

Greece

Expenditure on social protection and pensions

How generous it is by international standards and relative to the rest of the EU?

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Key findings & summary of views

1. For a couple of decades before the outbreak of the Greek sovereign debt crisis, Greece's pension expenditure recorded fast growth on the back of rapid wage increases as well as generous benefits and options for early retirement. Relative to the other two euro area economies with worst demographic prospects, Greece's annual growth of pension expenditure in 1991-2009 averaged 8.3% compared to 3.8% in Italy and 3.6% in Germany.
2. These developments along with exceptionally adverse demographic trends led OECD in 2007 to characterize Greece's pension system as a "fiscal time bomb". According to Eurostat data for 2014 (latest available) there was only 1.3 persons employed per pension beneficiary in Greece, the lowest ratio in the EU-28. Furthermore, Greece's old age dependency ratio (population aged 65 and more to population aged 15 to 64 years) was projected to increase sharply in future years, reaching by 2060 levels significantly higher than the EU-28 average as well as the respective ratios in other EU economies (e.g. Italy and Germany) featuring adverse demographic trends. In the same vein, as per the most recent available data (Helios database, July 2015), around 31.4% of the total bill for old age, survivors, disability and other pensions was received by persons aged below 65 years.
3. In view of these challenges, significant pension reforms have been implemented in the context of Greece's three consecutive stabilization programmes. After the 2010 reform, which has been characterized by the IMF as "comprehensive", two other major reform efforts followed in 2011-12 and 2015-16, with a view to reduce medium- and long-term costs and tackle a number of structural deficiencies in the Greek pension system.
4. In more detail, the said interventions aimed to, inter alia: increase early and statutory retirement ages, tighten early retirement rules, increase the required years of contributions, harmonize main pension contributions at 20% for all employees, introduce a single uniform benefit rule for both existing and new retirees, engineer selective cuts of supplementary pensions for pensioners with total pension benefits above €1,300/month, freeze supplementary pensions for as long as the funds remain in deficit, eliminate third-party charges used to finance self-employed pension funds deficits and transform the social security contribution base for self-employed from notional to actual earnings, subject to a minimum income limit.
5. The aforementioned reforms have indeed succeeded in addressing some of the Greek pension system's earlier shortcomings, at least as attested by the latest available data and official projections. For instance, Greece's pension expenditure is projected to decline by 1.9ppts in 2013-2060, reaching 14.3% of GDP at the end of that period (vs. levels as high as 24% of GDP before the reforms), compared to 11.1% of GDP in the EU-28 and 12.3% of GDP in the Euro area (source: European Commission's 2015 Ageing Report). A similar story is told by other medium- and long-term projections relevant to the sustainability of the pension system e.g. duration of retirement, duration of retirement over average length of working career and average effective exit from the labour market.

Key findings & summary of views (continued)

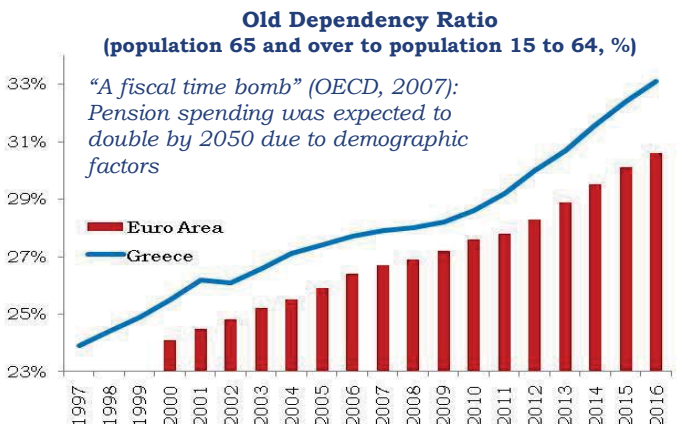
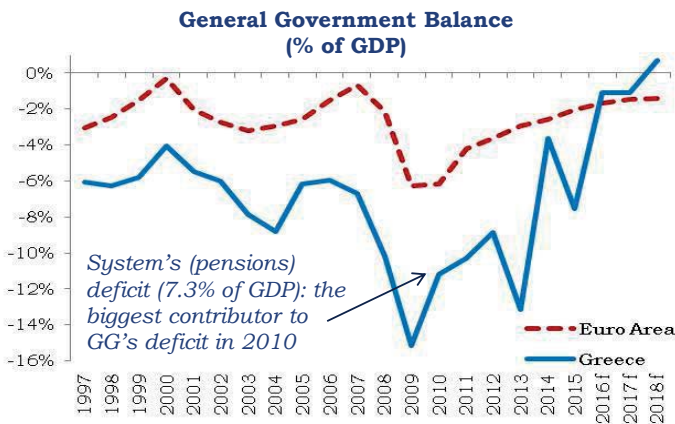
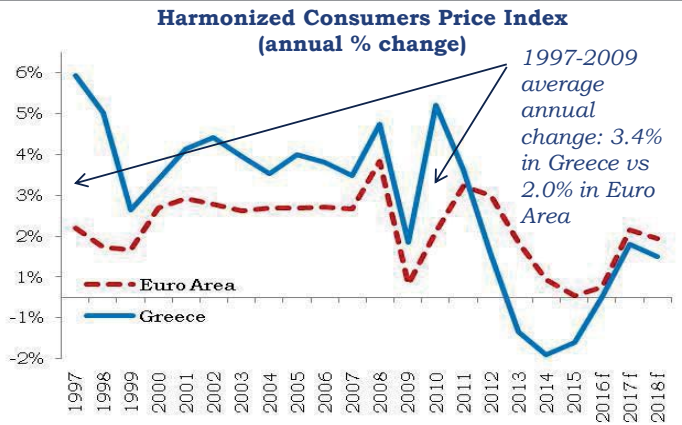
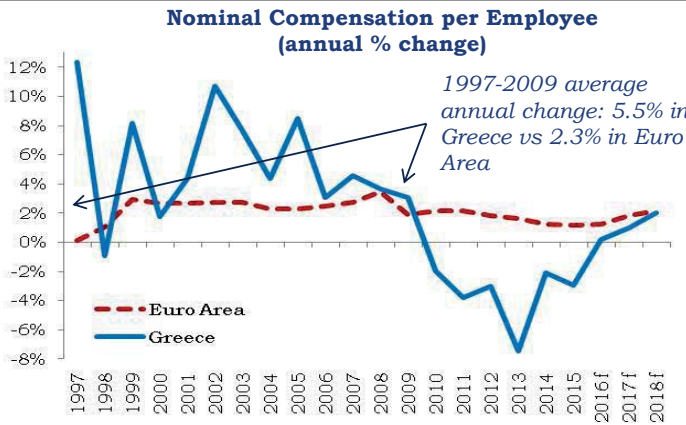
6. Notwithstanding the progress made thus far in restoring the sustainability of the Greek pension system, Greece's total pension expenditure as percent of GDP recorded steep increases in recent years, reaching c. 17.1% of GDP at the end of 2014 (c. 17.4% of GDP at the end of 2016, as per the most recent labor ministry data), by far the highest ratio in the EU-28, after Italy and Portugal.
7. The aforementioned metric suggests that Greece's pension expenditure is presently quite elevated relative to the country's current level of output. In the same vein, the ratio of the average pension to the average wage in Greece remains significantly higher than that of Germany (39% vs. 65%), as per the latest available data for 2015 (IMF, Feb 2017).
8. Furthermore, although Greece's nominal pension expenditure was reduced materially (-9.1%) over the period 2010-2014 (latest available data), other EU countries facing less fiscal pressure also implemented nominal pension cuts over the same period (Czech Republic: -0.7%; Netherlands: -2.6% and Hungary: -10.8%).
9. On the other hand, Greece ranks lower than the respective EU averages as regards the mean monthly value of pension income, i.e., for males: €954 vs. 1,530 in the EU-27 and for females: €738 vs. €915 in the EU-27 (see European Commission's Pension Adequacy Report, Vol. 1 for 2015). It should be noted that the aforementioned data are for 2012 i.e., before the pension cuts envisaged in Law 4093/12 were implemented. Greek pensions are understood to have been reduced further since then. According to the latest available data (Helios database) the average monthly pension in Greece stood at c. €893 in July 2015, with the majority of pensioners (~83%) receiving a monthly pension lower than €1,500 (~59% receiving a monthly pension between €500-€1,000).
10. Furthermore, Greece's overall social protection expenditure (cash benefits + benefits in kind for old age, survivors and incapacity pensions as well as for health, family, unemployment, housing and other crucial social services) remains significantly lower than both the respective EU-28 and Eurozone averages, even if it is measured as a ratio to GDP. This is due to the weak coverage of the welfare state in Greece and reflects the fact that pensions have extensively been relied on to support family income and other crucial social needs (e.g. health, housing and support to unemployed family members) during the crisis period.
11. As to the social impact of the Greek fiscal crisis, relevant metrics suggest that it has already taken endemic proportions, though the country's working age population appears to have been hit much harder than the country's pensioners.

Key findings & summary of views (continued)

12. According to the latest available data, the percentage of the domestic population living at the risk of poverty or social exclusion, was the 4th largest in Europe in 2015 after FYROM (worst position), Bulgaria and Romania. Interestingly, Greece's at-risk-of-poverty rate for people aged 65 years or more has actually declined since 2011, whereas that for people belonging in younger age groups skyrocketed.
13. It should be noted, however, that poverty is usually measured in relative terms i.e., comparing with a measure equal to middle income of a representative individual. Thus, taking into account that the poverty threshold for one person fell significantly since 2009, the respective percentage for those aged 65 or more in Greece is actually larger relative to what is suggested by the latest available data.
14. In its latest assessment of the Greek pension system (Feb 2017), the IMF staff notes that the most recent reform introduced in 2015-16 goes in the right direction by removing some distortions and reducing costs. However, it too falls short of making the system affordable and creating strong incentives to work and contribute, and is subject to large implementation risks. Therefore, the Fund urges authorities to fully implement the recent reform and complement it with additional ones to address remaining deficiencies.
15. In our view, any new reforms to address remaining weaknesses in the Greek pension system should be accompanied by measures to strengthen the country's exceptionally weak welfare system. This is especially in view of the fact that pensions have extensively been relied on to support not only the pensioners themselves but also other family members with no other source of income.

Sharp increase in Greek pension expenditure in the pre-crisis period

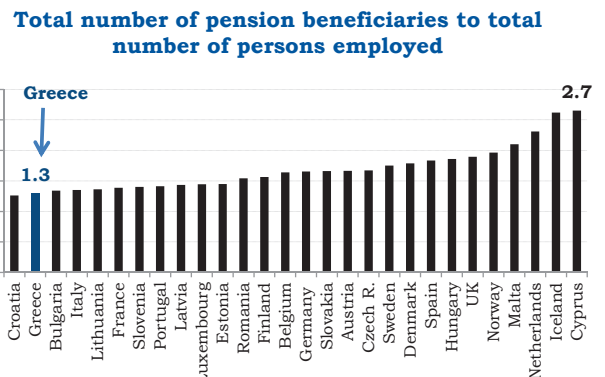
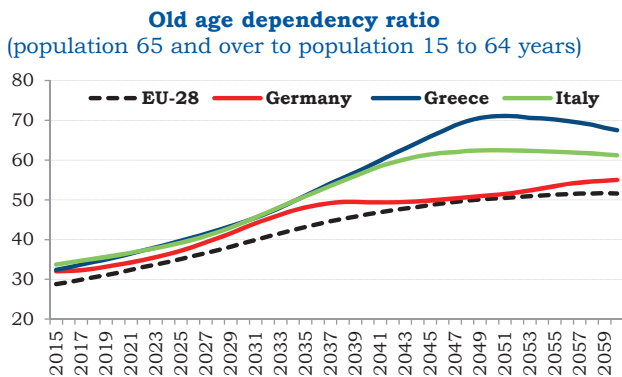
Due to rapid wages growth and generous benefits and options for early retirement



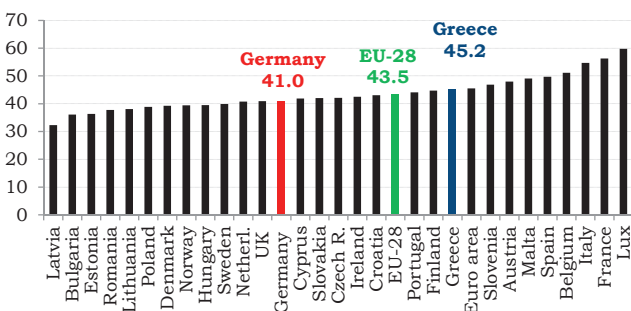
Source: AMECO, Eurostat, IMF, Eurobank Research

Greece's pension expenditure

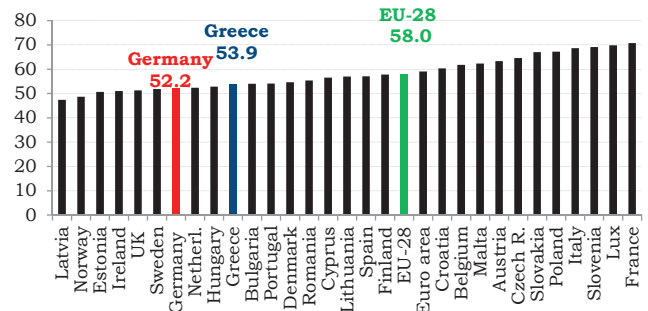
"A fiscal time bomb" due to adverse demographics (OECD, 2007)



