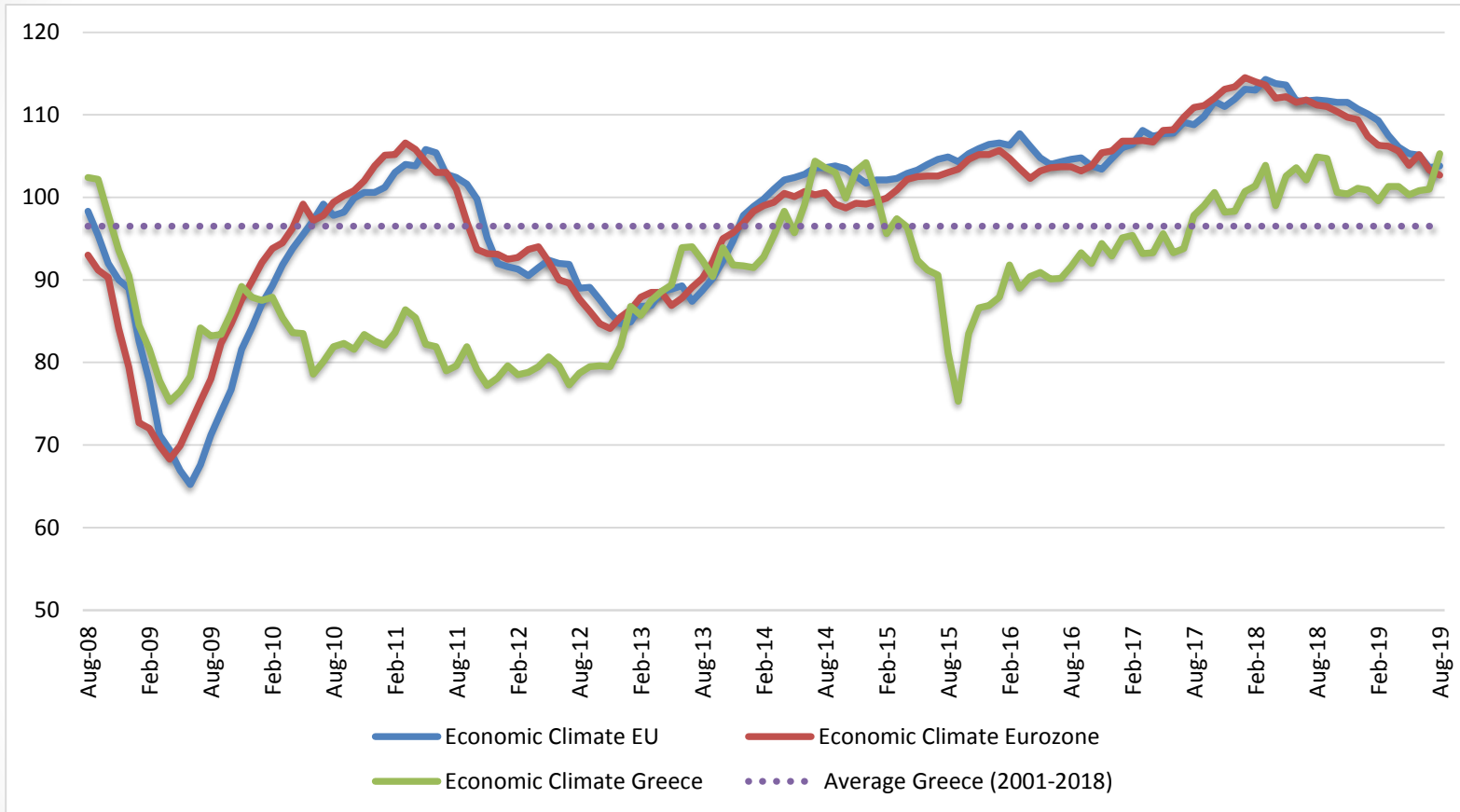
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Towards a New Greek Miracle: Growth Policies for the Decade to Come
Yale University

