

Distributional Changes in Turbulent Times: Greece 2007-2016

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DISTRIBUTIONAL CHANGES IN TURBULENT TIMES: GREECE 2007-2016

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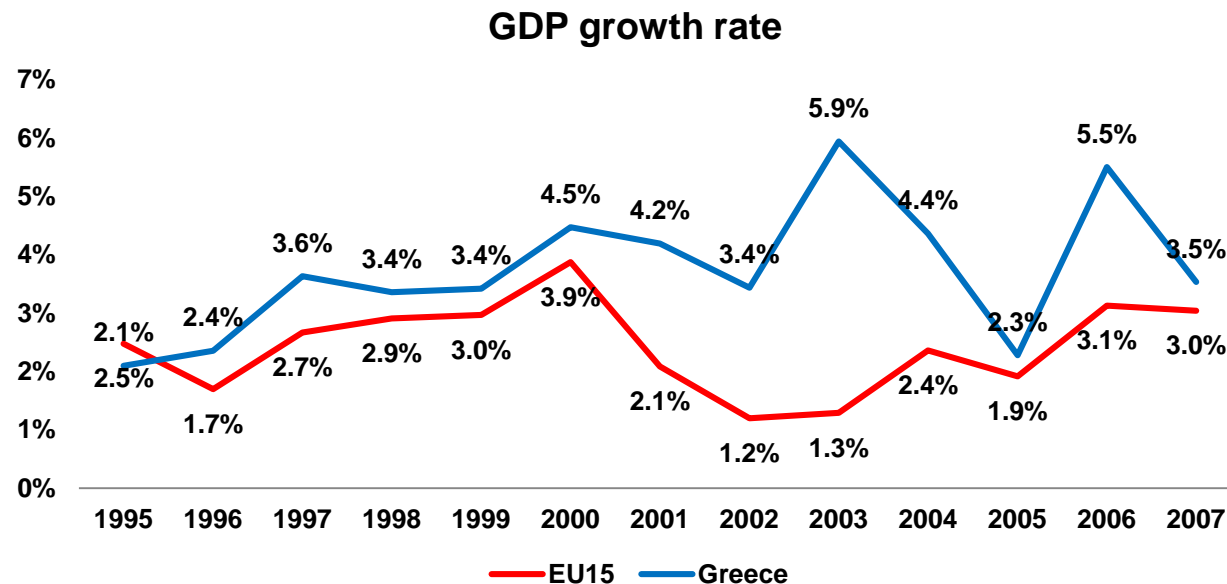
Aim of the paper

- Provide a detailed picture of the evolution of the level and the structure of inequality and poverty in Greece in the last decade
- Link these developments with economic developments and policies
 - As well as claims made in the public discourse
- Outline policies aiming to promote growth and equality

Results from a broader project; some still preliminary

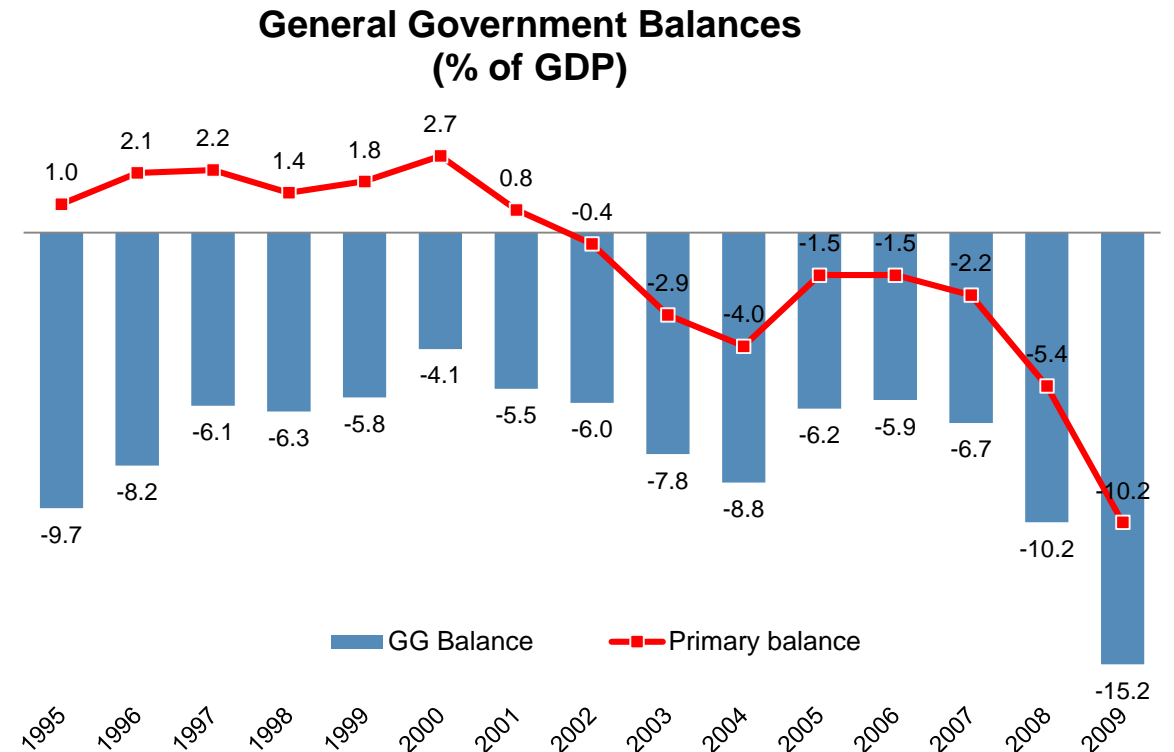
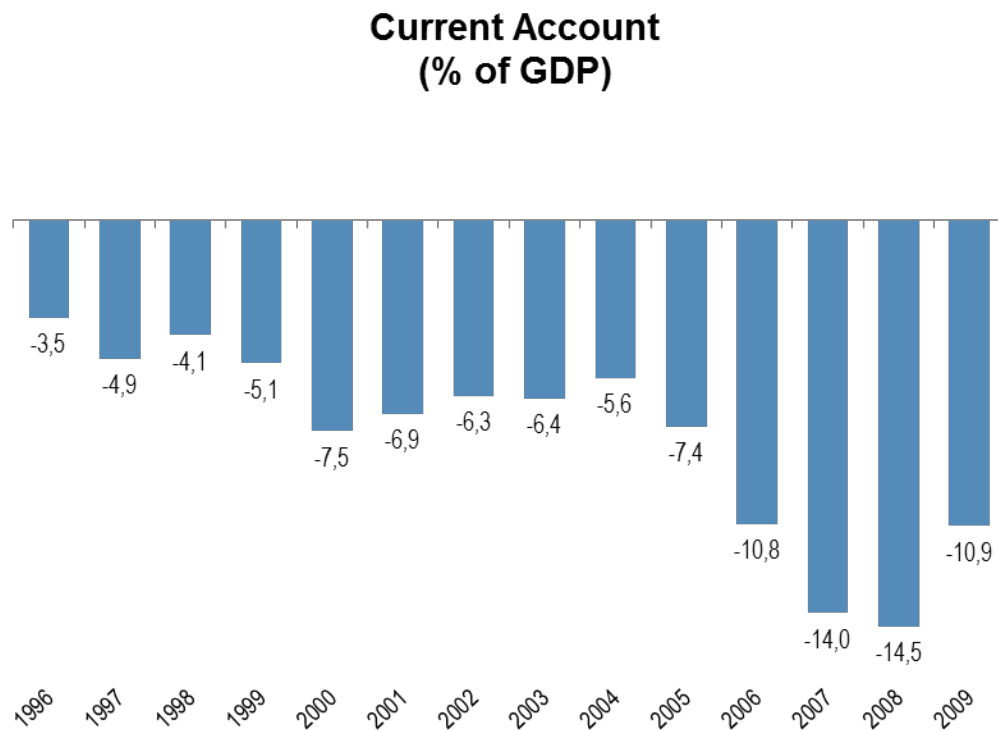
Getting into the crisis

- Despite its manifestation as a fiscal crisis, Greek crisis primarily a competitiveness crisis
- Roots of the Greek crisis: 2001
 - Failed pension reform
- Earlier reforms + low interest rates (euro)
 - Positive growth rates till 2007; substantially higher than EU15 average (3.9% vs 2.4%)