Duration of retirement over average length of working career, 2014 - Men

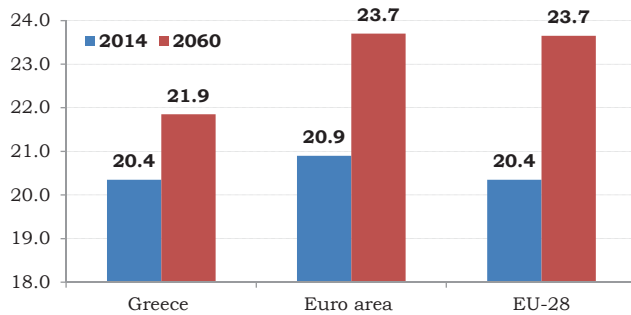


Duration of retirement over average length of working career, 2014 - Women

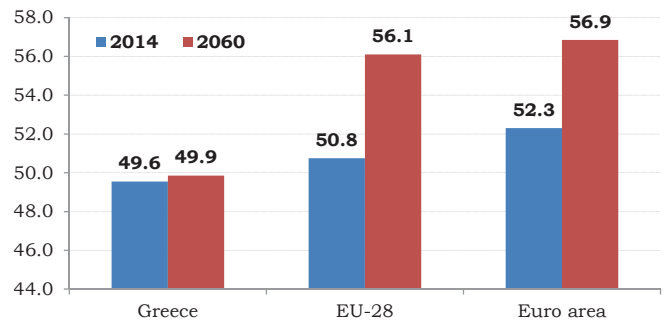


Source: Eurostat, EC Ageing Report 2015, Eurobank Research

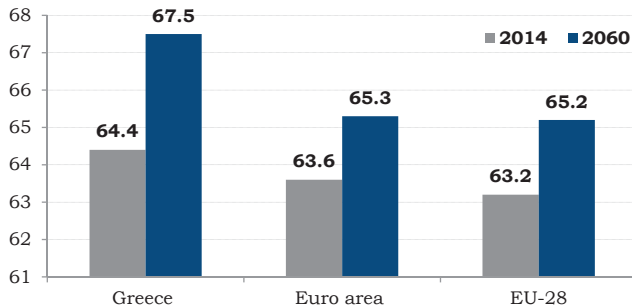
Duration of retirement, Simple arithmetic average for men & women
(number of years)



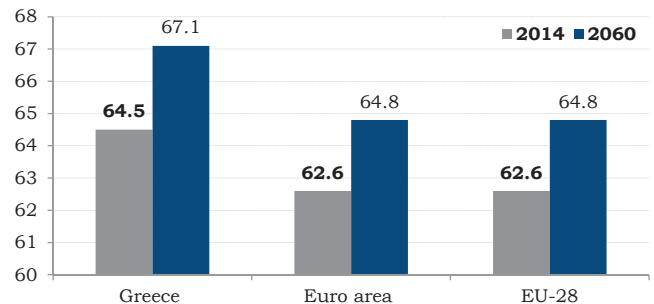
Duration of retirement over average length of working career
(Simple arithmetic average for men & women)



Average effective exit from labour market, Men
(at the age of...)



Average effective exit from labour market, Women
(at the age of...)



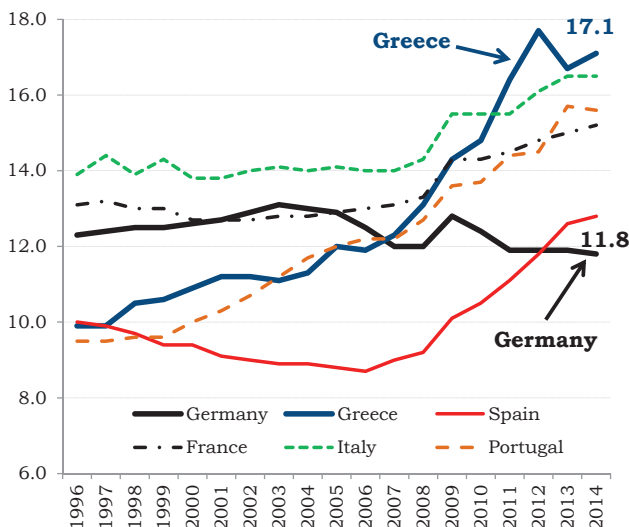
Source: Eurostat, EC Ageing Report 2015, Eurobank Research

Steep increase in Greek pension expenditure as % GDP since 2011...

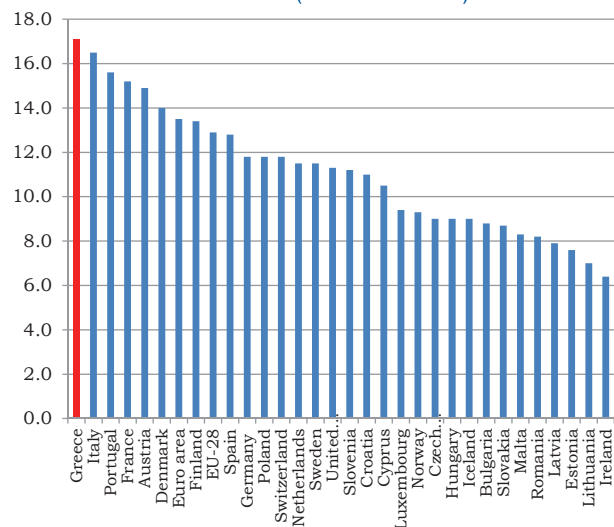
Current ratio is the highest in the EU-28

- ❑ Greece's total pension expenditure to GDP ratio increased strongly in recent years, reaching 17.1% in 2014, the highest ratio in the euro area (*)
- ❑ This was the steepest increase relative to EA peers, despite significant reforms and repeated pension cuts implemented since 2010
- ❑ Yet, this can be exclusively attributed to the collapse of domestic output (denominator), as nominal pension spending actually declined in most recent years

Total pension expenditure (% GDP) Selected EU countries
1996 - 2014 (latest available)



Total pension expenditure (% GDP) Selected European countries
Year 2014 (latest available)

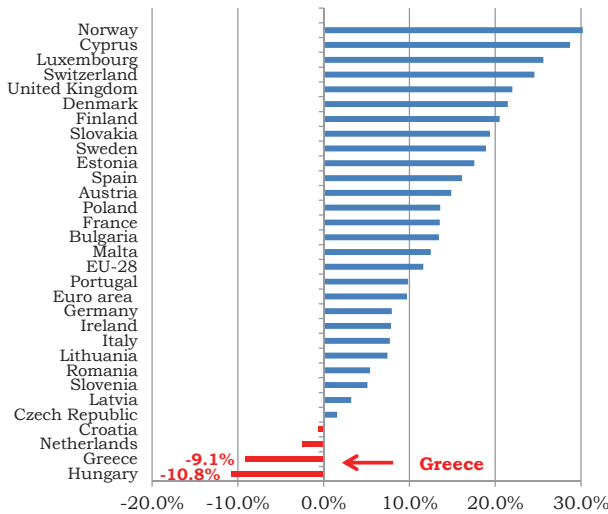


(*) According to Greek labor ministry's data, Greece's pension expenditure amounted to €30.53bn (17.40% of GDP) in 2016

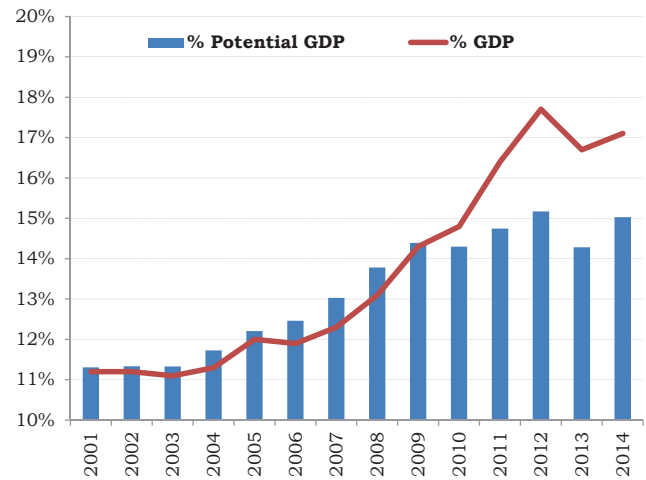
...but, down significantly in nominal terms due to:
3 major pension system reforms & 11 pension cuts since 2010

- **For a couple of decades before the outbreak of the Greek sovereign debt crisis**, Greece's total pension expenditure grew faster than in the other two euro area economies with worst demographic prospects (average annual growth in 1991-2009: Greece 8.3%, Italy 3.8%; Germany 3.6%)
- **However, following a number of comprehensive reforms (and repeated pension cuts) since 2010**, Greece's nominal pension expenditure growth reversed course, recording the 2nd steepest decline after Hungary i.e., -9.1% vs. -10.8%, as per the most recent Eurostat data (period 2010-2014)
- **The aforementioned decline would have been even larger** if it wasn't undermined by extensive grandfathering of previous early retirement options, which led to a massive wave of early retirement to take advantage of the previous more generous rules (IMF, January 2017)

Δ% in nominal pension expenditure
 Period 2010-2014



Annual pension expenditure in Greece
 As % of nominal & potential GDP



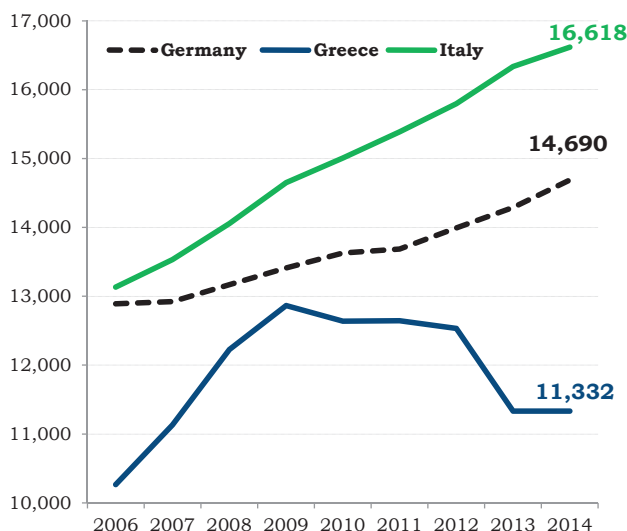
Source: Eurostat, Eurobank Research

Greek pension expenditure down significantly since 2011

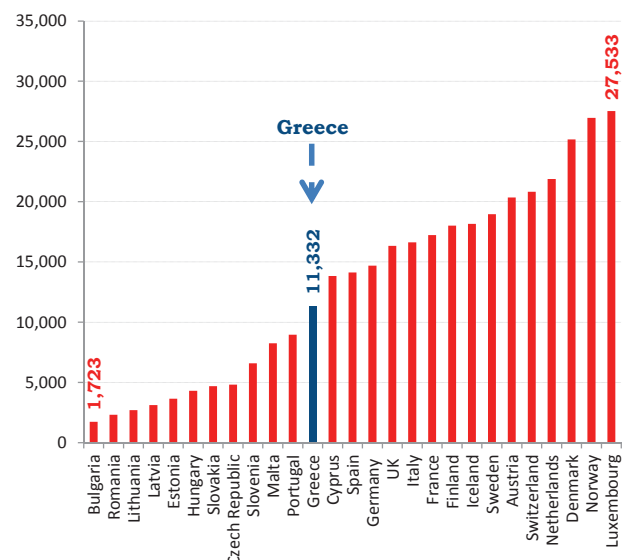
Both in levels and per beneficiary terms

- **The total number of pensioners in Greece increased** following a comprehensive reform undertaken in 2010 to address the long-term viability of the pension system as well as additional reforms implemented during 2011-12 with a view to contain medium-term costs
- **As noted earlier, this was due to a massive wave of early retirement** to take advantage of the previous more generous rules
- **Yet, Greece's average pension expenditure per beneficiary declined significantly over the aforementioned period**, reaching in 2014 levels significantly lower than in most other euro area economies

Total pension expenditure per beneficiary
 Annual average (in euros)



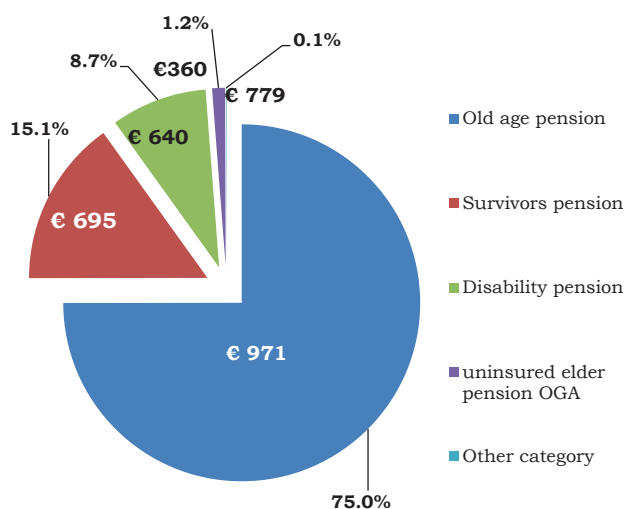
Total pension expenditure per beneficiary, 2014
 Annual average (in euros)



Source: Eurostat, Eurobank Research

- As per the most recent available data (Helios database, July 2015), the total number of pensioners in Greece was around 2.66 million, with the overall *monthly* expenditure for pensions amounting to c. €2.38 billion
- This translates into an average *monthly* pension of c. €893 in July 2015, with the majority of pensioners receiving a monthly pension between €500-€1,000 (see also analysis in next page)

Number of pensioners (% of total) per major pension category & average monthly income
(July 2015, latest available)



Distribution of pensioners per age group
(July 2015, latest available)

| Age | # of pensioners | Total monthly pension expenditure (€) | Average monthly pension (€) |
|--------------|------------------|---------------------------------------|-----------------------------|
| <=25 | 29,863 | 11,617,261 | 389.02 |
| 26-50 | 82,608 | 58,218,539 | 704.76 |
| 51-55 | 98,936 | 93,553,518 | 946.55 |
| 56-60 | 198,660 | 214,037,718 | 1,077.41 |
| 61-65 | 328,154 | 369,292,325 | 1,225.36 |
| 66-70 | 444,011 | 444,407,326 | 1,000.89 |
| 71-75 | 401,962 | 352,917,234 | 877.99 |
| 76-80 | 435,800 | 354,249,706 | 812.87 |
| 81-85 | 360,997 | 274,642,169 | 760.79 |
| 86-90 | 204,456 | 149,548,842 | 731.45 |
| 91-90 | 62,979 | 45,523,092 | 722.83 |
| >95 | 14,035 | 9,658,645 | 688.18 |
| Unidentified | 984 | 541,949 | 550.76 |
| Total | 2,663,445 | 2,378,208,325 | |

