



POLITECNICO
MILANO 1863

DIPARTIMENTO DI ARCHITETTURA
E STUDI URBANI

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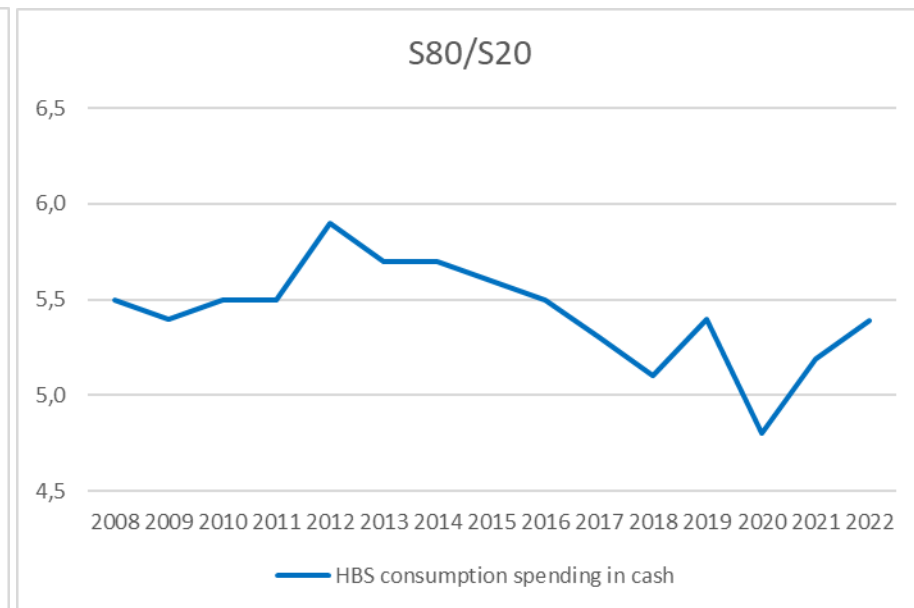
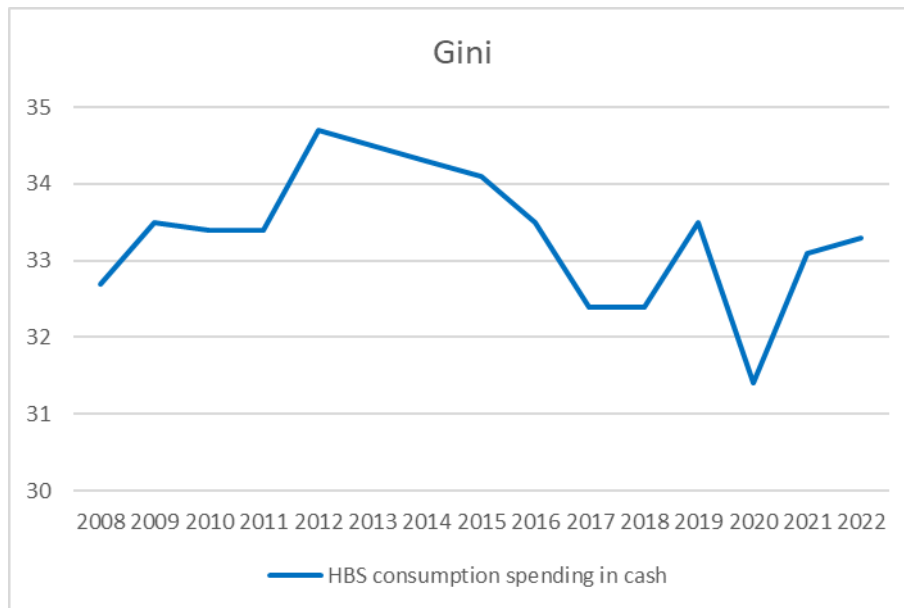
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How Greece became more equal *Explaining changes in income inequality*

Twenty-second Conference on Research on Economic Theory and
Econometrics
(Milos, 10-14 July 2024)

The fall in inequality: consumption

- There seems to be little doubt that inequality in Greece did fall after the early 2010s
- The decline in inequality started during the crisis, and gathered speed in the second half of the decade
- Changes in inequality seem to have gone into reverse in the 2020s

