

# INCOME DISTRIBUTION AND REDISTRIBUTION: FROM CRISIS TO RECOVERY

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# Aim of the paper

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- 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*

# 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”

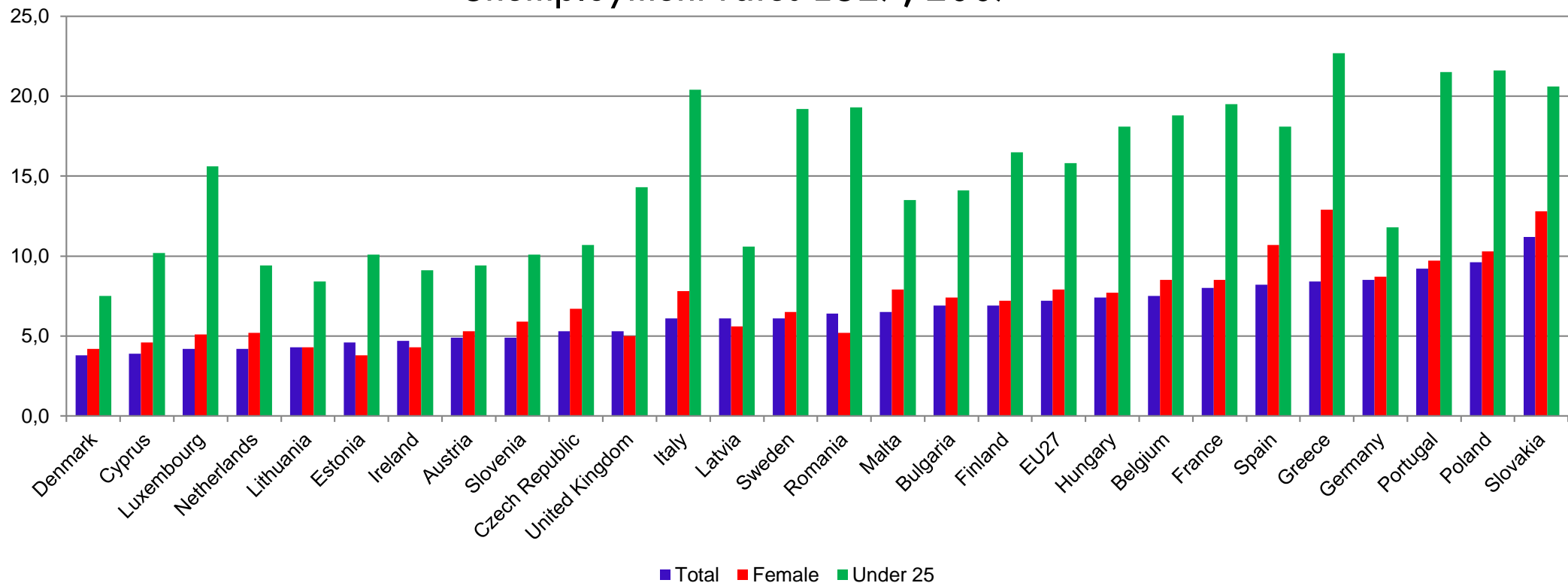
# Inequality and Poverty before the crisis: Main features