Source: Helios (IDIKA) July 2015; Eurobank Research

Greece: pension system statistics

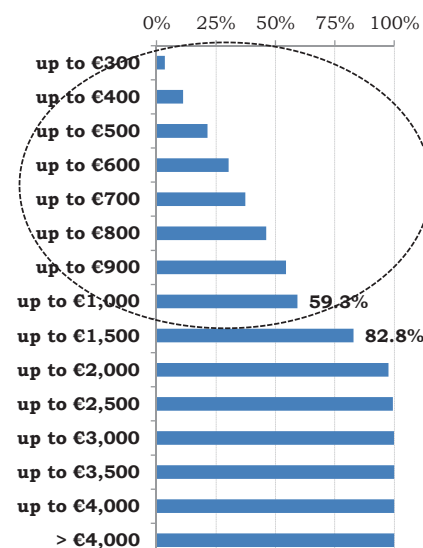
Distribution of pension income per range of pension payments

- According to the latest available data, the majority of pensioners in Greece (~59% of the total number) are receiving a pension income no higher than €1,000
- The respective share of pensioners receiving a monthly pension no higher than €1,500 was close to 83% in July 2015

Distribution of monthly pension income
(July 2015, latest available)

| Monthly pension range (€) | Old age pension | | Survivors pension | | Disability pension | | Other pension | |
|---------------------------|------------------|--------------------------|-------------------|--------------------------|--------------------|--------------------------|-----------------|--------------------------|
| | # of pensioners | avg. monthly pension (€) | # of pensioners | avg. monthly pension (€) | # of pensioners | avg. monthly pension (€) | # of pensioners | avg. monthly pension (€) |
| 0-300 | 70,561 | 125.47 | 48,738 | 137.75 | 6,615 | 171.16 | 3 | 68.59 |
| 300-400 | 156,291 | 368.45 | 21,849 | 353.73 | 53,048 | 362.35 | 22 | 391.08 |
| 400-500 | 207,462 | 453.08 | 28,426 | 447.15 | 37,508 | 456.60 | 0 | 0.00 |
| 500-600 | 180,483 | 546.93 | 55,570 | 559.41 | 25,336 | 541.60 | 0 | 0.00 |
| 600-700 | 141,933 | 649.48 | 61,046 | 656.02 | 26,063 | 643.84 | 11 | 671.40 |
| 700-800 | 177,860 | 751.52 | 64,198 | 759.01 | 27,658 | 753.44 | 1368 | 783.30 |
| 800-900 | 169,085 | 846.09 | 39,011 | 842.08 | 17,893 | 847.38 | 122 | 823.20 |
| 900-1,000 | 98,614 | 955.12 | 21,785 | 954.93 | 7,389 | 952.27 | 2 | 933.59 |
| 1,000-1,500 | 477,211 | 1,272.96 | 53,118 | 1,201.24 | 26,505 | 1,163.73 | 1 | 1,187.00 |
| 1,500-2,000 | 299,636 | 1,688.32 | 7,528 | 1,667.50 | 2,840 | 1,679.62 | 0 | 0.00 |
| 2,000-2,500 | 37,364 | 2,168.17 | 770 | 2,199.41 | 472 | 2,180.78 | 0 | 0.00 |
| 2,500-3,000 | 8,947 | 2,666.05 | 281 | 2,687.43 | 172 | 2,738.39 | 0 | 0.00 |
| 3,000-3,500 | 1,463 | 3,212.42 | 19 | 3,185.46 | 24 | 3,183.53 | 0 | 0.00 |
| 3,500-4,000 | 774 | 3,698.56 | 7 | 3,654.49 | 8 | 3,740.66 | 0 | 0.00 |
| >4,000 | 243 | 4,636.06 | 7 | 4,650.73 | 5 | 4,558.53 | 0 | 0.00 |
| Total | 2,027,927 | | 402,353 | | 231,536 | | 1,529 | |

Cumulative share (% of total) of pensioners receiving a monthly pension up to ...
(July 2015, latest available)



Source: Helios (IDIKA) July 2015; Eurobank Research

Greece: pension system statistics

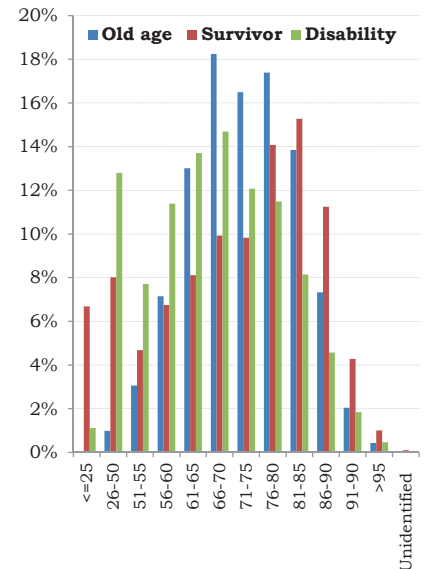
Distribution of pensioners & their income per age group and pension amount

- According to the latest available data (July 2015), the majority of beneficiaries receiving old age pension (~ 18.2% of the corresponding number of pensioners) were between 66 & 70 years old
- The average monthly pension income received by the said category of pensioners was around €1,055

Distribution of pensioners and their income per age group and pension amount
(July 2015, latest available)

| Age group (years) | Old age pension | | Survivors pension | | Disability pension | | Other pension | |
|-------------------|------------------|---------------------------|-------------------|---------------------------|--------------------|---------------------------|-----------------|---------------------------|
| | # of pensioners | avrg. monthly pension (€) | # of pensioners | avrg. monthly pension (€) | # of pensioners | avrg. monthly pension (€) | # of pensioners | avrg. monthly pension (€) |
| <=25 | 0 | 0.00 | 26,883 | 349.31 | 2,594 | 741.78 | 386 | 783.90 |
| 26-50 | 19,971 | 1,258.36 | 32,253 | 423.74 | 29,623 | 635.67 | 761 | 775.82 |
| 51-55 | 62,016 | 1,147.89 | 18,848 | 560.34 | 17,850 | 656.00 | 122 | 778.24 |
| 56-60 | 145,068 | 1,235.91 | 27,127 | 621.73 | 26,374 | 675.29 | 91 | 778.39 |
| 61-65 | 263,707 | 1,239.24 | 32,649 | 650.69 | 31,737 | 668.13 | 61 | 787.35 |
| 66-70 | 369,990 | 1,054.85 | 39,952 | 782.12 | 34,013 | 671.31 | 56 | 780.51 |
| 71-75 | 334,446 | 907.63 | 39,548 | 801.95 | 27,943 | 630.87 | 25 | 778.82 |
| 76-80 | 352,532 | 832.18 | 56,650 | 793.90 | 26,602 | 597.40 | 16 | 788.20 |
| 81-85 | 280,669 | 767.13 | 61,455 | 782.54 | 18,867 | 595.62 | 6 | 783.30 |
| 86-90 | 148,630 | 727.32 | 45,243 | 778.97 | 10,579 | 586.14 | 4 | 783.30 |
| 91-90 | 41,466 | 719.47 | 17,240 | 773.82 | 4,273 | 549.71 | 0 | 0.00 |
| >95 | 8,894 | 670.21 | 4,074 | 750.39 | 1,066 | 600.30 | 1 | 822.50 |
| Unidentified | 538 | 619.81 | 431 | 456.48 | 15 | 783.30 | 0 | 0.00 |
| Total | 2,027,927 | | 402,353 | | 231,536 | | 1,529 | |

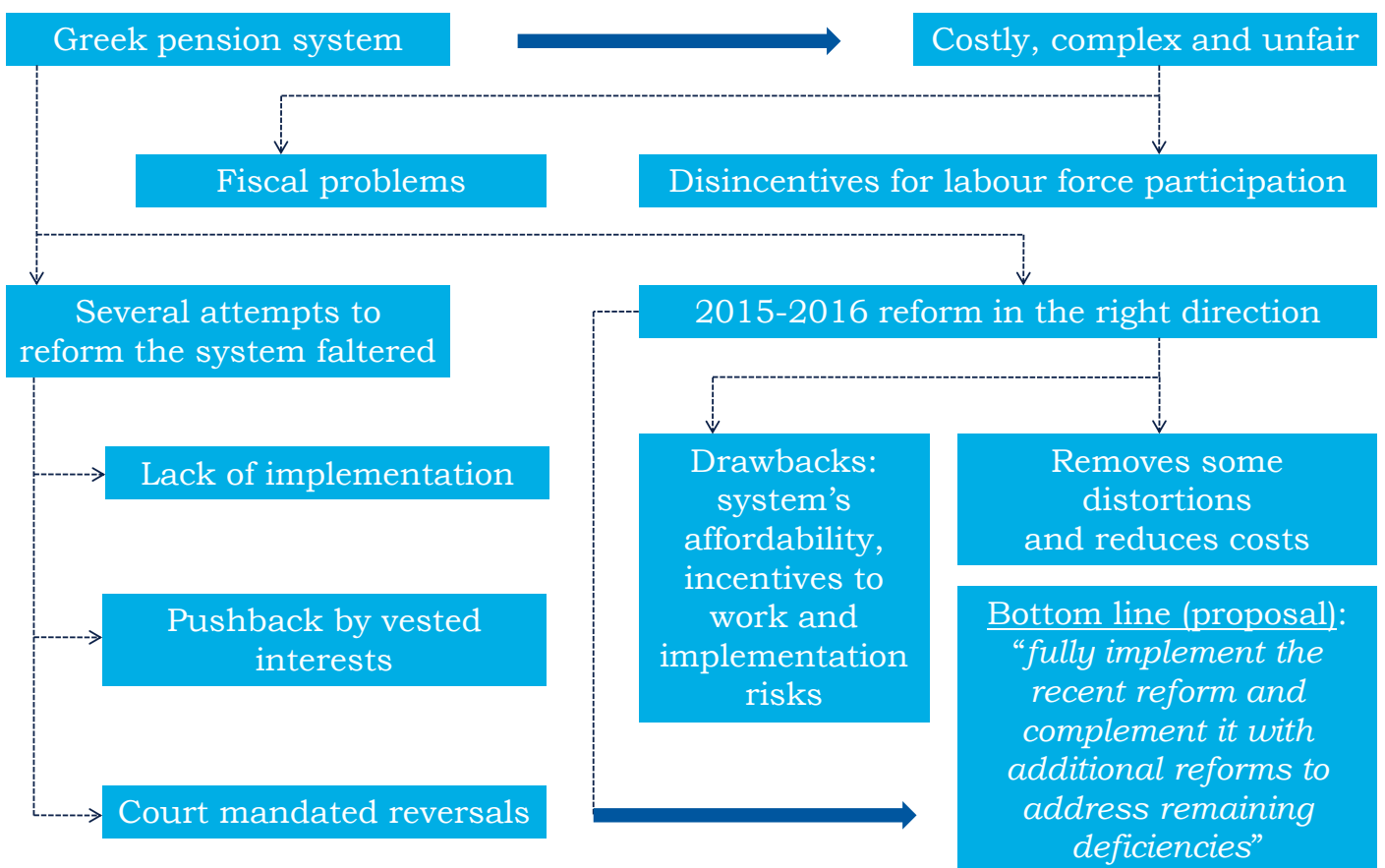
Percentage distribution of pensioners per age group and pension category
(July 2015, latest available)



Source: Helios (IDIKA) July 2015; Eurobank Research

The general picture that emerges for the Greek pension system

Through the lens of the IMF staff (Jan-2017)



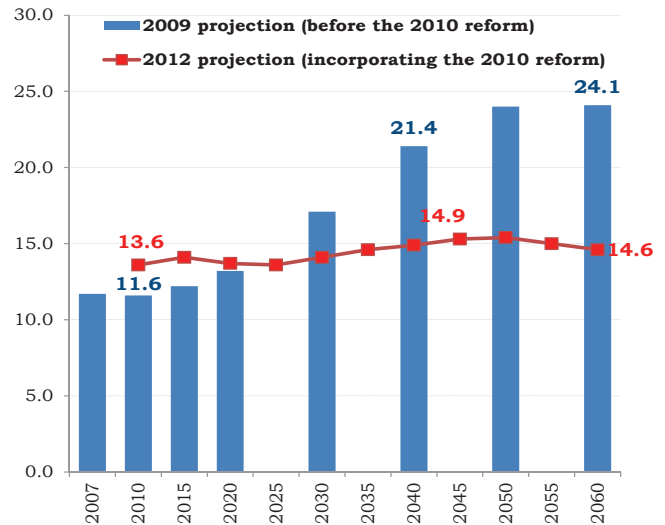
Key reforms implemented in 2010

- ✓ Early and statutory retirement age set at 60/65 for all insured
- ✓ Increase of the required years of contributions to 40 from 35
- ✓ Tightening of early retirement rules by introducing a penalty for early retirement
- ✓ Streamlining of hazardous professions entitled to early retirement options
- ✓ Overhaul of unified benefit formula for all main pension funds (except the farmers' fund OGA), by introducing a basic pension component (€360/month) in addition to an earnings-related pension with "average" accrual rates, ranging between 0.8 and 1.5 percent, compared to 2-3 percent earlier

Remaining challenges & unaddressed issues

- ✗ Introduction of the non-contributory basic pension flattened the benefit schedule and weakened contribution-benefit links
- ✗ Reform was undermined by extensive grandfathering of previous early retirement options, which led to a massive wave of early retirements to take advantage of the previous more generous rules
- ✗ Reforms key element - the unified benefit rule - was never applied.