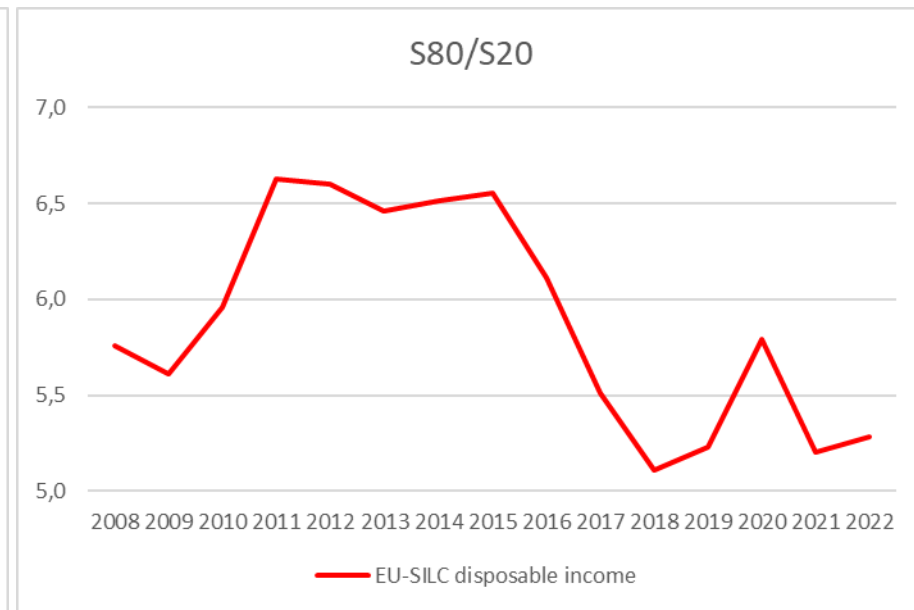
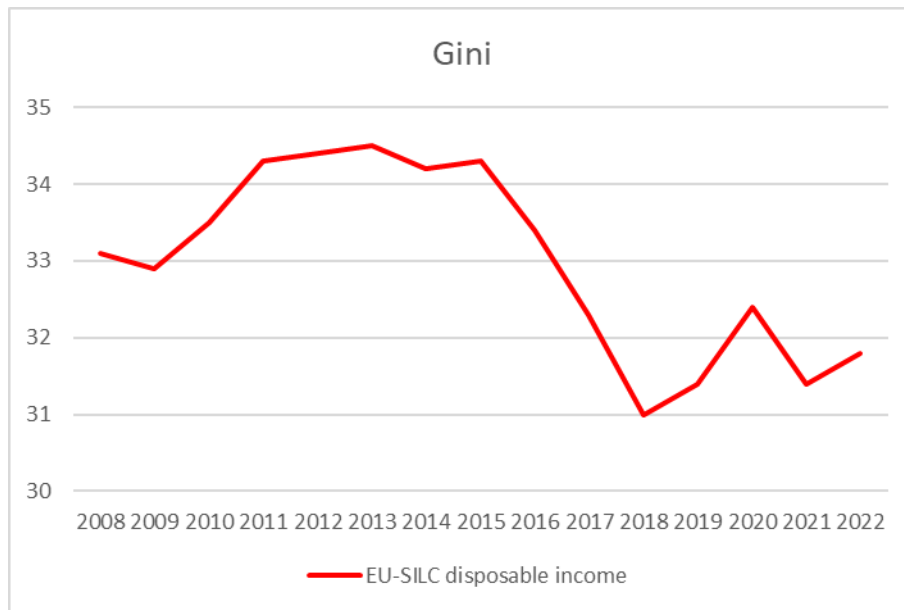


Source: Household Budget Survey



The fall in inequality: income

- There seems to be little doubt that inequality in Greece did fall after the early 2010s
- The decline in inequality started during the crisis, and gathered speed in the second half of the decade
- Changes in inequality seem to have gone into reverse in the 2020s



Source: EU Survey of Income and Living Conditions



The fall in inequality: top income shares

- There seems to be little doubt that inequality in Greece did fall after the early 2010s
- The decline in inequality started during the crisis, and gathered speed in the second half of the decade
- Changes in inequality seem to have gone into reverse in the 2020s



Source: World Income Database



Decomposing changes in inequality, 2014-2019 ⁽¹⁾

- What explains the fall in inequality in the second half of the 2010s?
- We isolate the effect of tax and benefit policies
- ... from other changes in the income distribution
- ... using the Advanced Policy Effects Tool (PET)
- ... of EUROMOD, the European tax-benefit model
- ... on EU-SILC data