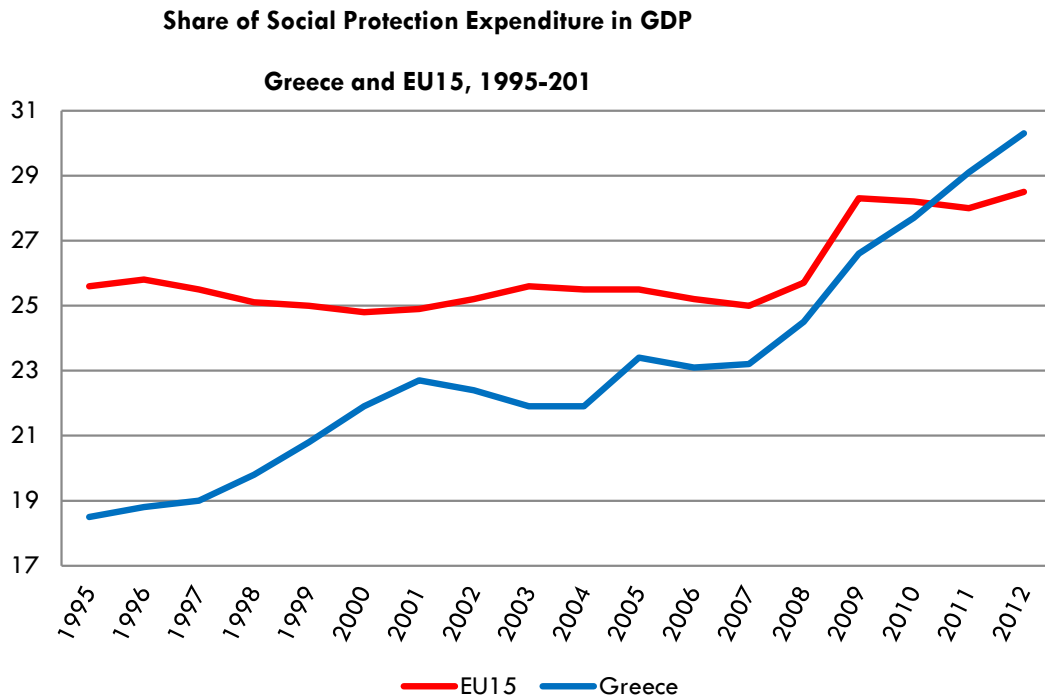
Getting into the crisis

- Growth model based on consumption and borrowing
- Typical case of “twin deficits” (Fiscal and Current Account)

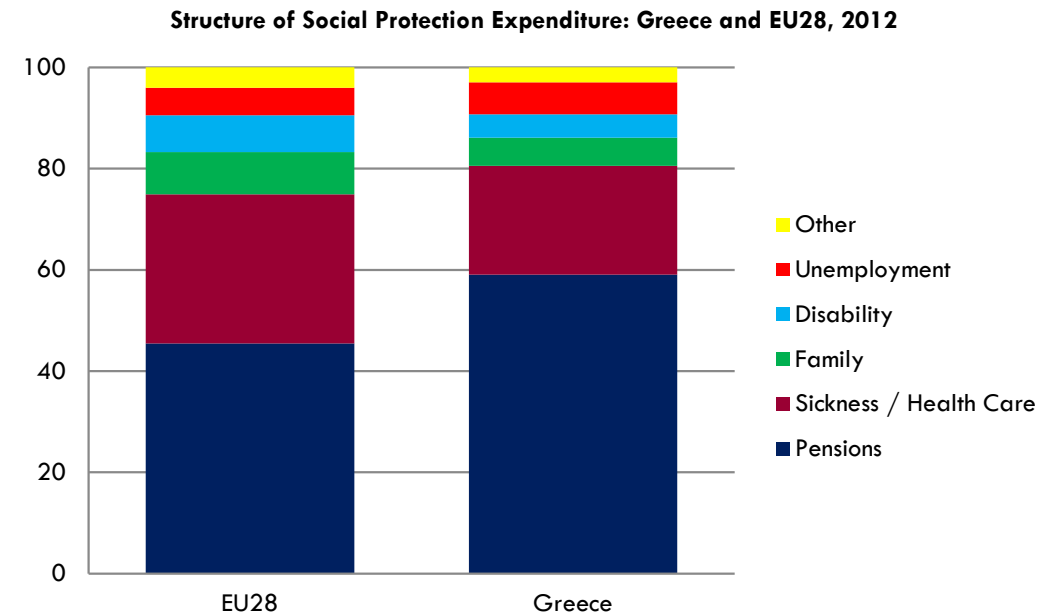


Getting into the crisis

- Share of social protection in GDP
 - ▣ Started low
 - ▣ But rose rapidly; converging to EU average



- But structure of social spending very different
 - ▣ Dominant role of pension



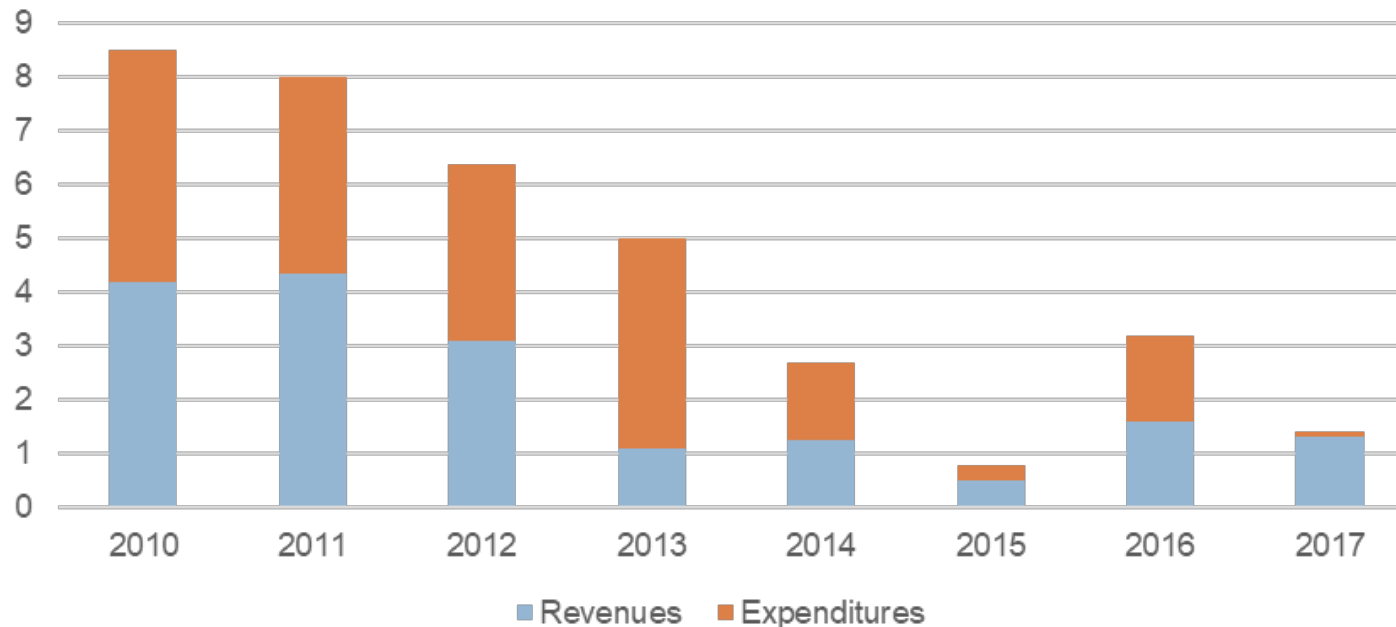
Getting into the crisis

- Greece was hit by the banking crisis only indirectly
- In 2009, early elections due to implicit government inability to pass the budget
- New government; revelation of large deficits (*Greek statistics*); ambivalent reaction
- In 2010 Greece could not tap the international markets anymore
- Forced to seek borrowing from our European partners and the IMF
- Three Programs: 2010, 2012 & 2015
 - Loans in exchange of Fiscal Consolidation and Structural Reforms
- Taken together, the largest loan in history (over 270 bn Euro)
- Different Approaches
 - First Program (GLF) : Liquidity
 - Second and Third Programs (EFSF/ESM) : Solvency
 - (PSI – also largest in history)

Fiscal consolidation

- Measures amounting to nearly 40% of GDP
- Almost equally split between expenditure cuts and revenue increases
- Relatively heavier emphasis on tax increases in earlier and later years and expenditure cuts in middle period

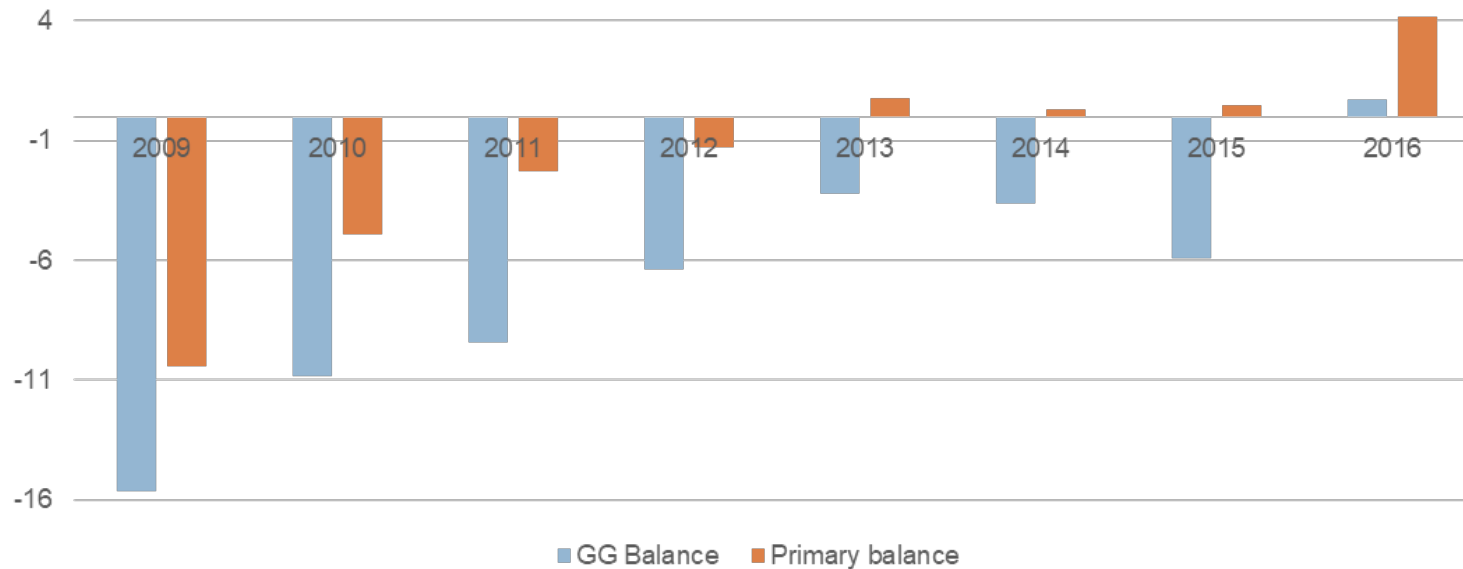
Fiscal measures 2010-2017 (% GDP)