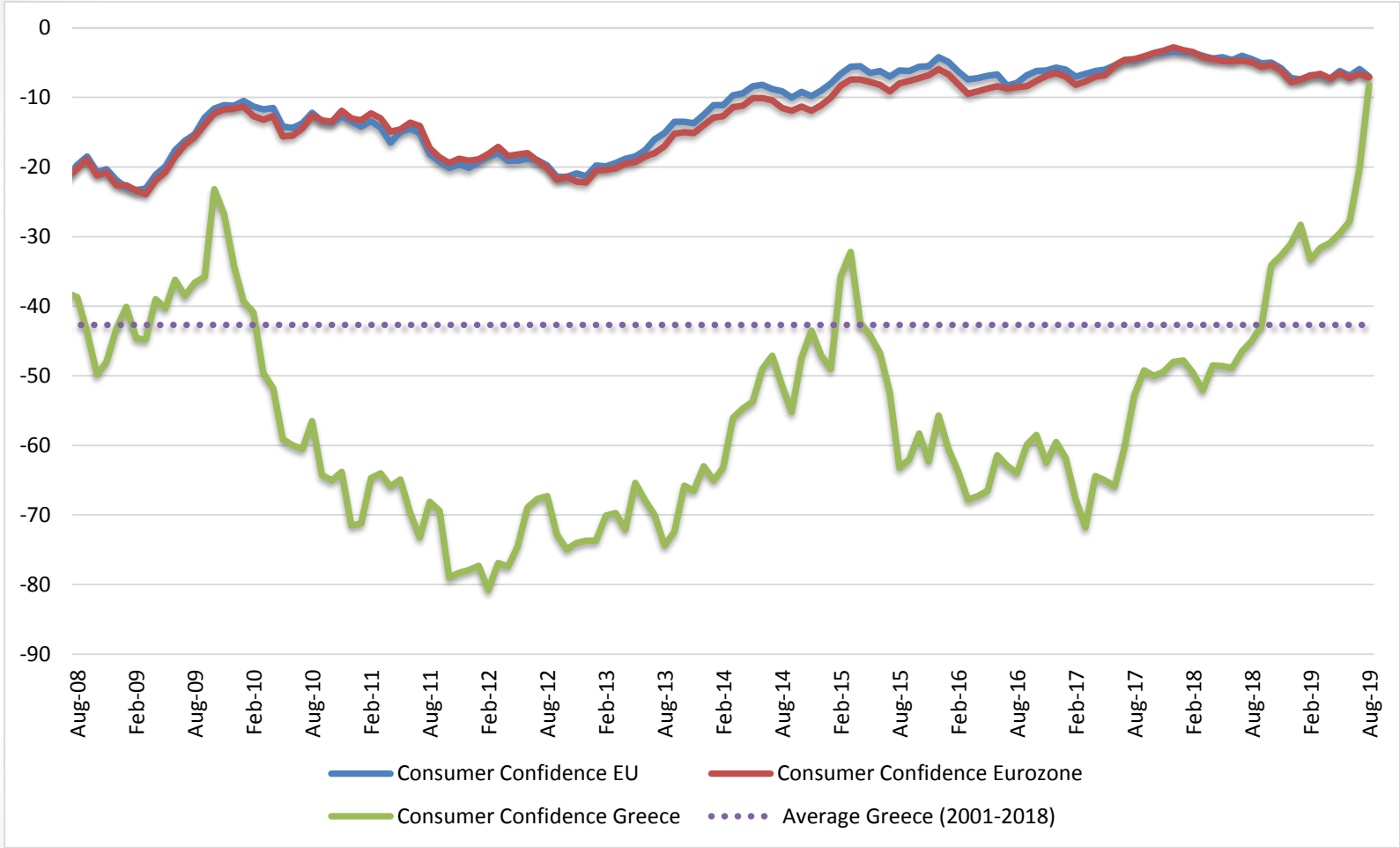
New Haven, 20 September 2019

Economic Climate Indicator



Sources: European Commission, IOBE

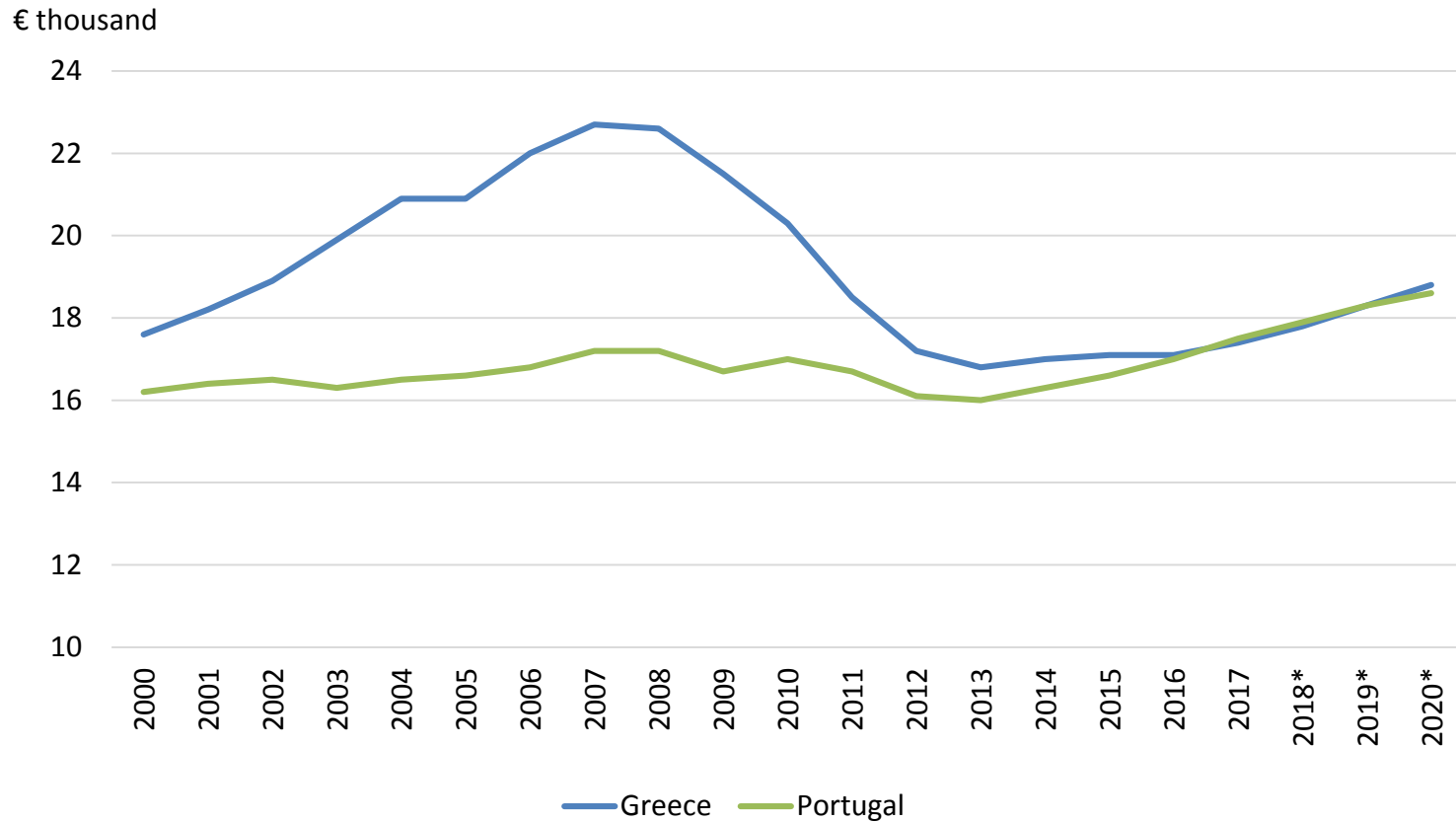
Consumer Confidence Indicator



Sources: European Commission, IOBE

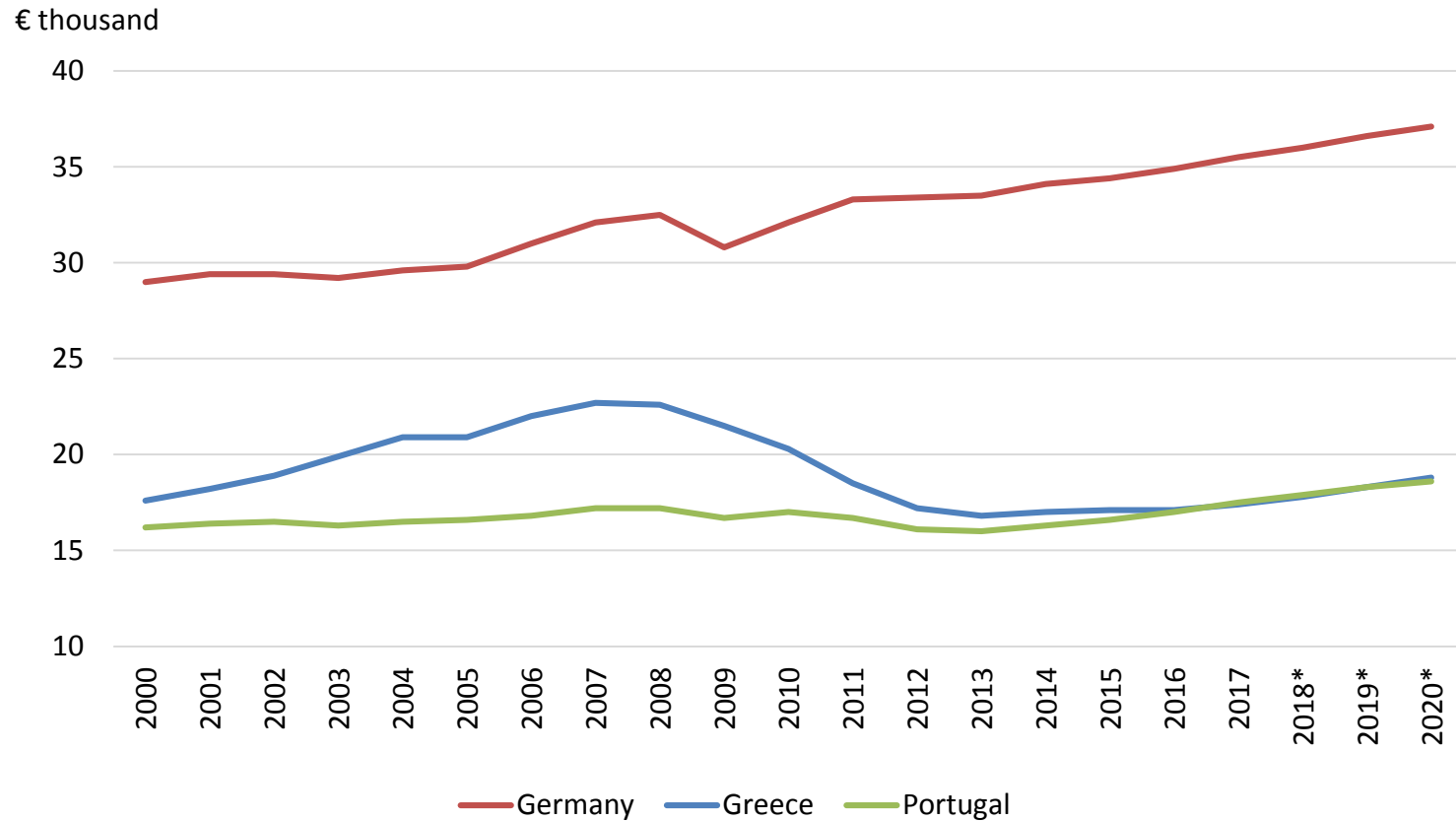
Crisis perspectives

GDP per capita, 2010 prices



Source: Eurostat

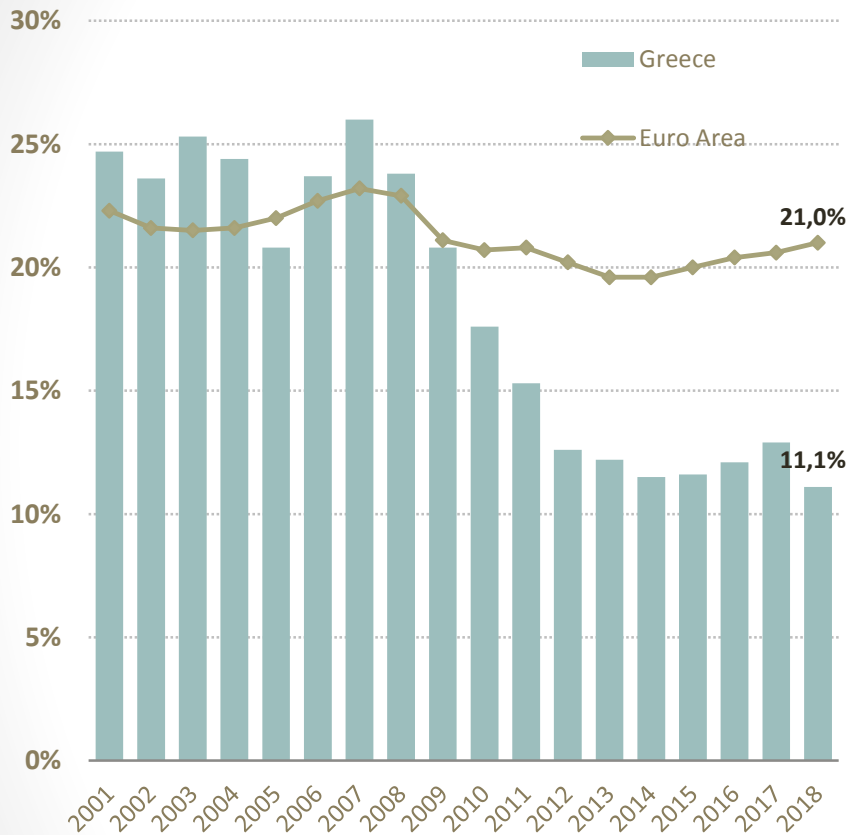
GDP per capita, 2010 prices



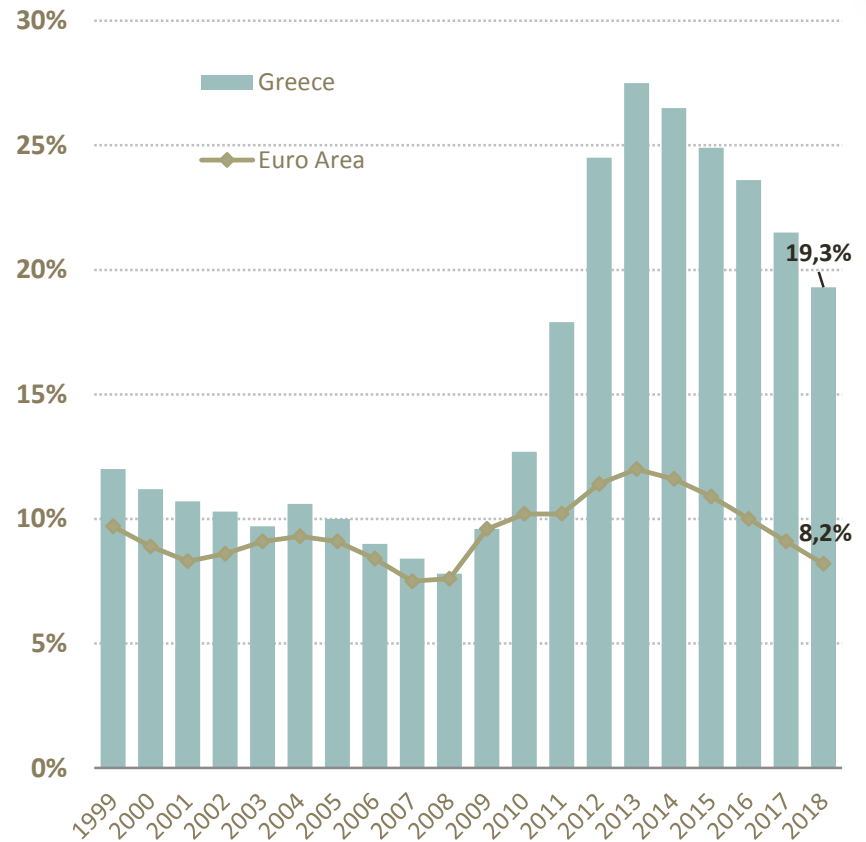
Source: Eurostat

Investments extremely low, unemployment extremely high

Fixed Investments (% of GDP)



Unemployment Rate (% of labour force)



Source: Eurostat/ELSTAT

Unemployment has decreased, but remains at very high levels

Main figures

(unless otherwise stated, % annual change)	2009	2014	2017	2018	2019*
GDP	-3.1	0.7	1.5	1.9	1.8
Unemployment (% labour force)	9.5	26.5	21.5	19.3	18.0
General Government Balance¹ (% GDP)	-15.6	-3.6	0.8	1.1	0.6
Current Account Balance (% GDP)	-14.4	-1.6	-1.0	-1.5	-2.0
HICP	1.3	-1.4	1.1	0.8	0.4
Gross Fixed Capital Formation	-13.7	-2.8	9.1	-12.0	10.0

¹ State aid to banks included

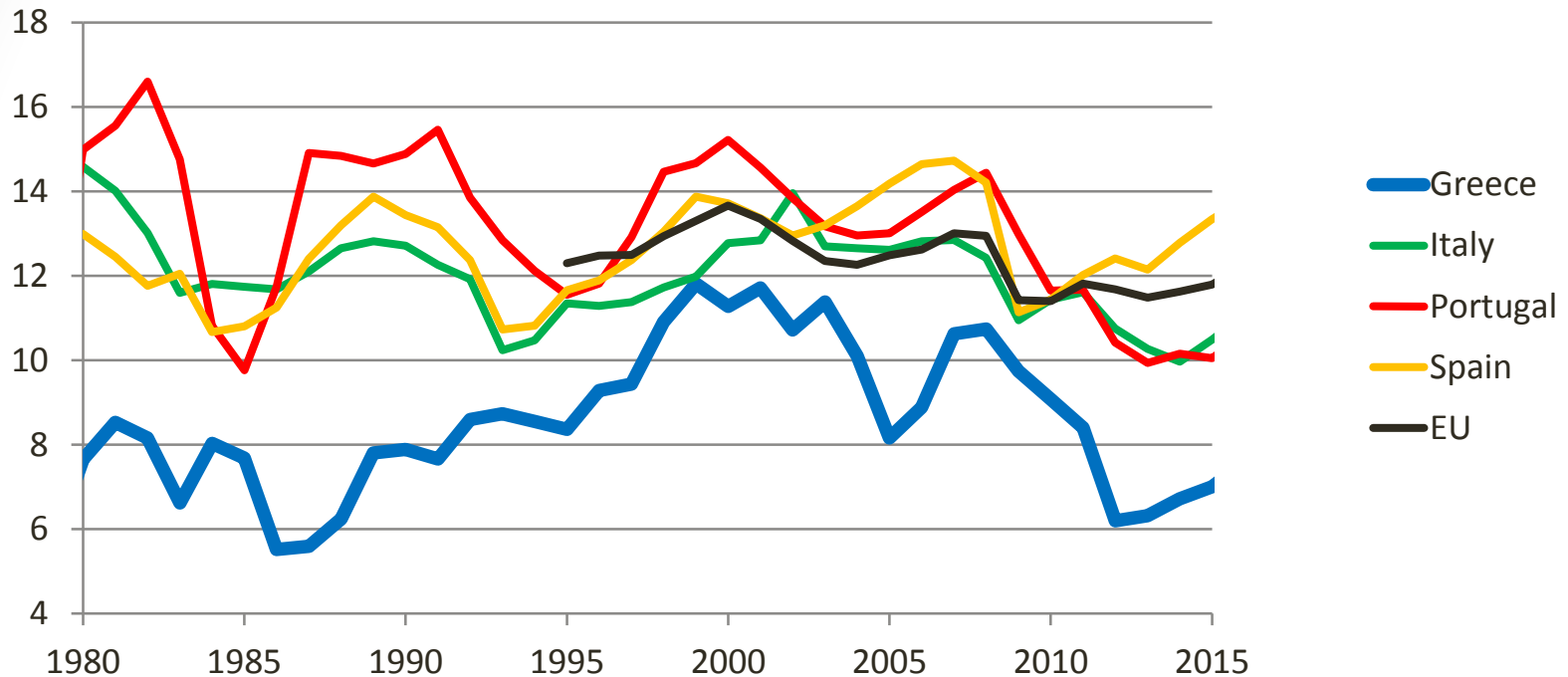
* IOBE forecasts

Sources: Eurostat, EL.STAT.

The long term view

Corporate investment

Corporate Investment as % of GDP



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

After the long crisis,
signs that high growth rates can be
achieved

Positive recent developments

- Tourism revenue remains strong
- Housing market improves
- Exports of goods continue to increase
- Manufacturing: restructuring
- Finance costs to decrease
- Credit to expand
- Reform actions to improve the business environment a priority
- Political risk is low
- Use of some fiscal space
- Appears possible to 'trade' some fiscal objectives for structural reforms

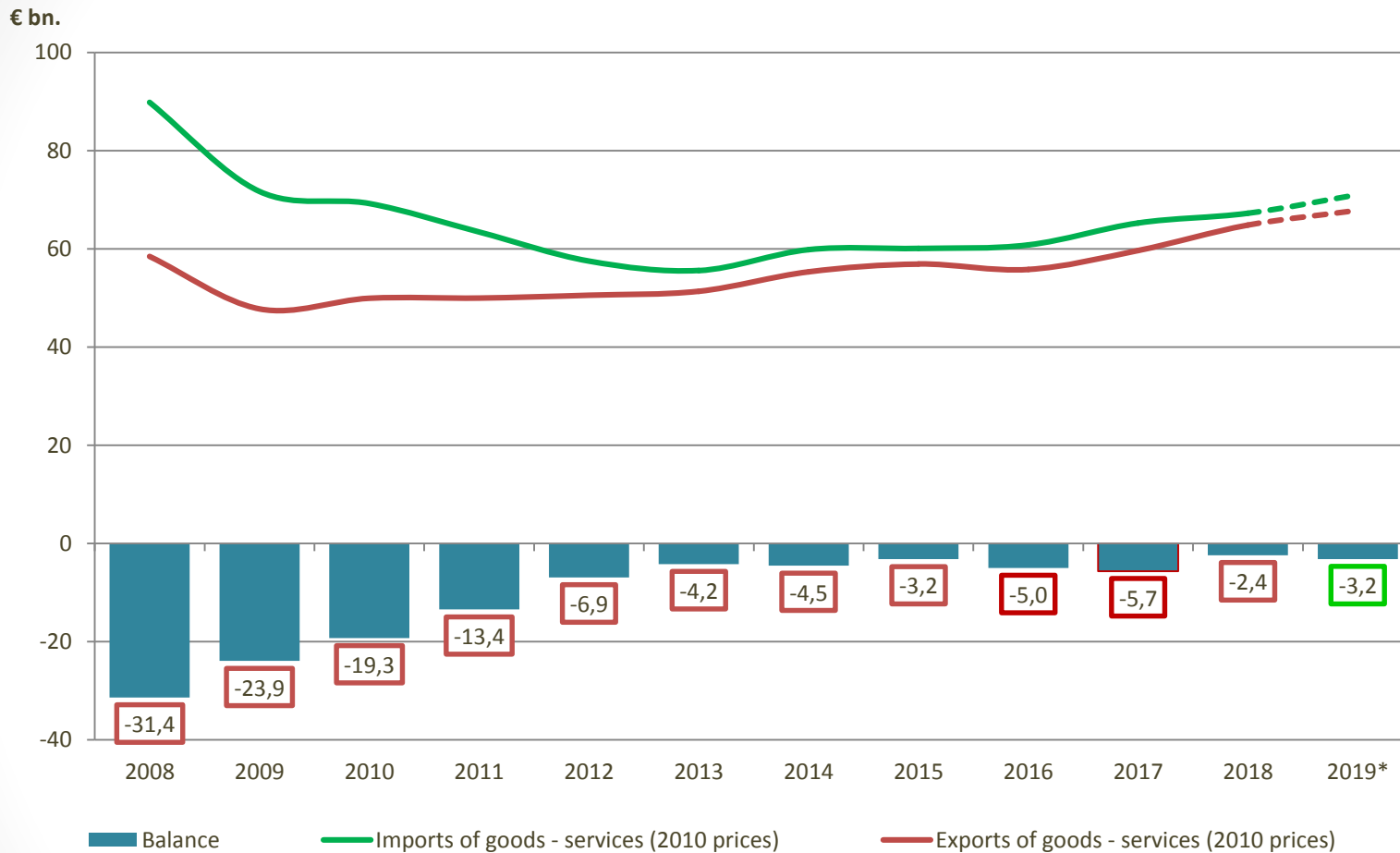
However, structural transformation has been slow and incomplete and it is not a given that high growth rates can be achieved

Key concerns

- Remains a closed economy, with high enter barriers, that favor insiders
- Too dependent on an (inefficient?) public administration
- Low degree of competition and innovation
- Reforms urgently needed in education, health care, justice system
- Incentives to change?

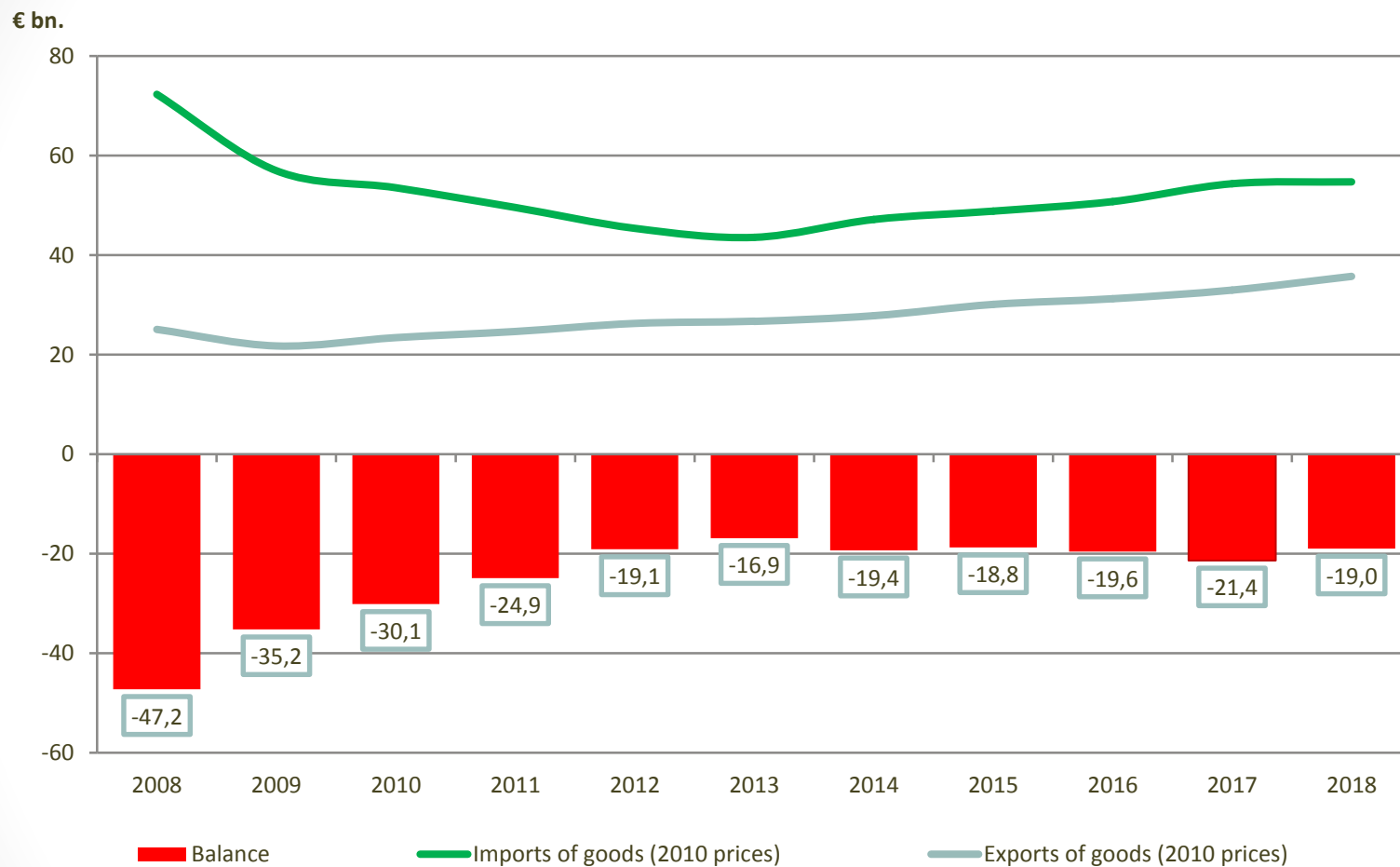
External balance

Trade balance (goods and services)