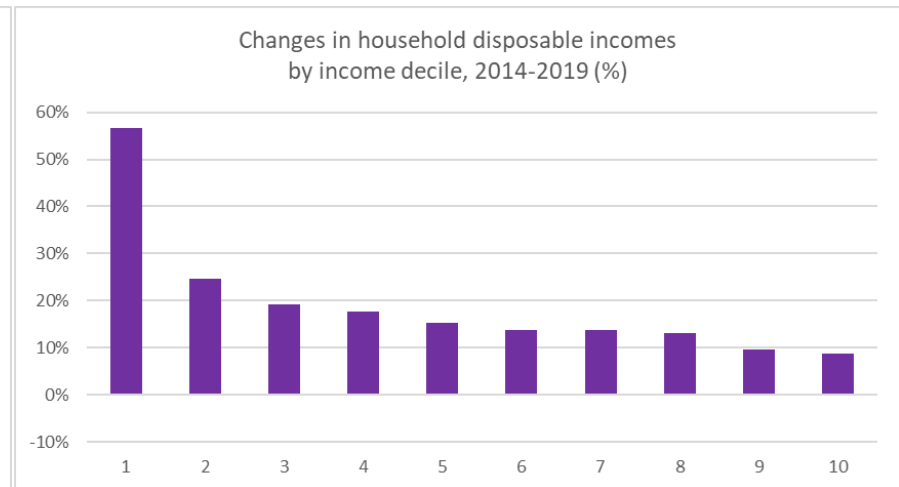
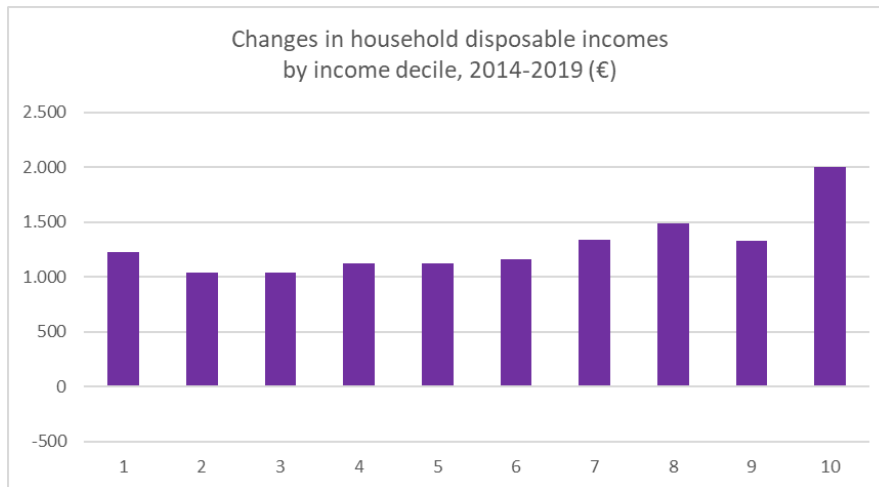
Decomposing changes in inequality, 2014-2019 (2)

- We compare the distribution of household disposable incomes in 2014 and 2019
 - first holding market incomes and household characteristics constant, and allowing tax and benefit policies to vary
 - then the other way around
- In other words, we compare the two income distributions stepwise:
 - ✓ A: 2014 tax and benefit policies on 2014 market incomes
 - ✓ B: 2019 tax and benefit policies on 2014 market incomes
 - ✓ C: 2019 tax and benefit policies on 2019 market incomes
 - C-A = total effect
 - B-A = policy effect
 - C-B = changes in market incomes (and household characteristics)



Explaining the fall in inequality, 2014-2019 (1)

- By definition, the reason income inequality fell in 2014-2019 was that low incomes grew faster than high incomes
- We estimate that the incomes of the poorest (richest) 10% of the population in 2014 grew by a cumulative 56.6% (8.8%) by 2019
 - Compound annual growth rate: +9.4% (+1.7)

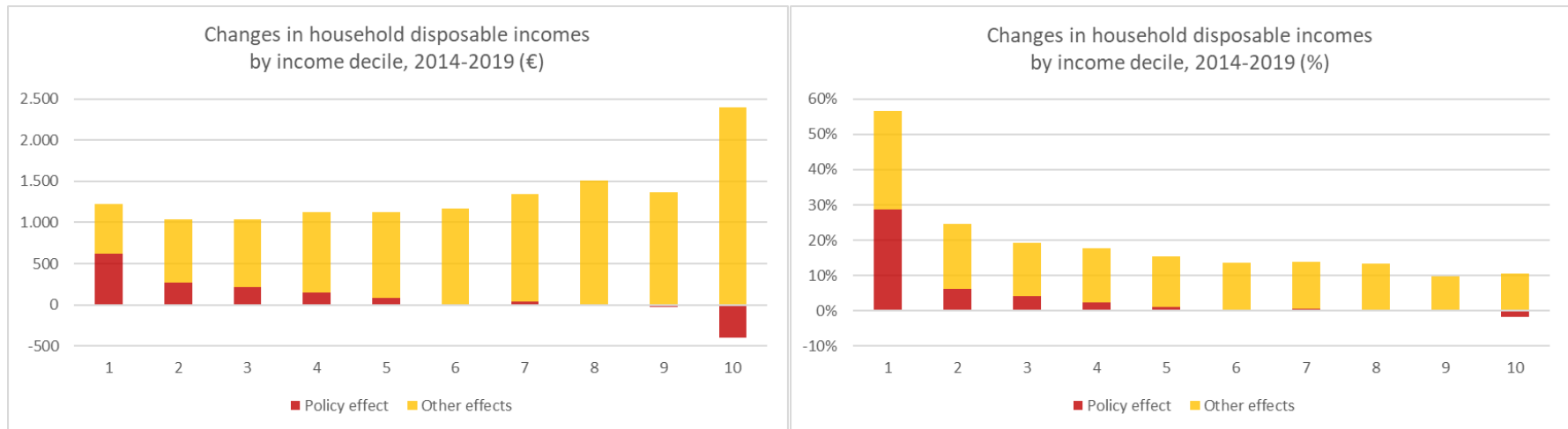


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (2)

