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Effects of tax-benefit policy changes across the income distributions of the EU-28 countries: 2017-2018

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Contents

Introduction

This paper provides a short country-by-country harmonised analysis - using EUROMOD[1] - of the distributional effects on household disposable income of direct tax and cash benefit policy changes between 2017 and 2018. It is the latest in this series of reports, available as EUROMOD working papers, produced annually on the public release of an updated EUROMOD. At the same time, last year's equivalent report - covering policy changes between 2016 and 2017 - has also been revised to account for the availability of more recent input micro-data, model extensions and corrections and finalised HICP values for 2017.[2]

In this paper, we show how changes (or non-changes) in tax-benefit policies have affected household incomes, abstracting from changes in the population characteristics (e.g. increased unemployment) and the distribution of market/original gross incomes in the years under consideration.[3] The tax-benefit policies in a given year refer to those that applied on 30th of June.

For each country of the EU-28 a standard table and figure show the policy effects measured in real terms by policy component and income decile group, where income is household disposable income equivalised using the modified OECD scale (1:0.5:0.3). In Table 1 and Figure 1 for each country the first-order policy effect is estimated as the difference between simulated household disposable incomes under 2018 tax-benefit policies (deflating the tax-benefit monetary parameters back to 2017 by the Harmonized Index of Consumer Prices, HICP) and household disposable incomes simulated under 2017 policies. The difference is expressed as a percentage of mean household disposable income in 2017. The population is ranked into decile groups based on their equivalised household disposable income in 2017 and the effect is shown for each decile group as well as the population as a whole, based on each person's equivalised household disposable income. The total policy effect on household disposable incomes is decomposed into the following components: public pensions, means-tested benefits, non-means-tested benefits, employee and self-employed social insurance contributions (SIC) and direct taxes. We isolate the direct policy effect from changes in market/original income, which are held constant in our analysis and shown in the tables and figures as unchanging. Note that the scale used for Figure 1 differs across countries.

Projected values for HICP are shown in Table A below. In contrast to previous years, inflation is no longer very low (or negative) across the board and so some of the policy effects seen in some countries may arise in part due to a lack of indexation of tax thresholds, benefit levels or pensions payments. Given that the values are projections and were calculated before statistics on the whole year were available, the provisional nature of the indexes is something that the reader should bear in mind.

For most countries, the analysis makes use of micro-data from the EU Statistics on Income and Living Conditions (EU-SILC) for 2016 with market incomes updated to the starting year in each analysis -

[1] For more information about EUROMOD see Sutherland and Figari (2013) and www.euromod.ac.uk.

[2] EUROMOD, 2018, "Effects of tax-benefit policy changes across the income distributions of the EU-28 countries: 2016-2017" EUROMOD Working Paper EM4/18 Colchester: ISER, University of Essex.

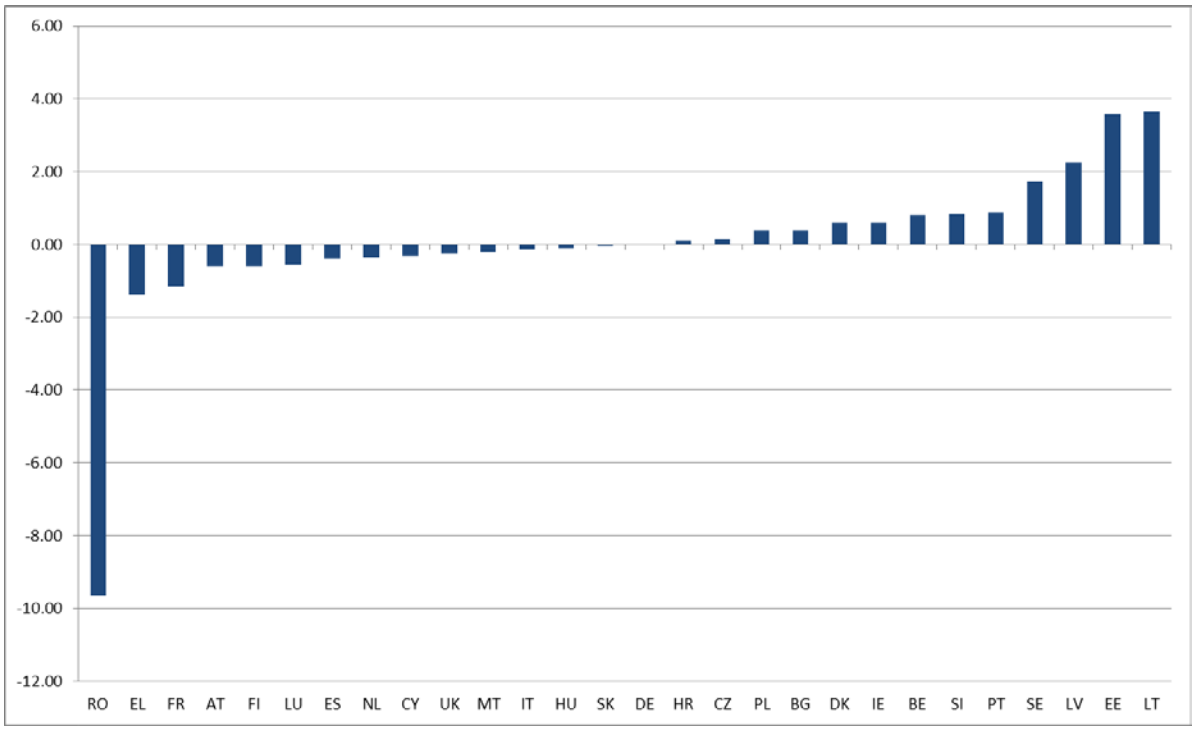
[3] The full methodology used to estimate the effects of tax-benefit policy changes is described in Section 2 of De Agostini, P., A. Paulus and I. Tasseva, 2016, "The effect of changes in tax-benefit policies on the income distribution in 2008-2015" EUROMOD Working Paper EM6/16 Colchester: ISER, University of Essex. For general framework, see A. Paulus and I. Tasseva, 2018, "Europe Through the Crisis: Discretionary Policy Changes and Automatic Stabilisers", EUROMOD Working Paper EM 16/18, Colchester: ISER, University of Essex.

2017. For the UK we make use of data from the Family Resources Survey (FRS) for 2015/2016 with market incomes updated to 2017.

Results and a cross-country summary

Figure A summarises the policy effect on average household disposable income across all EU-28 countries. The effect ranges from a decrease of 9.65% of household income in Romania to an increase of 3.64% of household income in Lithuania.

Figure A: Change in household disposable income (%) as a result of policy effects 2017-2018, using HICP indexation