*European Economic Forecast, spring 2019, European Commission
Source: ELSTAT

Trade balance (goods)



*European Economic Forecast, spring 2019, European Commission
Source: ELSTAT

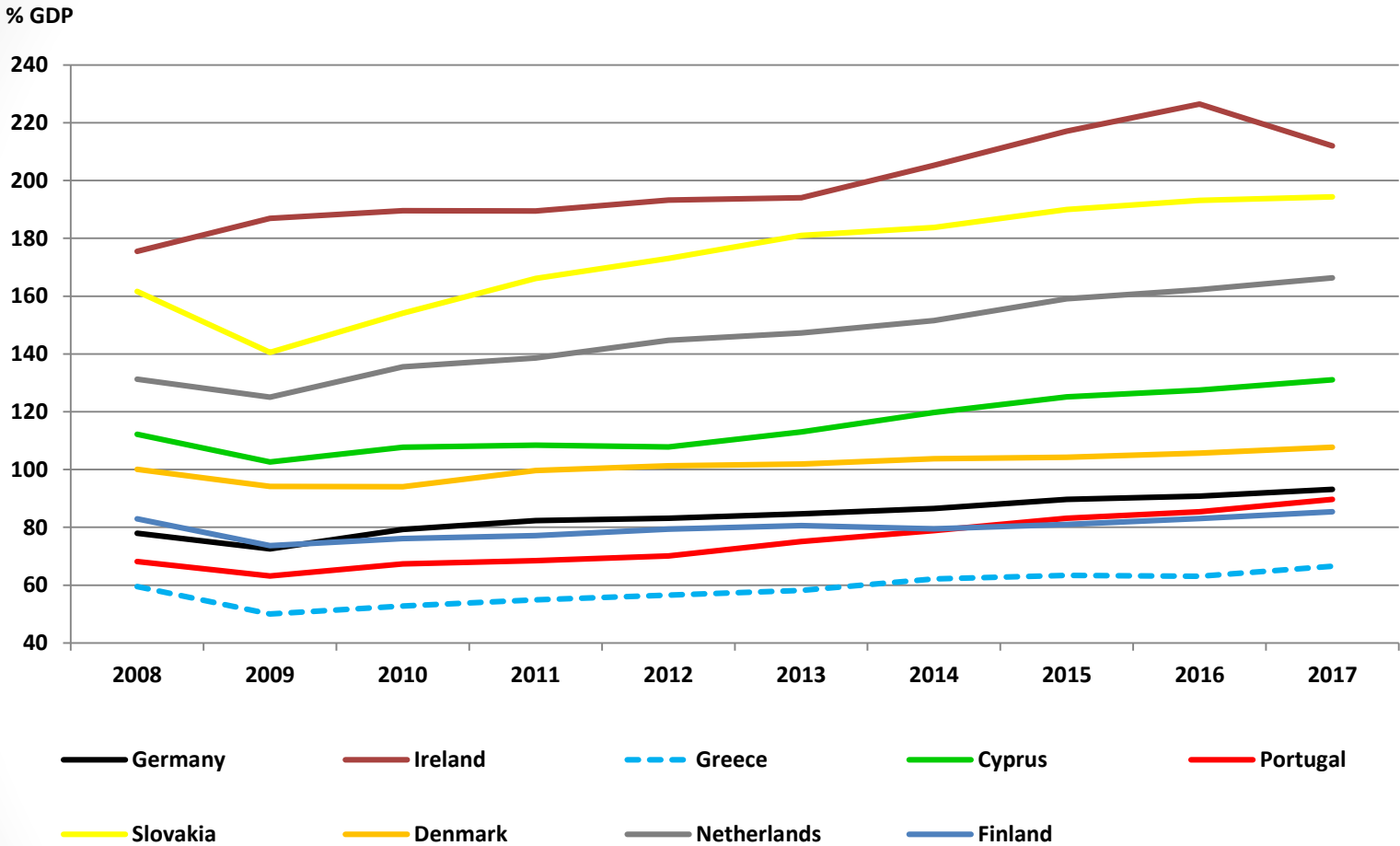
Exports of goods



Source: Eurostat

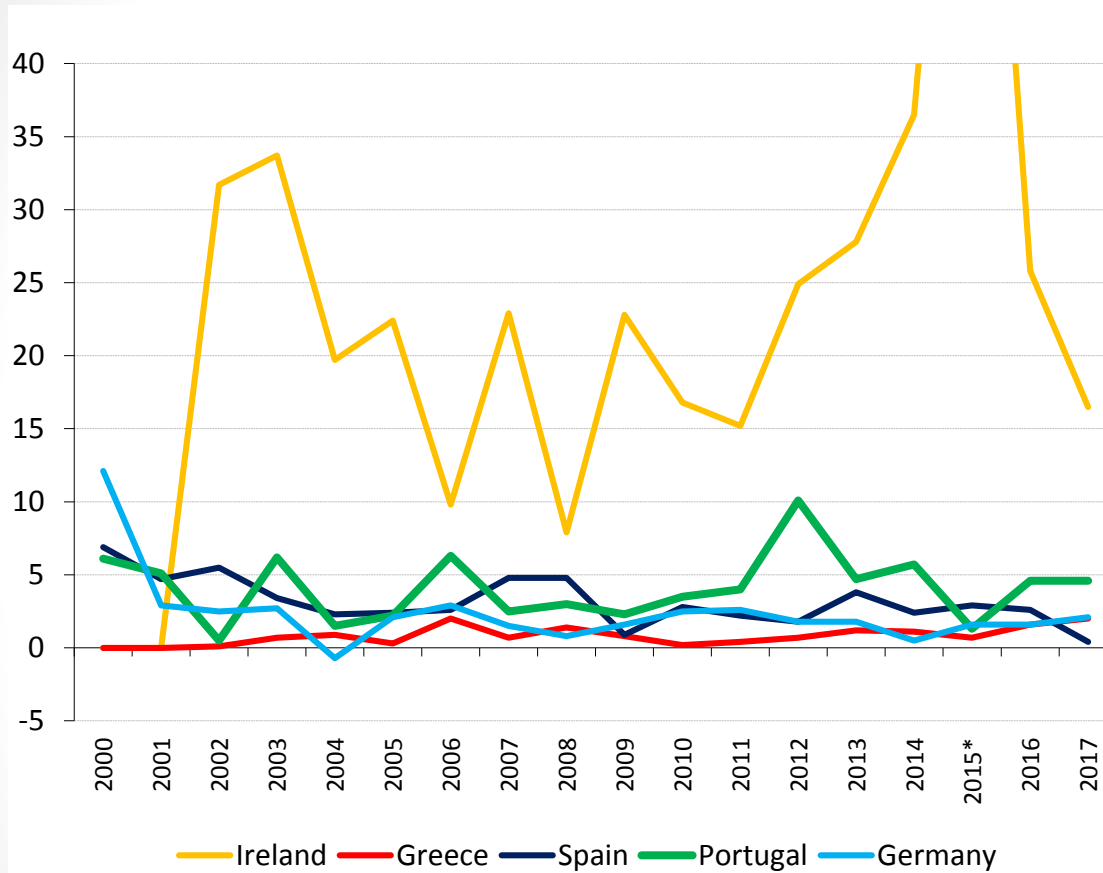
- Change in the value of exports, 2007-2018: +73.1%
- Change in the volume of exports, 2007-2018: +76.9%

A relatively closed economy



Source: Eurostat

Foreign Direct Investment (% GDP)



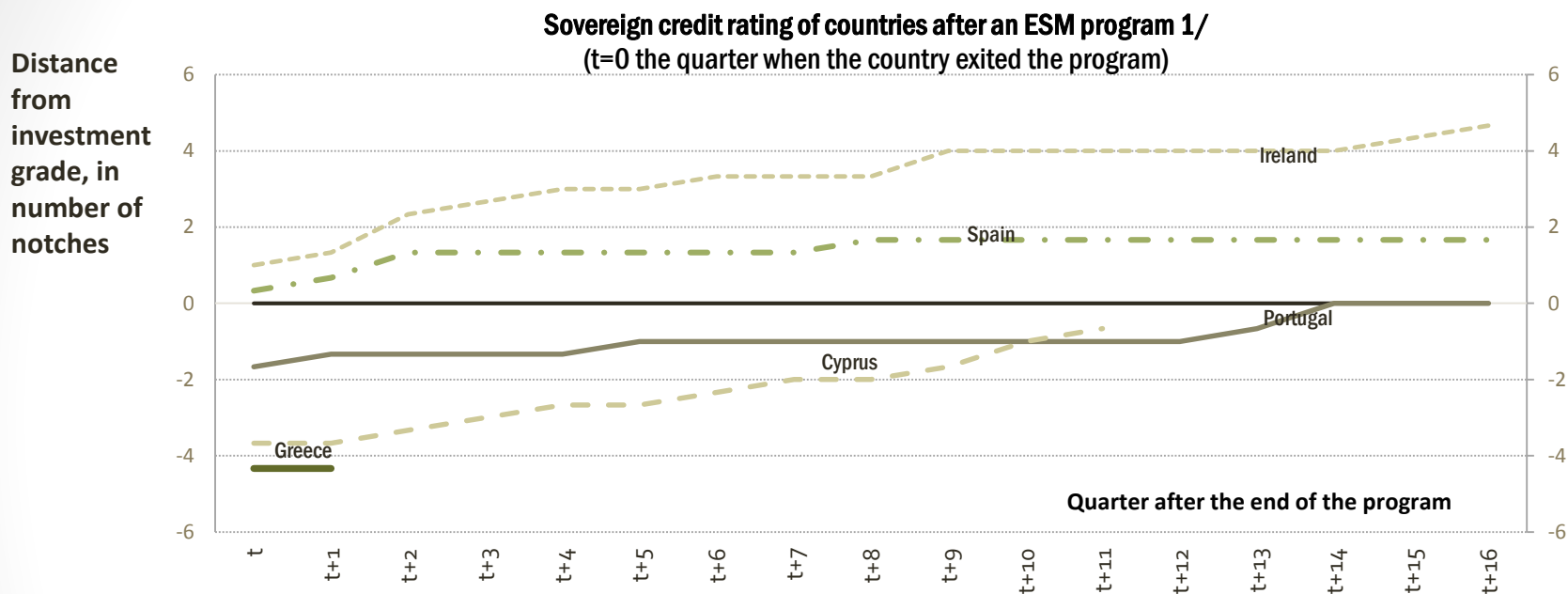
FDI (% GDP)		
	2000-2008	2009-2017
Germany	3.0%	1.8%
Ireland	16.5%	29.8%
Greece	0.7%	1.0%
Spain	4.2%	2.2%
Portugal	3.7%	4.5%

*Ireland: 81.7% of GDP

Source: Eurostat

Banks and finance

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

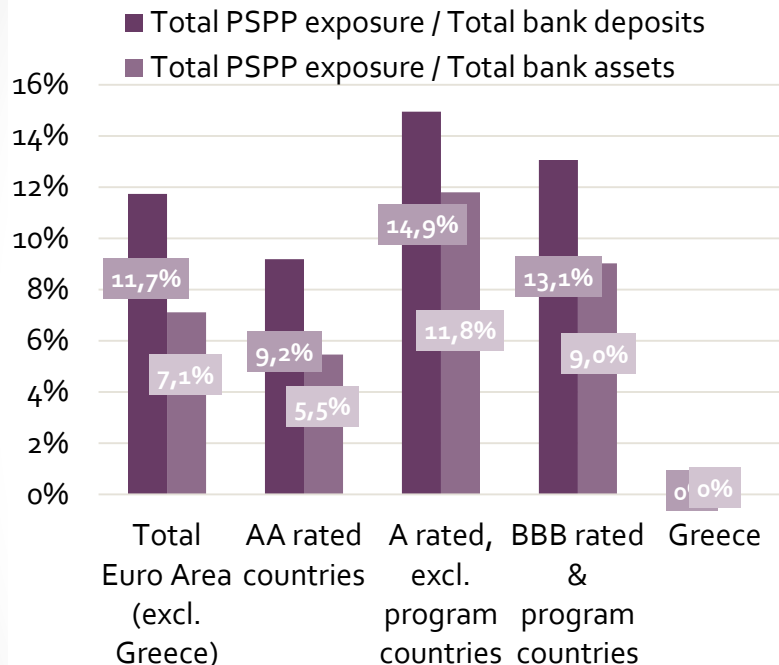
- Portugal: 3.5 years before rebounding to investment grade
- Cyprus: average rating still marginally below investment grade, after almost 3 years

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

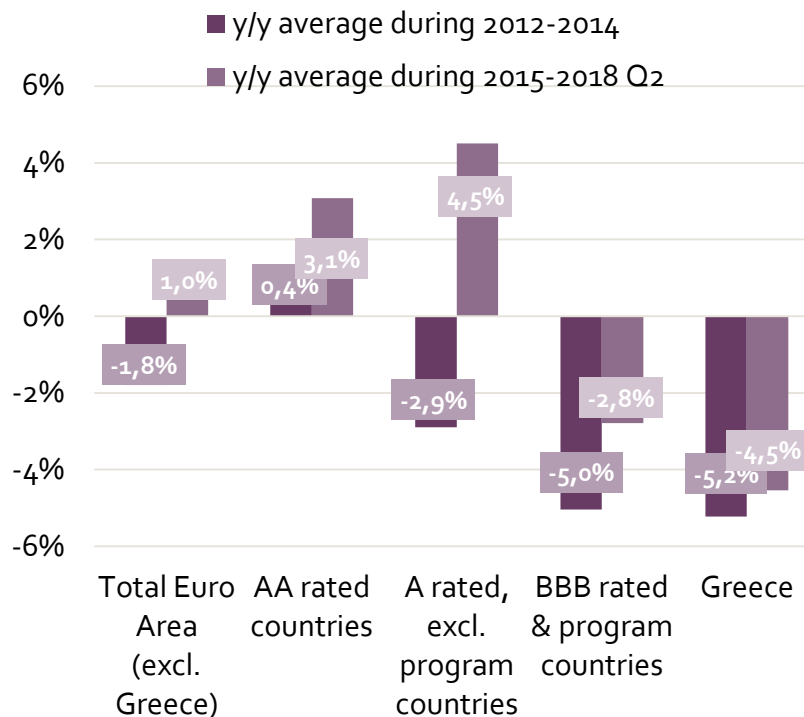
- Remains on average 4.3 notches below investment grade
- Partial debt refinancing from markets will likely be necessary, before full recovery of investment grade rating