- Only about 8% of the growth in total disposable income between 2014 and 2019 was due to changes in social benefits, taxes and social contributions
- (The remaining 92% was due to the growth of market incomes)

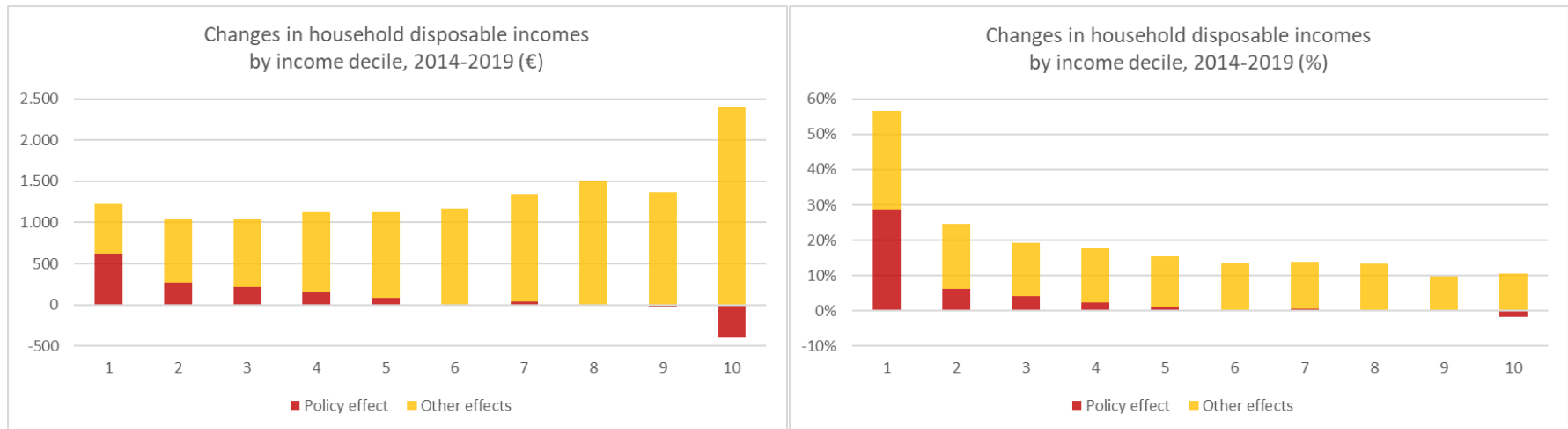


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (3)

- In the bottom decile, as much as 51% of the growth in total disposable income between 2014 and 2019 was due to changes in social benefits, taxes and social contributions
- (The remaining 49% was due to the growth of market incomes)



Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (4)

- Changes in social benefits, taxes and social contributions were disproportionately important in distributional terms: 37-40% of the fall in inequality was due to such policy changes
- Changes in market incomes (and household characteristics) accounted for the remaining 60-63% of the fall in inequality

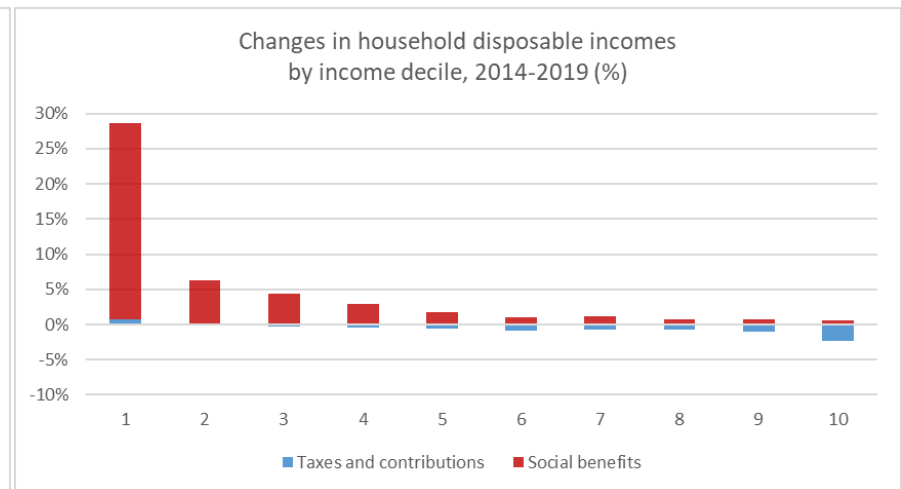
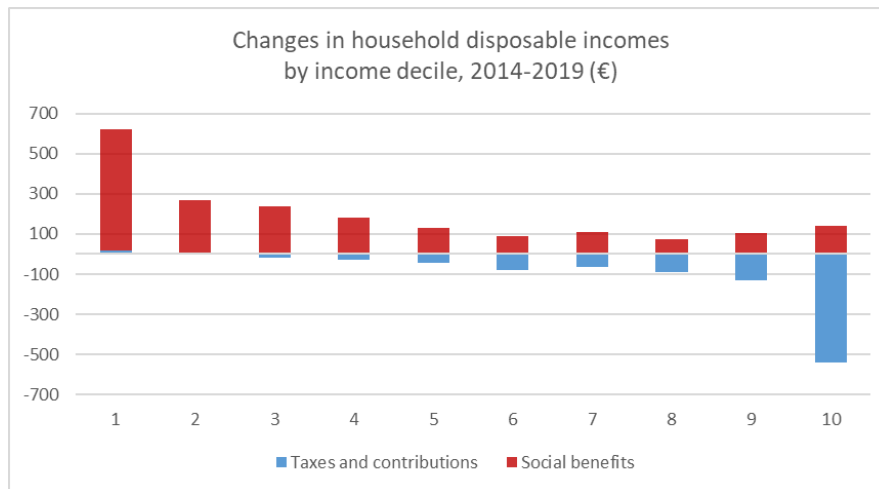