Greece: pension expenditure projection before and after the 2010 reform (% of GDP)



Source: IMF (Jan, 2017); EU AWG (2012), Tinios, P (2013); Eurobank Research

Greece: recent pension reforms and outcomes

2011-2012 reforms to contain medium-term pension system costs

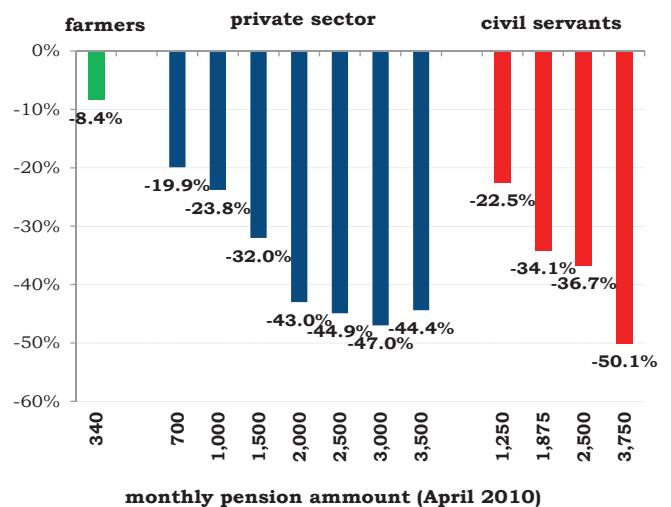
Key reforms implemented in 2011-12

- ✓ Introduction of zero-balance rule for auxiliary pension funds, aiming to ensure elimination of deficits
- ✓ Increase in the early and statutory retirement ages by a further two years, to 62 and 67, respectively
- ✓ Freeze of pensions indexation (previously linked to GDP and inflation growth) until 2016
- ✓ Reduction of current retirees benefits, including the elimination the 13th and 14th pension payments
- ✓ Series of progressive cuts of main and supplementary pensions above certain limits

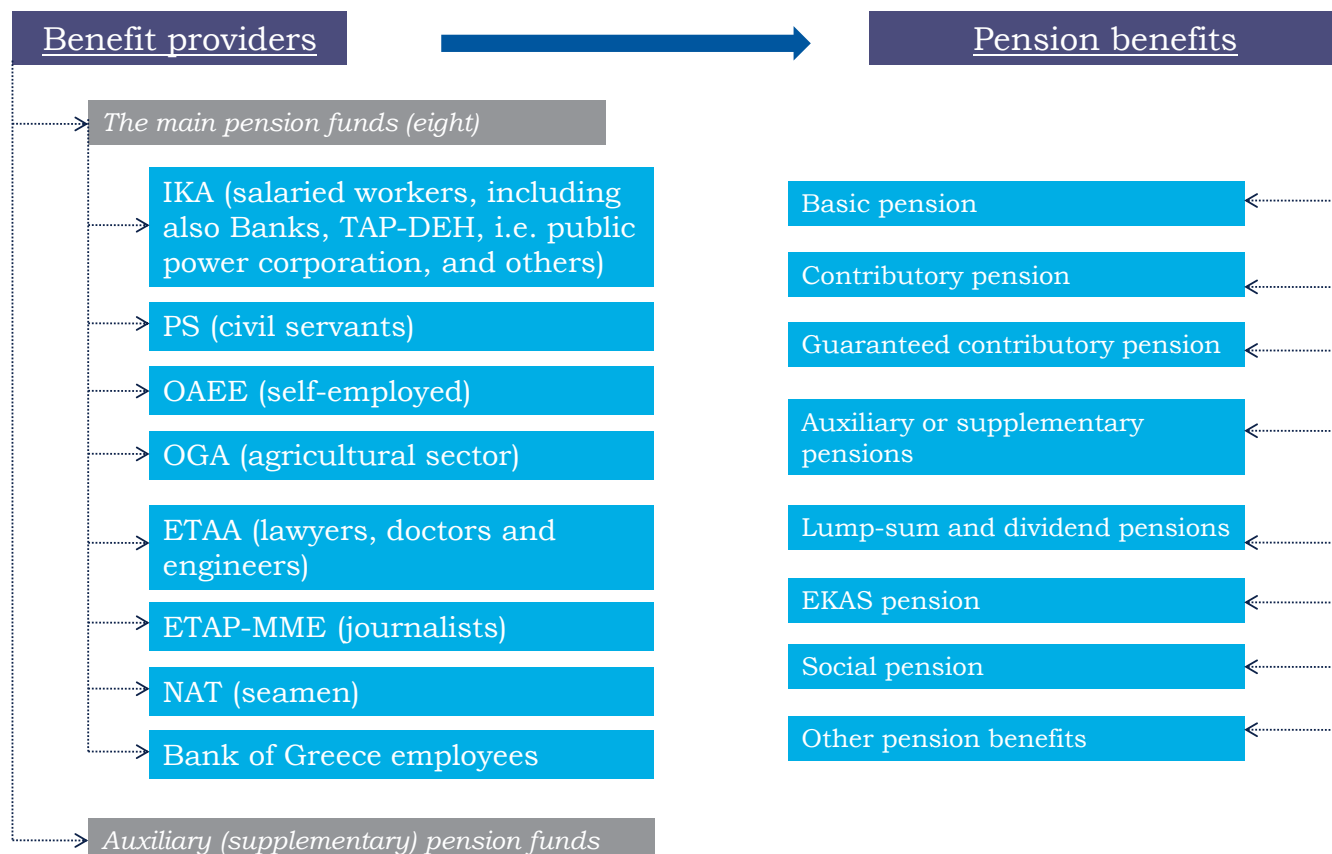
Remaining challenges & unaddressed issues

- ✗ Zero-balance rule for auxiliary pension funds was not implemented, leading to continued deficits that had to be financed from the general budget
- ✗ Increase in the retirement age lacked effectiveness due to extensive grandfathering
- ✗ Pension cuts (expected to yield 2¼ percent of GDP in gross fiscal savings) were ruled unconstitutional by a Council of State decision in 2015

Greece: cumulative deduction in pensions (%)
May 2010 - September 2015



Source: Tinios, P. (2013, 2016)



Source: IMF, Eurobank Research

Greece: recent pension reforms and outcomes

2015-2016 reforms to address structural deficiencies & reduce medium- and long-term costs in the pension system

Key reforms implemented in 2015-16

- ✓ Convergence by 2022 of all existing retirement ages toward 67 years (or 62 years with 40 years of contributions)
- ✓ Increase in the benefit discount for early retirement from 6% to 16%
- ✓ Introduction of a single uniform benefit rule for both existing and new retirees (*basic* component of €384/month at 20 years of insurance plus *contributory* component); new benefit formula applied on lower marginal accrual rates
- ✓ Elimination of minimum guaranteed pension for all retirees except those with work-related disabilities
- ✓ Phasing out of solidarity grant EKAS by end-2019
- ✓ Selective cuts of supplementary pensions for pensioners with total pension benefits above €1,300/month and freeze of supplementary pensions as long as the funds remain in deficit
- ✓ Main pension contributions were harmonized at 20% for all employees (implying an increase for farmers of 13ppts)
- ✓ Health contribution rates for retirees were increased to 6% (from 4% in the main funds and 0% in the supplementary)
- ✓ Transformation of the social security contribution base for self-employed from notional to actual earnings, subject to a minimum income limit & elimination of third-party charges used to finance self-employed pension funds deficits

Remaining challenges - The IMF staff's view

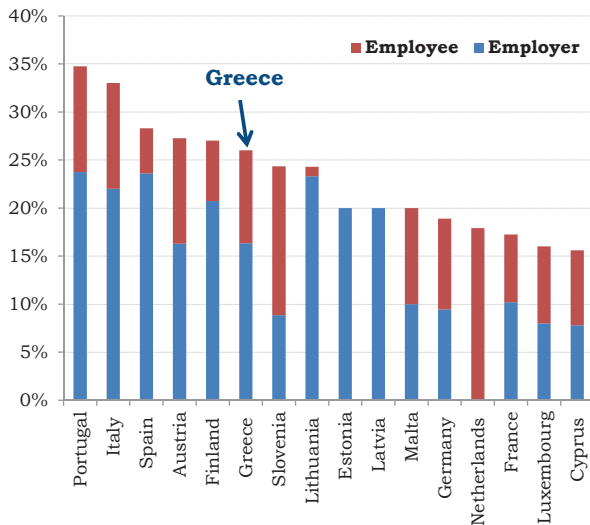
- ✗ Reform still leaves a significant pension system deficit (9% of GDP) over the m-t, which will continue to absorb resources from the general budget
- ✗ Reform estimated to lead to a gradual reduction in replacement rates (average pensions relative to pensionable wages) by about 4.4ppts, implying a worsening of contribution-benefit links, with adverse implications for labor force participation
- ✗ Fiscal adjustment delivered by the main pension recalibration and supplementary benefit reductions is largely borne by new generations of retirees with longer careers, exacerbating already large intra-generational imbalances
- ✗ Ownership of the reform remains fragile in the face of strong resistance

Projected savings from the 2015-16 pension reform (% GDP)

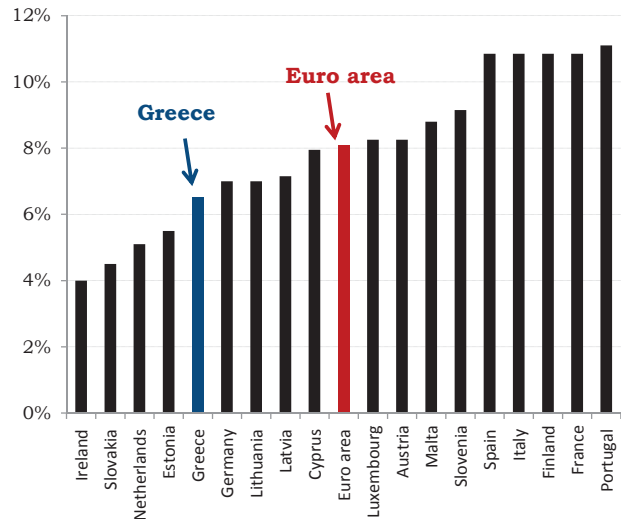
| | 2015 | 2016 | 2017 | 2018 |
|--|------------|------------|------------|------------|
| Total | 0.1 | 0.7 | 1.2 | 1.5 |
| Benefits | 0.0 | 0.3 | 0.7 | 1.0 |
| Overhaul of early retirement rules | 0.0 | 0.0 | 0.1 | 0.1 |
| phasing out of noncontributory solidarity grant (EKAS) by end-2019 | | 0.0 | 0.3 | 0.4 |
| Main pension benefit reform | | 0.0 | 0.1 | 0.2 |
| Supplementary, lump-sum and dividend fund reforms | | 0.2 | 0.2 | 0.2 |
| Other (incl. wider eligibility for social pension, lower ceiling) | | 0.0 | 0.0 | 0.0 |
| Contributions | 0.1 | 0.4 | 0.5 | 0.5 |
| Raising health contributions for retirees | 0.1 | 0.3 | 0.3 | 0.3 |
| Harmonizing contribution rules and base | | 0.0 | 0.0 | 0.0 |
| Temporary increase by 1/0.5ppt in supplementary contributions | | 0.1 | 0.2 | 0.2 |

- **Contribution rates for both employers and employees**, including main and supplementary pensions, stood at 26% at end-2015, not far from the corresponding euro area average (25%)
- **However, pension contribution revenue** have been relatively low by international comparison (6.5% vs. c. 8% in the euro area), suggesting that the Greek social security system, similarly to the tax system, suffers from high rates levied on narrow bases eroded by low compliance and collection efficiency (IMF, January 2017)

Contribution rates to public pension system (*)
Year 2013



Pension contribution revenue (% GDP)
By employers and employees
Year 2015



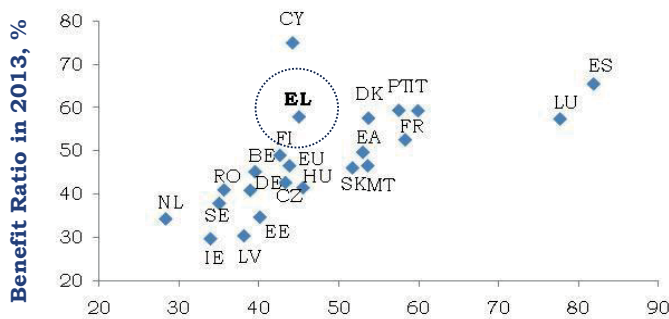
(*) Data for Greece exclude lump-sum dividend fund contributions; for Austria and Finland the rates are arithmetic averages of mandated ranges

Source: European Commission 2012 & 2015 Ageing Report, IMF (Jan. 2017); Eurobank Research

The IMF staff's viewpoint (Jan 2017)

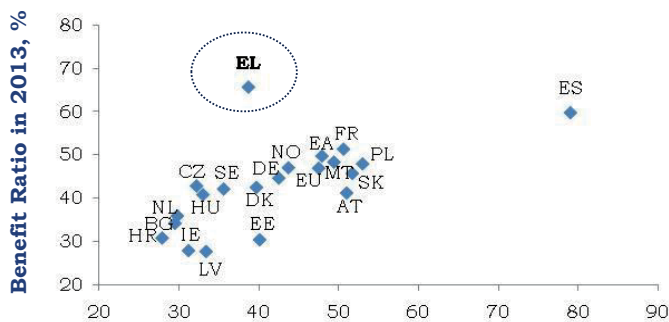
Nominal pensions in Greece remain relatively generous despite lower productivity

Public Pensions – Earnings Related



Gross Average Replacement Rate in 2013, %

Public Pensions



Gross Average Replacement Rate in 2013, %

Comparison of Greek and German Pension systems
Monthly amounts in Euros, unless otherwise stated

| | Germany | Greece |
|---|---------|-------------|
| Standard Pension ("Eckpension") in 2014 1/ | 1,287 | 1,152 |
| Average pension (comparable data) in 2014 | 1,224 | 954 |
| Average pension (comparable in PPS terms) in 2014 | 1,208 | 1,168 |
| GDP per capita (2015) | 3,092 | 1,350 |
| Average wage (2015) | 3,134 | 1,470 |
| Ratio of standard pension to average wage | 41.0% | 78.0% |
| Ratio of average pension to average wage | 39.0% | 65.0% |
| Minimum pension N/A >486 + EKAS | N/A | >486 + EKAS |
| Effective retirement age (new old age pension) | 64 | 59 |
| Average contributory period (new pensions, 2010) | 36.3 | 29.3 |

1/ The standard pension is calculated for an average wage earner with 45 years of insurance retiring at 65 years of age. It provides a useful benchmark for comparison of pension benefits for retirees with the same retirement age and contribution years

Source: the 2015 Ageing report, economic and budgetary projections for the 28 EU member states (2013-2060)

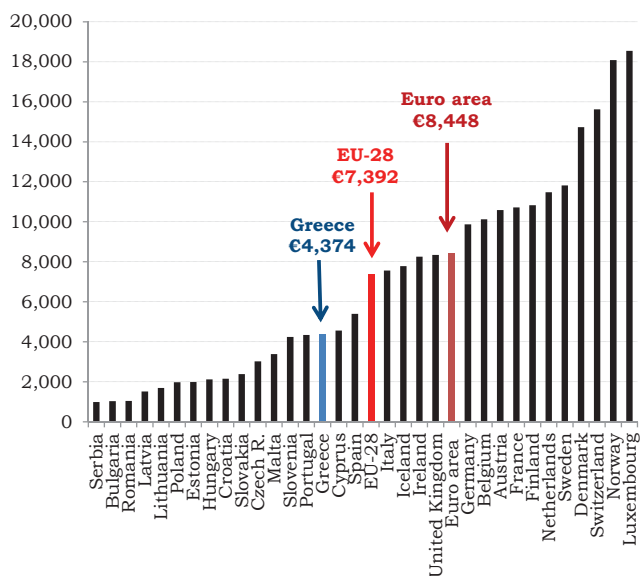
Definitions:
Public pension earnings related refers to old age earnings related pension. Public pensions aggregate includes disability, survivor and non-earnings related benefits.