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

ECB's PSPP exposure across EA members in 2018 Q2



Bank credit growth to private Non-Financial Corporations across EA members

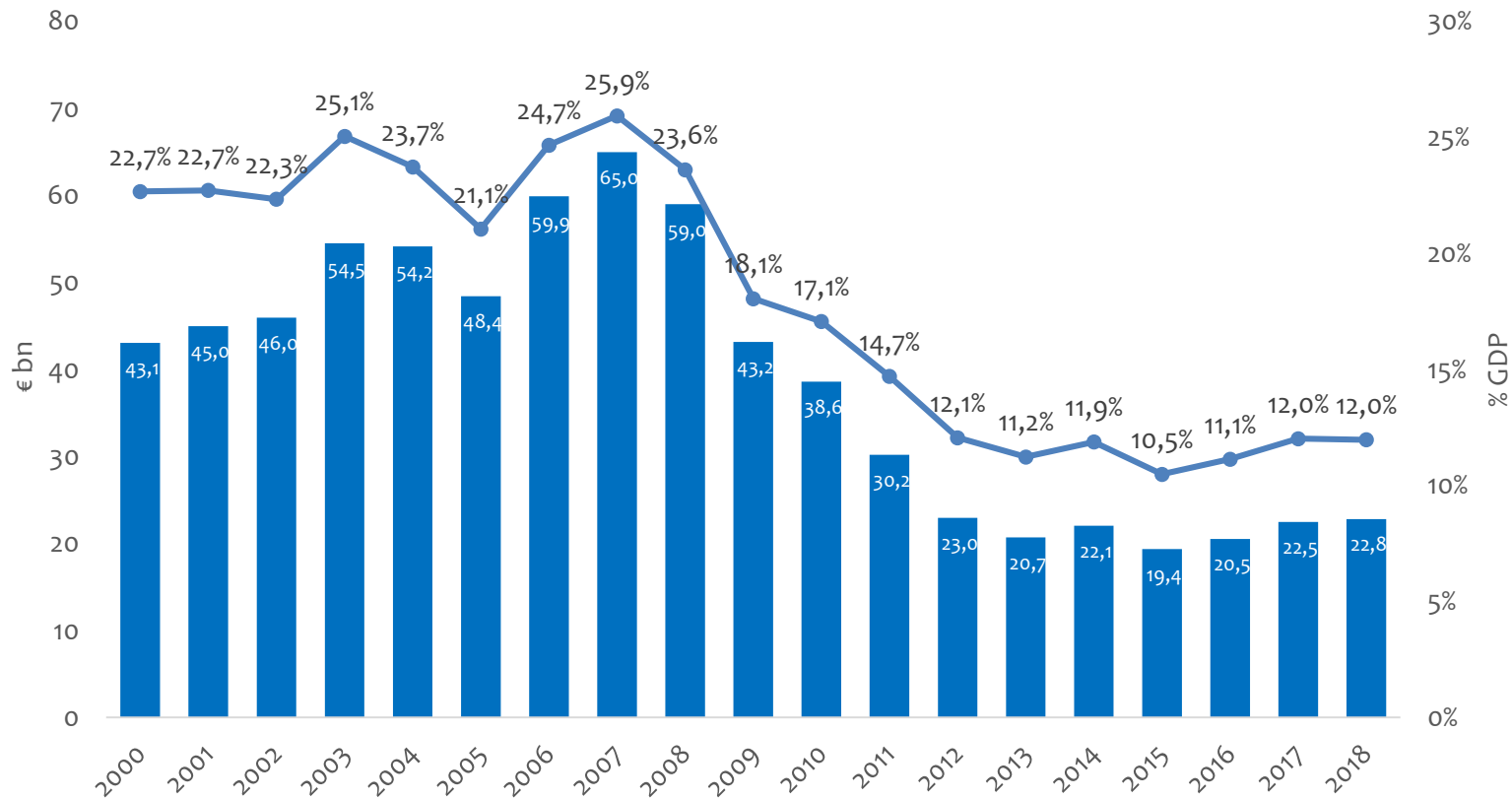


During the latest Q-E program (2015-2018), the flow of bank credit to firms strengthened:

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

Construction and housing

Investment collapses



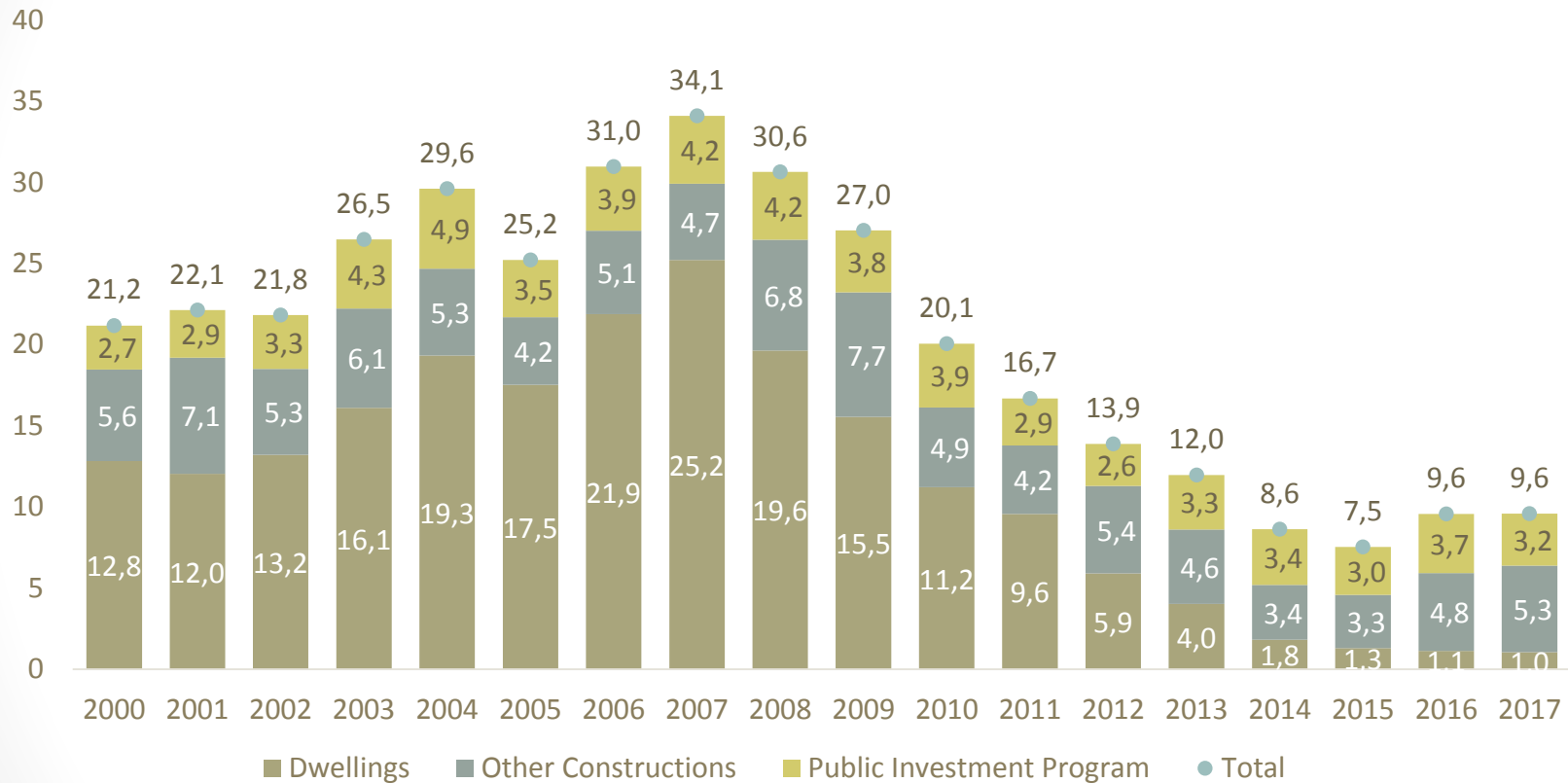
Sources: Eurostat/ELSTAT

- 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)

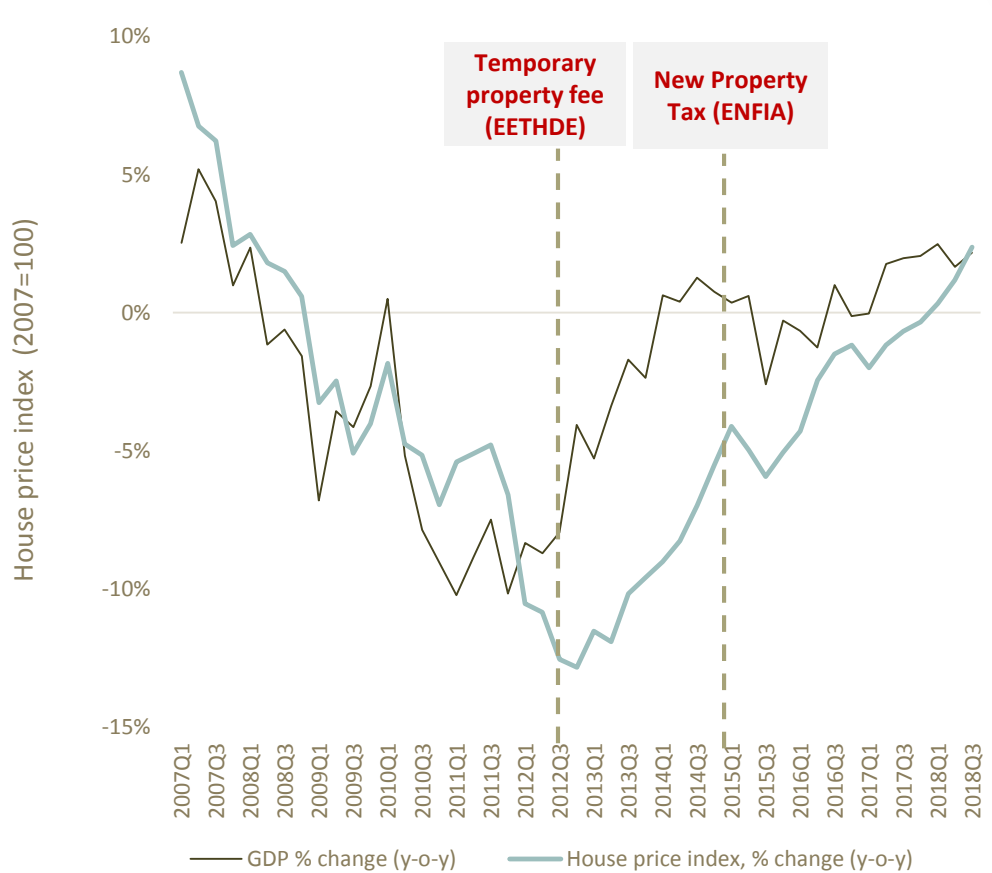
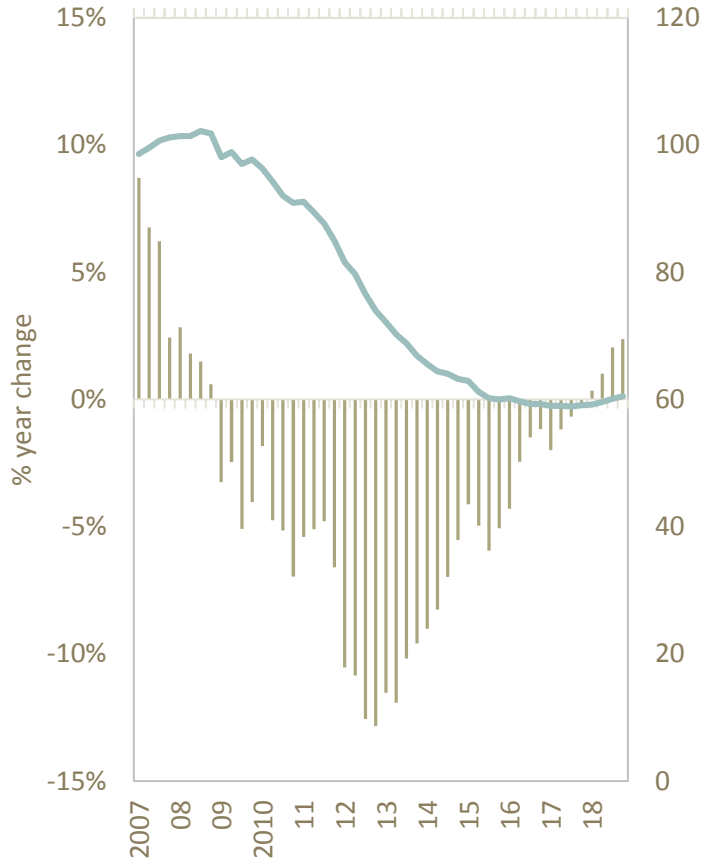
Billion euro

Construction Investments by Type



- 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

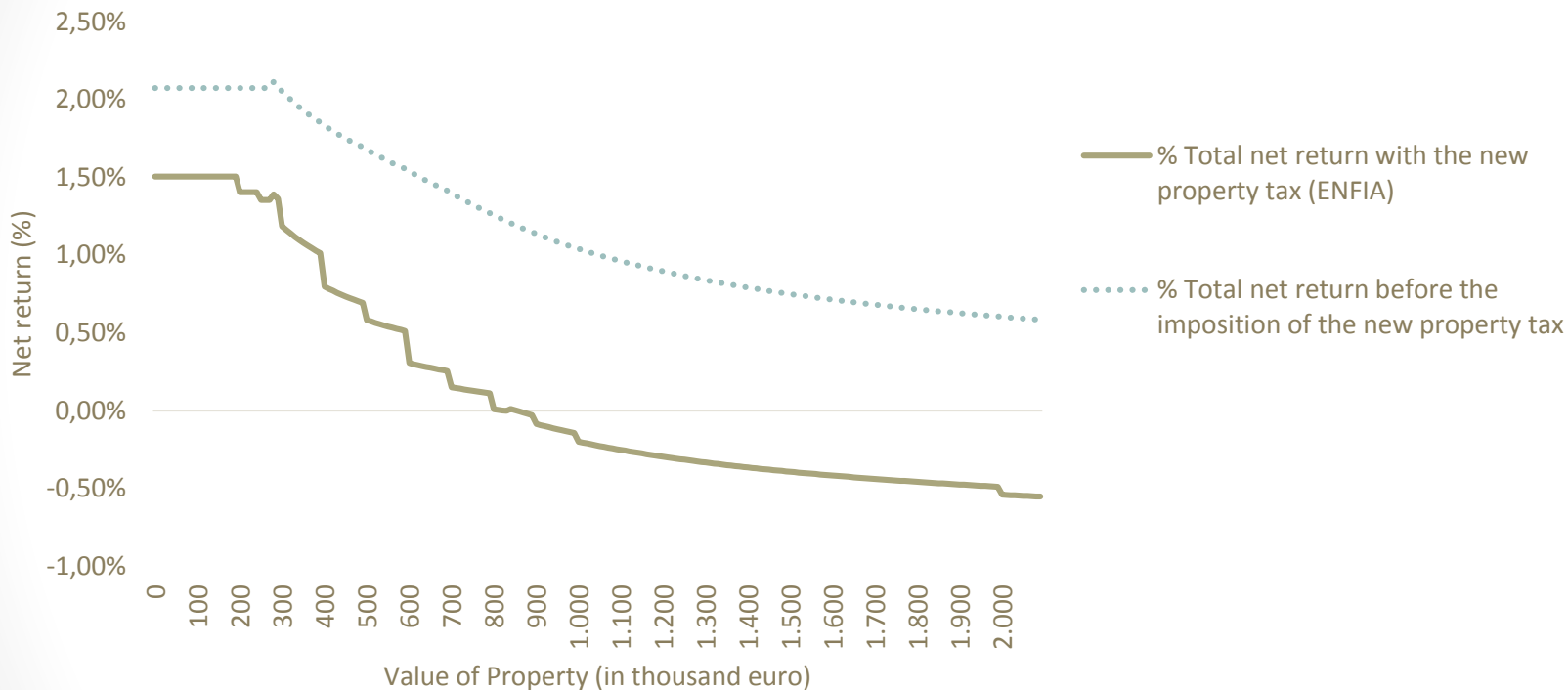
41% decrease in new apartments prices between 2007 and 2018 (2nd largest in the EU-28)



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

The imposition of the property tax has also significantly decreased the return on real estate investments