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (5)

- Most of the redistribution in 2014-2019 was achieved by changes in social benefits
- Changes in taxes and social contributions were also progressive, but less significant (as a share of income)

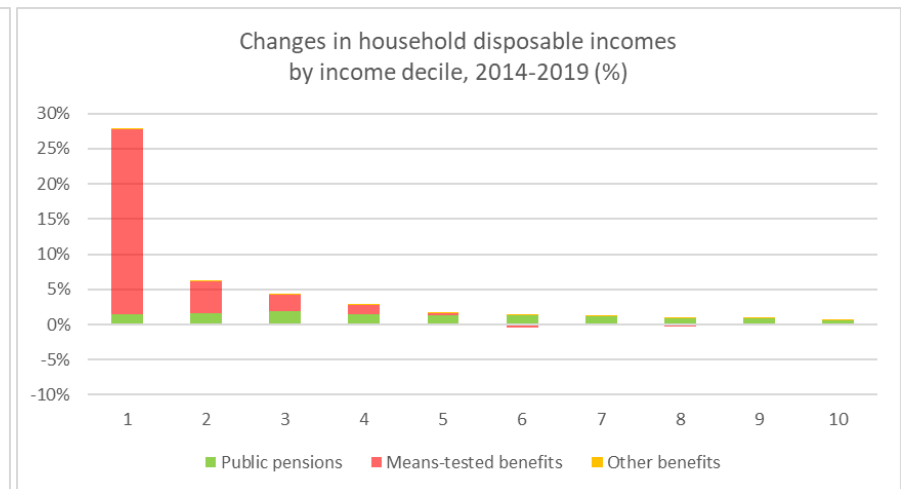
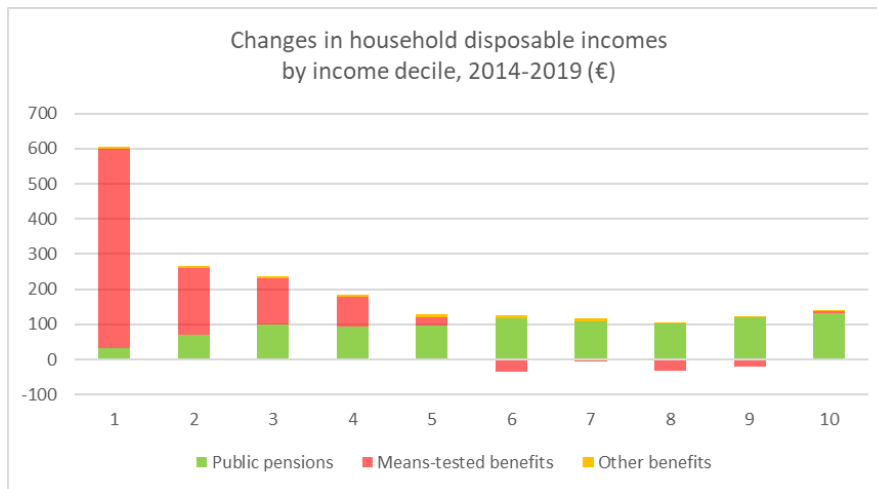


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (6)

- Considering social benefits, most redistribution was achieved by changes in means-tested ones:
 - ✓ Guaranteed Minimum Income (2017)
 - ✓ Single Child Benefit (2013/2018)
 - ✓ Housing Benefit (2019)
- Changes in pensions were less important (and less progressive)