- 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

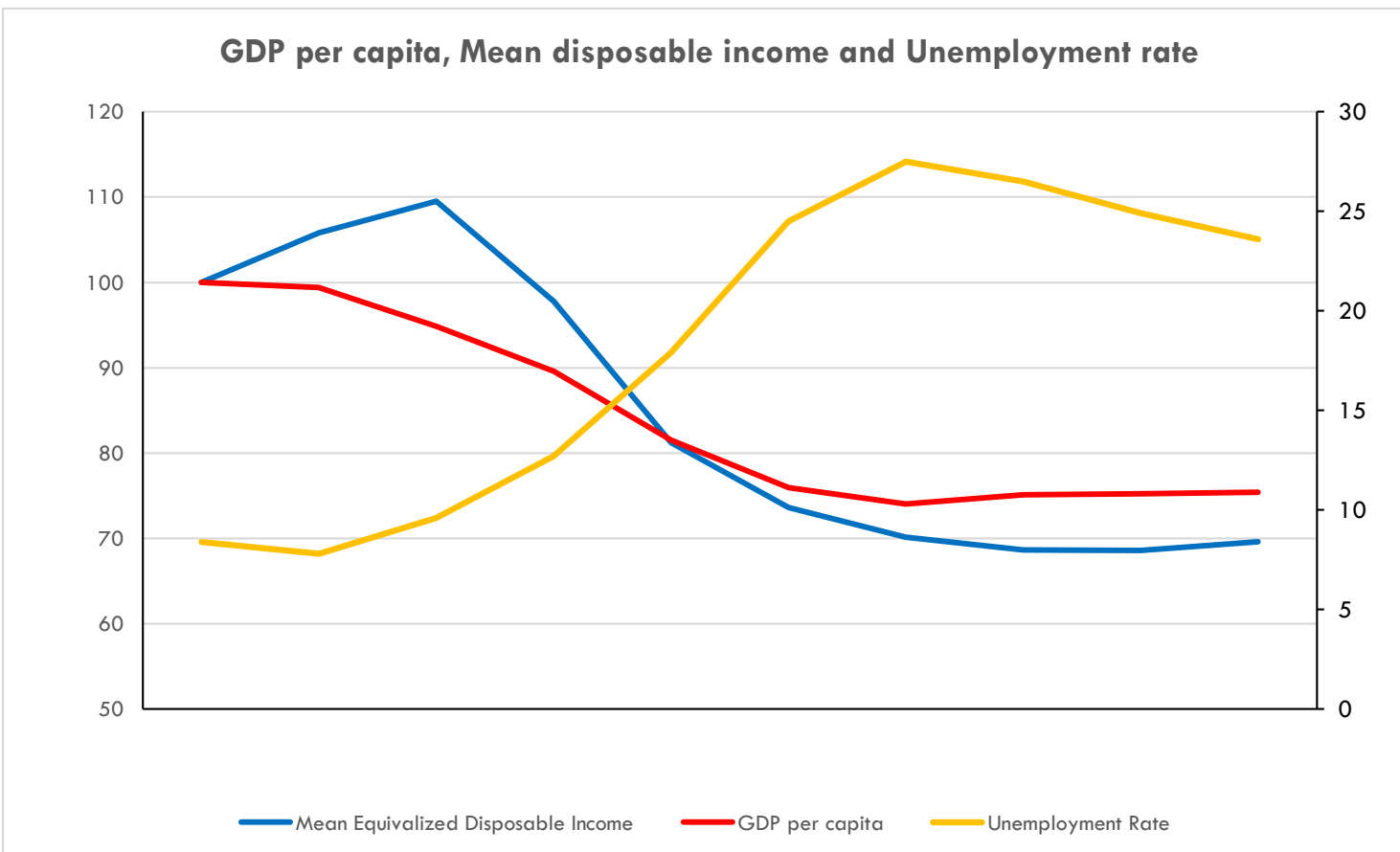
Unemployment rates EU27, 2007



# Data and Methods

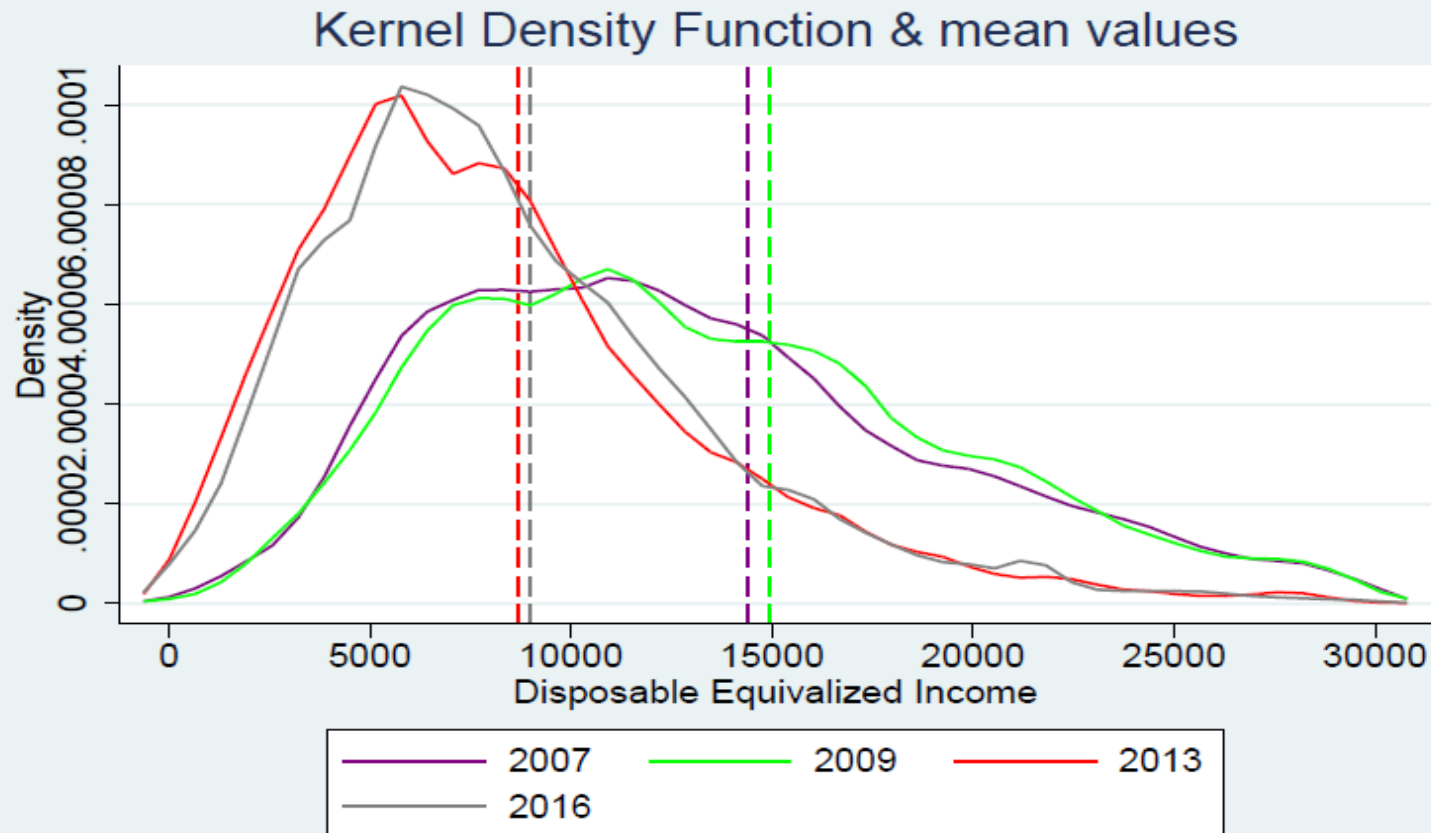
- Greek data set of the EU-SILC for the period 2008-2017 (2007-2016 incomes)
  - Combination of PDB and UDB data