The 'Benefit ratio' is the average benefit of public pensions and public and private pensions, respectively, as a share of the economy-wide average wage (gross wages and salaries in relation to employees), as calculated by the Commission services.

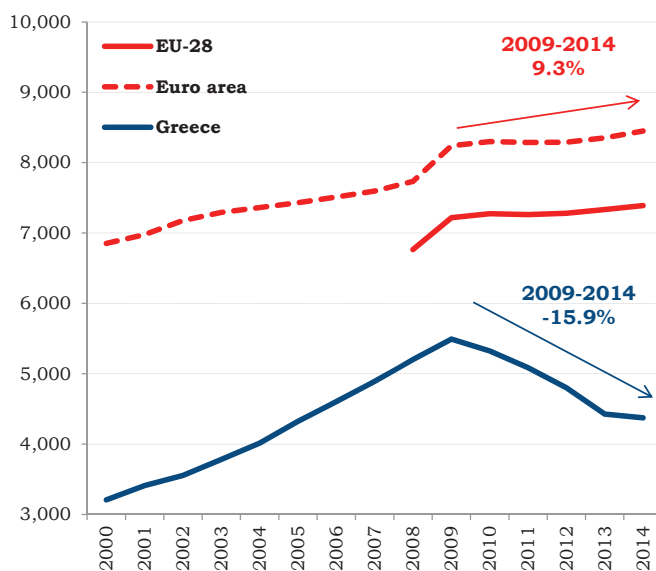
The 'Gross Average Replacement Rate' is calculated as the average first pension as a share of the average wage at retirement, as reported by the Member States in the pension questionnaire.

- **Greece's overall social protection spending is not only among the lowest in the EU**, but it has also declined significantly since the outbreak of the sovereign crisis due to immense budgetary restraint and the sharp rise in poverty rates

Annual social protection expenditure, 2014
Euros per inhabitant (2010 prices)



Annual social protection expenditure, 2000-14
Euros per inhabitant (2010 prices)



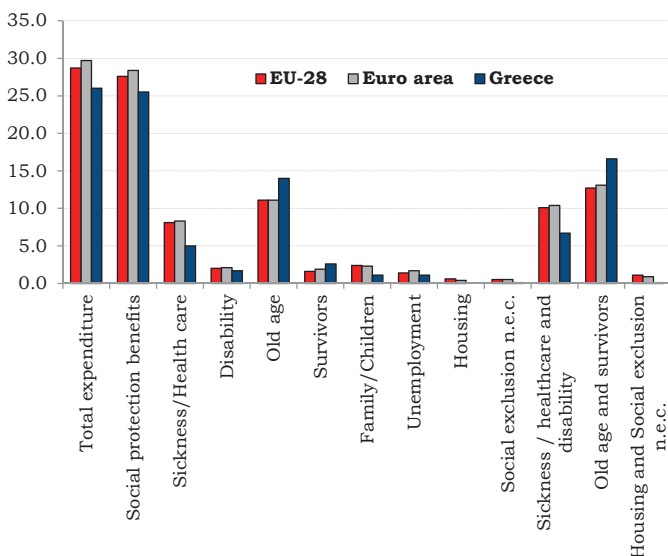
Source: Eurostat, Eurobank Research

Greece's total social protection expenditure well below the EU average

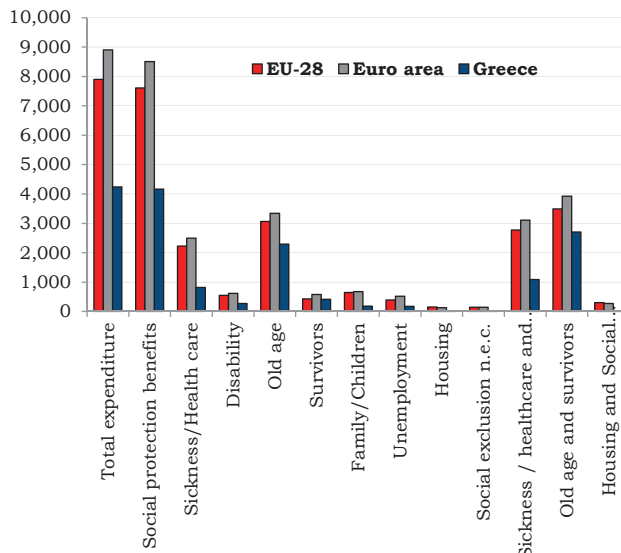
Especially as measured in nominal, per inhabitant terms

- **Despite the sharp rise in Greece's pension expenditure to GDP ratio in recent years (as a result of the steep output decline)**, total social protection spending remains well below the respective European averages, especially if measured in € per inhabitant terms
- **This is due to an effective lack of a social state in Greece** and reflects the fact that pensions have extensively been relied on to support family income and other crucial social needs (on e.g. health, housing and support to unemployed family members) during the crisis period

Annual social protection expenditure, 2014
% of GDP



Annual social protection expenditure, 2014
Euros per inhabitant



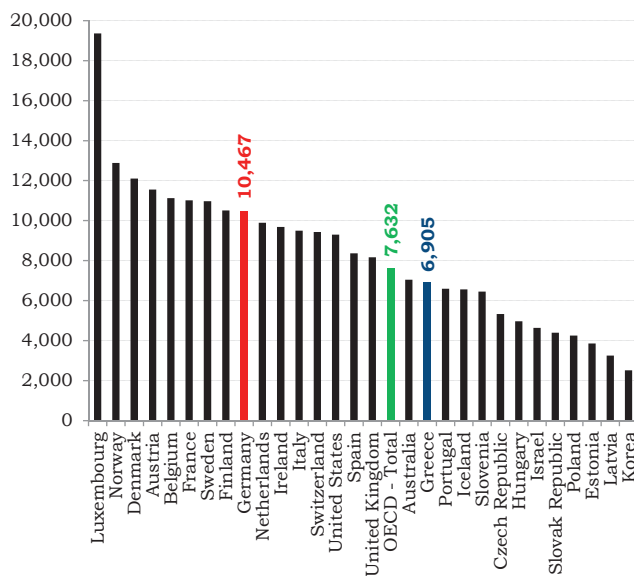
Source: Eurostat, Eurobank Research

The same applies for Greece's public social expenditure

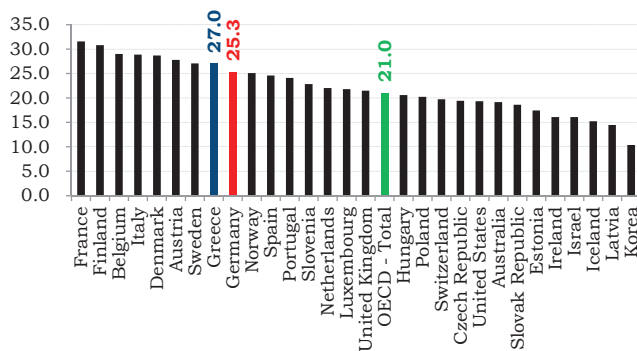
Though the corresponding ratio as % of GDP increased in recent years as a result of the collapse of domestic output (denominator)

Public social expenditure, 2010

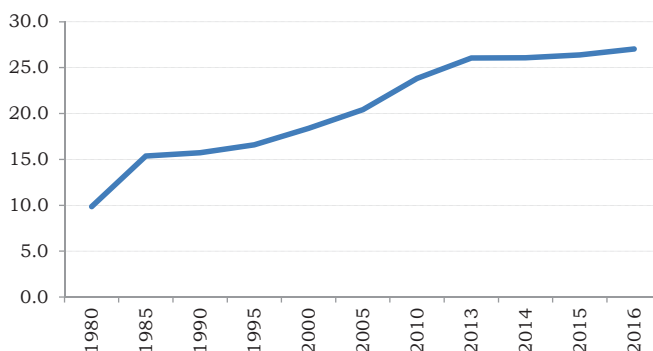
Per head, at constant prices (2010) and constant PPPs (2010), in US dollars



Public social expenditure (% GDP), 2016



Greece's Public social expenditure (% GDP), 2016



Source: OECD, Eurobank Research

Net income of retired persons

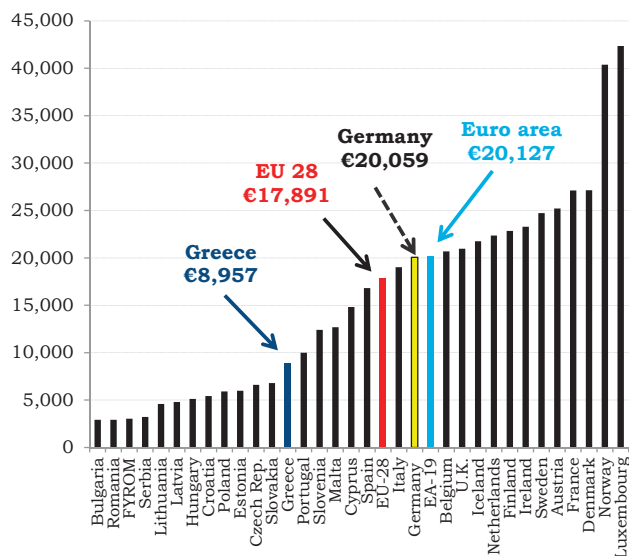
How Greece compares with the rest of Europe?

- According to Eurostat's *Income and Living Conditions* database, the net income of a typical retiree in Greece is currently well below the respective European averages
- In 2015 (latest available data), the mean equivalised net income received by a typical Greek retiree was around half of the EU-28 average and c. 45% of the respective averages in Germany and the euro area
- Over the period 2010-15, Greece's average net retiree income declined by c. 26%, whereas it increased by: 5.7% in Germany, 6.5% in Italy and 7.7% in the euro area

Mean equivalised net income, 2015

Retired persons (65 years or older)

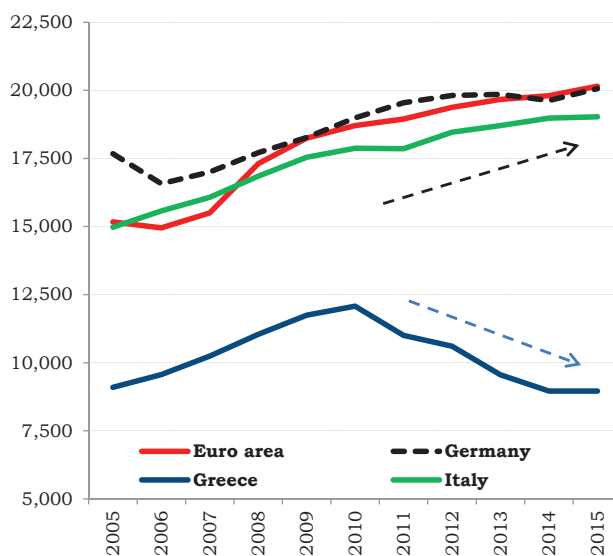
Average annual income in euros



Evolution of mean equivalised net income

Retired persons (65 years or older)