Fiscal consolidation

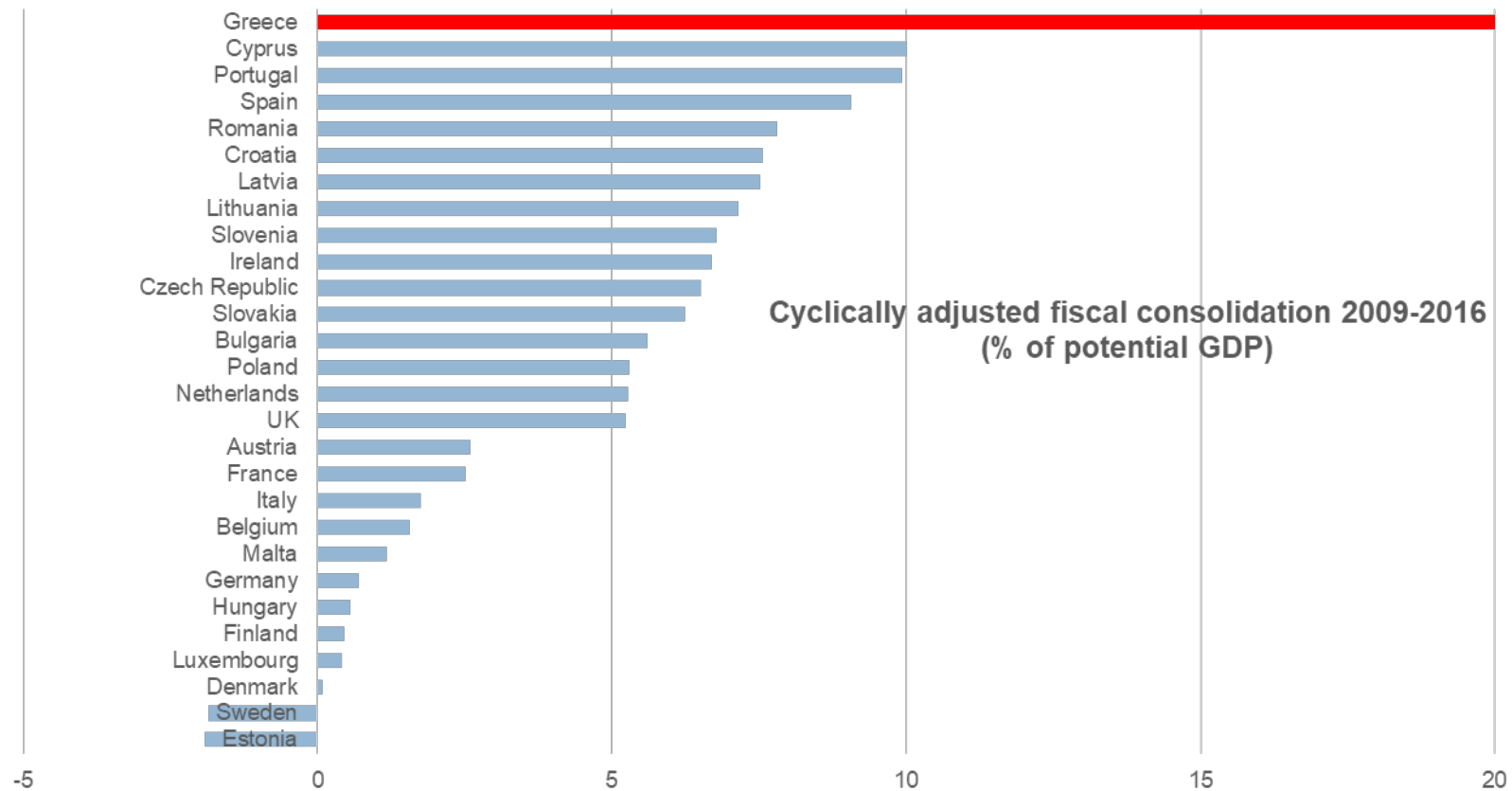
- In 2009-2016, GG deficit shrank by 16.3 p.p. and primary deficit by 14.6 p.p. of GDP
 - Largest and fastest reduction in OECD records

**General Government Fiscal Accounts
2009-2016 (% of GDP)**



Fiscal consolidation

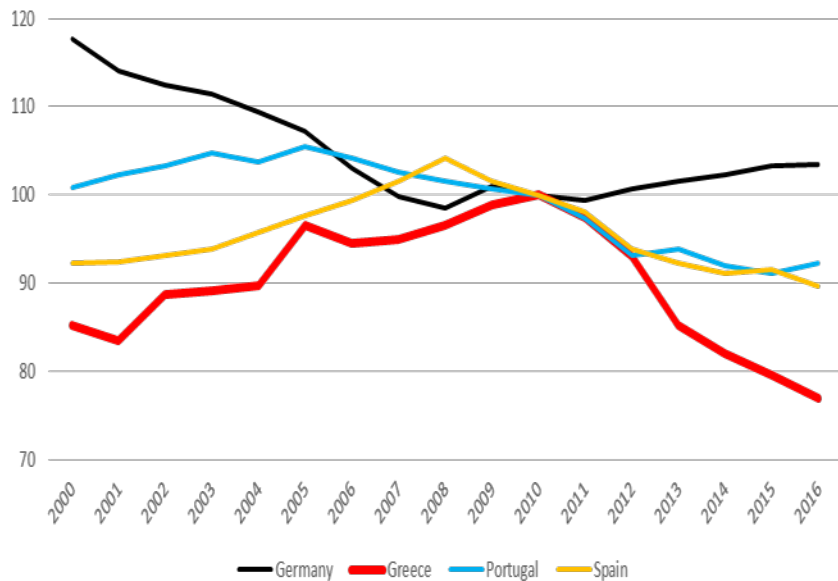
- Adjustment strongly pro-cyclical
 - Cyclically-adjusted over potential output, 20.1%; by far the largest in the EU



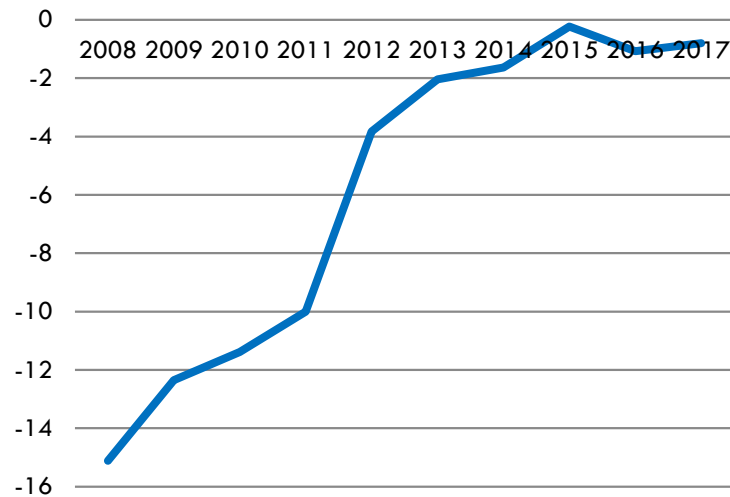
External rebalancing

- Sharp decline in unit labour costs
- Current account rebalancing
- Unlike other program countries, result driven mainly by import decline
 - Size of Greek firms; Lack of Credit; Cost of Capital

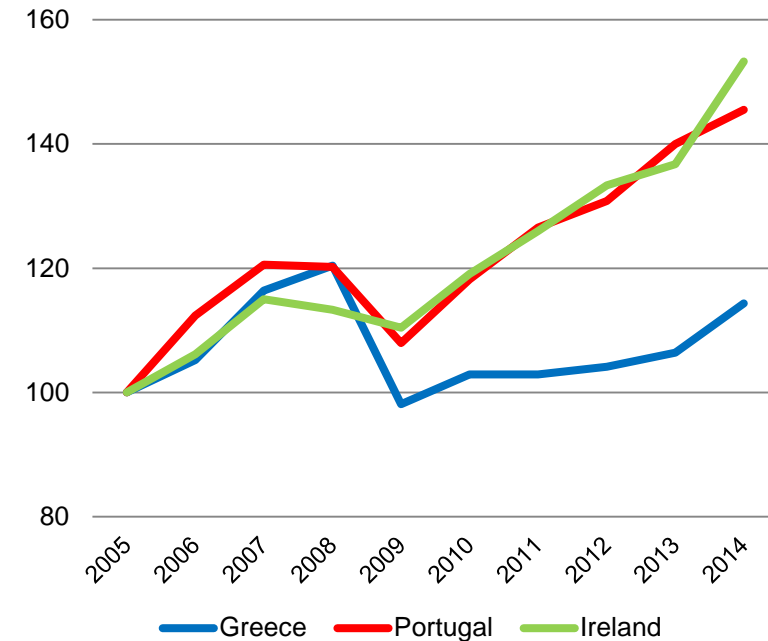
Nominal Unit Labour Cost,
relative to 24 industrial countries (2010: 100)