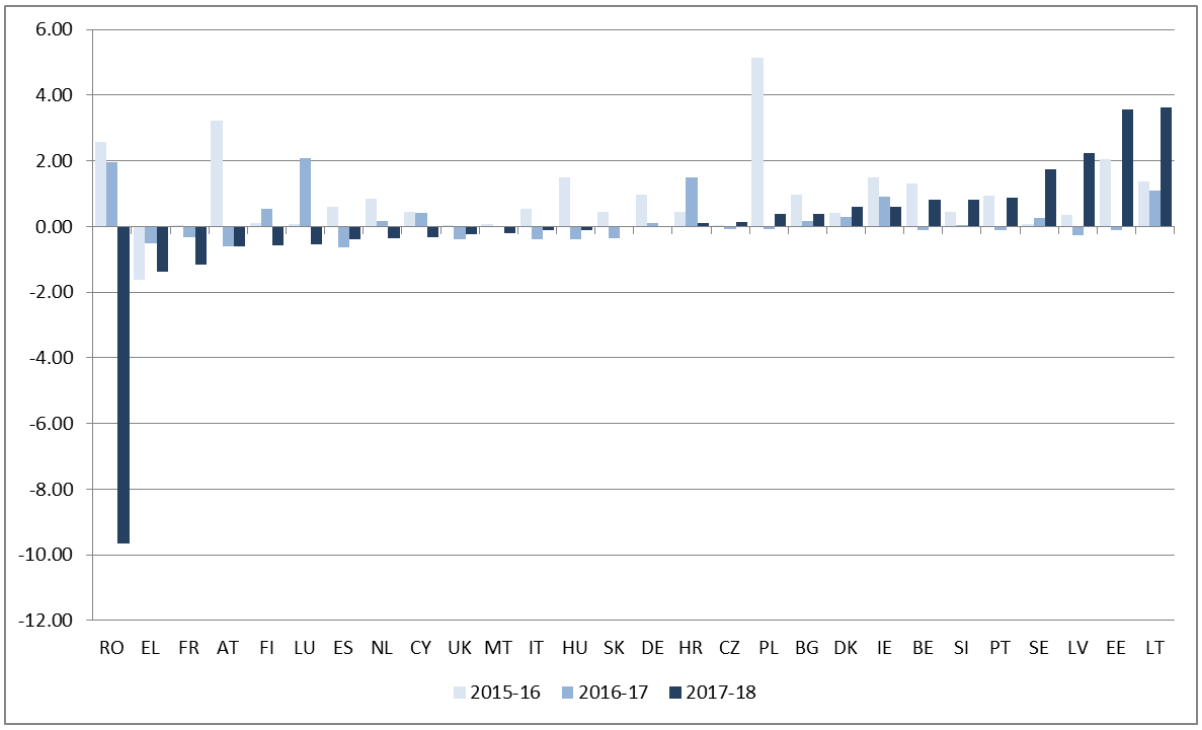
In the following section, policy effects are described and accounted for on a country-by-country basis - with a short commentary explaining the effects shown in terms of the policy reforms that are captured by the analysis and the extent of indexation, relative to inflation. However, to place both the range in effect across the countries (roughly 13.3 percentage points) and the individual figures for Romania and Lithuania in the context of recent years, Figure B provides the equivalent information for each of the last three years.

Of the three periods analysed, the impact on Romanian household incomes for 2017-2018 stands out as by far the sharpest reduction seen. As noted in a later section, however, the effects reported for Romania (and, indeed, for all countries) represent the static, 'morning after' effects of policy change. In the case of Romania, the reported steep drop in incomes is due in large part to the burden of making social insurance contributions shifting from employers to employees. But no

behavioural response is considered here and there are good reasons for assuming that some of the losses experienced by Romanian employees will be compensated by employers paying higher salaries.

Another feature illuminated by Figure B is the continuing pattern of income growth related to tax-benefit policy changes in the Baltic states. This is especially evident if we consider changes made in 2013-2014 and 2014-2015 (neither shown here) as well as the past three years.

Figure B: Change in household disposable income (%) as a result of policy effects 2015-2016, 2016-2017 and 2017-2018, using HICP indexation

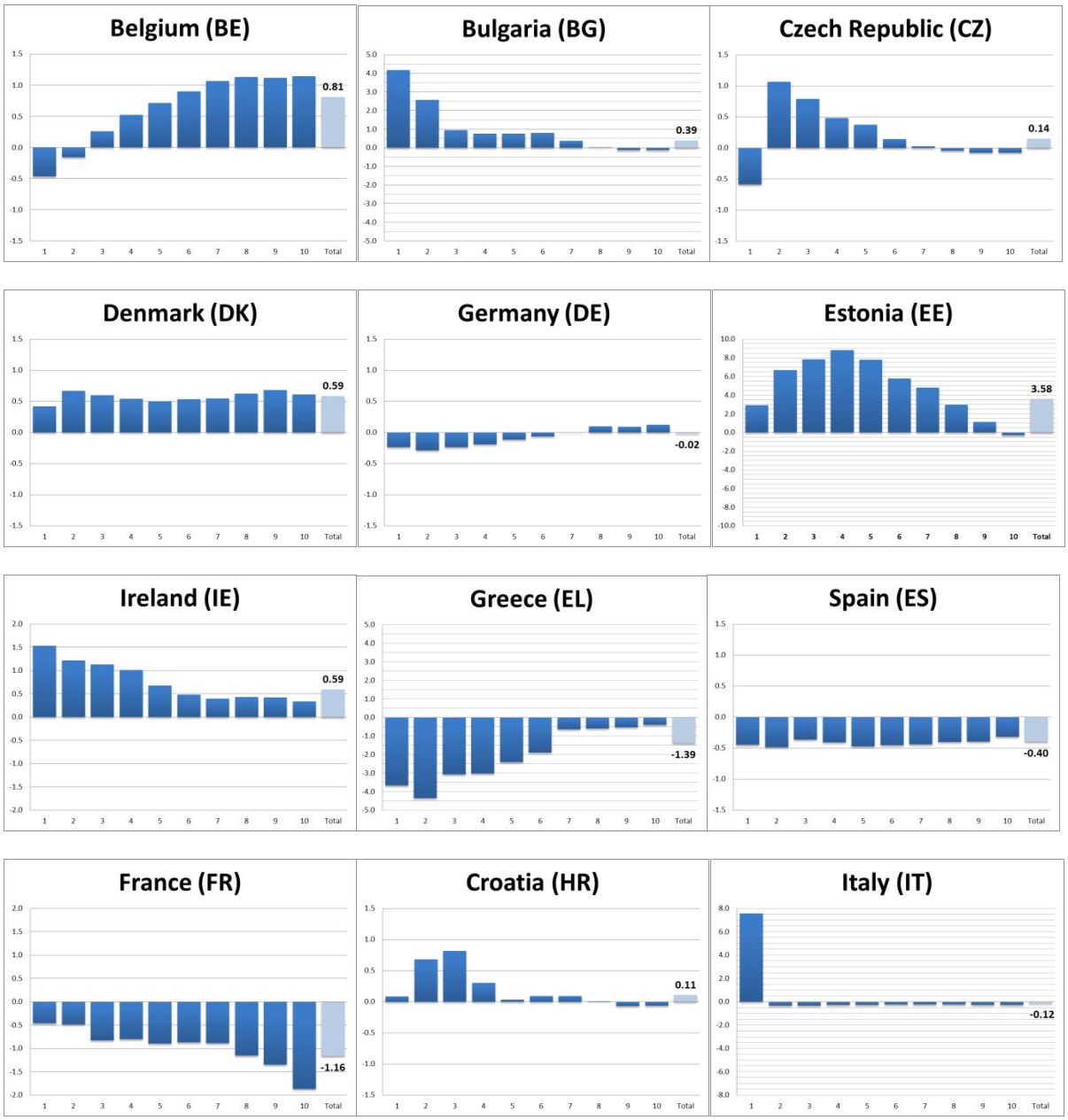


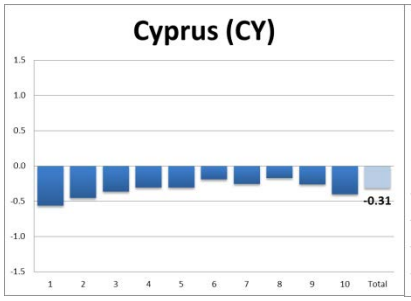
The distributional effects across all the EU-28 countries due to policy changes between 2017-2018 are summarised in Figure C, breaking down the change into that for each decile group. The figures are not all drawn to the same scale but in each case the interval between gridlines is the same: 0.5%.