Average annual income in euros

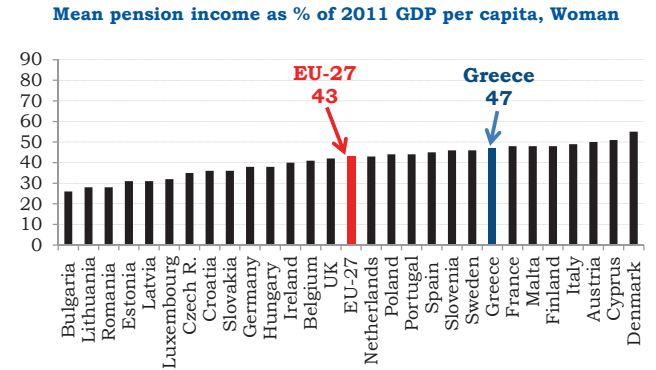
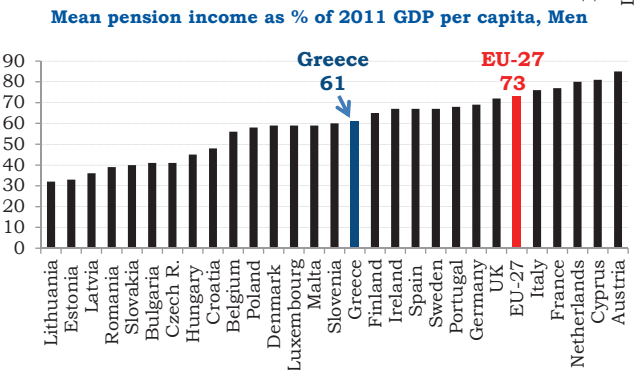
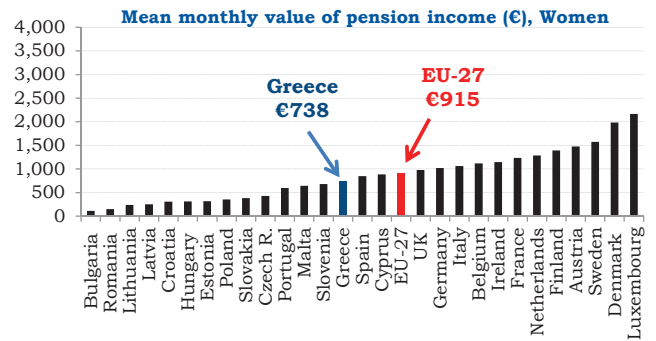
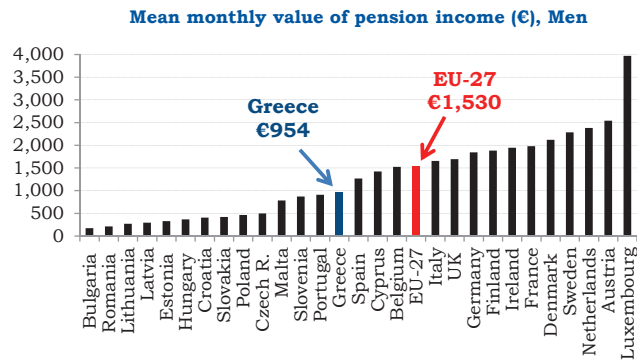


Source: Eurostat's Income and Living Conditions database; Eurobank Research

Mean value of monthly pension income of pensioners

How Greece compares with the rest of Europe?

- Greece's mean monthly value of pension income for both men and women is also well below the respective EU averages, as per the EC's Pension Adequacy Report (Vol. 1) for 2015
- A graphical depiction of Table 3.10 (page 153) that is included in the abovementioned report is presented below; the relevant data are for 2012 i.e., before the pension cuts envisaged in Law 4093/12 were implemented



(*) Figures for Belgium and Ireland are based on 2011 data

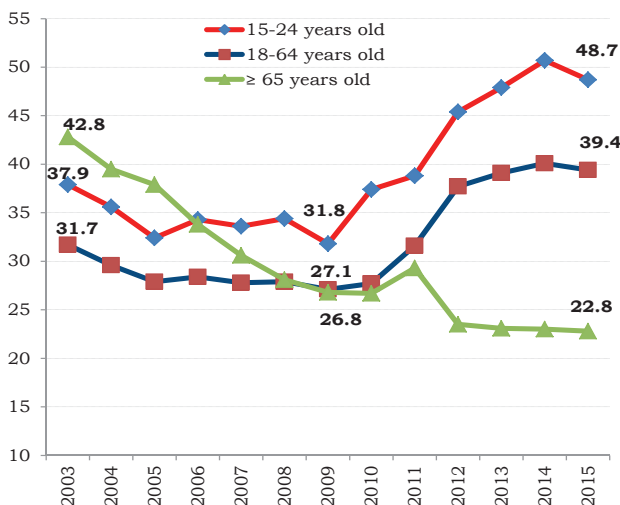
Source: EU-SILC 2012, ENEGE. Eurobank Research

Poverty rates in Greece have increased dramatically in recent years

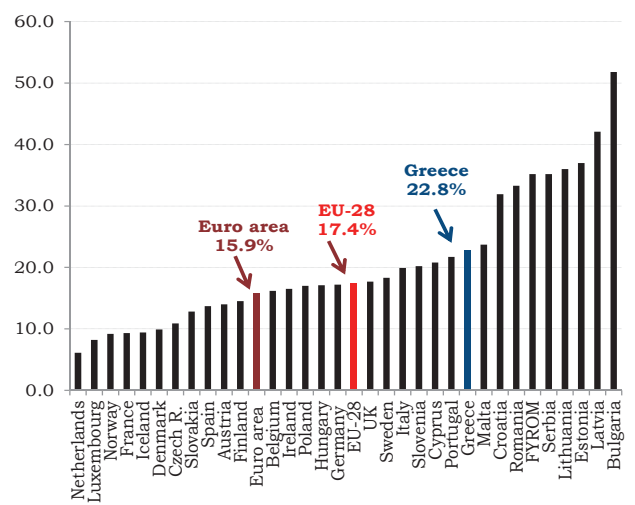
But more so among the working-age population

- The percentage of people in Greece facing poverty and social exclusion has increased dramatically since the outbreak of the crisis, reflecting the unprecedented decline in incomes and the sharp increase in unemployment
- However, the at-the-risk poverty rate for people aged 65 years or more has actually declined, whereas that for people belonging to the younger age groups skyrocketed since 2011, suggesting that the working age population has been hit harder by the crisis than the country's pensioners
- Poverty is usually measured in relative terms i.e., comparing with a yardstick equal to the income of the middle individual in the income distribution; thus taking into account that the poverty threshold for one person fell from €6.9k in 2009 to €4.6k in 2014, the respective percentage for the over 65s in 2015 is > 45% instead of 22.8% shown in the left-side graph below (for more analysis see Tinios P. 2016)

Greece: people at the risk of poverty or social exclusion as % of total population, 2003-15
(by age group)



European countries: people at the risk of poverty or social exclusion as % of total population, 2015
(persons aged 65+ years)



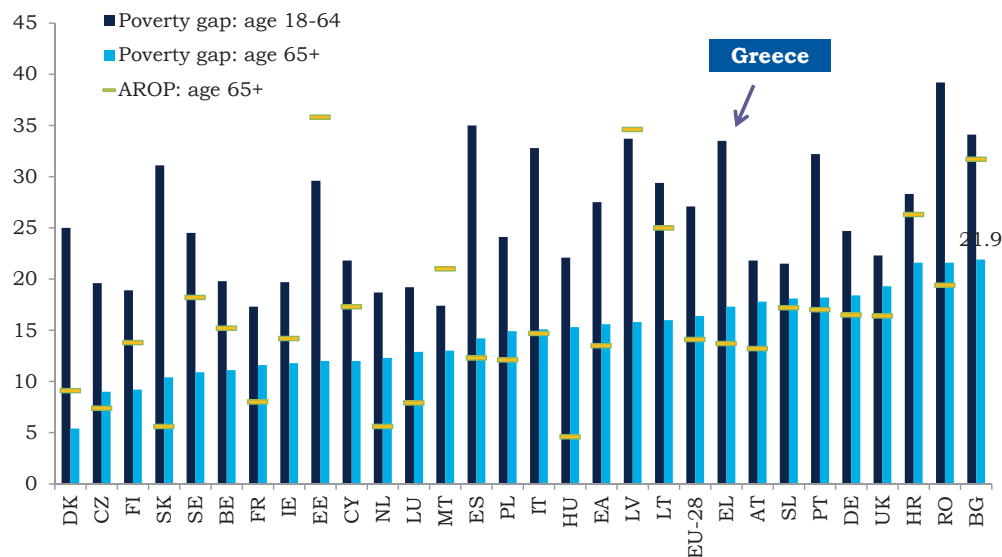
Source: Eurostat's Income and Living Conditions database; Tinios P., 2016, Eurobank Research

Poverty rates in Greece have increased dramatically in recent years

But more so among the working-age population

- The percentage of people in Greece facing poverty and social exclusion has increased dramatically since the outbreak of the crisis, reflecting the unprecedented decline in incomes and the sharp increase in unemployment

Relative at risk of poverty gap (by age group) and the AROP for the population aged 65+, 2015 (*)



(*) Relative at risk of poverty gap (by age group) and the AROP (at risk of poverty rate) for the population aged 65+, 2015: The relative median at-risk-of-poverty gap is calculated as the difference between the median equivalised disposable income of people below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60 % of national median equivalised disposable income).

Source: Eurostat's Income and Living Conditions database. 2016, Eurobank Research

Total public social expenditure and main categories

How Greece compares with other OECD countries

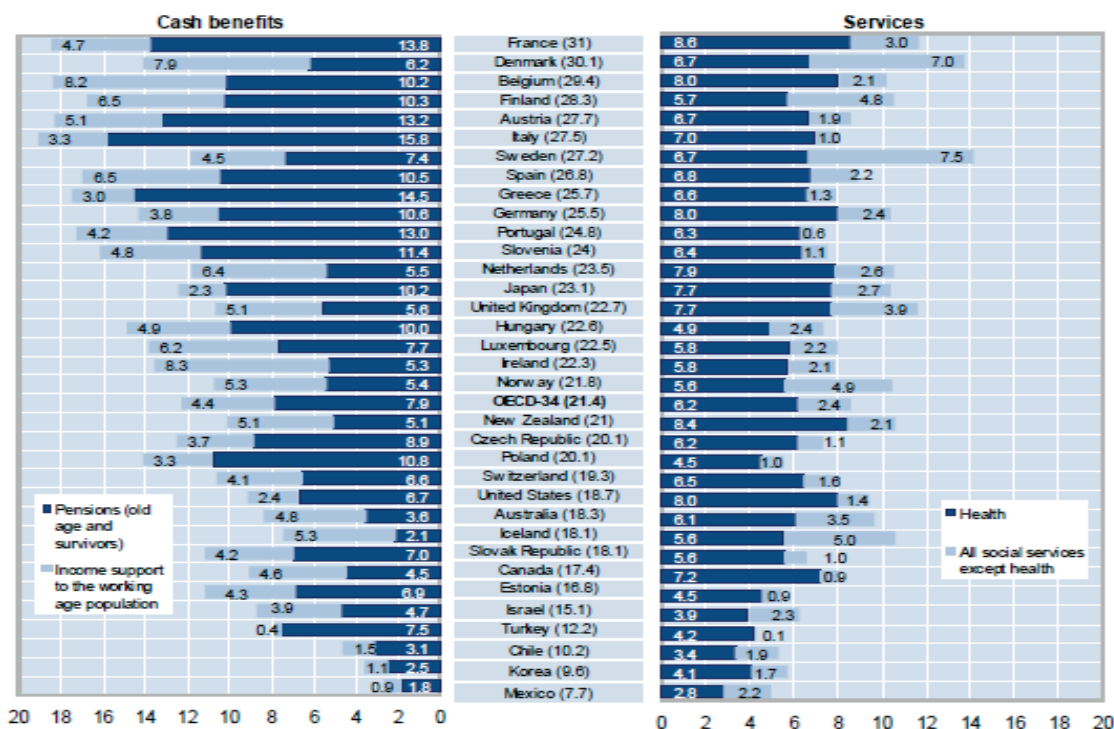
Total public social expenditure and main categories (% GDP), 2010

(Cash benefits + benefits in kind)

Selected OECD countries

| | Total public expenditure | Incapacity related | Old age | Survivors | Health | Family | Unemployment | Housing |
|------------------------|--------------------------|--------------------|---------|-----------|--------|--------|--------------|---------|
| <u>France</u> | 30.7 | 1.7 | 11.9 | 1.7 | 8.4 | 2.9 | 1.6 | 0.8 |
| <u>Denmark</u> | 28.9 | 5.0 | 9.5 | 0.0 | 6.7 | 3.8 | 0.0 | 0.7 |
| <u>Belgium</u> | 28.3 | 2.6 | 7.9 | 2.0 | 7.7 | 2.8 | 3.5 | 0.2 |
| <u>Italy</u> | 27.6 | 1.7 | 12.9 | 2.5 | 7.0 | 1.3 | 1.5 | 0.0 |
| <u>Austria</u> | 27.6 | 2.3 | 11.7 | 1.9 | 6.5 | 2.8 | 1.0 | 0.2 |
| <u>Finland</u> | 27.4 | 3.9 | 10.0 | 0.9 | 5.4 | 3.1 | 1.9 | 0.5 |
| <u>Sweden</u> | 26.3 | 4.2 | 9.1 | 0.5 | 6.3 | 3.4 | 0.6 | 0.4 |
| <u>Germany</u> | 25.9 | 2.0 | 8.6 | 2.0 | 8.0 | 2.2 | 1.5 | 0.7 |
| <u>Spain</u> | 25.8 | 2.6 | 8.3 | 2.2 | 6.7 | 1.5 | 3.2 | 0.2 |
| <u>Portugal</u> | 24.5 | 1.9 | 10.3 | 1.8 | 6.9 | 1.4 | 1.2 | 0.0 |
| <u>Greece</u> | 23.8 | 0.9 | 11.3 | 2.1 | 6.2 | 1.4 | 0.8 | 0.4 |
| <u>Slovenia</u> | 23.4 | 2.3 | 9.4 | 1.7 | 6.3 | 2.1 | 0.5 | 0.0 |
| <u>Hungary</u> | 23.0 | 2.4 | 8.9 | 1.3 | 4.9 | 3.4 | 0.8 | 0.5 |
| <u>Luxembourg</u> | 22.9 | 2.7 | 5.8 | 1.8 | 6.1 | 4.0 | 1.2 | 0.3 |
| <u>United Kingdom</u> | 22.8 | 2.0 | 6.5 | 0.1 | 7.5 | 4.0 | 0.4 | 1.4 |
| <u>Ireland</u> | 22.4 | 2.4 | 5.0 | 0.5 | 5.8 | 3.7 | 3.2 | 0.6 |
| <u>Netherlands</u> | 22.1 | 3.1 | 5.7 | 0.2 | 7.6 | 1.5 | 1.5 | 0.4 |
| <u>Norway</u> | 21.9 | 4.2 | 6.8 | 0.3 | 5.6 | 3.1 | 0.5 | 0.1 |
| <u>OECD - Total</u> | 21.1 | 2.2 | 7.3 | 1.0 | 6.0 | 2.2 | 1.0 | 0.4 |
| <u>Poland</u> | 20.6 | 2.3 | 9.1 | 2.0 | 4.6 | 1.3 | 0.3 | 0.1 |
| <u>Czech Republic</u> | 19.8 | 2.0 | 7.6 | 0.7 | 5.8 | 2.4 | 0.8 | 0.1 |
| <u>United States</u> | 19.3 | 1.4 | 5.9 | 0.7 | 8.0 | 0.7 | 1.1 | 0.4 |
| <u>Latvia</u> | 18.7 | 2.1 | 9.3 | 0.3 | 3.7 | 1.5 | 1.1 | 0.1 |
| <u>Estonia</u> | 18.3 | 2.3 | 7.6 | 0.1 | 4.8 | 2.6 | 0.6 | 0.0 |
| <u>Slovak Republic</u> | 18.1 | 1.8 | 6.2 | 0.9 | 5.6 | 2.0 | 0.7 | 0.0 |

Public social expenditure by broad social policy area, as % of GDP, in 2012



Note: Countries are ranked by decreasing order of public social expenditure as a percent of GDP. Spending on active labour market programs (ALMPs) cannot be split by cash/services breakdown; they are however included in the total public spending (shown in brackets). Income support to the working-age population refers to spending on the following SOCX categories: incapacity benefits, family cash benefits, unemployment and other social policy areas categories. Data for Australia, Canada, Chile, Israel, Korea, New Zealand and the United States refer to 2012; other data reflect 2011.