Current account balance



Export volume
(2005: 100)



Inequality and Poverty before the crisis: Main features

- Both inequality and (relative) poverty in Greece higher than the EU average
- Unlike most EU countries, inequality and poverty in Greece did not rise in recent decades (in fact, they declined gradually but not continuously)
 - “Anchored” poverty declined sharply
- Inequality “within population groups” far more important in shaping aggregate inequality than inequality “between population groups”, irrespective of the partitioning criterion (regional, demographic, occupation or educational – with the possible exception of the latter)
- Some decades ago poverty was primarily a rural phenomenon; in recent years the elderly became the largest group in poverty, although they did not experience extreme poverty
- Evidence that poverty was, to some extent, “state dependent”

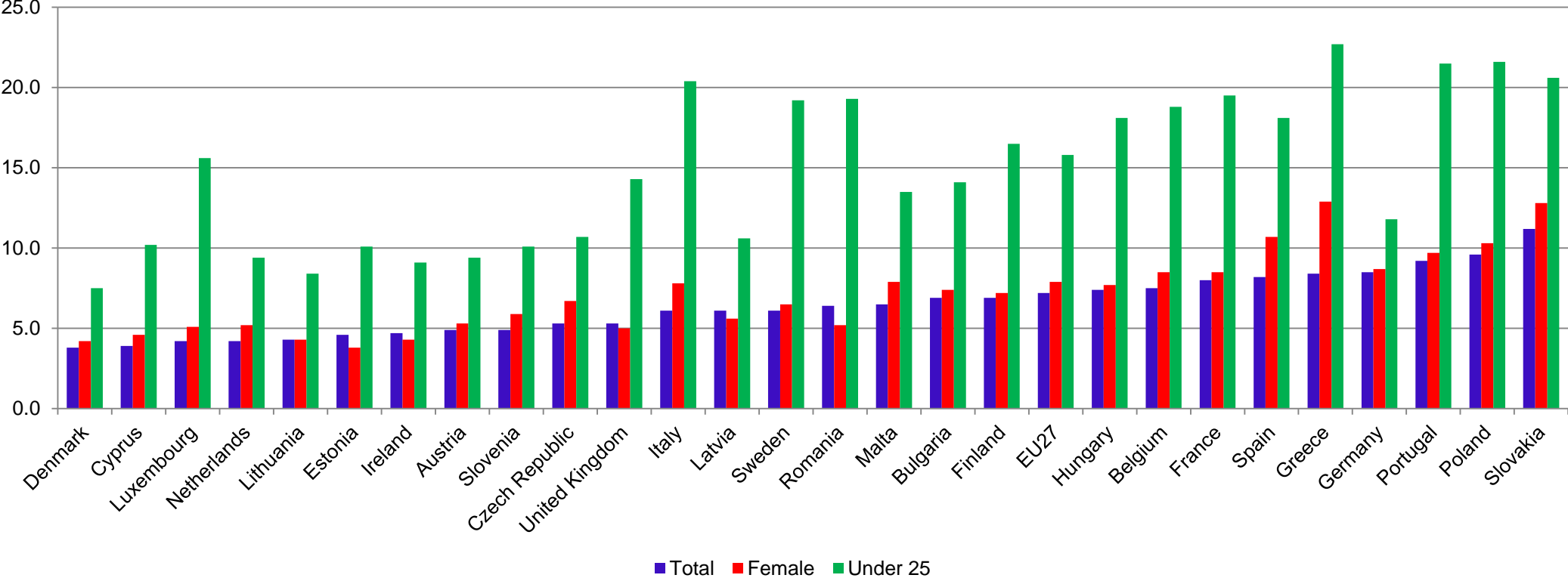
Inequality and Poverty before the crisis: Main features

- Welfare spending as a share of GDP was rising steadily since early 1990s
 - Far larger share of pensions than EU average
 - Limited role of other types of spending
 - One of only three EU countries without a benefit of last resort
 - Inadequate protection against the risk of unemployment
 - Very limited spending on active labor market policies
- Redistributive role of the state limited in comparison with other EU countries
- Rigid as well as segmented labor market
 - Adverse conditions for youth and females
- Family as a “shock absorber”
 - Greece typical case of “male breadwinner model”
(Mediterranean welfare state)

Inequality and Poverty before the crisis: Main features

- Despite 12 years of high growth rates, in 2007 the unemployment rate in Greece higher than EU-average
- While female and youth unemployment rates were the highest in EU27