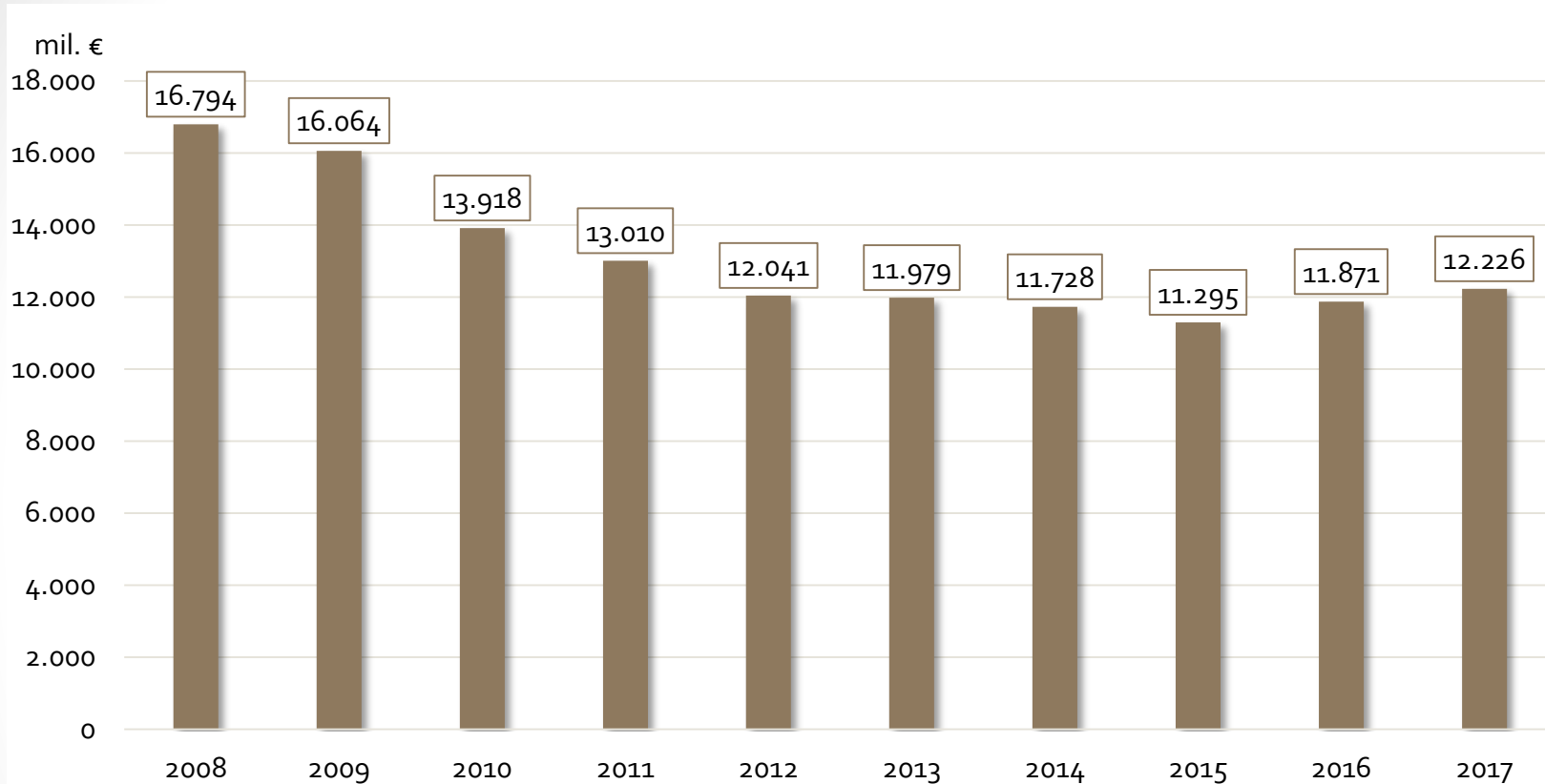
Estimated net return on property before and after the imposition of the new property tax



Real estate investments are becoming less attractive in terms of returns when the total value of a taxpayer's real estate increases due to the supplementary property tax and the progressivity of the income tax rates

Manufacturing

Investment in Manufacturing

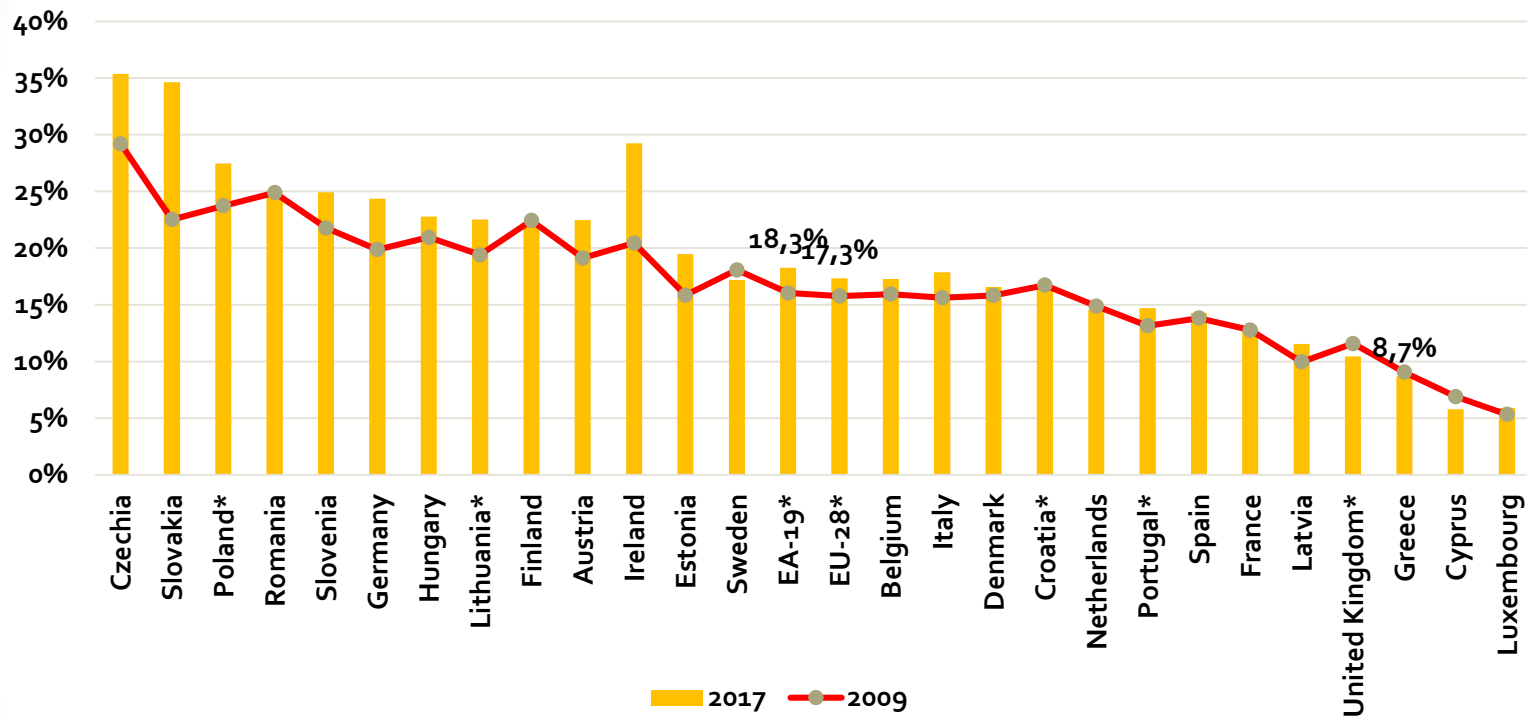


Source: Eurostat-National Accounts

Decline of investment in Manufacturing during 2008-2015 by 32.7%

Increase to €12.3 bn. in 2017 (+8.2% from 2015)

Small share of Manufacturing to GDP: 8.7% in 2017

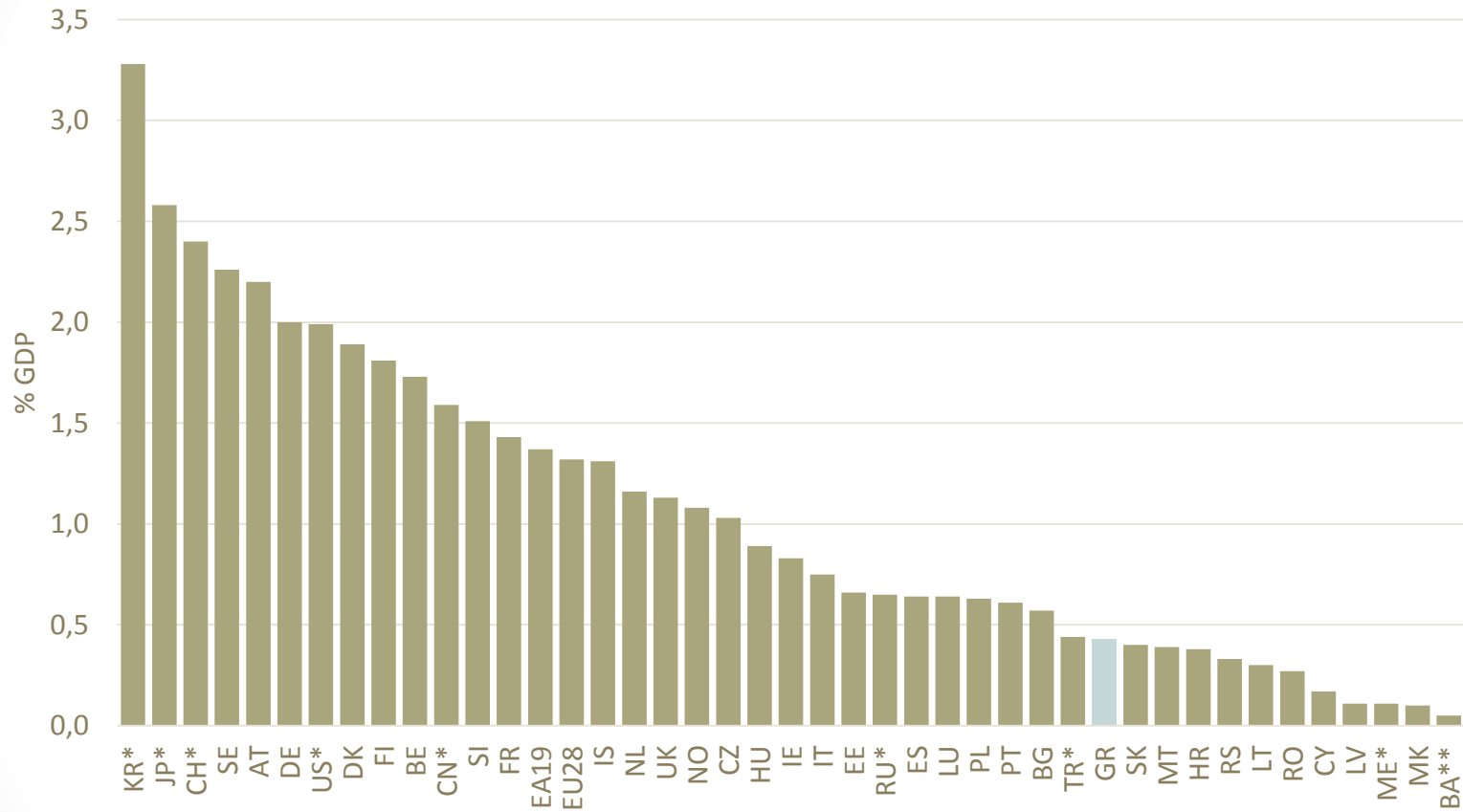


* Data for 2016
Source: Eurostat-National Accounts

Share increase in Greece from 2015 onwards

R&D Expenditure

Private sector R&D expenditure (2016)



Source: Eurostat *2015 **2014

Production index in the Industrial sector since 2015 and in Manufacturing since 2014

	Industrial Production Index - Total Industry	% change	Industrial Production Index - Total Manufacturing	% change	Industrial Production Index - Total Mining - Quarrying	% change
2009	106.3		105.3		107.0	
2010	100.0	-5.9%	100.0	-5.1%	100.0	-6.5%
2011	94.3	-5.7%	90.9	-9.1%	98.0	-2.0%
2012	92.4	-2.0%	87.7	-3.5%	97.1	-0.9%
2013	89.5	-3.2%	86.8	-1.1%	86.0	-11.5%
2014	87.8	-1.9%	88.3	1.8%	85.7	-0.3%
2015	88.7	1.0%	89.8	1.8%	80.2	-6.5%
2016	90.9	2.5%	93.6	4.2%	68.4	-14.7%
2017	95.0	4.5%	97.2	3.8%	73.5	7.4%
2018 Q2	101.1	6.4%	105.9	8.9%	72.5	-1.3%

Source: Eurostat-National Accounts

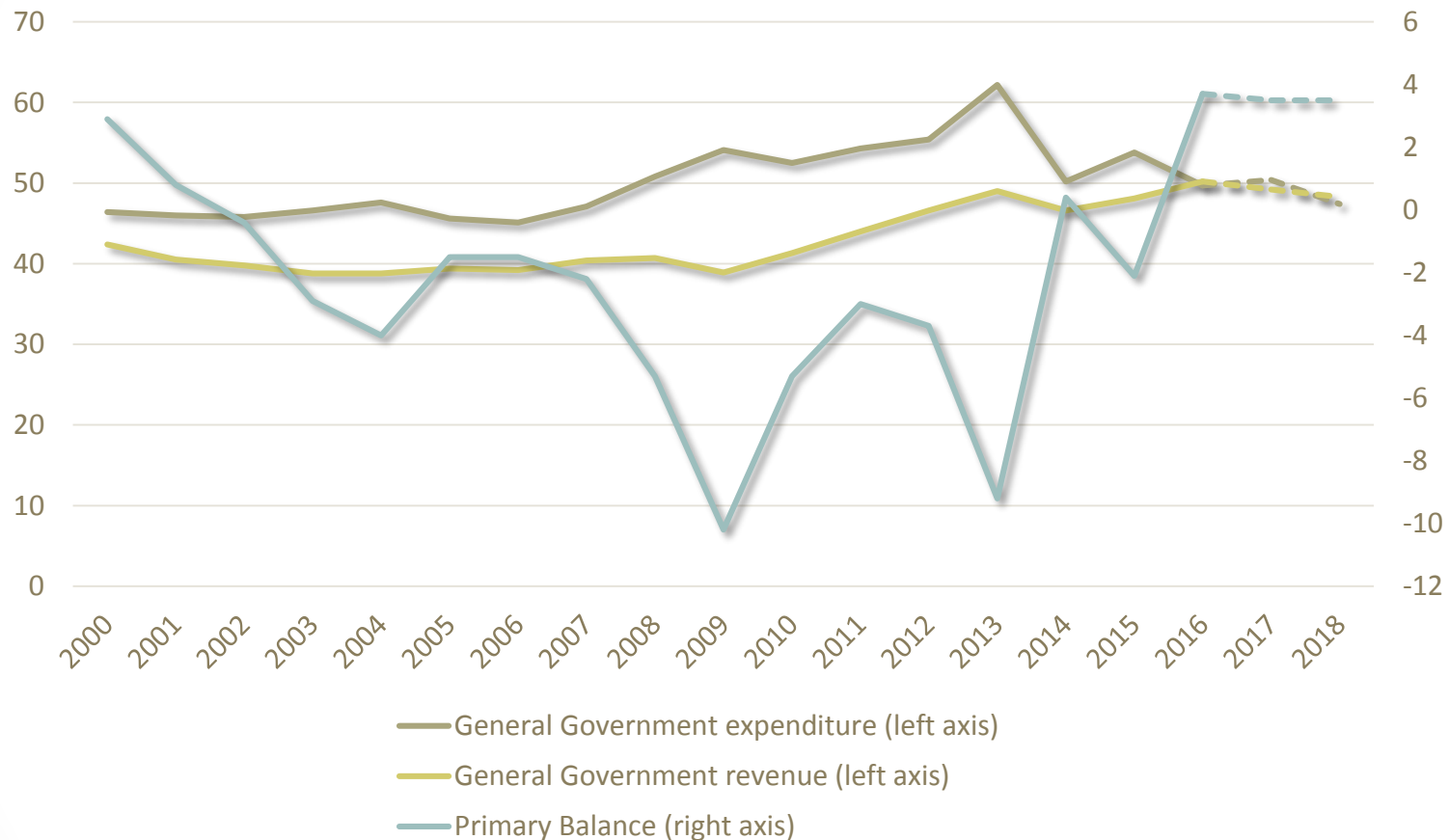
- Increase of production in 19 of 28 Manufacturing subsectors during 2017 - 2015
- Biggest increase in Transport Equipment (127.5%), Basic Metals (38.6%) and Pharmaceuticals (32.3%)
- Significant production decline in Clothing (-27%), Printing (-17.8%) and Machinery - Equipment repair (-17.6%)