- Income concept: disposable monetary household income
  - Popular, but non-cash incomes (private and public)?
- Eurostat equivalence scales
- Top/bottom coding
  - (Less than 1% of mean equivalized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



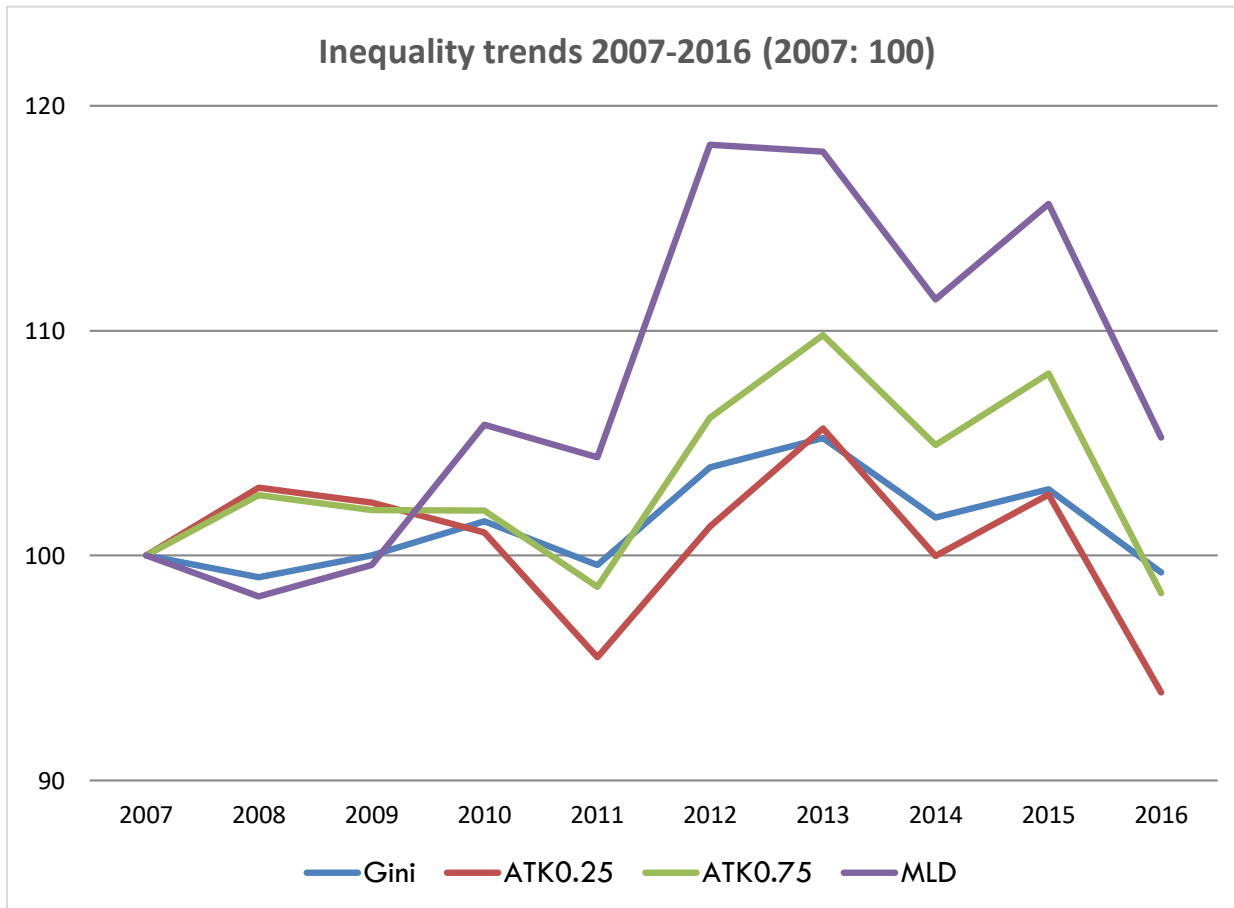
# Changes in population shares and relative mean incomes I