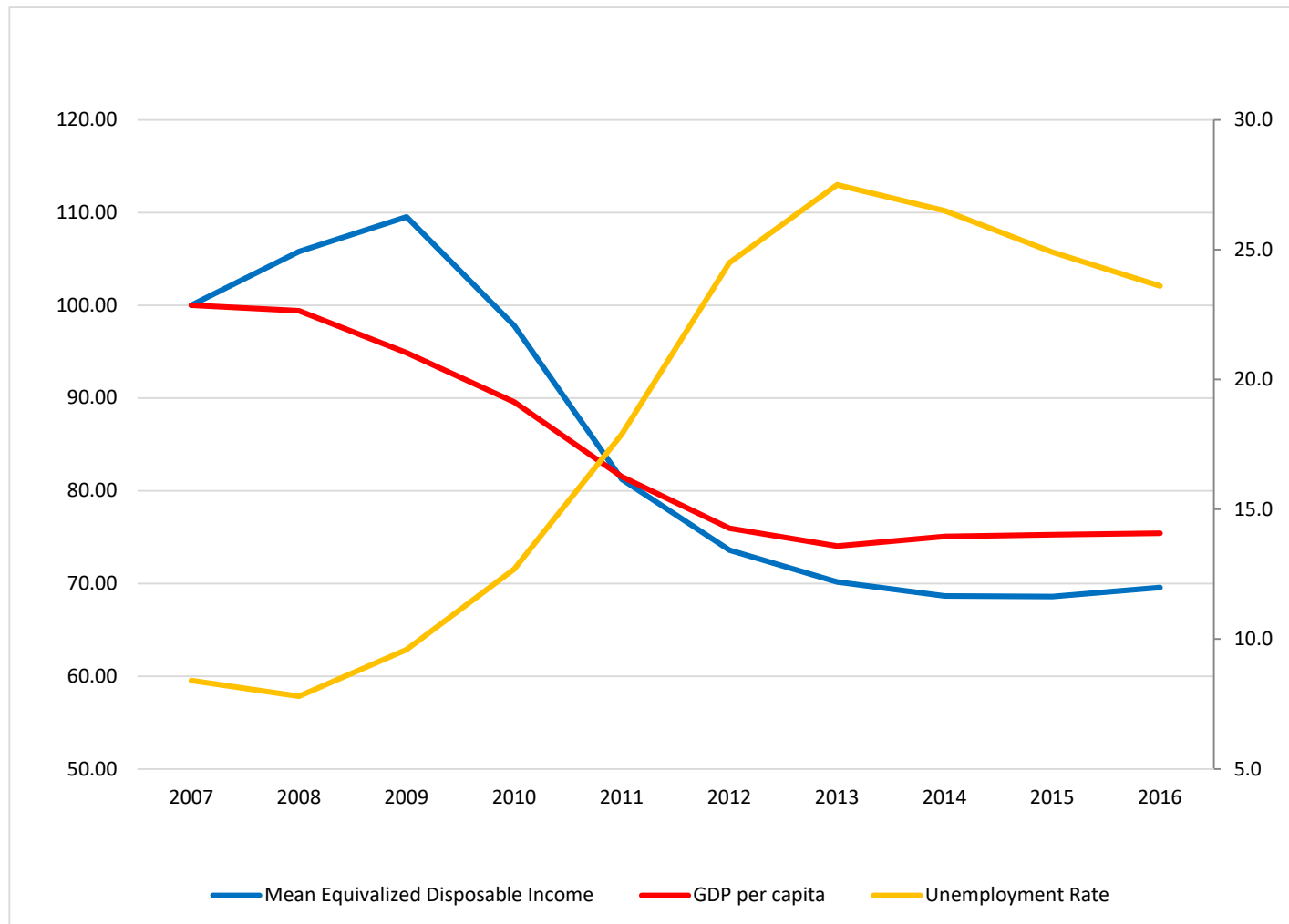
Unemployment rates EU27, 2007



Data and Methods

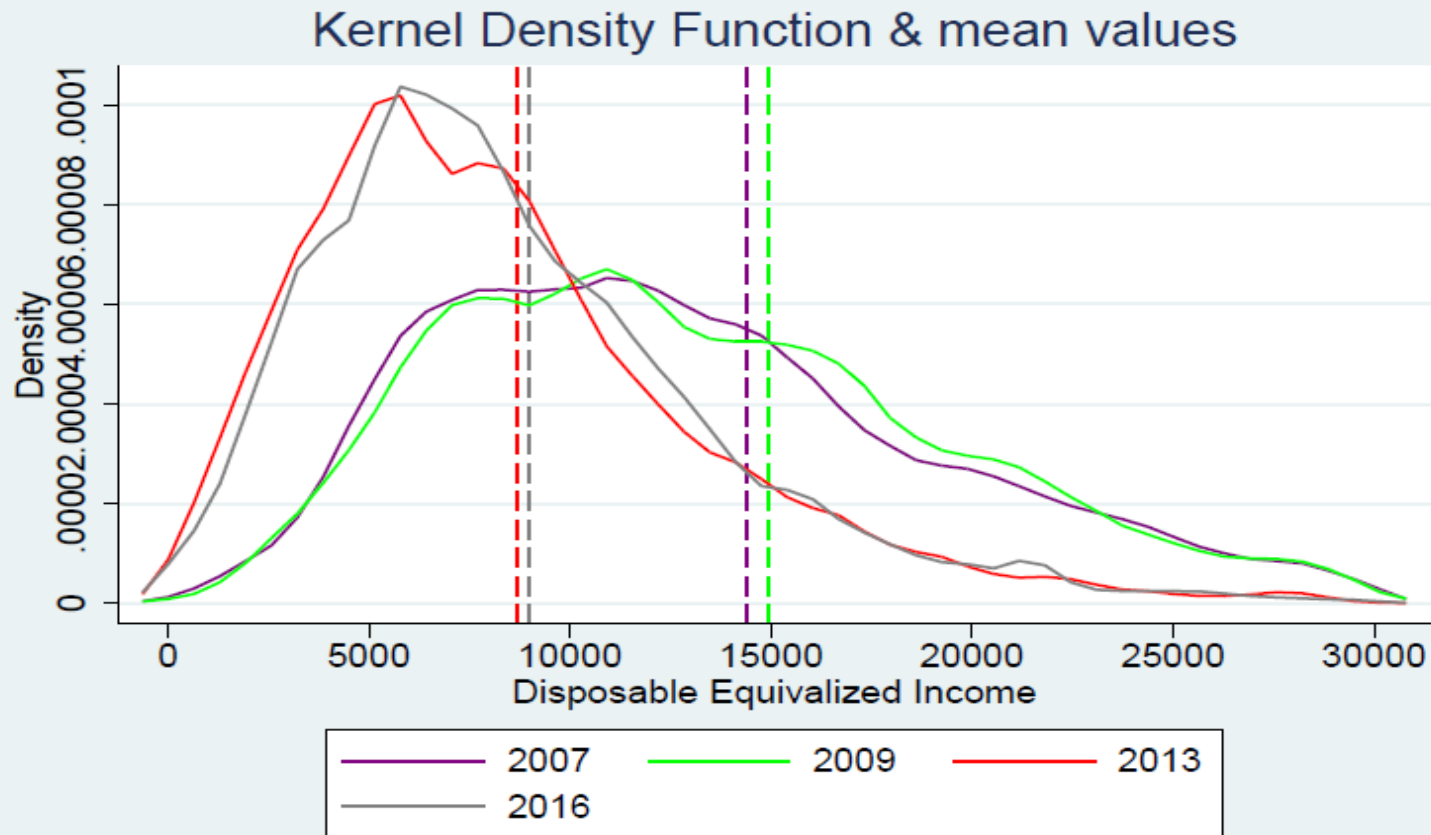
- Greek data set of the EU-SILC for the period 2008-2017 (2007-2016 incomes)
 - Combination of PDB and UDB data
- Income concept: disposable monetary household income
 - Popular, but non-cash incomes (private and public)?
- Eurostat equivalence scales
- Top/bottom coding
 - (Less than 1% of mean equivalized disposable income; over 10 times mean income)
- Extensive use of additively decomposable inequality and poverty indices

The general picture



- Decline in GDP per capita -26.0%
2007-2013
- Increase in disposable income in 2008 and 2009
- Consolidation effort relied extensively on tax increases
- Decline in mean (equiv.) disposable income -44.8%
2009-2015
- Flat income profiles after 2013
- Peak of unemployment in 2013 (27.5%)
- Gradual decline in unemployment after 2013

The general picture



Source: ELSTAT, SILC, 2008-2017 (incomes 2007-2016)

- Dramatic shift of the income distribution to the left
- Distribution became more “compact”
 - Lower inequality
- But more observations with very low incomes
 - Higher inequality

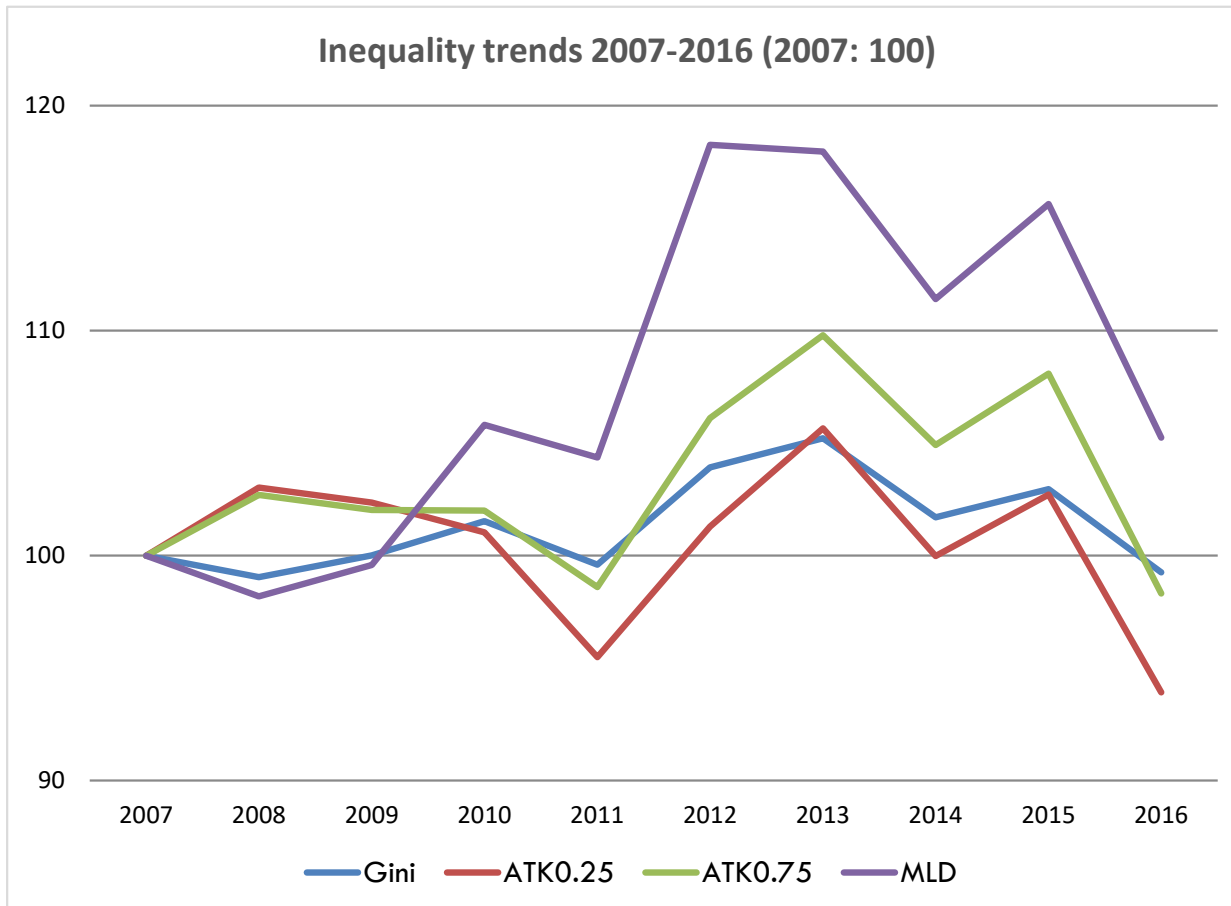
Changes in population shares and relative mean incomes I

Population Group	Population share			Mean income			Change in real terms	
	2007	2013	2016	2007	2013	2016	2007-13	2013-16
Socio-economic group of household head								
Self-employed with employees	5.2	3.8	3.6	1.50	1.42	1.36	-43.17	-1.31
Self-employed without employees (agriculture)	5.1	4.6	5.1	0.64	0.59	0.83	-44.43	44.70
Self-employed without employees (non-agriculture)	3.3	3.2	2.7	1.05	1.20	1.09	-30.99	-5.98
Employee (private sector)	21.6	16.9	19.9	1.00	1.10	1.07	-34.29	0.60
Employee (public sector)	15.2	11.2	11.5	1.28	1.26	1.26	-41.07	3.23
Unemployed	3.3	13.0	11.1	0.68	0.62	0.59	-45.59	-0.04
Pensioner	24.5	29.5	27.9	0.96	1.08	1.09	-32.79	4.54
Other	21.7	17.9	18.2	0.85	0.88	0.84	-38.28	-1.23
Households with/without unemployed members								
No unemployed household member	88.1	66.5	70.8	1.03	1.13	1.12	-34.35	2.86
At least one unemployed household member	11.9	33.5	29.2	0.78	0.75	0.71	-42.41	-2.24
Age of population member								
Up to 17	16.5	16.6	16.4	0.98	0.97	0.94	-40.74	0.41
18-64	64.4	62.1	61.2	1.04	1.01	1.01	-41.73	3.49
65 or over	19.1	21.4	22.4	0.88	0.99	1.01	-32.67	5.53
GREECE	100.0	100.0	100.0	1.00	1.00	1.00		