Reform actions

1. Taxes
2. Pensions
3. Education

Taxes

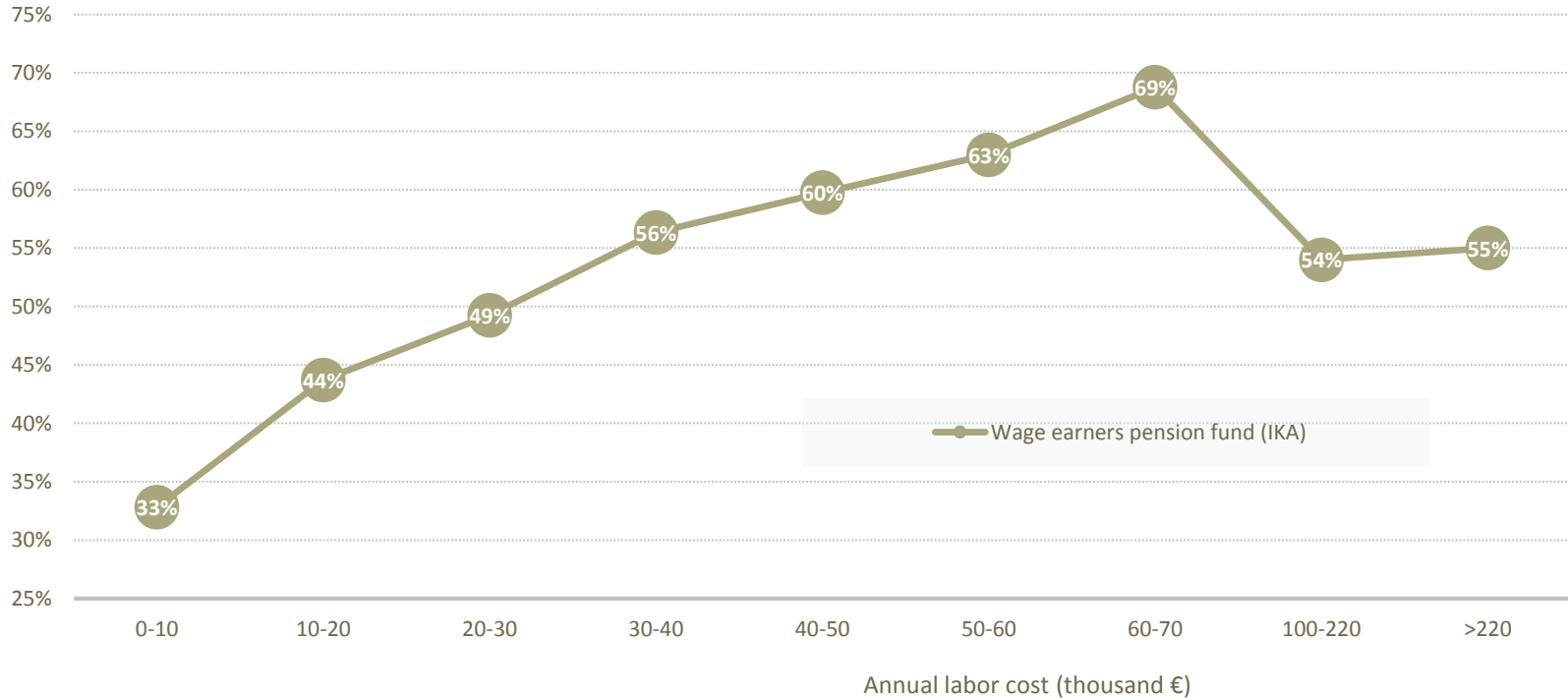
Government Expenditure, Spending, Primary Balance (% GDP)



Source: Eurostat/European Economic Forecast, autumn 2017, European Commission

Extremely high marginal tax rate on gross income, € 40-78 thousand

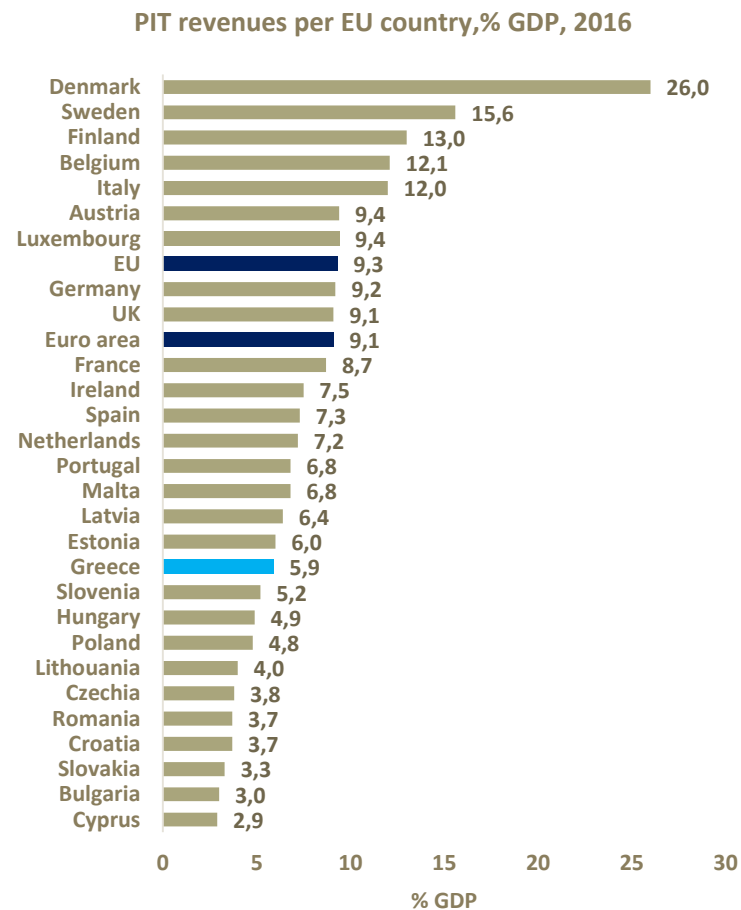
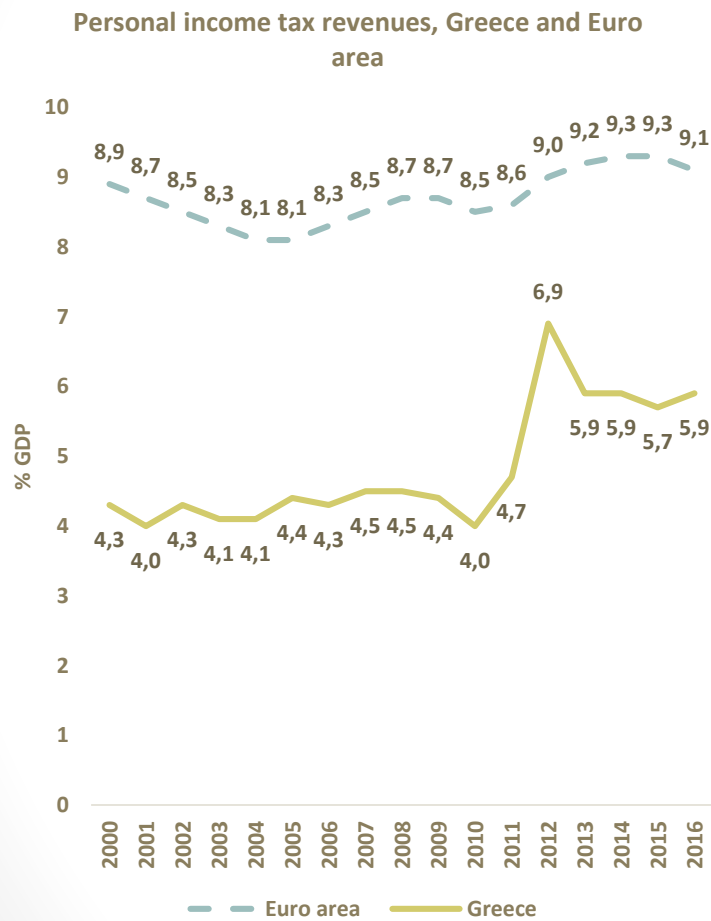
Marginal scale of tax and contribution



Source: IKA, Analysis: IOBE

High labor cost leads to the migration of highly skilled workers (brain drain)

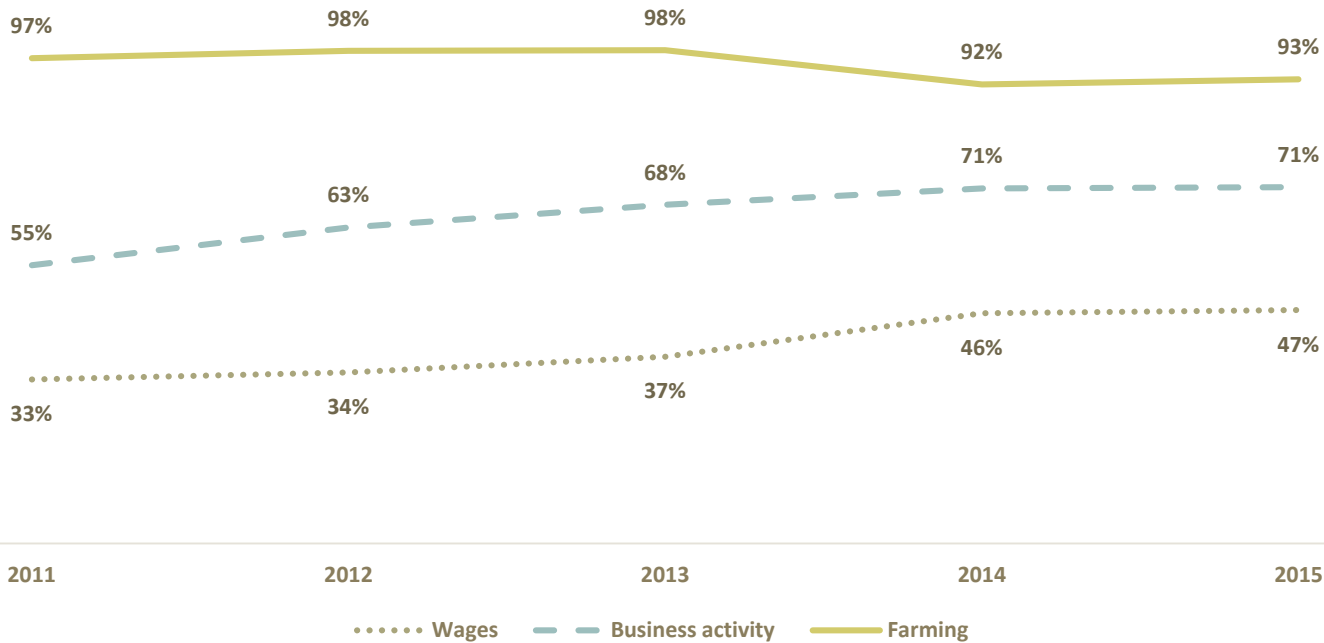
Share of revenues from personal income tax (till 2012 was half of the Euro area)



Source: Eurostat

47% of the employees and 93% of the farmers declared lower income than the tax-free limit

Taxpayers with declared annual income less than 9k (% of total in each category)



Note: The tax credit that has replaced the tax-free allowance limit since 2013 does not apply to personal income from business activity. The above figures for 2011 and 2012 for income from business activity include tax returns of freelancers and other individuals with income from industrial and commercial enterprises.

Source: Independent Authority for Public Revenue (AADE), IOBE analysis

Correspondingly, 71% of the freelancers declared annual income below 9k in 2015 (from 55% in 2011)

Personal income tax reform scenarios

S1. Flat tax with existing tax credit

- Taxation of all personal income with the same rate (flat tax): 24.3%
- Tax credit as per Law No. 4472/2017*
 - €1250 per annum
 - Up by €50 per annum per child
 - Falls by €10 for each €1000 of income above €20k

S2. Flat tax with no tax credit

- Flat tax: 14.3%
 - Ensures fiscal neutrality
- The tax credit is abolished

S3. Flat tax 20%

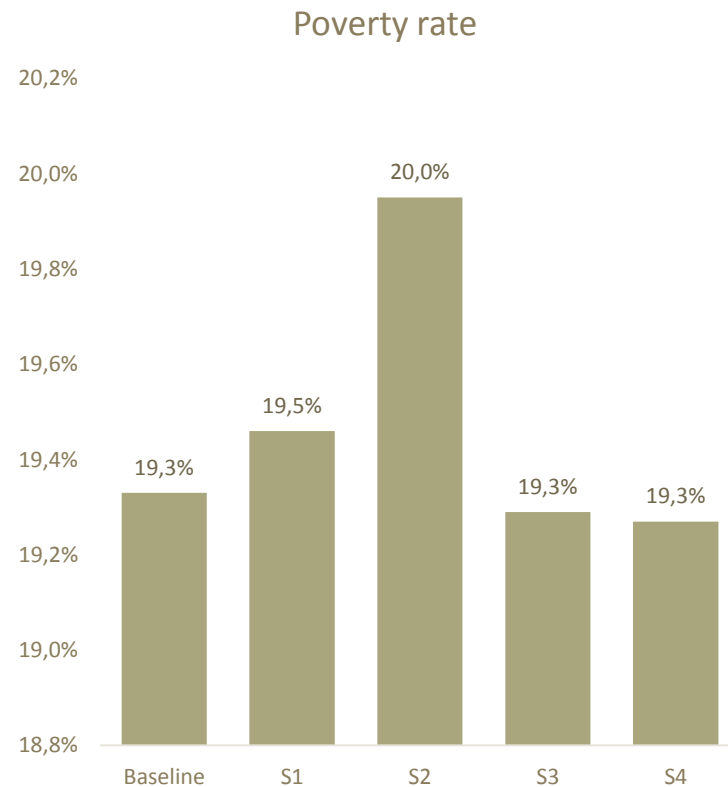
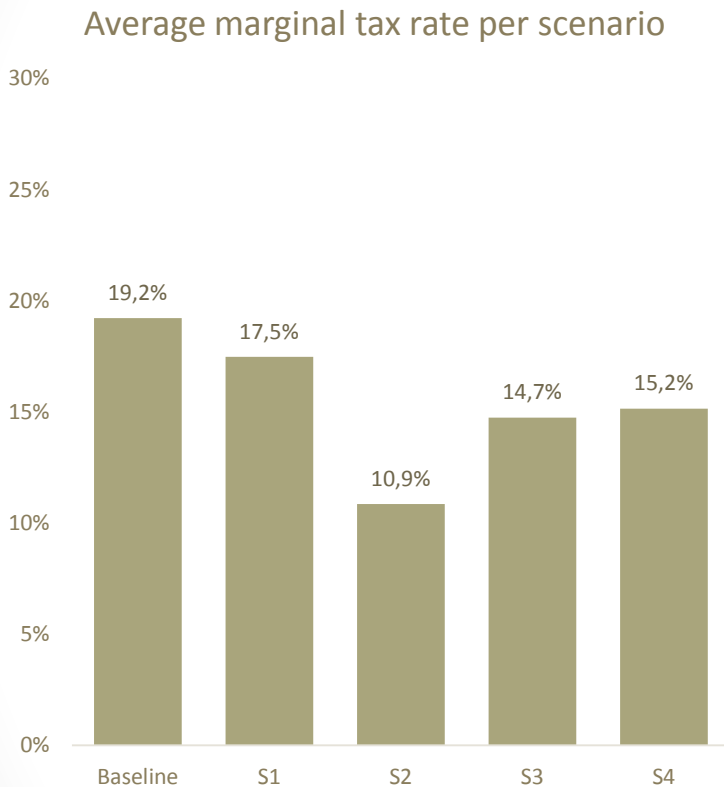
- Flat tax: 20%
- Tax credit that ensures fiscal neutrality:
 - €680 per annum
 - Up by €50 per annum per child
 - Falls by €10 for each €1000 of income above €20k

S4. Two tax rates

- Two tax rates are applied on annual income:
 - €0-€40k: 20%
 - >€40k: 25%
- Tax credit (with fiscal neutrality):
 - €690 per annum
 - Up by €50 per annum per child
 - Falls by €10 for each €1000 of income above €20k

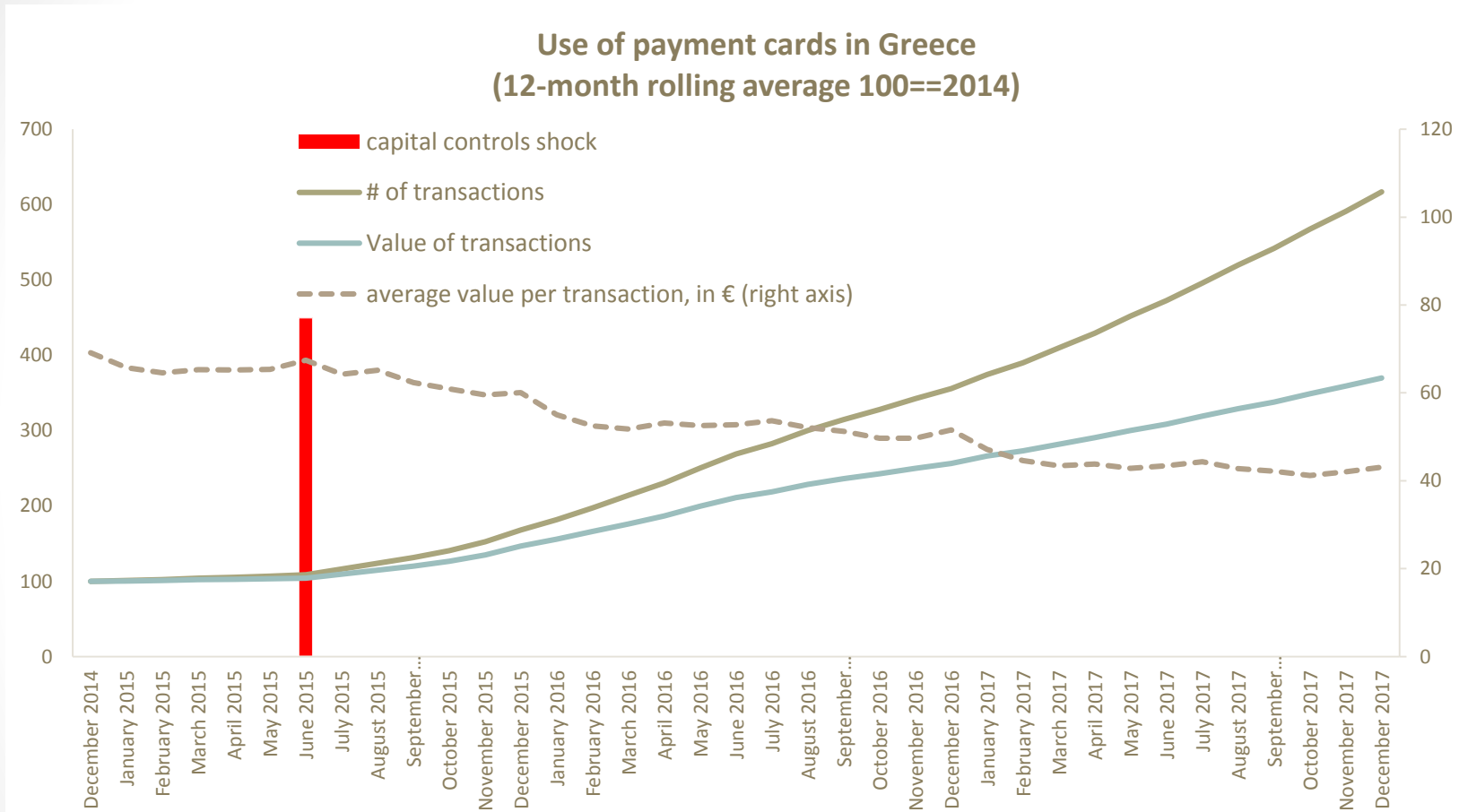
*With Law No. 4472/2017, the current tax credit was set to decline from €1900 to €1250 per annum from 1/1/2020. The tax credit reduction was abolished in early June 2019.