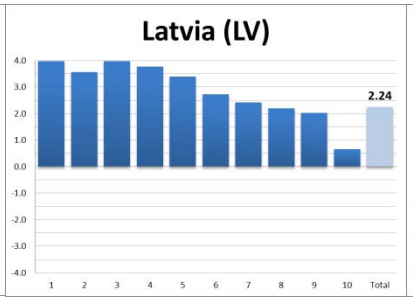
As per previous years, if we were to classify these distributions by type, the modal category would be an effect that is progressive (increases in income worth more, or decreases worth less, as a % of household income at lower incomes than at higher incomes). However, there are also several cases this year where an overall pattern is not easy to discern: some countries tend towards a shallow U-shaped distribution with middle incomes doing less well (Denmark, Austria), others towards an inverted U-shape (most obviously Estonia but also Cyprus), and others show gains/losses shared (broadly) equally across the income deciles (Spain, Malta). For nine countries, the effects can be described as regressive, though very mildly in two cases (Germany, Netherlands).

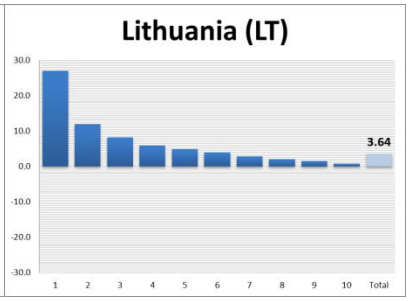
In the cases of Lithuania and Slovenia, policy reforms delivered huge uplifts in disposable income – greater than 20% – for the lowest decile. In both cases, this was the result of substantially more generous benefits programs: in Lithuania, the introduction of universal child benefit and a new benefit for the long-term unemployed contributed heavily; for Slovenia, the minimum income – which is the base for social assistance and income support – saw a large increase in 2018.

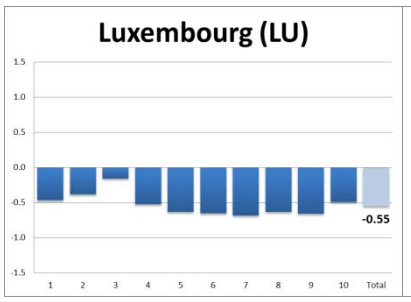
Figure C: Change in household disposable income (%) by income decile group as a result of policy effects 2017-2018, using HICP indexation

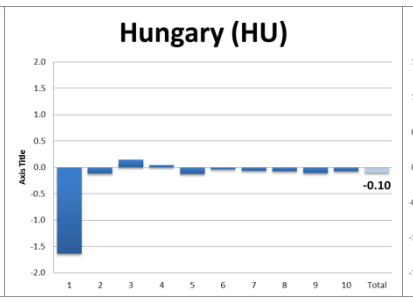


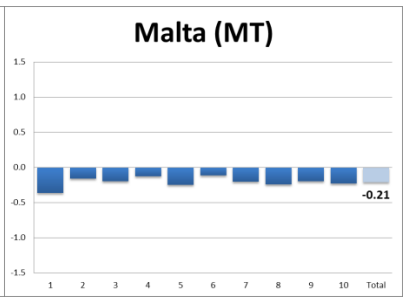

Cyprus (CY)
-0.31
Total

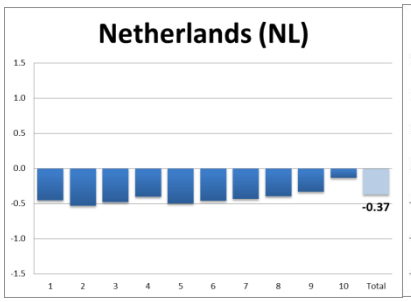

Latvia (LV)
2.24
Total

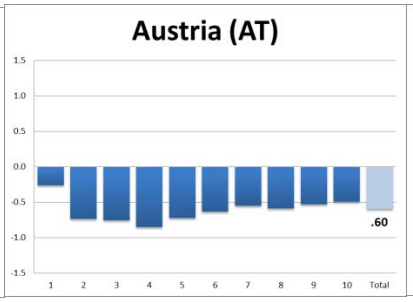

Lithuania (LT)
3.64
Total

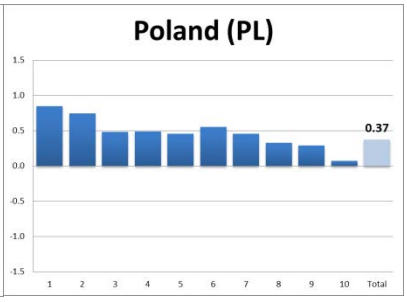

Luxembourg (LU)
-0.55
Total

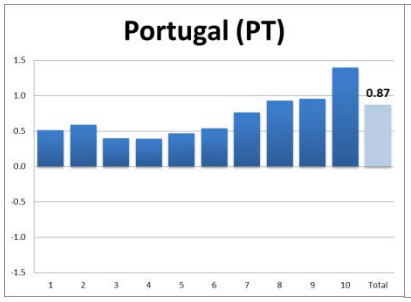

Hungary (HU)
Axis Title
-0.10
Total

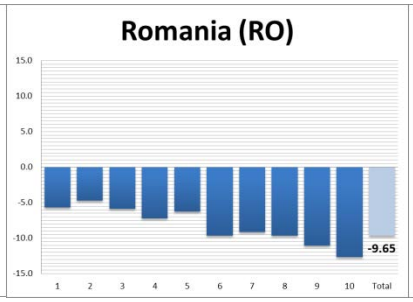

Malta (MT)
-0.21
Total

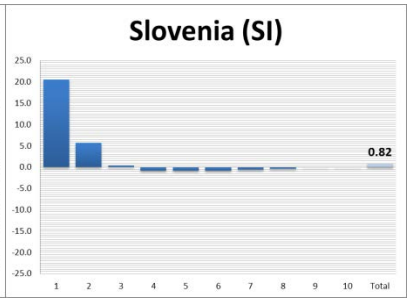

Netherlands (NL)
-0.37
Total

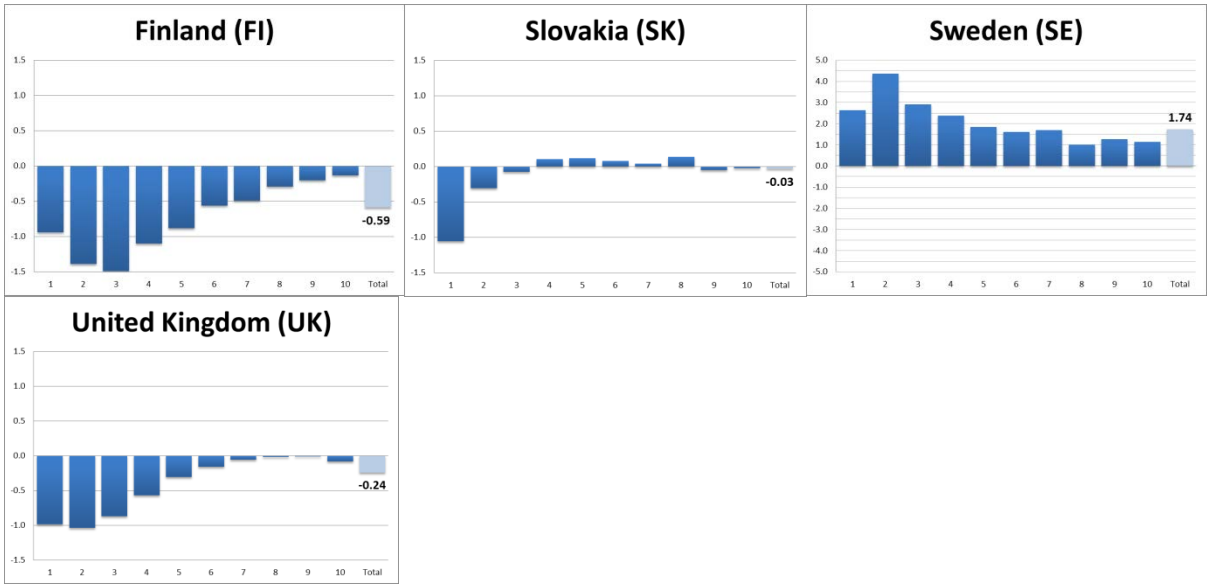

Austria (AT)
.60
Total


Poland (PL)
0.37
Total


Portugal (PT)
0.87
Total


Romania (RO)
-9.65
Total


Slovenia (SI)
0.82
Total



Interpreting the results

First, the reader is reminded of four features of this analysis that may differ from other analysis, and which should be borne in mind when interpreting the results.