Changes in population shares and relative mean incomes II

Population Group	Population share			Mean income			Change in real terms	
	2007	2013	2016	2007	2013	2016	2007-13	2013-16
Household Type								
Single adult <65 or couple both <65. no dep child	10.4	12.5	11.4	1.18	1.13	1.17	-42.50	6.84
Single adult or couple, at least one >=65. no dep ch	12.8	16.2	16.5	0.86	0.97	0.99	-32.47	5.83
Other type of household no dep child	27.1	21.3	22.8	1.06	1.05	1.05	-40.74	3.36
Lone parent household (at least 1 dep child)	1.7	2.1	1.9	0.84	0.73	0.80	-47.79	13.35
Couple with 1/2 dep children	31.7	28.5	26.4	1.02	1.08	1.02	-36.98	-1.98
Couple with 3+ dep children	2.3	4.4	5.3	0.91	0.79	0.78	-47.59	1.53
Other type of household with at least 1 dep child	14.0	15.0	15.7	0.85	0.80	0.88	-43.77	13.17
Educational level of household head								
Less than primary education	7.1	4.5	3.8	0.66	0.71	0.75	-34.93	8.93
Primary education	28.9	22.6	20.8	0.78	0.77	0.80	-40.54	6.39
Lower secondary education	10.1	11.0	10.0	0.81	0.76	0.79	-43.80	7.76
Upper secondary education	29.4	32.0	32.6	0.99	0.94	0.95	-43.50	4.53
Post-secondary non-tertiary education	3.9	5.7	6.6	1.08	0.95	0.97	-47.38	5.92
Tertiary education	20.6	24.2	26.1	1.52	1.47	1.35	-41.98	-4.96
GREECE	100.0	100.0	100.0	1.00	1.00	1.00		

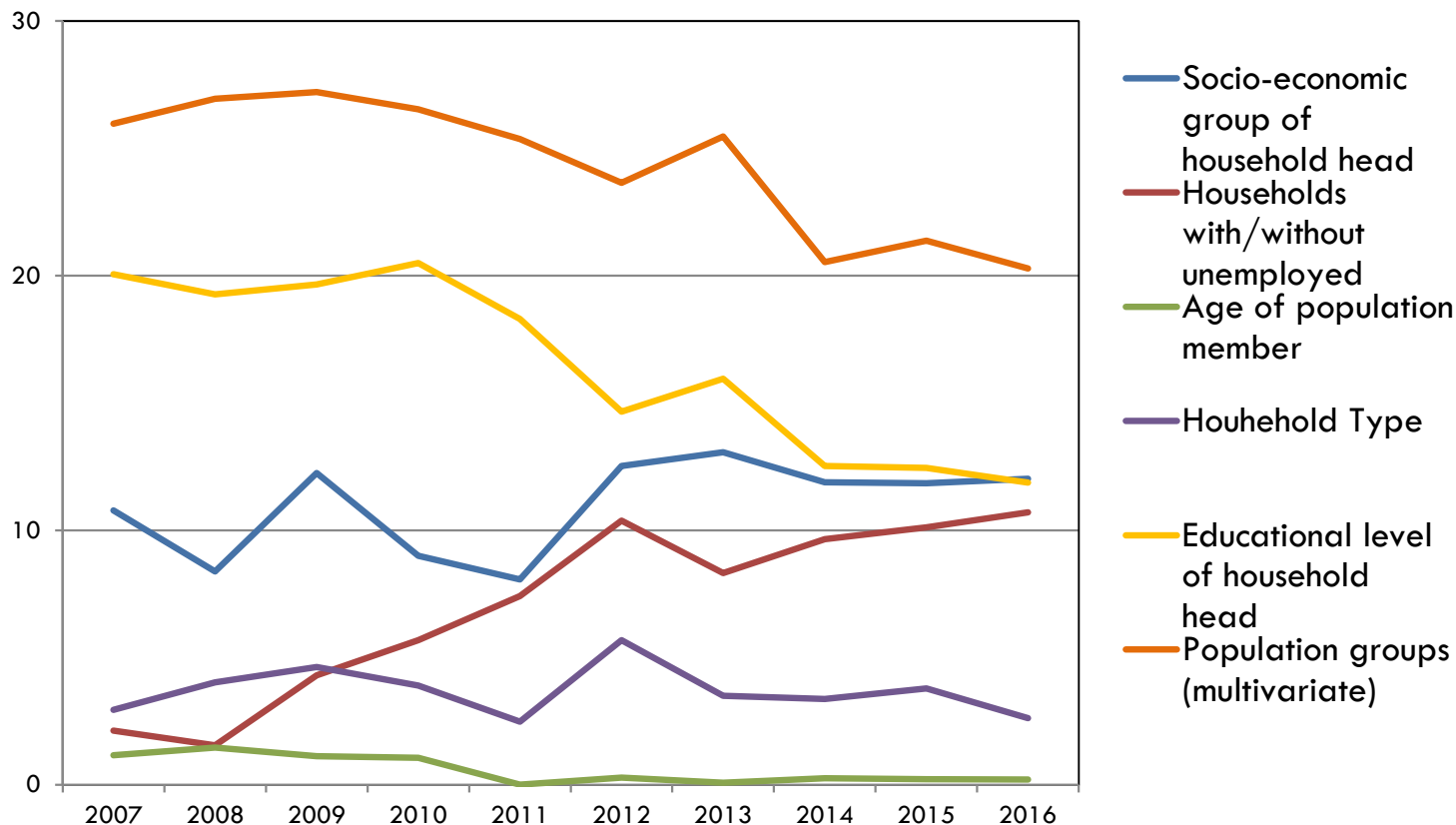
Inequality: Trends



- Different SWFs behind inequality indices
 - Different types of sensitivities
- Non-uniform pattern
 - 2008/7 and 2008/2009 Intersecting Lorenz curves
 - Decline 2011/12
 - Taxation
 - Sharp rise in 2011/12
 - Effects of unemployment
 - Again in 2012/13 (but MLD)
 - Ditto + child benefits
 - Declines in 2013/14 and 2015/16
 - Effect of “social dividend”
 - By 2016 most indices below their 2007 values
- Contrast with claims in public discourse

Inequality: Evolution of Structure

Proportion of inequality attributed to differences “between groups”



- Inequality emanates primarily from differences “within groups”
 - Income measured in surveys with a lot of “noise”
 - Even with filtering results do not change very substantially
- Result holds even when the population is grouped into 80 small very homogenous groups
- Decline in importance of “between group” inequalities
 - Esp education and multivariate
 - Opposite for occupational partitioning of the population

Inequality: Trend decomposition

Theil's Second Index (MLD)					
Characteristic of HH head or HH member	Period	Overall change (%)	Change due to changes in inequality within group (% of overall change)	Change due to changes in population shares (% of overall change)	Change due to changes in relative mean income (% of overall change)
<i>Socio-economic group of household head</i>	2007-2016	5.20	2.99	24.67	-22.52
<i>Households with/without unemployed</i>	2007-2016	5.20	-6.58	38.04	-26.23
<i>Household Type</i>	2007-2016	5.20	6.25	6.21	-7.31
<i>Educational level of household head</i>	2007-2016	5.20	11.19	-26.30	20.32

Inequality decomposition by factor components

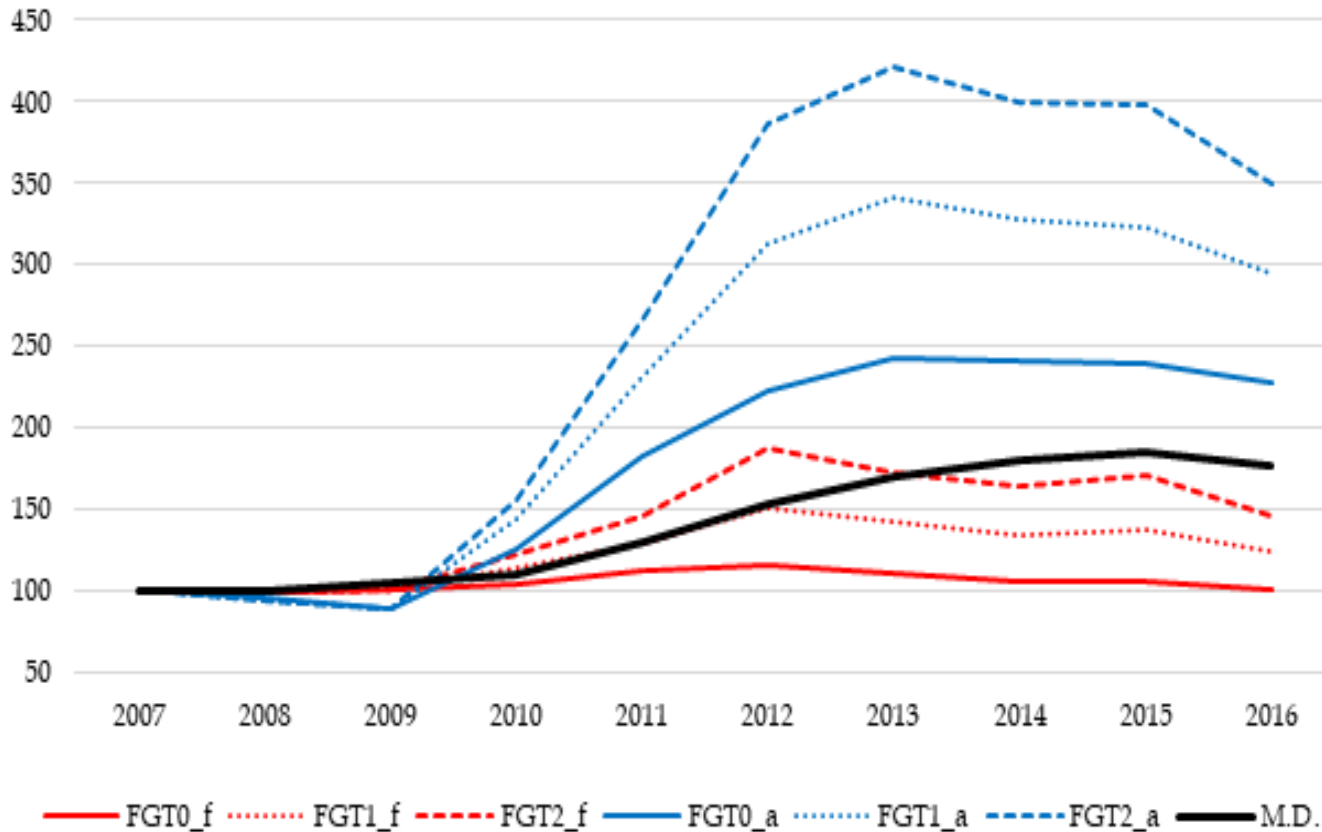
Table 1. Income Decomposition by factor components, 2016