Population Group	Population share			Mean income			Change in real terms	
	2007	2013	2016	2007	2013	2016	2007-13	2013-16
<b>Socio-economic group of household head</b>								
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
<b>Households with/without unemployed members</b>								
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
<b>Age of population member</b>								
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
<b>GREECE</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		

# 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
<b>Household Type</b>								
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
<b>Educational level of household head</b>								
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
<b>GREECE</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>1.00</b>	<b>1.00</b>	<b>1.00</b>		

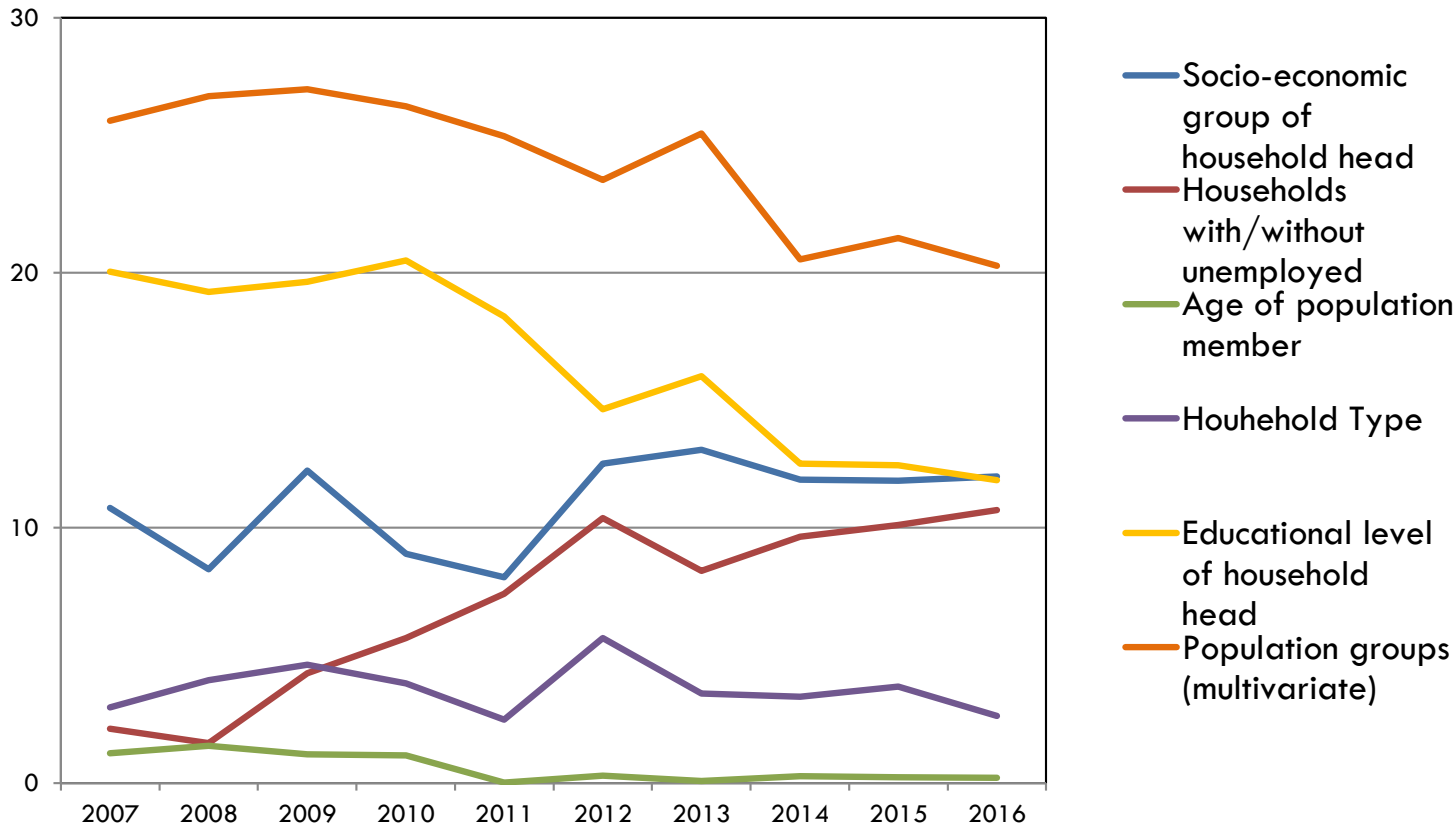
# Inequality: Trends



- 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					
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

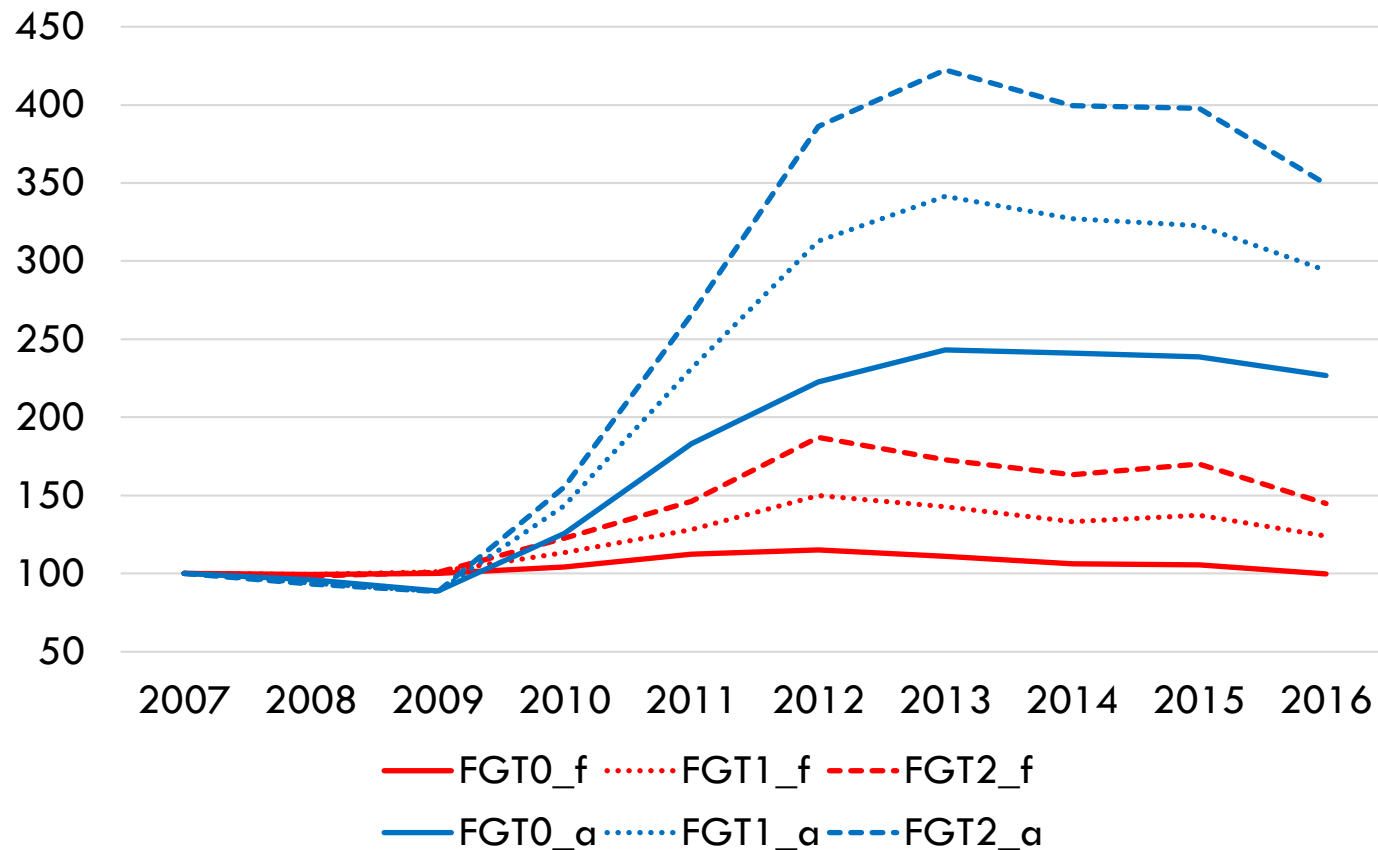
# Inequality decomposition by factor components