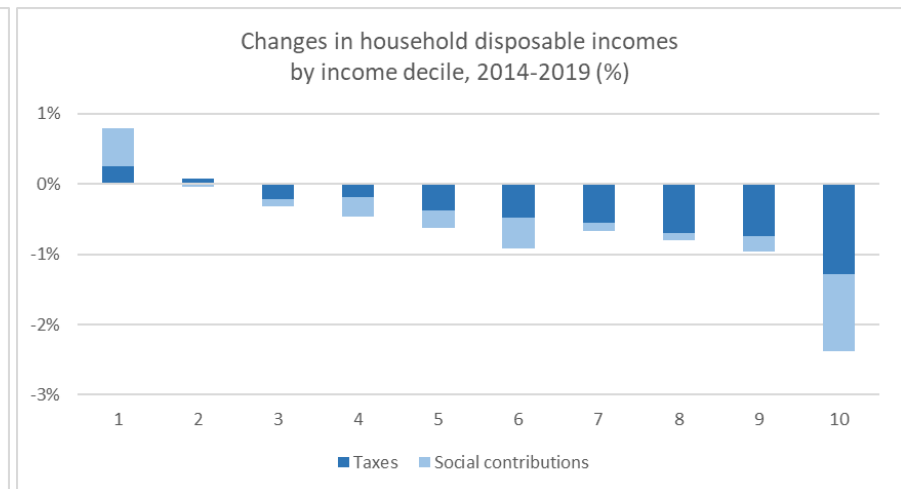
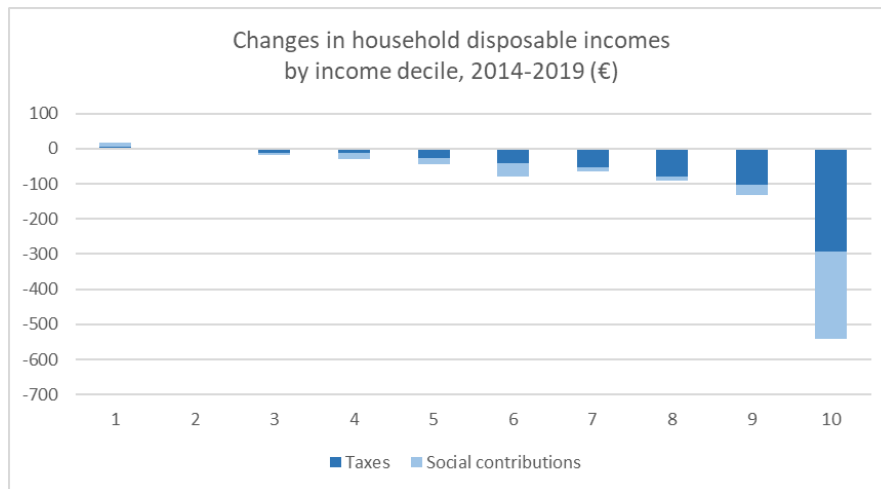


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (7)

- Changes in taxes were about equally significant as changes in social contributions
- ... with the former being more consistently progressive than the latter

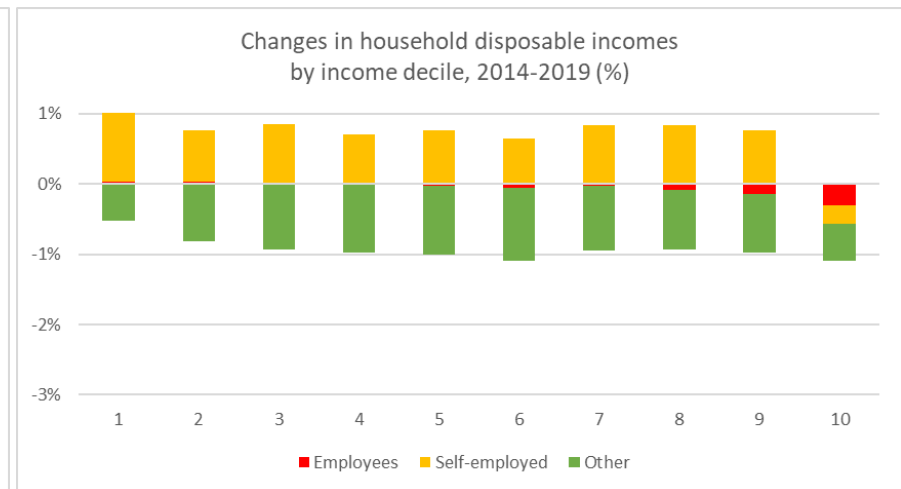
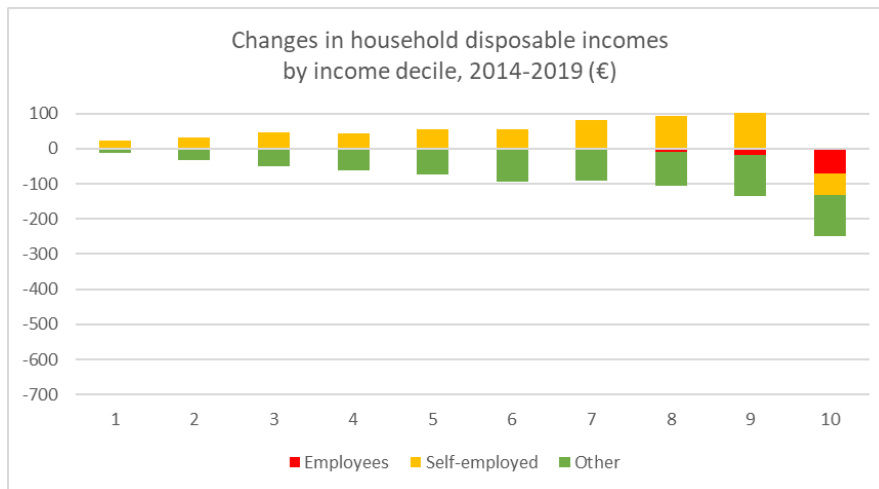