Income component	Income Share	Relative Concentration Coefficient			Elasticity		
		U=1.5	U=2.0	U=4.0	U=1.5	U=2.0	U=4.0
Wages	69.0%	0.244	0.377	0.597	0.109	0.123	0.116
Self-employment	30.2%	0.299	0.394	0.508	0.127	0.070	-0.002
Capital	4.7%	0.395	0.543	0.715	0.041	0.033	0.019
Pensions	40.3%	0.142	0.246	0.482	-0.131	-0.094	-0.024
Other social trans.	4.5%	-0.113	-0.181	-0.297	-0.070	-0.071	-0.072
Inter-HH trans. rec.	2.0%	-0.127	-0.216	-0.410	-0.033	-0.034	-0.037
Inter-HH trans. paid	-1.5%	0.075	0.099	0.095	0.009	0.010	0.012
Income tax	-29.1%	0.259	0.374	0.561	-0.067	-0.049	-0.028
Social Ins. Contr.	-16.6%	0.213	0.327	0.515	-0.002	-0.003	-0.001
Property taxes	-3.6%	0.122	0.182	0.270	0.015	0.015	0.017

- *Work still in progress / Results for 2016*
- Measures the contribution of individual income components to aggregate inequality
 - Positive or negative
- **Gini index**
 - Belongs to a parametric family of distributionally sensitive indices
- Share of taxes, SICs, pensions and other benefits rose
- Progressivity changes with aversion to inequality
 - Esp. means-tested benefits
- Increase in progressivity of social transfers
- Regressive property taxation

Poverty: Trends

Intertemporal changes in Poverty indices



- Unlike inequality, poverty can be either “relative” or “absolute”
 - “relative” or “anchored” poverty line
- Poverty rate (FGT0) popular but not good index
- Parametric family (FGT – esp. FGT2)
- “Relative” poverty rate: almost stable
 - But “relative” sensitive indices rise very considerably
 - Until 2012; then, gradual decline, but remain high
- “Anchored” poverty indices explode
 - Up to 2013- after a fall between 2007 and 2009 - then decline slowly but remain very high

Poverty: Structure I

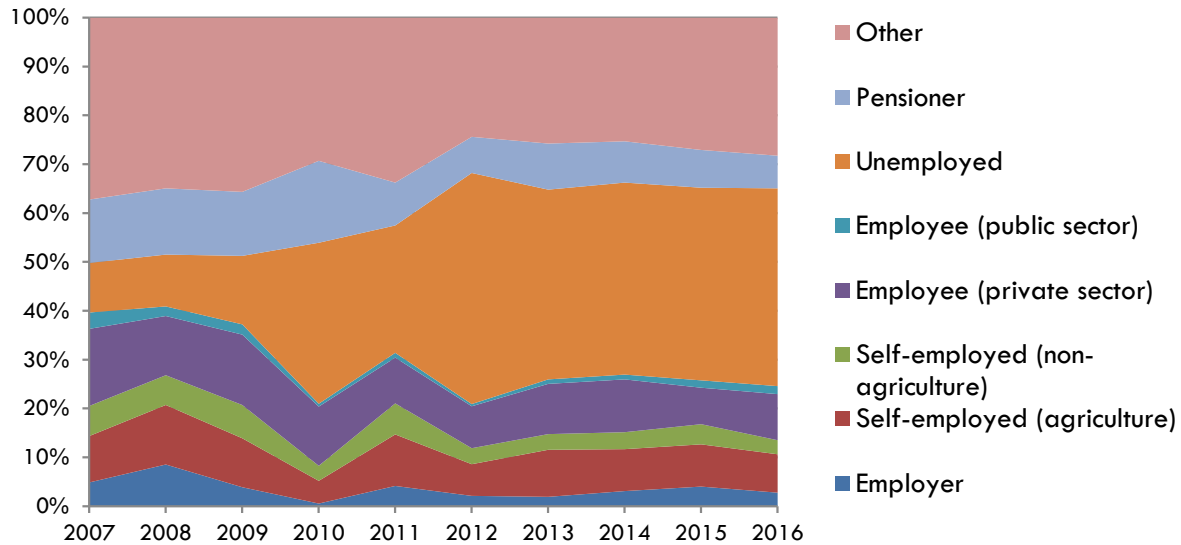
Population Group	Poverty rate (FGT0)			Change		FGT2			Change	
	2007	2013	2016	2007-13	2013-16	2007	2013	2016	2007-13	2013-16
Socio-economic group of household head										
Self-employed with employees	16.51	15.44	18.72	-6.56	21.48	2.14	2.00	2.56	-6.37	28.12
Self-employed without employees (agriculture)	40.04	45.30	34.24	13.26	-24.66	4.25	8.15	5.03	92.67	-38.63
Self-employed without employees (non-agr)	29.72	21.44	21.99	-28.16	2.61	4.28	3.90	3.47	-8.83	-11.05
Employee (private sector)	14.80	18.82	14.07	27.38	-25.46	1.66	2.41	1.56	45.52	-35.43
Employee (public sector)	4.08	2.51	4.46	-38.82	78.54	0.50	0.32	0.47	-35.95	47.24
Unemployed	32.08	49.27	49.05	54.14	-0.46	6.96	11.79	12.04	70.15	2.14
Pensioner	18.54	12.28	9.07	-34.11	-26.44	1.20	1.25	0.79	4.53	-37.17
Other	30.03	29.01	30.10	-3.44	3.82	3.90	5.68	5.12	46.17	-10.07
Households with/without unemployed										
No unemployed household member	18.60	14.99	12.45	-19.61	-17.11	1.92	2.08	1.52	8.44	-27.17
At least one unemployed household member	28.94	35.94	37.53	24.45	4.45	4.90	7.61	7.59	55.84	-0.20
Age of population member										
Up to 17	22.66	25.62	24.58	13.21	-4.11	2.90	4.87	3.95	69.05	-19.09
18-64	18.32	23.51	21.33	28.62	-9.39	2.32	4.51	3.87	95.02	-14.35
65 or over	22.48	14.85	12.03	-34.25	-19.18	1.57	1.52	1.24	-3.04	-18.47