Stronger work incentives, but also worse social outcomes, under Scenario 2 (flat tax with no tax credit)



However, combining the policies of scenario 2 (flat tax and no tax credit) with a reform of the social protection system (e.g. higher guaranteed minimum income), the negative impact on poverty can be fully eliminated.

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

Card use potential: Annual VAT revenues would increase by 21% (€3.3 billion) if Greece attains EU average use

Potential VAT revenues based on good practices of other countries as per the ratio «transaction value over private consumption»

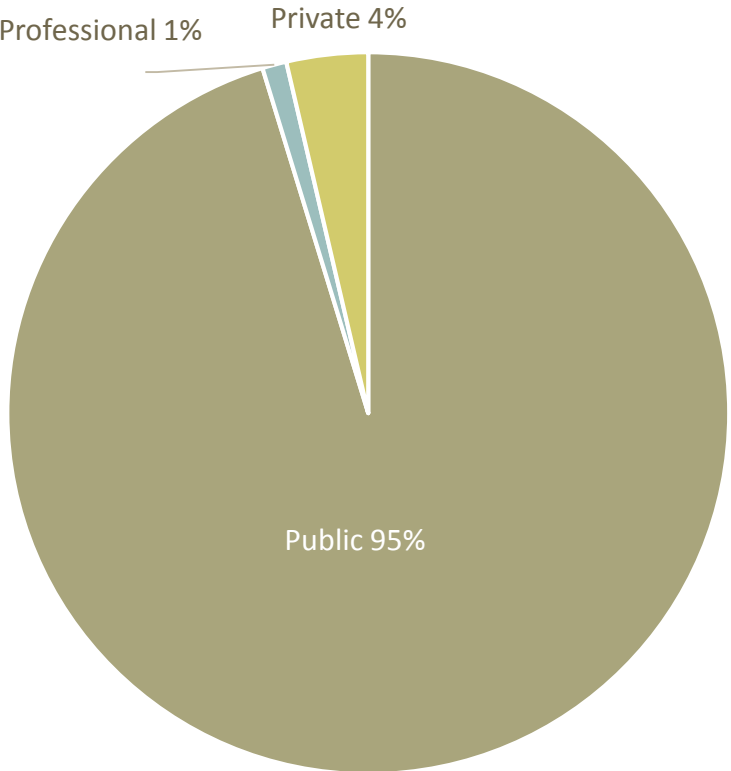
Card transaction value as a share of private consumption	Greece gap from other countries, in ppts	Potential VAT revenues (in € million)	Potential VAT increase vs 2017 (in %)
EU28 average	14.9 ppts	3,308	21.0%
Eurozone	6.2 ppts	1,368	8.7%
Portugal	38.4 ppts	8,541	54.1%

Source: IOBE estimations

Pensions

The size of fully funded pension pillars is strikingly small in Greece

Pension contribution payments composition by pillar, 2017

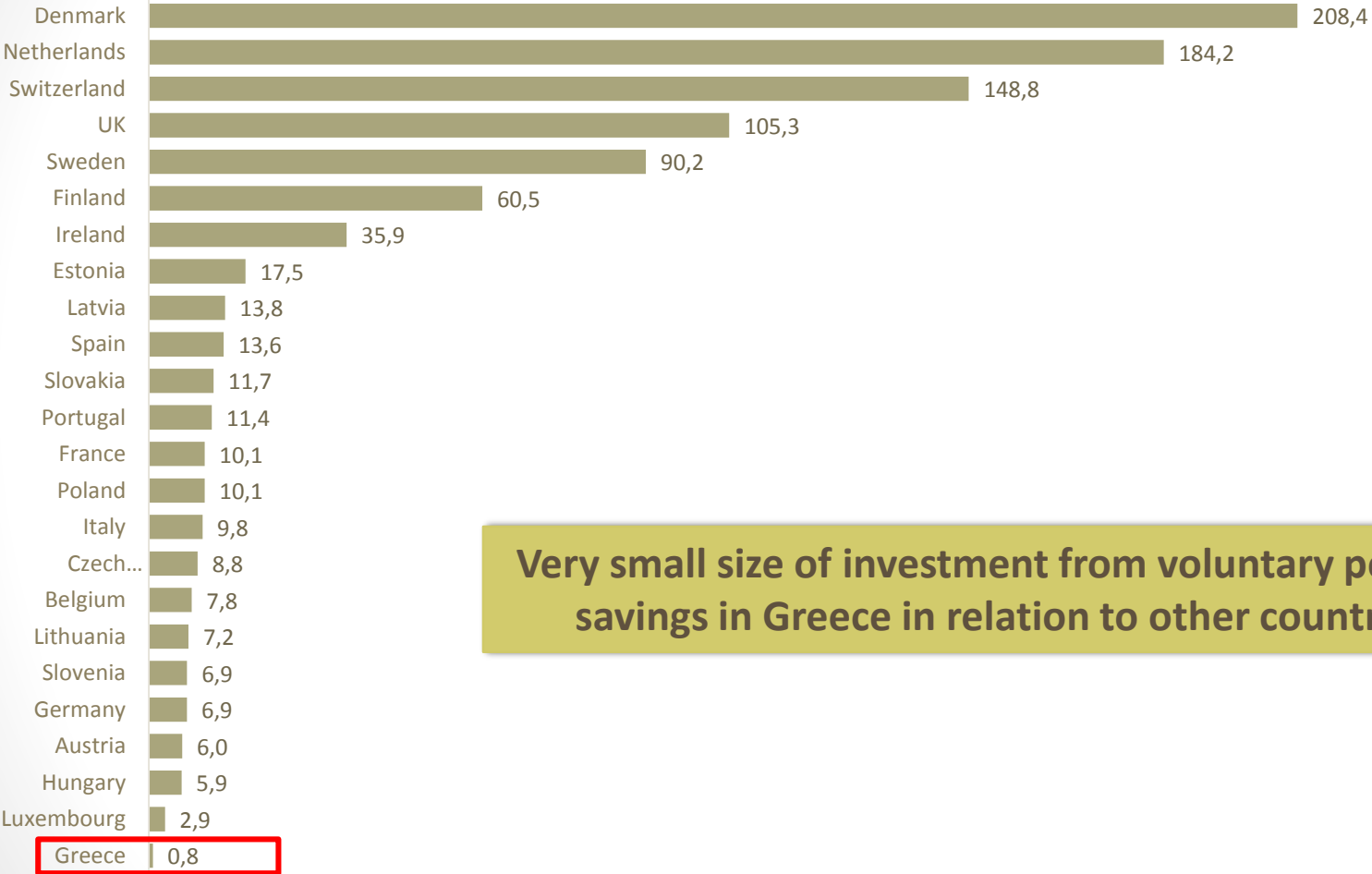


Source: ELETEA, EAEE, Data processing: IOBE

**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

Total investments by providers of funded and private pension schemes, % of GDP, 2017



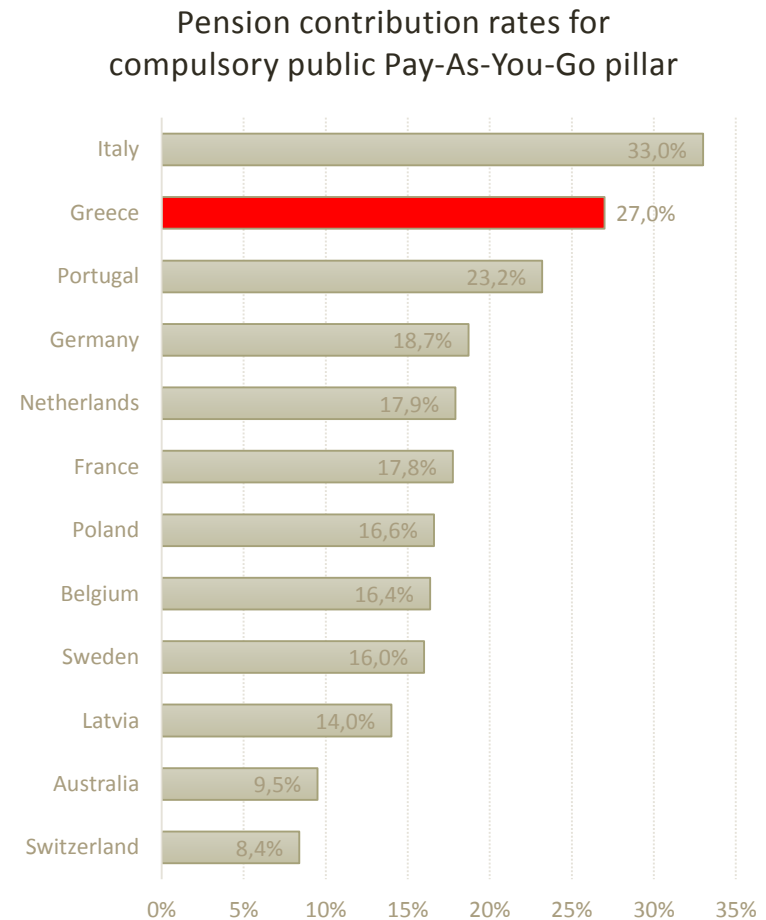
Very small size of investment from voluntary pension savings in Greece in relation to other countries

Source: OECD

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

Pension contributions for the public PAYGO pillar are excessively high

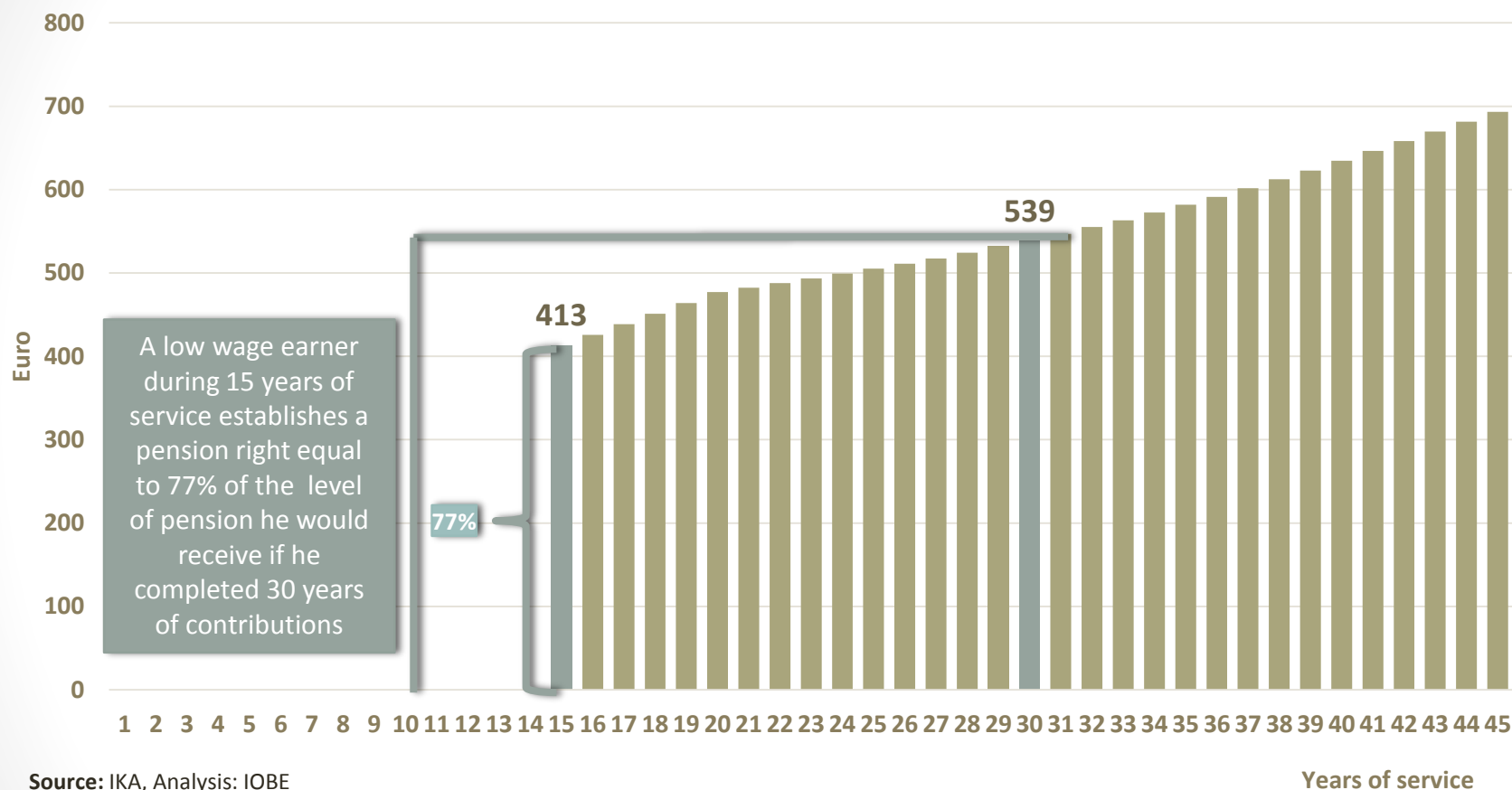
- The rate of 27% (20% main & 7% auxiliary) for wage earnings is among the highest in the EU
 - The burden is even higher if one incorporates the additional contribution for hazardous professions
- This limits the development of the 2nd and 3rd pillar
- High non-wage labor cost
- In Europe, supplementary social security is in principle fully funded and based on Defined contributions (DC)
 - Greece is an exception



Source: OECD, National Statistical Authorities

Low reciprocity of the pension system encourages contribution evasion

Main pension on the minimum wage



Source: IKA, Analysis: IOBE

Note. The calculation concerns an employee who earned the minimum wage of €586 which was valid until 2018

Weak economic incentive for a working age person:

- to be insured during a period which will not exceed 15 years (immigrant)
- to remain officially insured after the completion of 15 years of service

Pension Reform Proposal – Recommendations per pillar

Public first pillar (PAYGO)

- Abolition of contributions for the current auxiliary pension of PAYGO nature
- More linear relation between national pension and years of service
- Lower ceiling for contributions (e.g. 5 times the minimum wage)