- In some countries there were no changes to policies in nominal terms. However, when measured in real terms if the HICP is increasing, usually this will appear as a loss to households (a reduction in benefit or increase in tax or contribution).
- In some countries there were changes to public sector wages that other analysis of public policy changes might include. In this analysis we hold all wages constant and do not include the distributional effect of real changes to public sector wages, nor to the interaction between these changes and the tax-benefit system.
- For all countries, these results do not show the direct effect of any change to the minimum wage (though note that indirect effects may be seen where benefits are anchored to the minimum wage).
- In some countries, increases in social assistance and similar benefits (or the introduction of new benefits) may not have the effects shown at the bottom of the income distribution if take-up turns out to be incomplete (though note below that adjustments for this are made in some countries).

Secondly, the analysis is carried out with the aim of providing a harmonized and comparable analysis for each of the countries of the EU-28. However, there are some aspects of the modelling and data which may differ across countries and the results should be interpreted with this possibility in mind. They include:

- Approximate adjustments for the non take-up of benefits are made in several countries for some benefits but not in others. Approximate adjustments for tax evasion are made in Bulgaria,

Greece, Italy and Romania, but not in other countries.[4] It is not possible to simulate all policies because of a lack of necessary information in the micro-data (i.e. EU-SILC, and FRS for the UK). There is some difference in the extent of simulation across countries. If policies cannot be simulated their values are uprated by indexes that capture the typical or average change in value between the two policy years, based on statutory indexation where this exists and has been applied.

- Pensions are not simulated in most cases and these are uprated using statutory uprating (where this exists) or using an index of average pension payments. This difference in uprating treatment may result in conceptual differences in the policy effect attributed to pensions in this analysis. In some cases, where average pension payments are used to uprate observed pension values, the results may capture changes in the composition of pensioners (e.g. a higher proportion of younger/older pensioners with higher or lower pensions) which may result in (small) changes in pensions appearing in the analysis even if pensions in payment were in fact indexed for inflation.
- In some cases other non-simulated short-term contributory benefits (e.g. to cover sickness, unemployment or maternity) have been assumed to rise in line with earnings in the previous year.[5] This may imply a higher rate of growth than inflation (and appear as an increase in benefit) even if there have been no policy changes to these benefits in the year in question.

For more information on how each country is treated in EUROMOD see the Country Reports.[6]

[4] See Tammik (2019) for detail on which countries adjust for benefit non take-up and which adjust for tax evasion and the approach they take.

[5] This assumption is usually made where benefits are a function of past earnings, for which data are not available in the EU-SILC.

[6] https://www.euromod.ac.uk/using-euromod/country-reports

Change in prices 2017-2018

Table A shows the value of the change in (projected) HICP for each country. Projections employ the DG ECFIN indicator ZCPIH.

Table A: Harmonized Index of Consumer Prices (HICP), 2018

Country	HICP
Belgium	1.016
Bulgaria	1.018
Czech Republic	1.021
Denmark	1.008
Germany	1.015
Estonia	1.029
Ireland	1.007
Greece	1.005
Spain	1.014
France	1.017
Croatia	1.014
Italy	1.012
Cyprus	1.007
Latvia	1.027
Lithuania	1.027
Luxembourg	1.015
Hungary	1.023
Malta	1.016
The Netherlands	1.016
Austria	1.021
Poland	1.013
Portugal	1.012
Romania	1.042
Slovenia	1.019
Slovak Republic	1.024
Finland	1.014
Sweden	1.019
United Kingdom	1.025

Source: http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm.

Belgium

On average, the policy changes between 2017 and 2018 resulted in a 0.81% increase in the mean disposable income of the population and, excepting the bottom two income deciles which suffered small losses, had a positive impact throughout the income distribution.

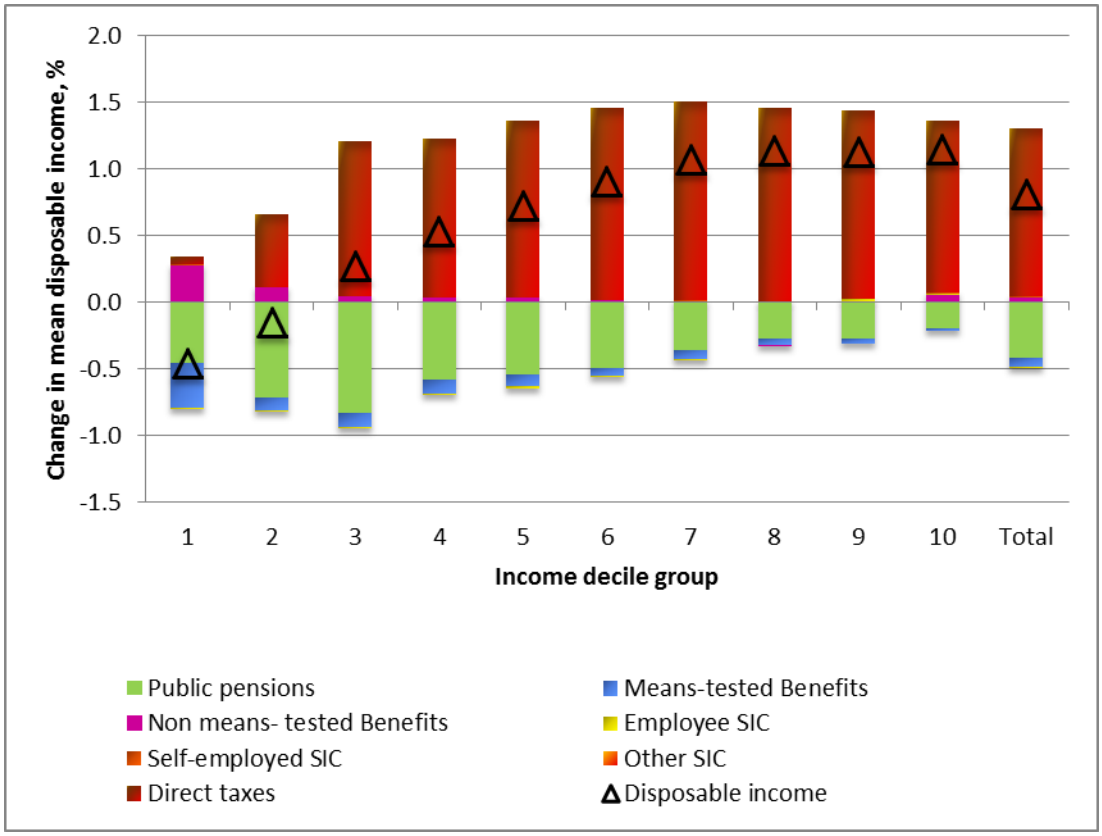
Overall, the effects of these changes were of a regressive character. The gains for the third through seventh deciles increased steadily, while for the top three deciles the gains were highest and of a similar in size. There was a reduction in the value of public pensions in all deciles, though this may be due to our assumption that the increase in pensions will be the same as it was in 2017 (we currently lack data for 2018). The change in the bracket system of the personal income tax is the main driver for the positive changes in all deciles. The negative effect from changes in means-tested benefits is due to the fact that child benefits and social assistance were only uprated in September 2018. By June 30 the main inflation index (in Dutch: the 'spilindex'), used to determine when all social benefits need to be increased, had not reached its 2% threshold. Only when it does are social benefits automatically adjusted for inflation, by the same 2%. Since the policy effects in the table below show the effect in real terms as of June 30, they are therefore negative. The positive effect of changes in non means-tested benefits is driven by the real increase in unemployment benefits, which was a discretionary decision by government.