	Income Share	Gini Index	Correlation coefficient	Concentration Coefficient	Elasticity
Wages	0.619	0.668	0.612	0.409	0.142
Self-employment income	0.284	0.859	0.462	0.397	0.055
Non-work private income	0.043	0.932	0.562	0.523	0.025
Pensions	0.366	0.709	0.391	0.277	-0.061
Social insurance benefits	0.007	0.968	-0.019	-0.018	-0.008
Categorical benefits	0.014	0.972	0.111	0.108	-0.010
Means-tested benefits	0.021	0.819	-0.412	-0.337	-0.042
Other Incomes	0.020	0.951	-0.162	-0.154	-0.030
Property taxes	-0.038	-0.539	-0.299	0.161	0.020
Private transfers	-0.016	-0.966	-0.128	0.123	0.010
Income tax & SICs	-0.321	-0.550	-0.796	0.438	-0.102

- *Work still in progress / Results for 2015*
- 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 and mean-tested benefits rose
- Progressivity changes with aversion to inequality
  - Esp. means-tested benefits
- Unusual result for property taxation (?)

# Poverty: Trends

Poverty trends 2007-2016 (2007: 100)



- 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
<b>Socio-economic group of household head</b>										
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
<b>Households with/without unemployed</b>										
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
<b>Age of population member</b>										
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