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Explaining the fall in inequality, 2014-2019 (8)

- Finally, the 2016 changes in the social contribution regime of the self-employed seem to have added to the disposable income of all except those located in the top 10% of the income distribution
- ... while reported income responses (i.e. more evasion), and later changes in legislation, blunted the progressive intent of the 2016 reform



Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



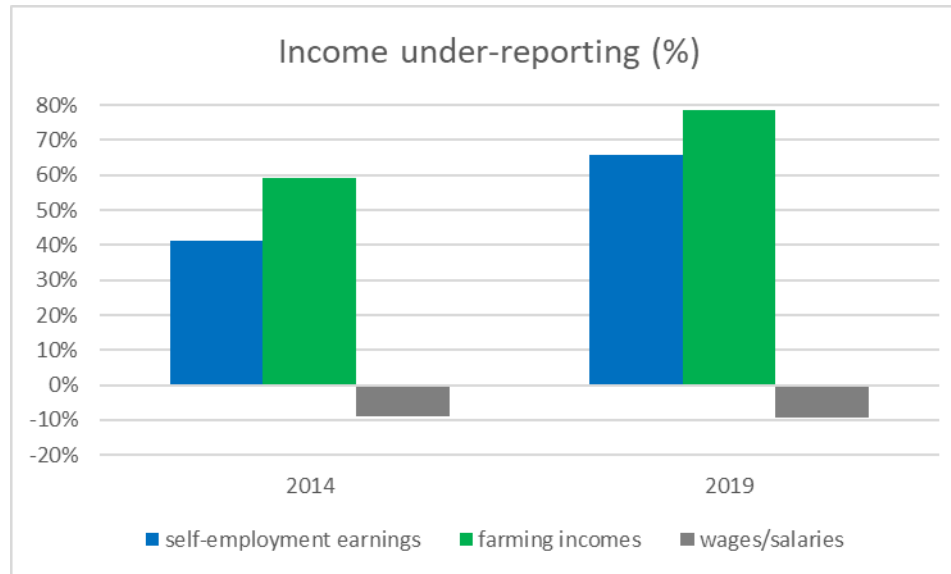
The problem with tax evasion (1)

- Are our results credible, in view of tax evasion?
- Our starting point is that respondents to the EU-SILC survey truthfully reveal their net incomes
- We compare net incomes reported in EU-SILC to those reported to tax authorities
- We adjust gross incomes from work (including self-employment) in line of that comparison



Income under-reporting (1)

- We find that between 2014 and 2019 under-reporting of taxable incomes rose:
 - from 40% to 65% in the case of self-employment earnings
 - from 60% to 80% in the case of farming incomes



Source: tax registry, EU-SILC (recalculated in the tax-benefit model EUROMOD)

Notes: reported earnings are pre-tax post-contribution



Income under-reporting (2)

- Clearly, the distributional impact of policy changes crucially depends on reported income responses on the part of tax-payers
- We adjust gross incomes (as reported in the EU-SILC survey) by applying the under-reporting rates shown in the table below
- We then estimate the distributional impact of tax and benefit policies using EUROMOD

Under-reporting rates (%)	2014	2019
self-employment earnings	40	65
farming incomes	60	80
wages/salaries	5	5



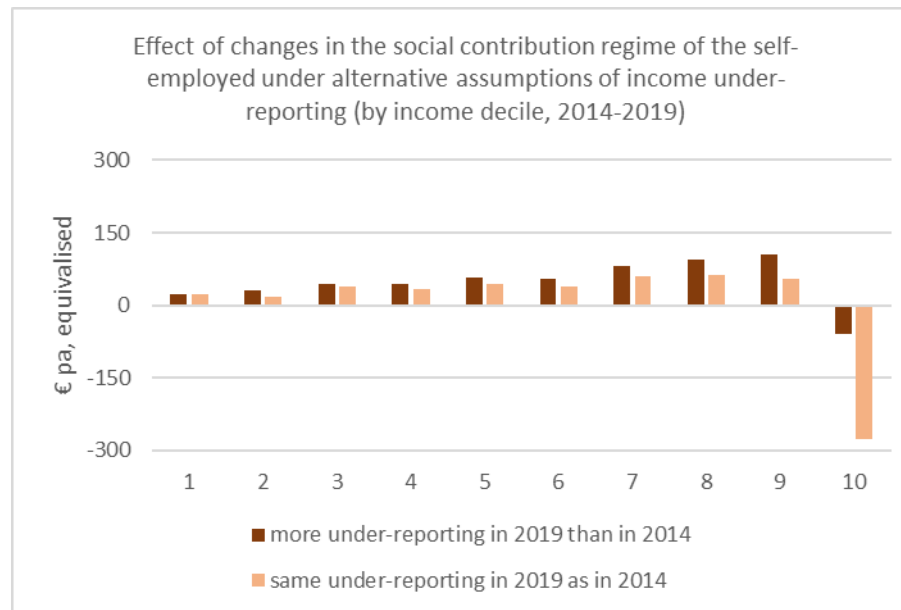
The problem with tax evasion (2)