New Supplementary Pension

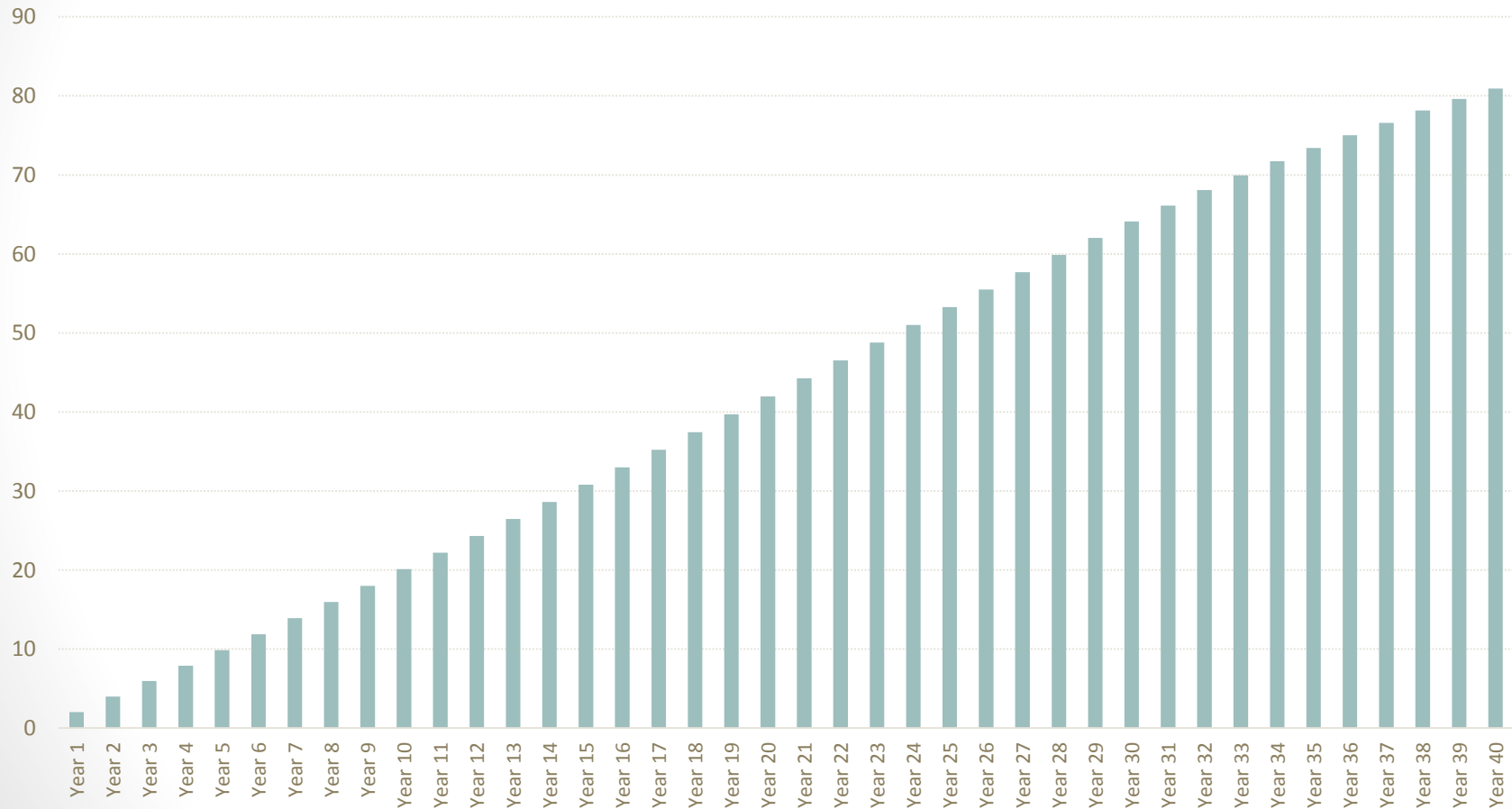
- Fully funded
- Creation of individual saving accounts
- Compulsory tax exempted contributions of 6% (3% by the employee and & 3% by the employer)
- Optional for farmers, professionals and self-employed
- Threshold for New Supplementary Pension contributions
 - Payable only for the part of gross wage which exceeds the minimum wage
 - Contributions = $6\% \times (\text{Gross wage} - \text{Minimum wage})$
 - Equivalent to effective contribution rate of around 3%

Voluntary fully funded insurance

- Re-introduce tax incentives for individuals to opt for voluntary pension insurance (with a cap)
 - Indicative proposal: 25% tax discount for new savings up to €2.000 per annum for 1-member household and €3.000 for a family
 - Maximum tax discount: 500€ for 1-member household and €750 for a family

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

Accumulation of Reserves from the New Supplementary Pillar
(€ billion, 2016 constant prices)



Source: IOBE pension proposal and estimates

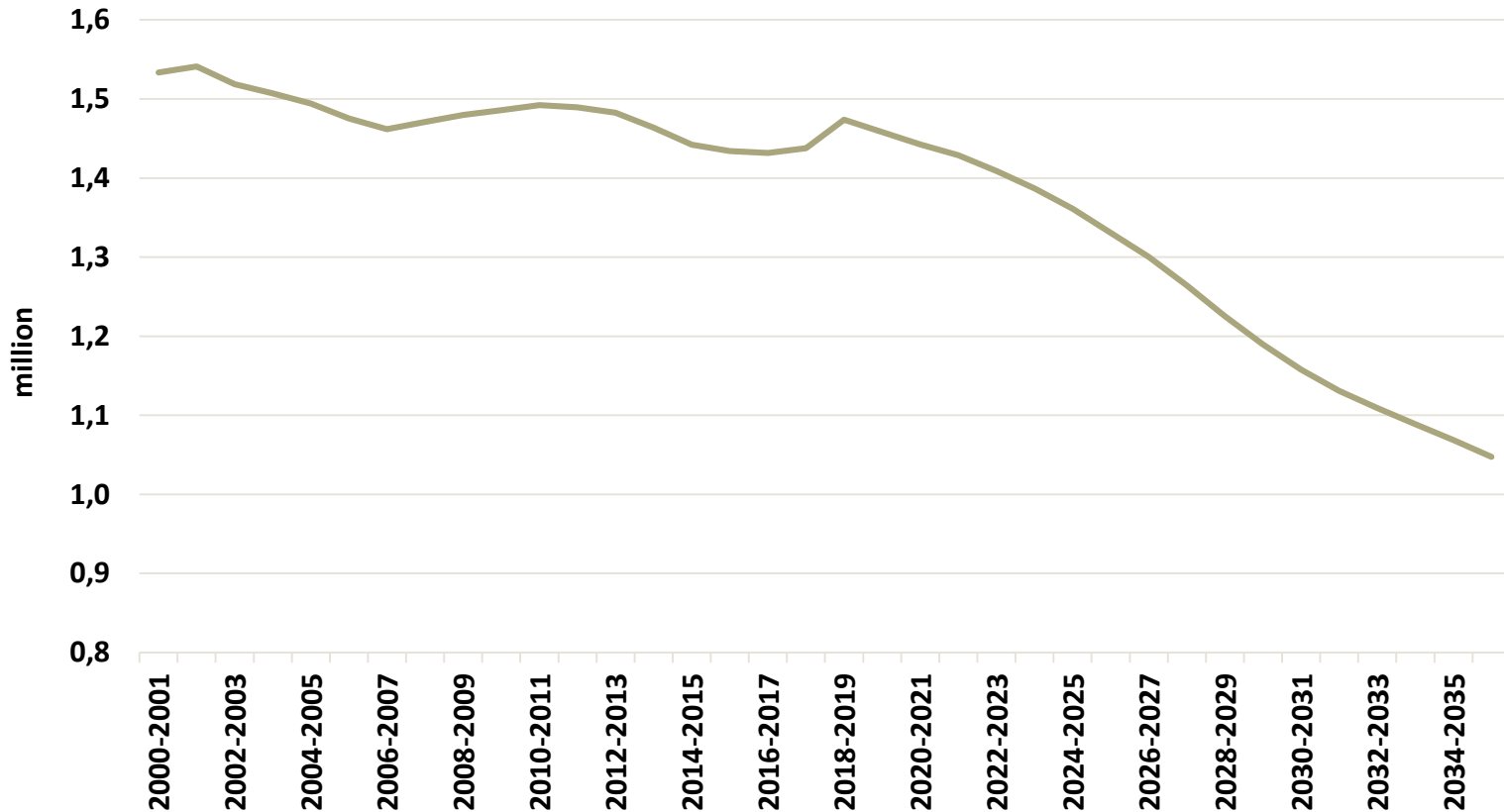
Note: It is assumed that the average nominal annual yield of the reserves is 3%.

(This corresponds to an average real yield of 1%, with an average inflation rate of 2%)

Education

The total number of students is expected to fall from 1.5M currently to less than 1.1M by 2035 (almost -30%)

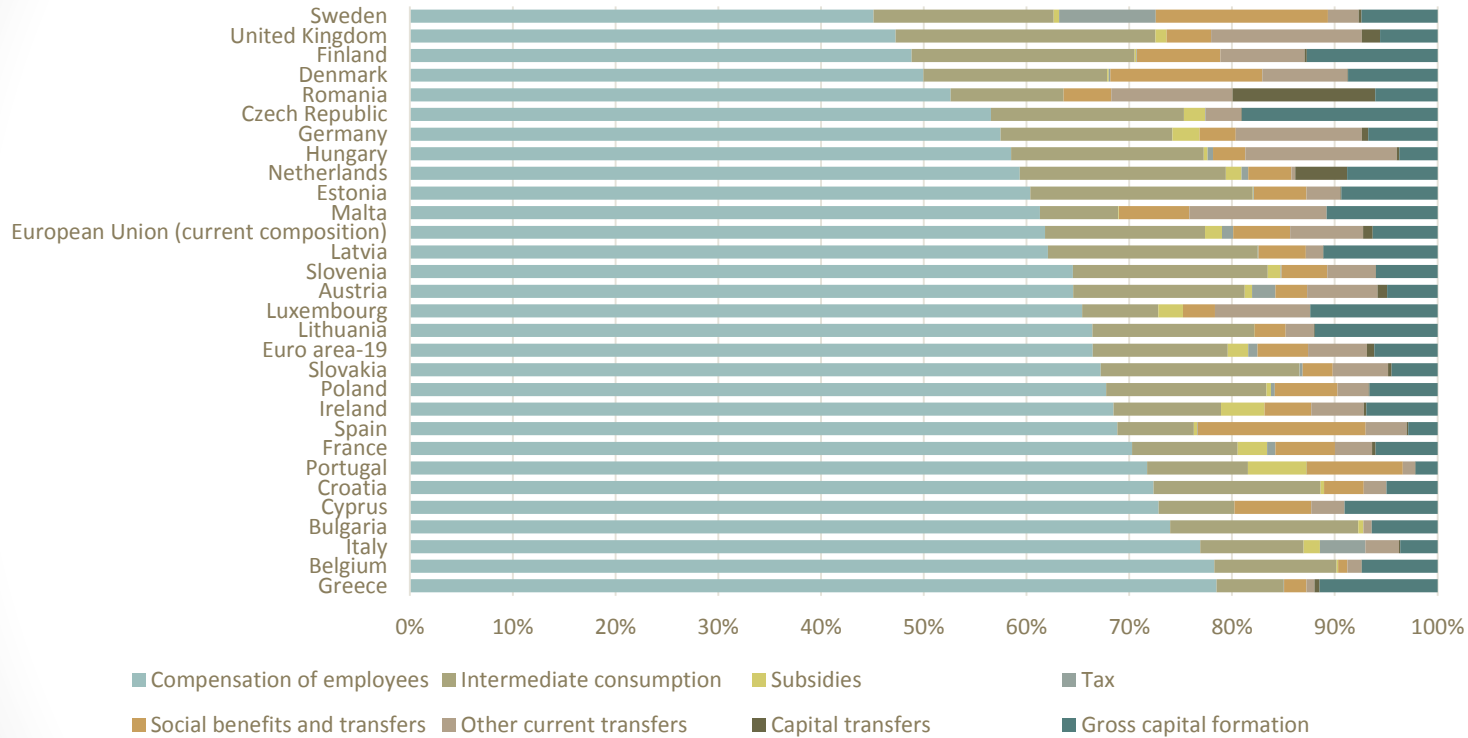
Total number of students (2000-2035)



Source: IOBE Analysis

In education expenditure, Greece has the highest share of compensation of employees in the EU

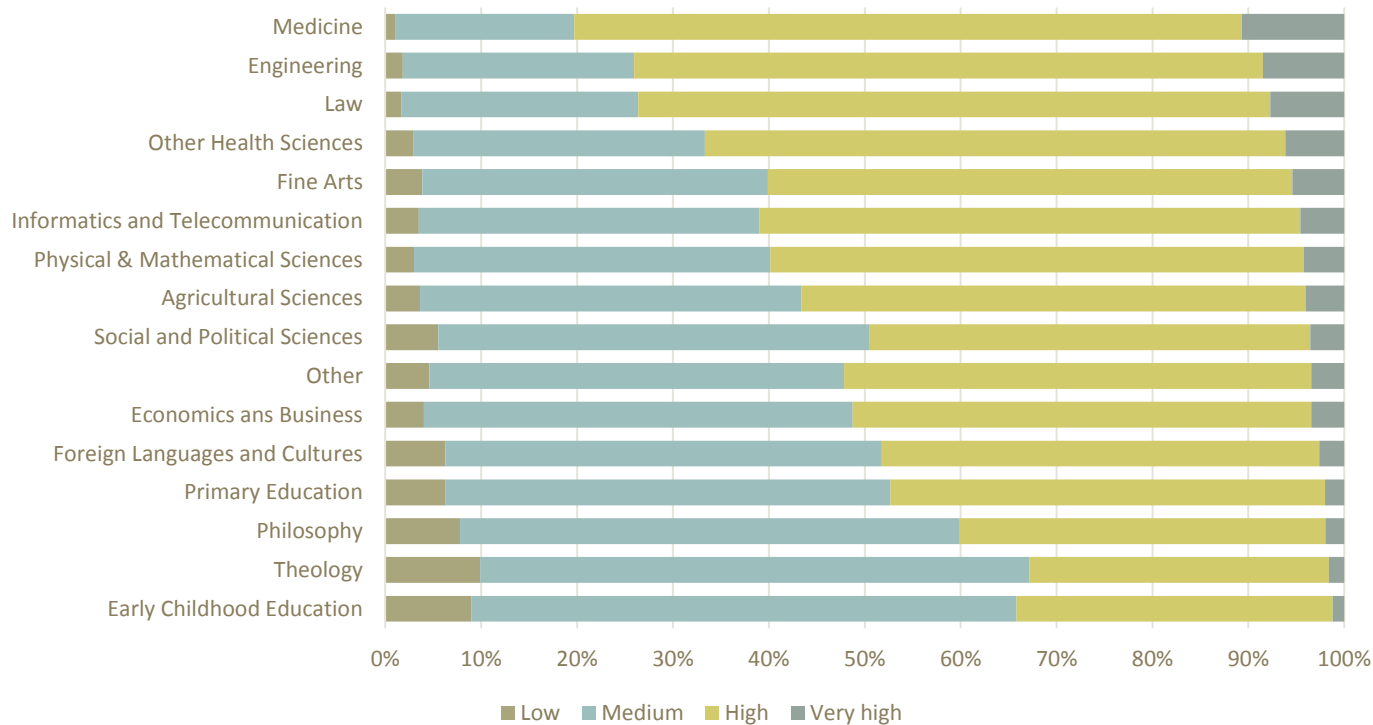
Distribution of education expenditure by function (COFOG), 2016



Source: EUROSTAT, Analysis: IOBE.

Students whose parents have “very high” socio-educational level have much stronger presence in medicine, engineering and law

Socio-educational level of parents by university field of study, average 2001-2014



Source: ELSTAT, Analysis: IOBE.

Open research areas and data, also needed for policy

- Labor market
- Loans to households and SMEs
- Subsidies and households in need
- Health care and medicine
- Education
- Monitoring public sector outcomes
- etc

Road ahead

- Pensions

Labor supply, shadow economy, domestic savings

- Taxation

Tax rates, electronic payments, real estate

Stable structure

- Education

**Autonomy of units and decentralization,
reverse brain drain.**

- **Ability and will to continue reforms?**