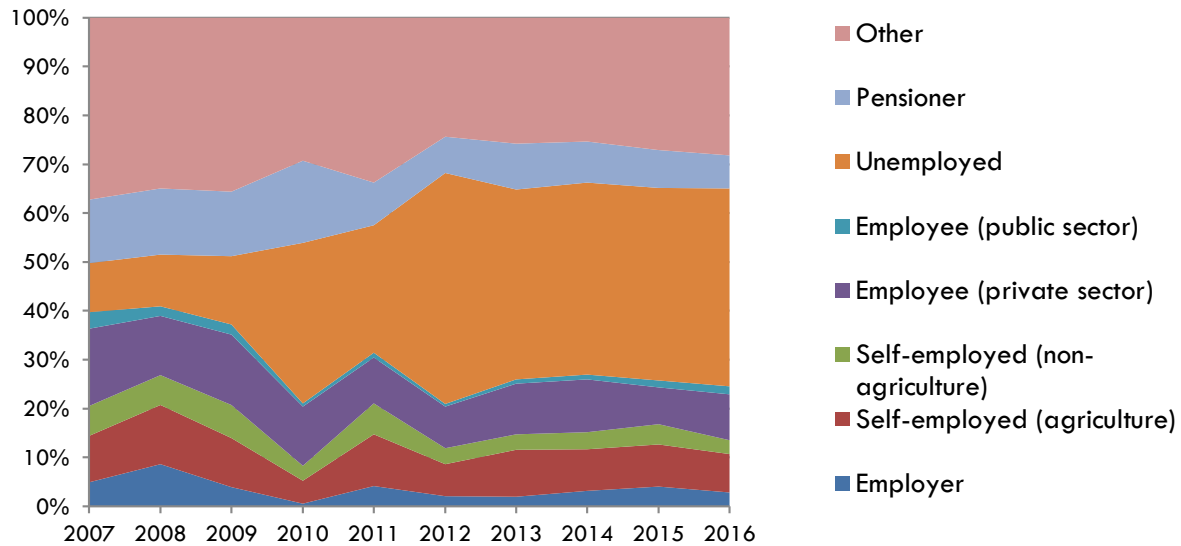


# Poverty: Structure II

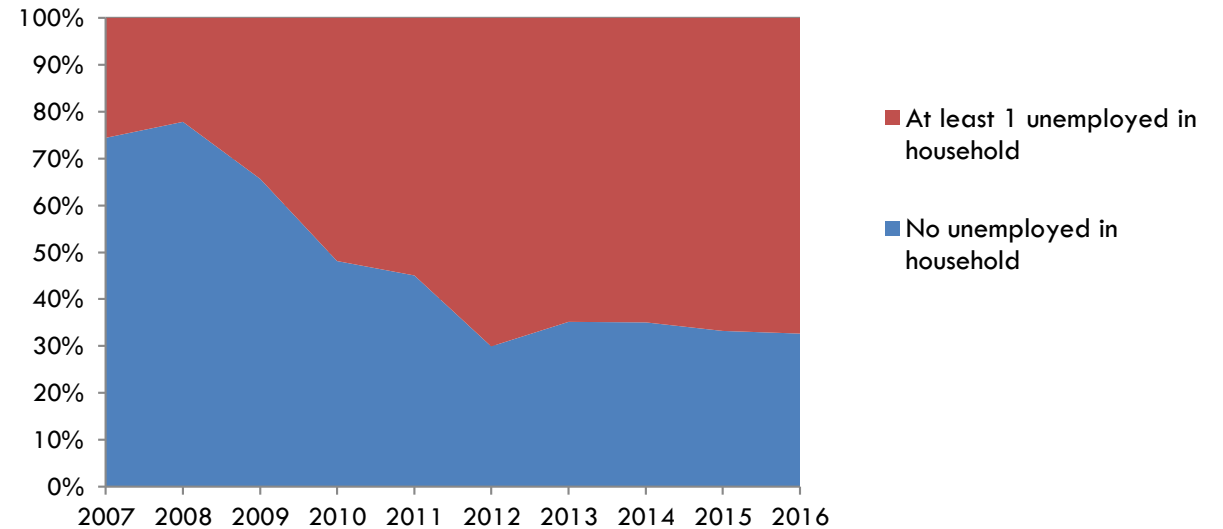
Population Group	Poverty rate (FGT0)			Change		FGT2			Change	
	2007	2013	2016	2007-13	2013-16	2007	2013	2016	2007-13	2013-16
<b>Household Type</b>										
Single adult <65 or couple aged <65. no dep ch	16.56	19.79	17.45	19.71	-11.95	2.22	3.97	3.71	79.41	-6.65
Single adult or cpl, at least one >=65. no dep ch	<b>23.80</b>	<b>13.59</b>	<b>11.36</b>	-43.35	-16.52	<b>1.56</b>	<b>1.49</b>	<b>1.07</b>	-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	<b>25.93</b>	<b>35.28</b>	<b>28.96</b>	36.42	-18.10	<b>3.71</b>	<b>9.72</b>	<b>5.42</b>	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	<b>30.58</b>	<b>36.64</b>	<b>29.16</b>	19.99	-20.61	<b>3.41</b>	<b>7.28</b>	<b>5.07</b>	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
<b>Educational level of household head</b>										
Less than primary education	<b>35.83</b>	<b>27.77</b>	<b>23.96</b>	-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	<b>9.66</b>	<b>20.00</b>	<b>17.75</b>	108.15	-11.37	<b>0.83</b>	<b>3.70</b>	<b>3.01</b>	348.67	-18.82
Tertiary education	<b>5.81</b>	<b>6.33</b>	<b>8.44</b>	9.21	33.59	<b>0.73</b>	<b>1.11</b>	<b>1.46</b>	53.50	31.30