Source: OECD, Eurobank Research

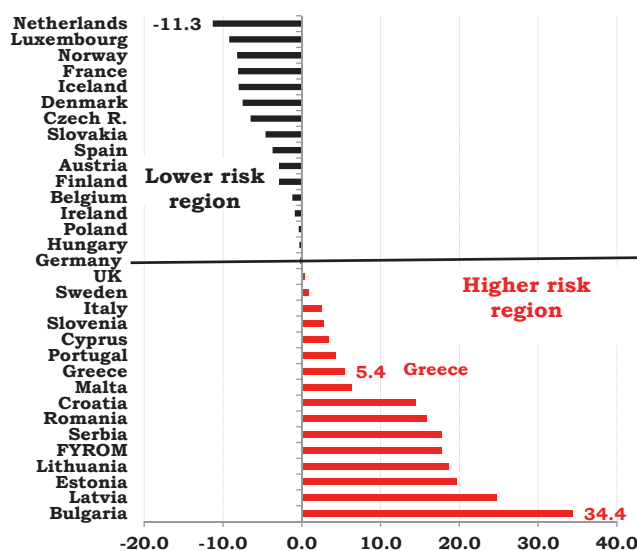
Greek pensions: the adequacy challenge

Poverty protection

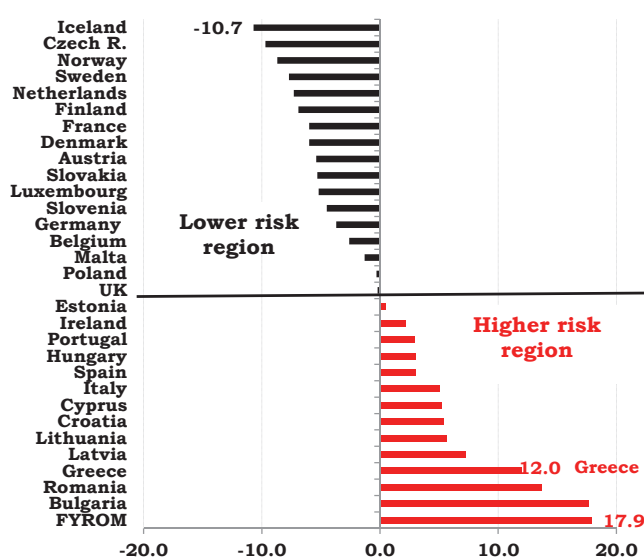
“The adequacy of pensions is measured by their ability to prevent poverty, the degree to which they replace income before retirement and how they compare to the average incomes of people below pensionable age. Pension adequacy has important gender dimensions as in all Member States, on average, women are more exposed to poverty and have lower pensions than men”

- The percentage of elderly people in Greece facing poverty and social exclusion has increased dramatically since the outbreak of the crisis
- Currently, the problem is even more pronounced for people belonging to working age groups

% of population (65+) living at the risk of poverty or social exclusion, 2015 (Standardized value EU-28=0)



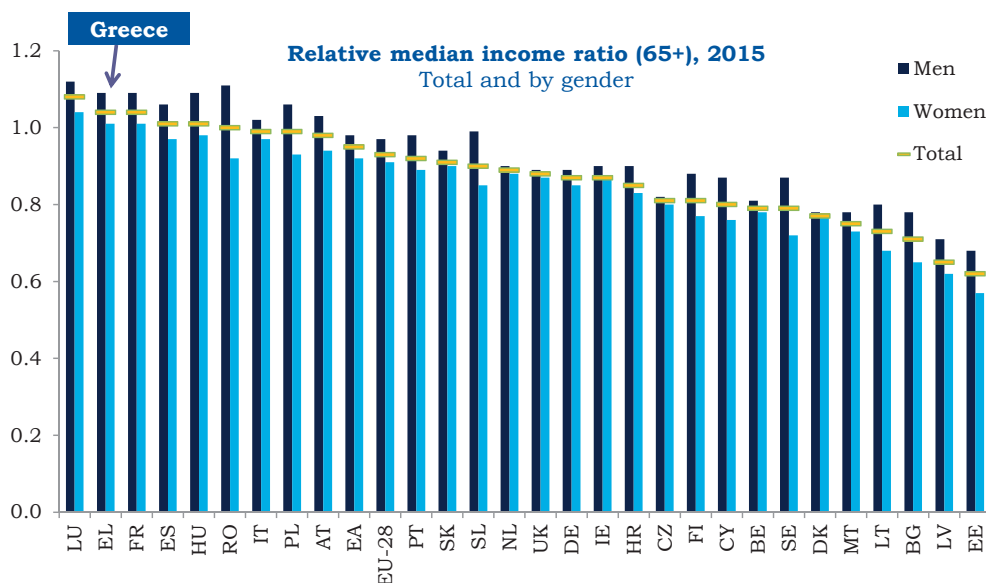
% of total population living at the risk of poverty or social exclusion, 2015 (Standardized value EU-28=0)



Source: Eurostat's Income and Living Conditions database; Eurobank Research

“The adequacy of pensions is measured by their ability to prevent poverty, the degree to which they replace income before retirement and how they compare to the average incomes of people below pensionable age. Pension adequacy has important gender dimensions as in all Member States, on average, women are more exposed to poverty and have lower pensions than men”

- In terms of the relative median income ratio for those aged 65 years and more (*), Greece fares exceptionally well relative to other EU-28 countries. As we explained earlier, this is due to the low basis of comparison (denominator) rather than the absolute adequacy of the median income of older people



(*) The relative median income ratio measures the average overall income of older people (those aged 65 years and more) relative to the average incomes of the young age groups (population aged 0-64)

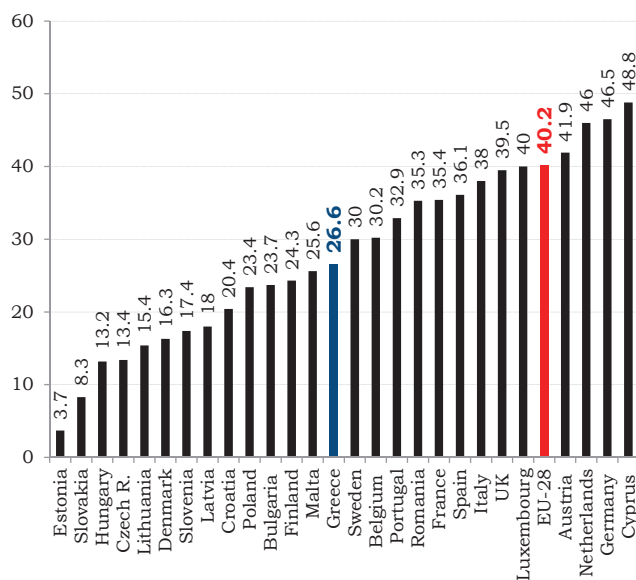
Source: Eurostat’s Income and Living Conditions database; Eurobank Research

Greek pensions: the adequacy challenge
The gender pension gap

“The adequacy of pensions is measured by their ability to prevent poverty, the degree to which they replace income before retirement and how they compare to the average incomes of people below pensionable age. Pension adequacy has important gender dimensions as in all Member States, on average, women are more exposed to poverty and have lower pensions than men”

- Greece also scores better than the EU-28 average in terms of the *gender pension gap* i.e., the percentage by which women’s average pension is lower than men’s

Gender gap in pensions (%) of persons aged 65-74, Year 2015



Gender gap in pensions (%) of persons aged 65-74

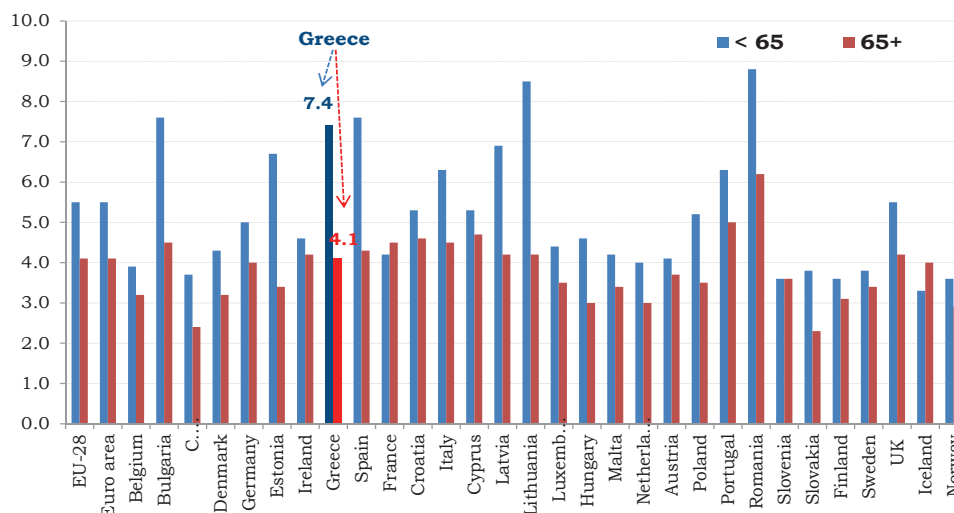
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------|------|------|------|------|------|------|------|
| EU-27 | 40.1 | 40.8 | 40.7 | 40.6 | 40.2 | 40.7 | 40.2 |
| EU-28 | | | | | | 40.7 | 40.2 |
| Austria | 35.0 | 38.5 | 37.4 | 42.9 | 41.8 | 41.4 | 41.9 |
| Belgium | 30.4 | 31.1 | 29.2 | 27.0 | 27.0 | 33.6 | 30.2 |
| Bulgaria | 26.4 | 29.9 | 33.1 | 31.2 | 36.2 | 29.9 | 23.7 |
| Cyprus | 44.2 | 42.0 | 42.0 | 42.0 | 37.7 | 47.7 | 48.8 |
| Czech Republic | 11.3 | 11.2 | 13.8 | 14.8 | 14.3 | 13.2 | 13.4 |
| Germany | 43.0 | 45.6 | 43.8 | 44.0 | 44.6 | 47.4 | 46.5 |
| Denmark | 20.0 | 22.0 | 18.8 | 9.3 | 6.5 | 13.0 | 16.3 |
| Estonia | 2.4 | 2.7 | 3.1 | 0.8 | 3.6 | 3.3 | 3.7 |
| Greece | 39.0 | 38.5 | 38.3 | 31.1 | 22.6 | 25.1 | 26.6 |
| Spain | 33.0 | 34.1 | 33.0 | 34.3 | 33.2 | 37.1 | 36.1 |
| Finland | 24.4 | 24.5 | 26.3 | 25.7 | 26.1 | 24.0 | 24.3 |
| France | 39.5 | 38.1 | 39.2 | 37.3 | 37.6 | 35.5 | 35.4 |
| Croatia | | | | 24.8 | 24.2 | 23.3 | 20.4 |
| Hungary | 13.7 | 15.3 | 14.8 | 15.7 | 15.3 | 14.8 | 13.2 |
| Ireland | 33.7 | 36.7 | 38.6 | 41.0 | 41.0 | 35.5 | |
| Italy | 35.9 | 36.3 | 35.2 | 36.7 | 35.7 | 38.5 | 38.0 |
| Lithuania | 16.2 | 17.5 | 13.8 | 10.6 | 12.1 | 16.4 | 15.4 |
| Luxembourg | 45.8 | 49.4 | 49.9 | 49.6 | 45.5 | 45.1 | 40.0 |
| Latvia | 14.9 | 9.4 | 9.8 | 13.9 | 15.7 | 17.1 | 18.0 |
| Malta | 19.6 | 18.6 | 21.7 | 18.8 | 18.5 | 25.3 | 25.6 |
| Netherlands | 41.3 | 44.1 | 44.5 | 45.2 | 46.0 | 46.4 | 46.0 |
| Poland | 22.1 | 21.7 | 22.8 | 23.9 | 24.3 | 22.6 | 23.4 |
| Portugal | 36.3 | 36.6 | 34.1 | 33.5 | 34.5 | 32.2 | 32.9 |
| Romania | 30.3 | 29.4 | 30.1 | 28.1 | 28.9 | 28.1 | 35.3 |
| Sweden | 31.6 | 32.4 | 33.9 | 32.5 | 31.1 | 27.5 | 30.0 |
| Slovenia | 28.7 | 26.2 | 26.3 | 25.9 | 22.3 | 20.5 | 17.4 |
| Slovakia | 12.3 | 10.3 | 8.7 | 17.9 | 8.9 | 7.0 | 8.3 |
| UK | 44.4 | 44.3 | 44.8 | 44.2 | 42.3 | 38.7 | 39.5 |

Source: Eurostat, EU-SILC

“The adequacy of pensions is measured by their ability to prevent poverty, the degree to which they replace income before retirement and how they compare to the average incomes of people below pensionable age. Pension adequacy has important gender dimensions as in all Member States, on average, women are more exposed to poverty and have lower pensions than men”

- In terms of the S80/S20 income inequality indicator for those aged 65 years or more. Greece *does* not score much worse relative to the respective EU-28 and euro area averages. However, the country’s position in terms of income inequality among those aged below 65 years is among the worst in the EU-28

Inequality of income distribution
Income quintile ratio (S80/S20) by age group, 2015



(*) The S80/S20 indicator illustrates the distance between the incomes at the top and at the bottom of incomes for both (i) those aged 65 or above; and (ii) those below age 65.