Figure 1 (Belgium): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested Benefits	Non means-tested Benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.46	-0.33	0.28	-0.02	0.01	0.00	0.06	**-0.46**
2	0.00	-0.72	-0.09	0.11	-0.01	0.00	0.00	0.55	**-0.16**
3	0.00	-0.83	-0.11	0.04	-0.01	0.00	0.00	1.16	**0.26**
4	0.00	-0.59	-0.11	0.03	-0.01	0.00	0.00	1.19	**0.52**
5	0.00	-0.54	-0.09	0.03	-0.01	0.00	0.00	1.33	**0.71**
6	0.00	-0.49	-0.06	0.01	0.00	0.00	0.00	1.44	**0.90**
7	0.00	-0.36	-0.07	0.01	-0.01	0.00	0.00	1.50	**1.07**
8	0.00	-0.27	-0.05	0.00	0.00	0.00	0.00	1.45	**1.13**
9	0.00	-0.28	-0.04	0.01	0.01	0.00	0.00	1.41	**1.12**
10	0.00	-0.20	-0.02	0.05	0.01	0.01	0.00	1.29	**1.14**
Total	**0.00**	**-0.42**	**-0.07**	**0.04**	**0.00**	**0.00**	**0.00**	**1.26**	**0.81**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Belgium): Policy effects in 2017-2018, using the CPI-indexation, %



Bulgaria

In 2017-18, household disposable incomes increased on average by 0.39% in real terms (0.83% in nominal terms) due to changes in the tax-benefit system. The increases were felt in the first eight decile groups and the changes were pro-poor as income changes in the bottom two decile groups were the most considerable (4.16% and 2.56%, respectively). There wass no change in the disposable income in the eighth decile and a slight decrease in the last two deciles.

Public pensions were indexed between 2017 and 2018 by 2.4% (as of 1st of July 2017).[7] Additionally, a lump-sum supplement was given to individuals with pension amounts below a certain minimum in December 2017 and April 2018. These policy changes affected all decile groups, but contributed positively mostly at the bottom of the income distribution, where a larger proportion of pensioners is located. The average increase in household disposable incomes due to the indexation of pensions and lump-sum payments was 0.29% and, for the first three decile groups, somewhere between 0.81%-1.34%. The indexation had a smaller income-increasing effect (of less than 0.5%) in the top five deciles.

There was a significant increase in incomes due to means-tested benefits due to various policy changes. First, the Guaranteed Minimum Income (GMI) level increased in real terms by 13.3%, from BGN 65 in 2017 to BGN 75 as of 1st of January 2018. This policy change resulted in raising the absolute level of the income thresholds, providing increased access to the heating allowance and both increased access and higher benefit entitlement to the monthly social assistance allowance. The amounts of social assistance benefits based on the GMI amount, such as integration allowances for people with disabilities, rose as well.[8]

Second, the non-contributory social old-age pension rose in real terms by 1.2%, from BGN 119.56 in 2017 to BGN 123.2 in 2018.

Third, between 2017 and 2018, the monthly means-tested child benefit (*месечна помощ за отглеждане на дете до завършване на средното образование, но не по-късно от 20-годишна възраст*) increased in real terms by 6.2% for families with one child, 4% for families with two children, about 2% for families with three or four children and 1.3% for families with five children. Furthermore, since 1st of January 2018, the income-test for the benefit was reformed, so that i) families with incomes below BGN 400 per month receive 100% of the benefit amount – the same as in 2017; and ii) families with incomes between BGN 400.01 and BGN 500.00 per month receive 80% of the benefit amount. As a result of ii), more families gained access to the means-tested child benefit. Finally, from 2018, lone parents who are widowed receive the benefit without an income test.

Fourth, the income-test thresholds for the other two mean-tested benefits for children – the child benefit for education (*целева помощ за ученици*) and non-contributory benefit for raising a child under the age of 1 (*месечна помощ за отглеждане на дете до 1 г. възраст*) – increased in real

[7] There were other changes to pensions between 2017 and 2018 which, however, we do not account for in the simulations: The statutory minimum contributory old-age pension was increased in two steps – from BGN 161.38 to BGN 180 (as of 1st of July 2017), and from BGN 180 to BGN 200 (as of 1st of October 2017). This increase of almost 24% affected the minimum amounts of all other contributory pensions.

[8] The increase in these benefits, which are not simulated, is modelled by uprating them based on the statutory rules.

terms by 10.5% from BGN 400 in 2017 to BGN 450 in 2018. As a result, more low-income families gained access to these benefits.

The mean increase in disposable income of 0.32% reflects all of these changes. The first and the second decile gained most by 3.41% and 1.26%, respectively.

The small increase (0.09% on average) in disposable income due to non-mean-tested benefits can be explained by two changes. The first one is the increase of the Contributory maternity benefit for bringing up a child up to the age of 2 (*обезщетение за отглеждане на дете до 2г*.) from BGN 340 in 2017 to BGN 380 in 2018 (in real terms by 9.8%). The second one is the increase in the minimum daily amount of the unemployment benefit (*обезщетение за безработица*) from BGN 7.20 to BGN 9 (in real terms by 22.8%). These changes affected mostly, by more than 0.1%, the second to the sixth deciles.

There was a reduction in household disposable income due to an increase in social insurance contributions (SIC) paid by employees (-0.26%) and self-employed (-0.08%). As the contributory maximum threshold was nominally frozen, liabilities for SIC went down in real terms.[9] The resulting net income gains were, however, offset by the increase in the contribution rate for old age, disability and survivor for employees (from 8.34% in 2017 to 8.78% in 2018) and self-employed (from 18.8% in 2017 to 19.8% in 2018).[10]

Finally, although the level of the child tax deduction went down in real terms (it froze nominally), households paid less income tax as taxable income was lowered by the increase in SIC. Household disposable income rose across all deciles as a result.

[9] As the minimum wage increased nominally (ahead of price growth), so did the contributory minimum threshold. However, as we keep earned incomes constant, we do not model this change.