# Poverty: Evolution of structure I

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

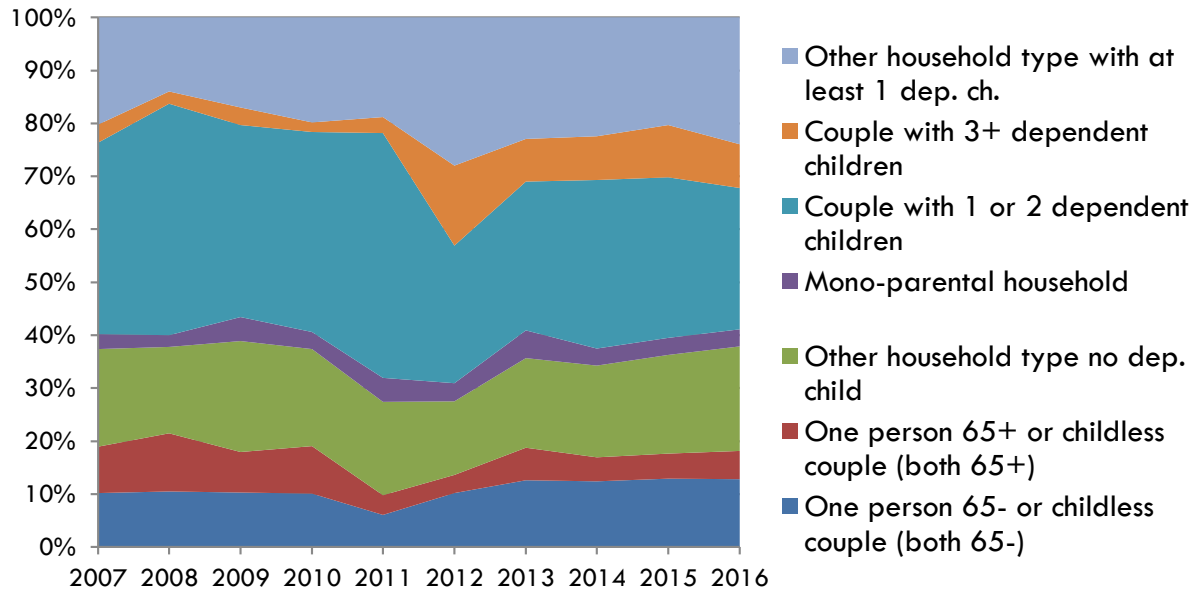


**Contributions to aggregate poverty according to number of unemployed members - FGT2 floating**

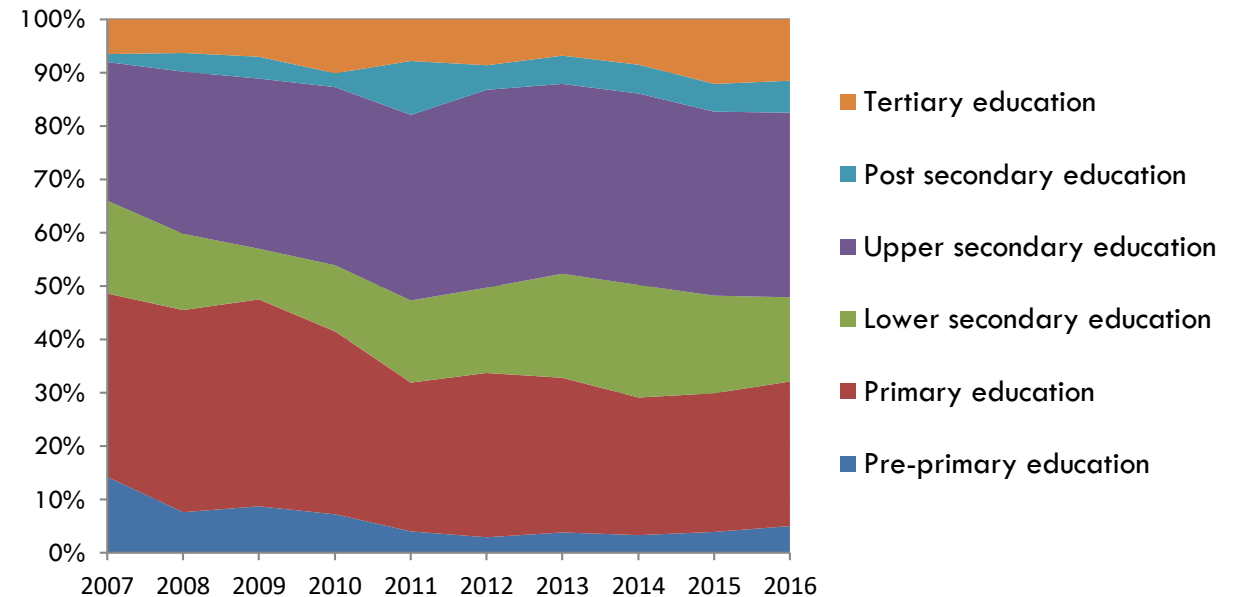


# Poverty: Evolution of structure II

**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

Characteristic of HH head or HH member	FGT2 floating poverty line			
	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>	2007-2013	72.94	26.68	46.26
	2013-2016	-16,20	-3.81	-12.39
	2007-2016	44,88	22.40	22.48
<i>Households with/without unemployed</i>	2007-2013	72.94	40.51	32.56
	2013-2016	-16,20	-6.32	-9.94
	2007-2016	44,88	34.54	10.38
<i>Household Type</i>	2007-2013	72.94	2.89	70.03
	2013-2016	-16,20	0.27	-16.47
	2007-2016	44,88	1.55	43.32
<i>Educational level of household head</i>	2007-2013	72.94	-6.71	79.07
	2013-2016	-16,20	-2.34	-13.85
	2007-2016	44,88	-7.33	37.83

# 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
  - Aggravation in disincentives if tax free threshold is cut substantially, as planned
- 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!*