Source: Eurostat; Eurobank Research

Greek pensions: the sustainability challenge

Long-term public pension expenditure projections

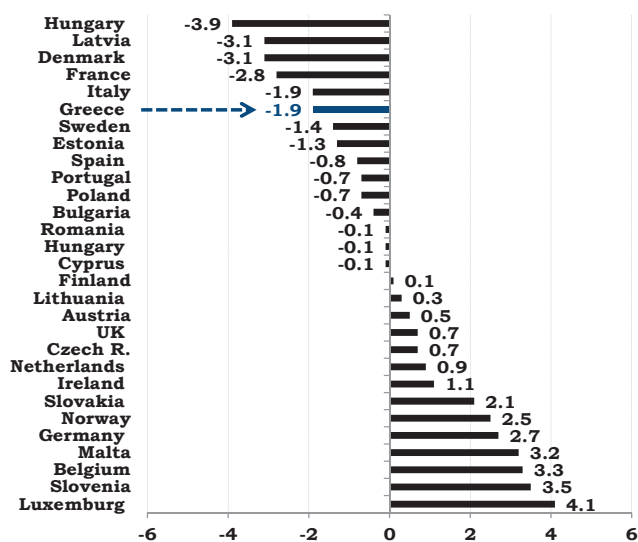
“To be sustainable in the long run, public pension schemes must be able to absorb the impact of population ageing without destabilizing public finances”

- Greece’s public pension expenditure as % of GDP is currently among the highest in EU-28 (2013 data). Thankfully, due to significant reforms implemented in 2010, the corresponding ratio is expected to decline by 1.9ppts by 2060, despite the country’s adverse demographics

Public pension expenditure over 2013 -2060
(in % and p.p. of GDP)

| Country | 2013 | 2040 | 2060 | Change 2013-40 | Change 2013-60 |
|---------|------|------|------|----------------|----------------|
| BE | 11.8 | 15.2 | 15.1 | 3.4 | 3.3 |
| BG | 9.9 | 8.4 | 9.4 | -1.5 | -0.4 |
| CZ | 9.0 | 9.0 | 9.7 | 0.0 | 0.7 |
| DK | 10.3 | 8.0 | 7.2 | -2.3 | -3.1 |
| DE | 10.0 | 12.2 | 12.7 | 2.2 | 2.7 |
| EE | 7.6 | 6.9 | 6.3 | -0.7 | -1.3 |
| IE | 7.4 | 10.0 | 8.4 | 2.7 | 1.1 |
| EL | 16.2 | 14.1 | 14.3 | -2.1 | -1.9 |
| ES | 11.8 | 11.9 | 11.0 | 0.1 | -0.8 |
| FR | 14.9 | 13.8 | 12.1 | -1.1 | -2.8 |
| HR | 10.8 | 7.8 | 6.9 | -3.0 | -3.9 |
| IT | 15.7 | 15.8 | 13.8 | 0.1 | -1.9 |
| CY | 9.5 | 9.4 | 9.3 | -0.1 | -0.1 |
| LV | 7.7 | 5.4 | 4.6 | -2.3 | -3.1 |
| LT | 7.2 | 9.4 | 7.5 | 2.2 | 0.3 |
| LU | 9.4 | 12.7 | 13.4 | 3.3 | 4.1 |
| HU | 11.5 | 9.6 | 11.4 | -1.9 | -0.1 |
| MT | 9.6 | 9.7 | 12.8 | 0.2 | 3.2 |
| NL | 6.9 | 8.3 | 7.8 | 1.5 | 0.9 |
| AT | 13.9 | 14.7 | 14.4 | 0.8 | 0.5 |
| PL | 11.3 | 10.0 | 10.7 | -1.4 | -0.7 |
| PT | 13.8 | 14.8 | 13.1 | 1.0 | -0.7 |
| RO | 8.2 | 8.4 | 8.1 | 0.2 | -0.1 |
| SI | 11.8 | 14.3 | 15.3 | 2.6 | 3.5 |
| SK | 8.1 | 8.1 | 10.2 | 0.0 | 2.1 |
| FI | 12.9 | 13.6 | 12.9 | 0.7 | 0.1 |
| SE | 8.9 | 7.5 | 7.5 | -1.4 | -1.4 |
| UK | 7.7 | 8.4 | 8.4 | 0.8 | 0.7 |
| NO | 9.9 | 11.4 | 12.4 | 1.5 | 2.5 |
| EU | 11.3 | 11.7 | 11.1 | 0.4 | -0.2 |
| EA | 12.3 | 13.0 | 12.3 | 0.7 | 0.0 |

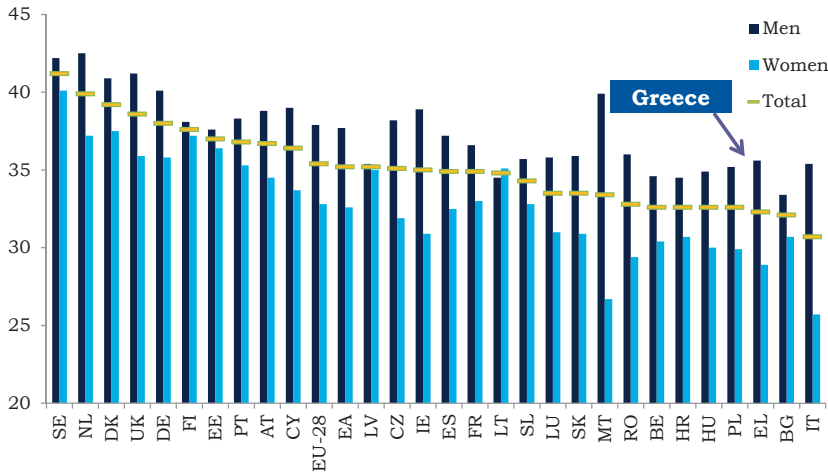
Change in gross public pension expenditure in % of GDP (2013-2060)



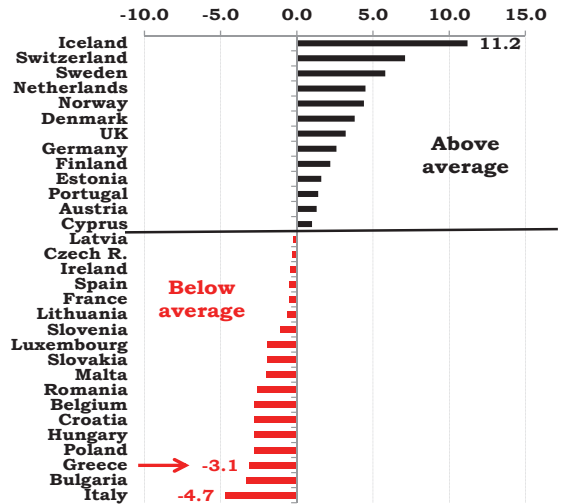
“Employment and adequacy questions are linked. Pension systems can help to optimize labour supply over working life, particularly for older workers, by setting strong work incentives in their entitlement rules and restricting access to early retirement”

- The duration of working life in Greece is currently among the lowest in EU-28 countries. This is not auguring well for the long-term sustainability of the country’s pension system
- Some of the reforms implemented since 2010 have sought to address this issue. In the context of the reforms implemented in 2015-16 there has been a major overhaul of early retirement rules, including, inter alia, (i) the convergence by 2022 of all existing retirement ages toward 67 years (or 62 years with 40 years of contributions) and (ii) an increase in the benefit discount for early retirement from 6% to 16%

Duration of working life, 2015



Duration of working life, 2015
(Standardized value EU-28=0)

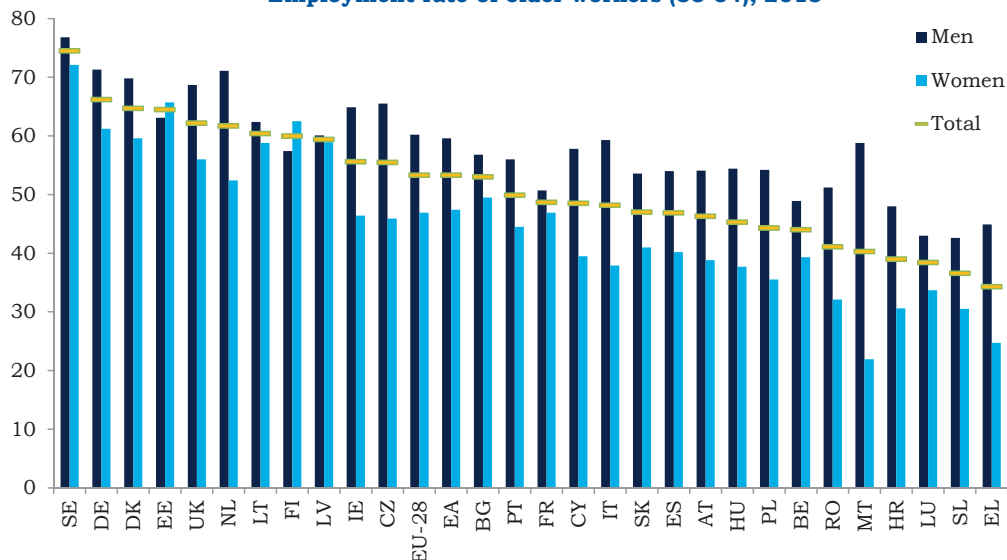


Source: European Commission, EPC. The 2015 Ageing Report; Eurobank Research

“Employment and adequacy questions are linked. Pension systems can help to optimize labour supply over working life, particularly for older workers, by setting strong work incentives in their entitlement rules and restricting access to early retirement”

- Greece currently (2015 data) ranks last among EU-28 countries in terms of total employment of workers aged 55-65 years. Furthermore, the available data point to the existence of long-standing barriers to female older workers’ employment in pension system (e.g. lower pensionable age for women), in work-life balance (e.g. insufficient access to childcare and eldercare), as well as in workplaces and labour markets (e.g. poor age and gender management).

Employment rate of older workers (55-64), 2015



Source: European Commission, EPC. The 2015 Ageing Report; Eurobank Research

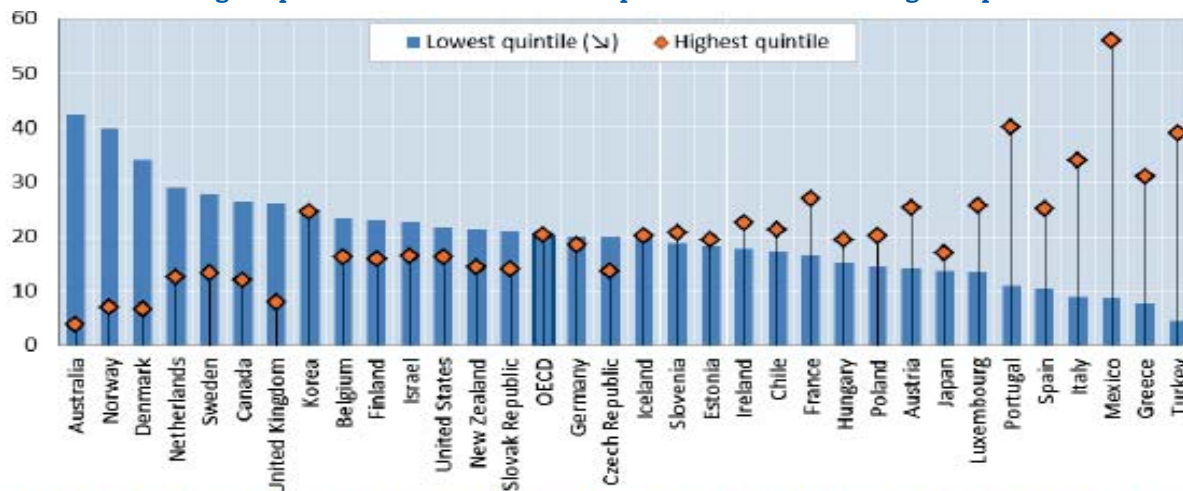
Greek: proportionality of public social benefits

Faring worse than most other OECD countries

The figure below shows the percentage of total social benefits paid to the richest 20% and to the poorest 20% of the population. In the OECD as a whole, the system is more or less proportional. In Greece, it is the reverse: The richest get 31% and the poorest 7.7%. So social expenditure makes income inequality worse: it gives to those who already have, what is known as the “Matthew Effect”. Why is social expenditure in favour of the rich? Two reasons: (a) Virtually no social benefits are given with an income test – the same amount, e.g. in child benefit, is given to rich and to poor alike. (b) As the pension system is fragmented, the rich are overrepresented in the more generous parts of it. That is a result of political deals and cronyism

Source: Tinios, P. “MISPERCEPTIONS, MISSTATEMENTS, MISUNDERSTANDINGS”, Technical clarifications on Greek pensions, Hellenic Observatory, LSE working paper, Jan 2016

Percentage of public social benefits in cash paid to the lowest and highest quintiles in 2011



Note: Lowest/highest quintile is defined as 20% of the population living the lowest/highest equivalised disposable income.
Source: OECD Income Distribution database via <http://oe.cd/iidd>.