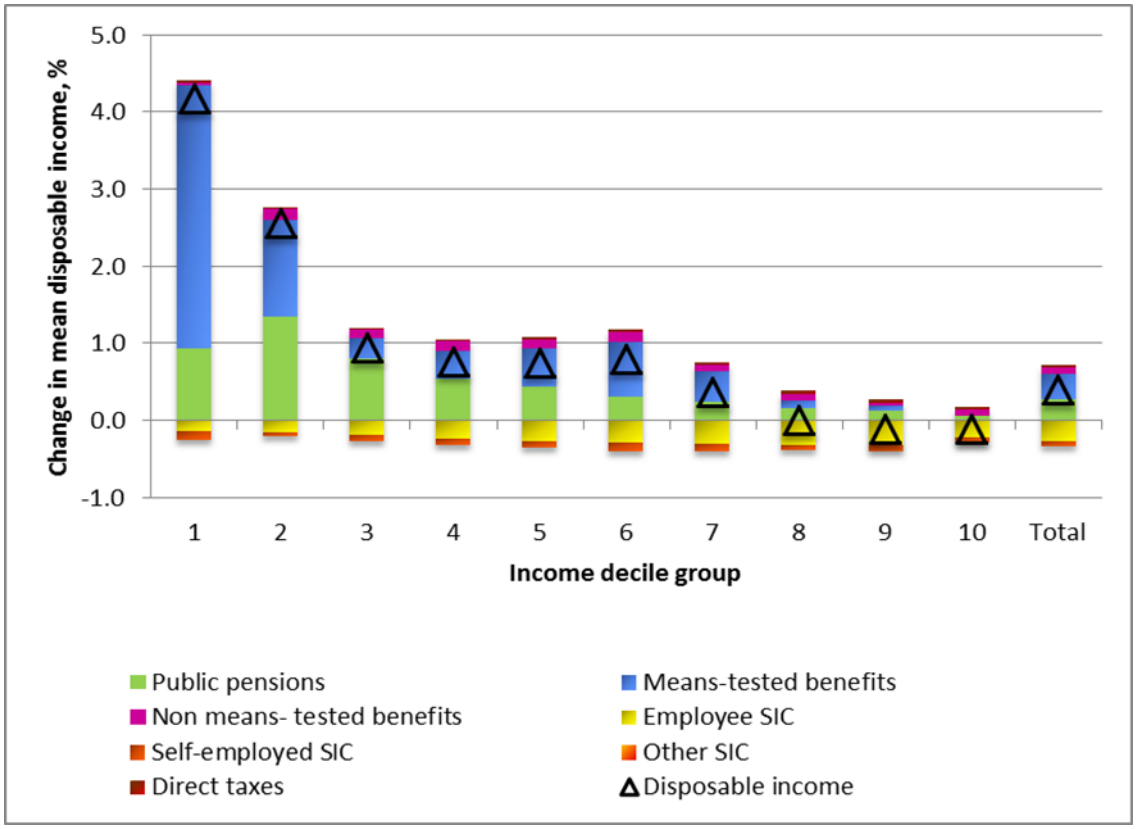
[10] There were changes to health insurance contributions which, however, we do not account for in the simulation: The monthly payment for people who are not insured and have to pay health insurance contributions at their expense changed from 18.40 BGN in 2017 to BGN 20.4 in 2018.

Table 1 (Bulgaria): Policy effects in 2017-18, using CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.94	3.41	0.05	-0.14	-0.11	0.00	0.02	**4.16**
2	0.00	1.34	1.26	0.15	-0.15	-0.06	0.00	0.02	**2.56**
3	0.00	0.81	0.27	0.11	-0.19	-0.08	0.00	0.03	**0.94**
4	0.00	0.55	0.35	0.13	-0.22	-0.08	0.00	0.03	**0.75**
5	0.00	0.44	0.50	0.12	-0.26	-0.08	0.00	0.03	**0.75**
6	0.00	0.30	0.72	0.13	-0.29	-0.10	0.00	0.04	**0.80**
7	0.00	0.24	0.40	0.08	-0.30	-0.09	0.00	0.04	**0.36**
8	0.00	0.17	0.09	0.10	-0.32	-0.06	0.00	0.04	**0.01**
9	0.00	0.13	0.07	0.04	-0.32	-0.07	0.00	0.04	**-0.12**
10	0.00	0.06	0.00	0.08	-0.21	-0.08	0.00	0.03	**-0.12**
Total	**0.00**	**0.29**	**0.32**	**0.09**	**-0.26**	**-0.08**	**0.00**	**0.03**	0.39

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Bulgaria): Policy effects in 2017-18, using CPI-indexation, %



Czech Republic

Overall, the real disposable income of the population increased by 0.14% between years 2017- 2018 due to policy changes. The largest increase in disposable income was in the second decile (by 1.06%), while higher deciles gained less. Individuals in the first and the three highest deciles experienced a decrease in disposable income.

The main driving force behind the increase in disposable incomes of the second to the seventh deciles was an increase in public pensions. This increase was part of a yearly valorization of pensions, which was slightly more generous this year. This valorization affected all income deciles, but mostly the second to fourth deciles, where most pensioners are concentrated.

The second decile also gained through an increase in means-tested benefits, likely caused by changes in child allowance, which is now available to more families (higher income eligibility threshold) and gives a higher amount of money to families with low incomes where at least one parent works. However, these changes to child allowance did not help individuals in the first decile (who were already eligible for the allowance in 2017 and they only rarely work, so the increase in the amount does not apply to them). Indeed, the first decile actually experienced a decrease in disposable income, mostly caused by the lower amount of means-tested benefits (likely due to changes in calculation of the housing benefit, where costs of heating in case of using coal can no longer be calculated on a lump sum basis, but based on actual costs).

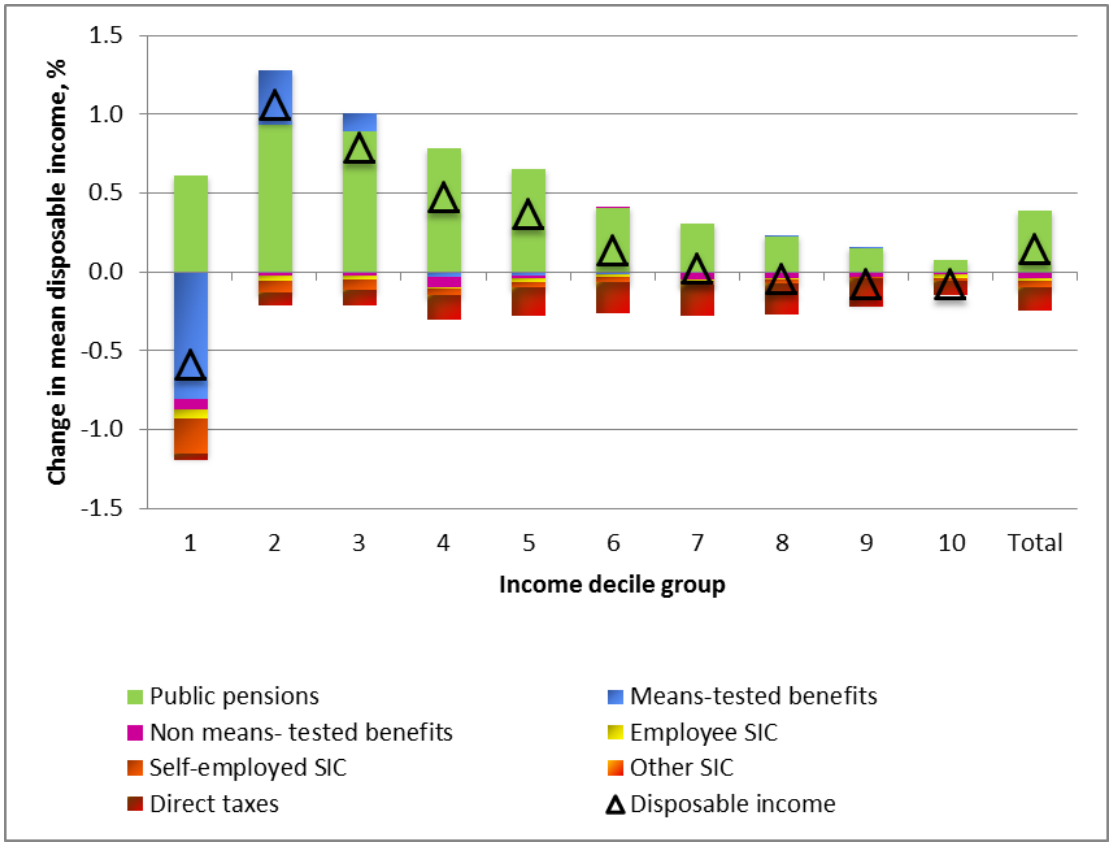
Another important change was an increase in direct taxes, which was experienced by all deciles, but especially by the highest ones. This was a likely consequence of the decrease in the maximum amount of costs, which can be calculated as a fixed percentage of revenue for calculation of tax base for self-employed.