- Caveats
 - Current data do not allow a close approximation of housing taxes
 - ... nevertheless, income taxes and social contributions are simulated in minute detail
- Considering everything, we believe the model (adjusted for income under-reporting) does a decent job in accounting for tax evasion



Effect of changes in income under-reporting

- The 2016 change in the social contribution regime had aimed to create a level-playing field for all, employees or self-employed
- We find that the response of the self-employed neutralised this intent, and distorted the 2016 reform's distributional impact

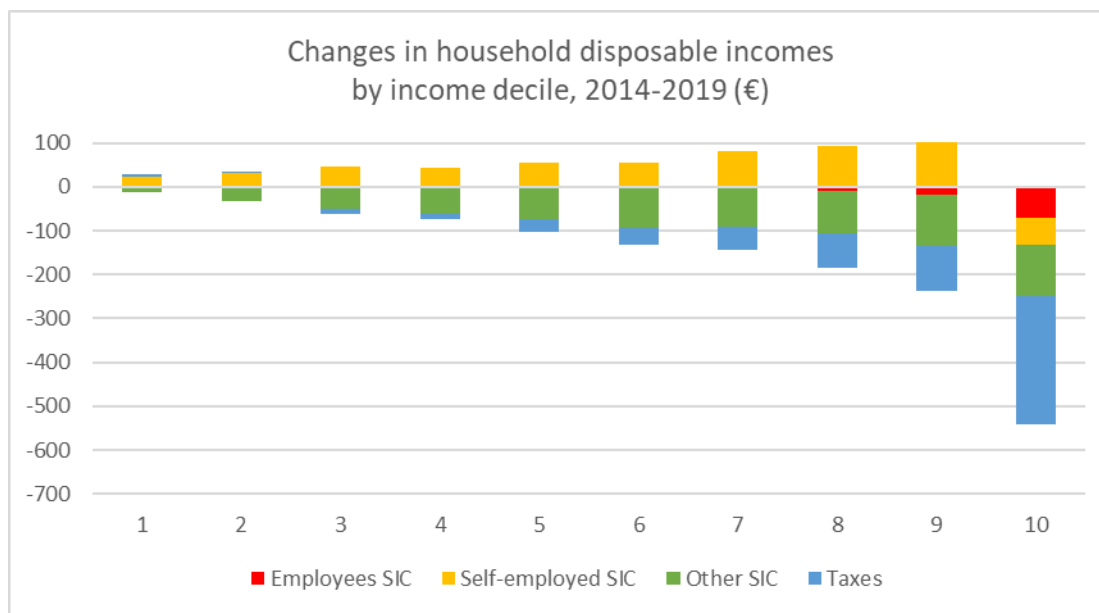


Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



The effect of changes in taxes and contributions

- Given reported income responses, the impact of changes in taxes and social contributions seems to have been surprisingly modest - given the sound and fury they generated
- *(with the caveat of the imperfect data on housing taxes)*



Source: EU-SILC (recalculated in the tax-benefit model EUROMOD)



Conclusions (1)

- Our methodology allows us to separate changes in policy from changes in market incomes (and household characteristics)
- We find that changes in (tax-benefit) policies accounted for 37-40% of the fall in inequality, even though they contributed only about 8% of the income growth between 2014 and 2019
- In income decile 1 (i.e. the poorest 10%), tax and benefit policies accounted for 51% of the income growth in 2014-2019
- Means-tested social benefits (the 2017 Guaranteed Minimum Income, the 2013/2018 Single Child Benefit, the 2019 Housing Benefit) raised the incomes of the (very) poor, and reduced inequality, the most



Conclusions (2)

- Does all this add up to a more favourable assessment of the Tsipras government, at least as regards its effects on income distribution?
 1. Changes in taxes and benefits were often imposed by the Troika
 - Guaranteed minimum income
 - 2016 pension reform (and associated changes to the social contributions regime of farmers and the self-employed)
 2. Changes in market incomes are also affected by policy
 - “Pre-distribution”: the minimum wage, collective bargaining etc.
 - Effects of policy on job creation (and destruction), earnings etc.
 3. Lower inequality is only one objective of public policy
 - Faster growth is another
 - After a fall in living standards, many might rank the latter more highly than the former
 - ... (although individual preferences will always differ)