Poverty: Structure II

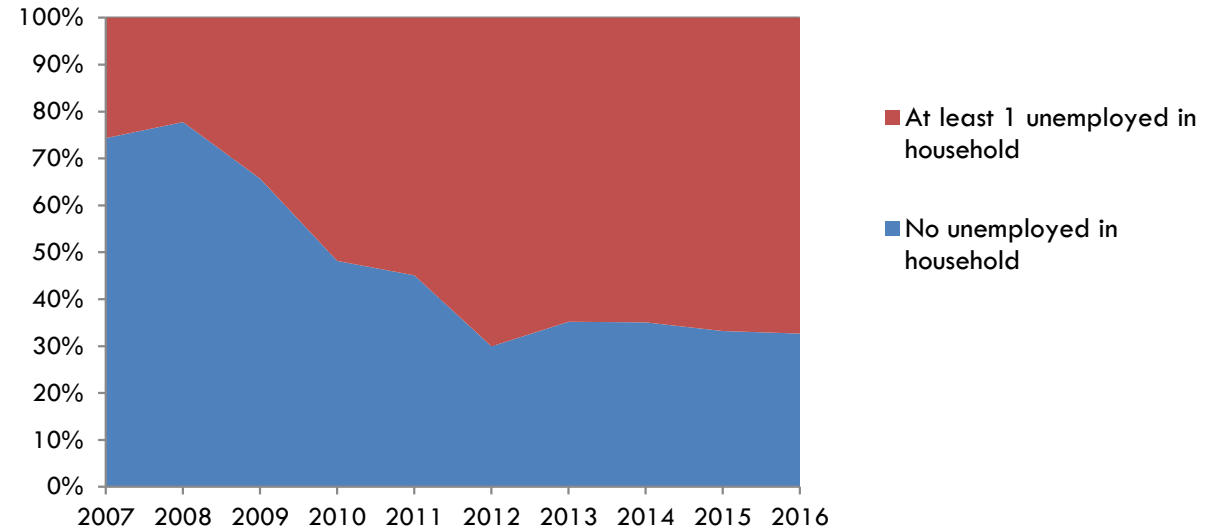
Population Group	Poverty rate (FGT0)			Change		FGT2			Change	
	2007	2013	2016	2007-13	2013-16	2007	2013	2016	2007-13	2013-16
Household Type										
Single adult <65 or couple aged <65. no dep ch	16.56	19.79	17.45	19.71	-11.95	2.22	3.97	3.71	79.41	-6.65
Single adult or cpl, at least one >=65. no dep ch	23.80	13.59	11.36	-43.35	-16.52	1.56	1.49	1.07	-4.39	-28.51
Other type of household no dep child	13.86	20.43	16.76	47.92	-18.17	1.55	3.12	2.85	103.05	-8.83
Lone parent household with at least 1 dep child	25.93	35.28	28.96	36.42	-18.10	3.71	9.72	5.42	163.77	-44.66
Couple with 1/2 dep child	19.89	20.90	21.18	5.13	1.35	2.59	3.86	3.34	49.60	-13.57
Couple with 3+ dep child	30.58	36.64	29.16	19.99	-20.61	3.41	7.28	5.07	114.30	-30.61
Other type of household with at least 1 dep child	27.58	31.16	28.05	13.10	-10.10	3.30	6.01	5.03	83.07	-16.46
Educational level of household head										
Less than primary education	35.83	27.77	23.96	-22.72	-13.85	4.53	3.27	4.31	-27.95	31.78
Primary education	28.04	28.77	25.92	2.64	-10.00	2.70	5.05	4.28	88.07	-15.46
Lower secondary education	28.65	34.00	30.80	18.84	-9.48	3.92	6.94	5.21	77.83	-25.23
Upper secondary education	16.02	24.48	21.48	53.40	-12.37	2.02	4.37	3.49	117.29	-20.22
Post-secondary non-tertiary education	9.66	20.00	17.75	108.15	-11.37	0.83	3.70	3.01	348.67	-18.82
Tertiary education	5.81	6.33	8.44	9.21	33.59	0.73	1.11	1.46	53.50	31.30

Poverty: Evolution of structure I

Contributions to aggregate poverty according to Socio-economic group of Household Head - FGT2 floating

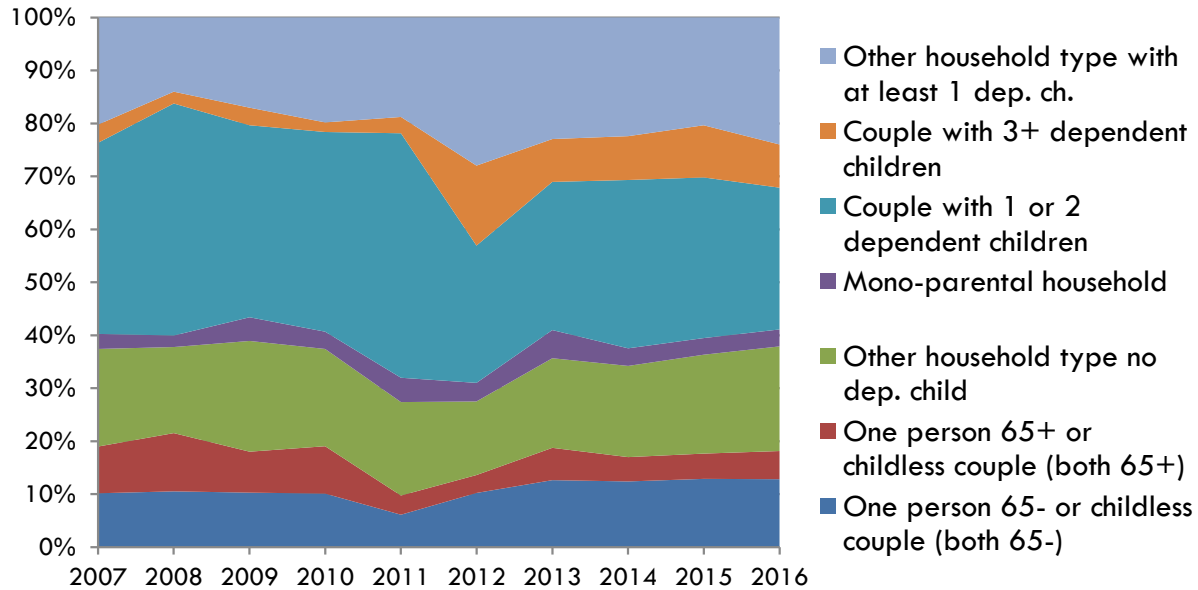


Contributions to aggregate poverty according to number of unemployed members - FGT2 floating

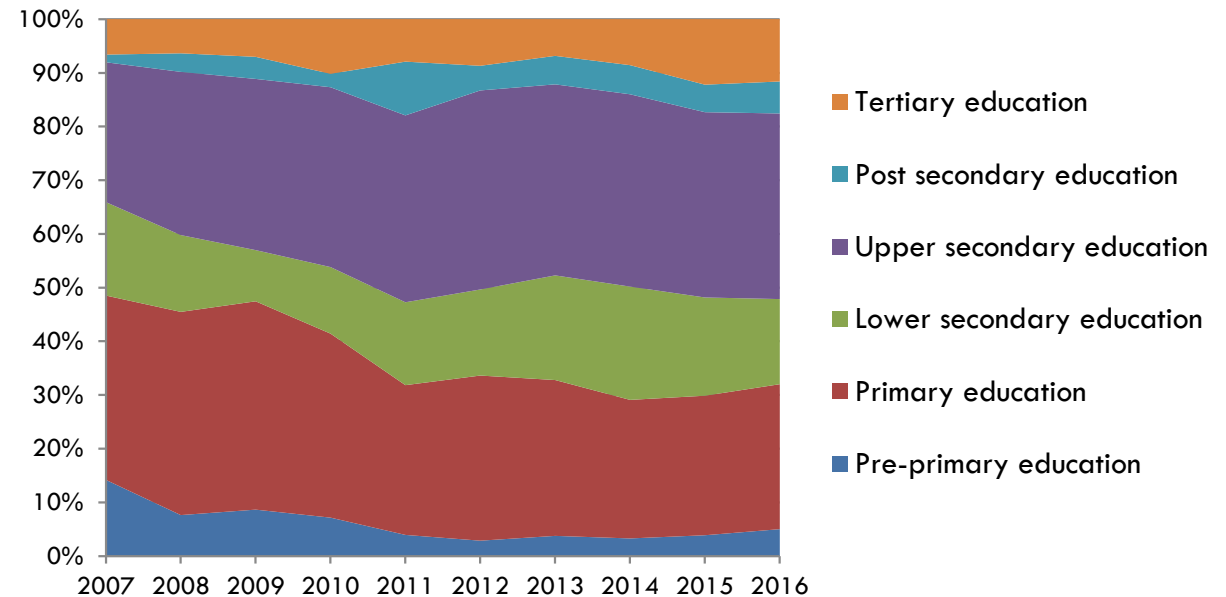


Poverty: Evolution of structure II

Contributions to aggregate poverty according to Household type - FGT2 floating



Contributions to aggregate poverty according to Educational level of Household head - FGT2 floating



Poverty: Trend decomposition

FGT2 floating poverty line				
Characteristic of HH head or HH member	Period	Overall change (%)	Change due to changes in population shares (% of overall change)	Change due to changes in poverty within group (% of overall change)
<i>Socio-economic group of household head</i>	2007-2016	44.88	22.40	22.48
<i>Households with/without unemployed</i>	2007-2016	44.88	34.54	10.38
<i>Household Type</i>	2007-2016	44.88	1.55	43.32
Educational level of household head	2007-2016	44.88	-7.33	52.21

Changes during the crisis and policy implications

- During the crisis, the male breadwinner model collapses
 - Huge increase in unemployment; many households jobless; inadequate unemployment protection, no benefit of last resort; free fall
- Unlike the usual claims made in the public discourse, the only relatively well protected group – besides public sector employees – was the that of the pensioners
 - Cuts in pensions, but less than average decline in incomes; improvement in their relative position
 - Most pension cuts anything but horizontal
 - “Old” pensioners well protected; not so the “new” ones

Changes during the crisis and policy implications

At the policy front:

- Sharp increase in taxes; abolition of almost all tax allowances and credits; high tax-free threshold
 - Increase in progressivity; but serious problems of disincentives
- Ditto for SICs; tax wedge
- On the other hand, gradual introduction of means tested benefits (social dividend, MIG, family, heating, rent, etc)
 - So far, not linked with labor market obligations; serious danger of “poverty traps”
- Micro-simulation results suggest that due to the decline in unemployment and the strengthening of means-tested benefits (MIG), inequality and poverty might have declined further after 2016

*Thank you very much
for your attention!*

Distributional Changes in Turbulent Times: Greece 2007-2016

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