Table 1 (Czech Republic): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.61	-0.81	-0.07	-0.06	-0.23	0.00	-0.04	**-0.59**
2	0.00	0.93	0.34	-0.02	-0.03	-0.08	0.00	-0.08	**1.06**
3	0.00	0.89	0.12	-0.03	-0.03	-0.06	0.00	-0.10	**0.79**
4	0.00	0.79	-0.04	-0.06	-0.01	-0.04	0.00	-0.16	**0.48**
5	0.00	0.65	-0.02	-0.02	-0.02	-0.04	0.00	-0.18	**0.37**
6	0.00	0.41	-0.02	0.00	-0.01	-0.04	0.00	-0.20	**0.14**
7	0.00	0.31	0.00	-0.05	-0.01	-0.02	0.00	-0.20	**0.02**
8	0.00	0.22	0.01	-0.04	-0.01	-0.02	0.00	-0.20	**-0.04**
9	0.00	0.15	0.00	-0.03	0.00	-0.01	0.00	-0.18	**-0.08**
10	0.00	0.07	0.00	-0.01	-0.03	-0.02	0.00	-0.09	**-0.08**
Total	**0.00**	**0.39**	**-0.01**	**-0.03**	**-0.02**	**-0.04**	**0.00**	**-0.15**	**0.14**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Czech Republic): Policy effects in 2017-2018, using the CPI-indexation, %



Denmark

The total effect of (deflated) 2018 policies on mean income was relatively small (0.59%). No major reforms took place from 2017 to 2018, save for the introduction of an additional deduction of private pension contributions and savings and the supplement in the earned income tax credit for income above 187,500DKK. These two measures decrease the direct taxes in all income deciles, with the exception of the second decile. The changes in direct taxation mostly benefited the upper part of the income distribution. On the contrary, the lower deciles gained most by the increase in public pensions, as indexation of pensions was higher than growth in HICP. The larger effect at the bottom of the income distribution could reflect where most of pensioners are located.

In terms of benefit reform, there was a small decrease attributable to means-tested benefits (-0.04%) and a slight increase (mainly for the first decile) attributable to changes in non means-tested benefits (+0.04%).

Broadly, then, increases in income were mostly due to the annual increase of pension payments as well as the changes in direct taxation.

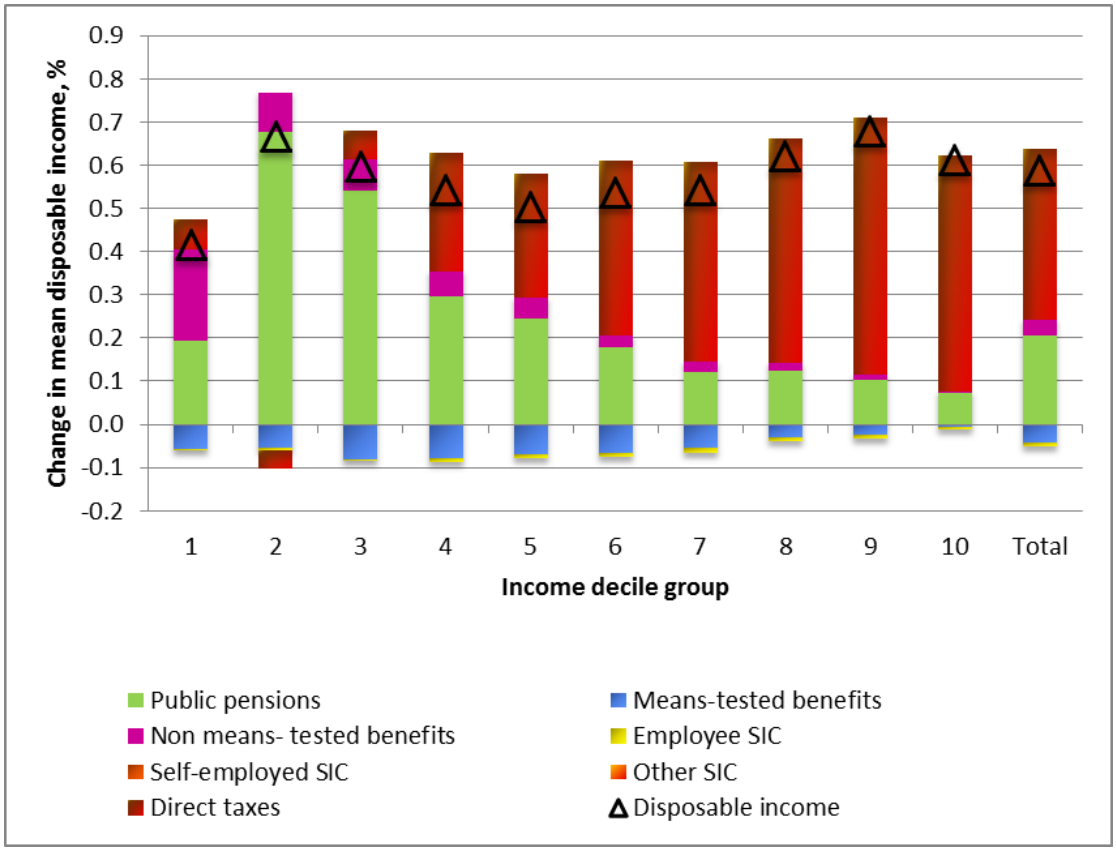
Changes by income groups show a mixed pattern with households at the bottom decile having the lowest increases whereas deciles 2 and 9 gained the most. Overall, however, increases were shared fairly evenly across the distribution, even if the gains came from different sources. The increase of income groups in the lower deciles was mainly based on an increase in public pensions, whereas for those with higher income it was the changes in the direct taxes.

Table 1 (Denmark): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.20	-0.06	0.21	0.00	0.00	0.00	0.07	**0.42**
2	0.00	0.68	-0.05	0.09	0.00	0.00	0.00	-0.04	**0.67**
3	0.00	0.54	-0.08	0.07	0.00	0.00	0.00	0.07	**0.60**
4	0.00	0.30	-0.08	0.06	-0.01	0.00	0.00	0.27	**0.54**
5	0.00	0.25	-0.07	0.05	-0.01	0.00	0.00	0.29	**0.50**
6	0.00	0.18	-0.07	0.03	-0.01	0.00	0.00	0.41	**0.54**
7	0.00	0.12	-0.06	0.02	-0.01	0.00	0.00	0.46	**0.54**
8	0.00	0.12	-0.03	0.02	-0.01	0.00	0.00	0.52	**0.62**
9	0.00	0.10	-0.02	0.01	-0.01	0.00	0.00	0.60	**0.68**
10	0.00	0.07	0.00	0.00	-0.01	0.00	0.00	0.55	**0.61**
Total	**0.00**	**0.20**	**-0.04**	**0.04**	**-0.01**	**0.00**	**0.00**	**0.40**	0.59

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure1 (Denmark): Policy effects in 2017-2018, using the CPI-indexation, %



Germany

In 2017-18, changes attributable to the tax-benefit system saw the average household disposable income remain about the same (with a minimal decrease of just 0.02%). However, the effects across decile groups reveals that the policy effect was slightly regressive: it had a small income decreasing effect for the lower half of the distribution (biggest in magnitude in the second decile, where it amounted to -0.29%) and a small income increasing effect for the upper half of the distribution (up to 0.12% in the tenth decile). The decrease for the lowest half of the distribution was mainly driven by public pensions, which despite increasing nominally translated into a decrease in real terms. Old-age pensions, survivor pensions and pensions for reduced ability to work from the statutory pension insurance grow generally in line with the German legislated pension value, which from 2017 to 2018 increased less than the CPI projection. The same applies to civil servant pensions, which are uprated based on the evolution of the average wage of civil servants, which also fell in real terms if compared to the projected CPI. Means-tested benefits also contributed to the regressive policy effect in real terms, although to a much lesser extent (maximum of -0.13% at the second decile). This regressive effect is likely to be driven by housing benefits, whose amounts have been constant in nominal terms and thereby decreased in real terms. Finally, non-means-tested benefits also contributed to a small decrease in households' disposable income in real terms, which is likely to result from the unchanged lump-sum maternity benefits and minimum parental leave benefit amount.

Social security contributions were the main factor increasing households' disposable income at all points of the distribution. In particular, this was due to the reduction of the contribution rate to the pension insurance paid by employees: it fell from 9.35% in 2017 to 9.30% in 2018. The health insurance rate that is paid by employees, pensioners ('other') and those not working ('other') fell from 8.4% in 2017 to 8.3% in 2018. The self-employed pension insurance rate also fell from 18.7% in 2017 to 18.6% in 2018.

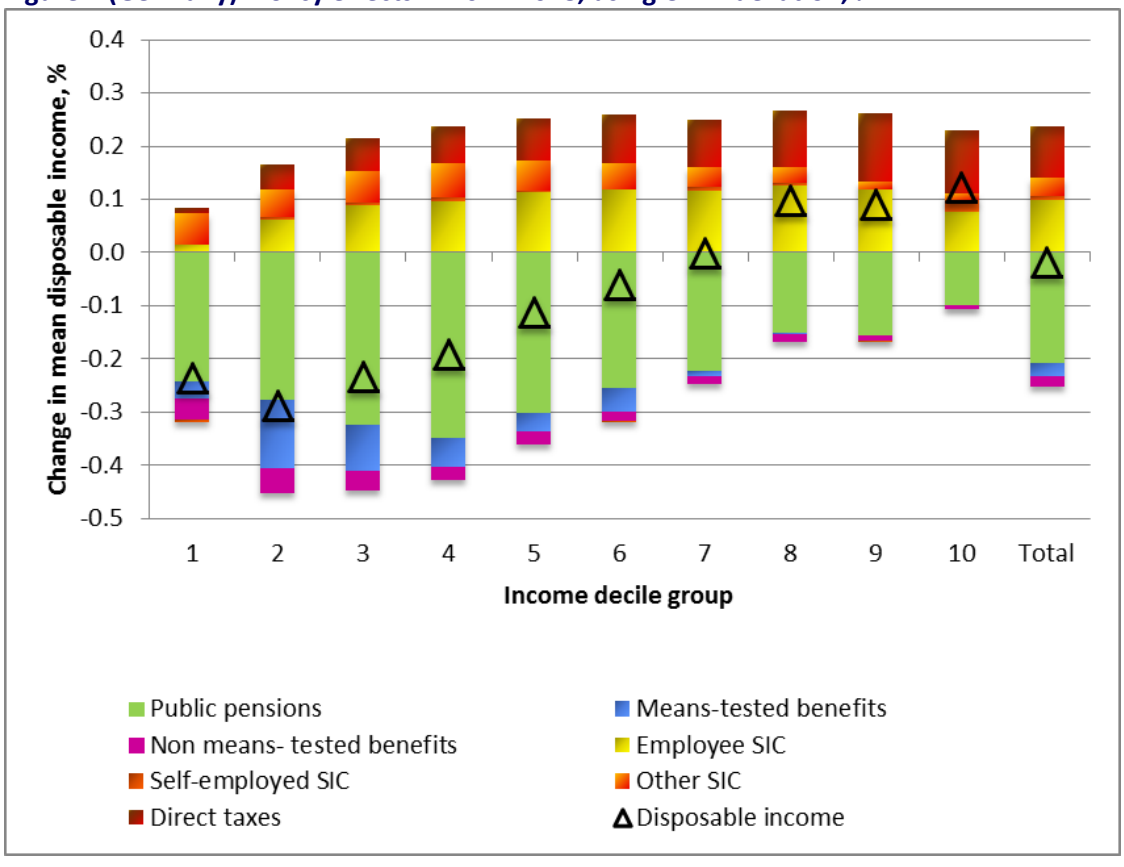
Income tax liabilities contributed on average to a small income gain of 0.09%, which was due to the increase in the basic tax-free allowance from 8,820 Eur up to 9,000 Eur/year; the increase of the children allowance from 3,678 Eur to 3,714Eur/year as well as the upwards modification of the parameters in the tax tariff.

Table 1 (Germany): Policy effects in 2017-2018, using CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.24	-0.03	-0.04	0.01	0.00	0.06	0.01	**-0.24**
2	0.00	-0.28	-0.13	-0.05	0.06	0.00	0.05	0.05	**-0.29**
3	0.00	-0.33	-0.09	-0.04	0.09	0.00	0.06	0.06	**-0.23**
4	0.00	-0.35	-0.05	-0.03	0.09	0.01	0.06	0.07	**-0.19**
5	0.00	-0.30	-0.03	-0.02	0.11	0.00	0.06	0.08	**-0.11**
6	0.00	-0.26	-0.04	-0.02	0.12	0.00	0.05	0.09	**-0.06**
7	0.00	-0.22	-0.01	-0.02	0.12	0.01	0.04	0.09	**0.00**
8	0.00	-0.15	0.00	-0.01	0.12	0.00	0.03	0.11	**0.10**
9	0.00	-0.16	0.00	-0.01	0.12	0.00	0.01	0.13	**0.09**
10	0.00	-0.10	0.00	-0.01	0.08	0.02	0.01	0.12	**0.12**
Total	**0.00**	**-0.21**	**-0.03**	**-0.02**	**0.10**	**0.01**	**0.04**	**0.09**	**-0.02**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Germany): Policy effects in 2017-2018, using CPI-indexation, %



Estonia

In comparison to 2017 policies, (deflated) 2018 policies increased mean household income by 3.58%. All decile groups gained on average, apart from the top decile group (with an average loss of 0.27%), and relative gains were larger for middle-income groups (5-9%). Income gains were mainly related to changes in income tax policies – the basic tax allowance was increased very substantially (from €180 to €500 per month) and made income-dependent with the withdrawal starting at the level of €1,200 per month (around the seventh decile). Altogether this accounted for about half of the total income gain (1.89%).

Notable income gains also arose from changes in non means-tested benefits (1.03%) and public pensions (0.69%). Among non means-tested benefits, income gains were mainly due to reforming the parental allowance for large families, making it more generous and extending it from families with 7+ children to families with 3+ children. (Note that these changes took effect from 1 July 2017 and following the EUROMOD modelling conventions are included only from the 2018 baseline onwards.) Along with the increase in child allowance (from €50 to €55 per month), these policy changes benefited lower income decile groups more in relative terms. The real value of public pensions increased as these were indexed by 7.6% in 2018[11] compared to inflation of 2.9%. Given where the pensioners are located and the targeting of middle-income groups with the income tax reform, it was the second, third and fourth deciles which gained the most in relative terms from all these policies (ca 8%).

On the other hand, changes in means-tested benefits resulted in income losses as the needs-based family benefit was abolished, even though subsistence benefit's implicit scale benefit for children was increased. These changes combined lowered incomes on average by 3% for the bottom decile group and by nearly 2% for the second decile group. Overall, the two lowest decile groups still experienced income gains on average though less than middle income groups.

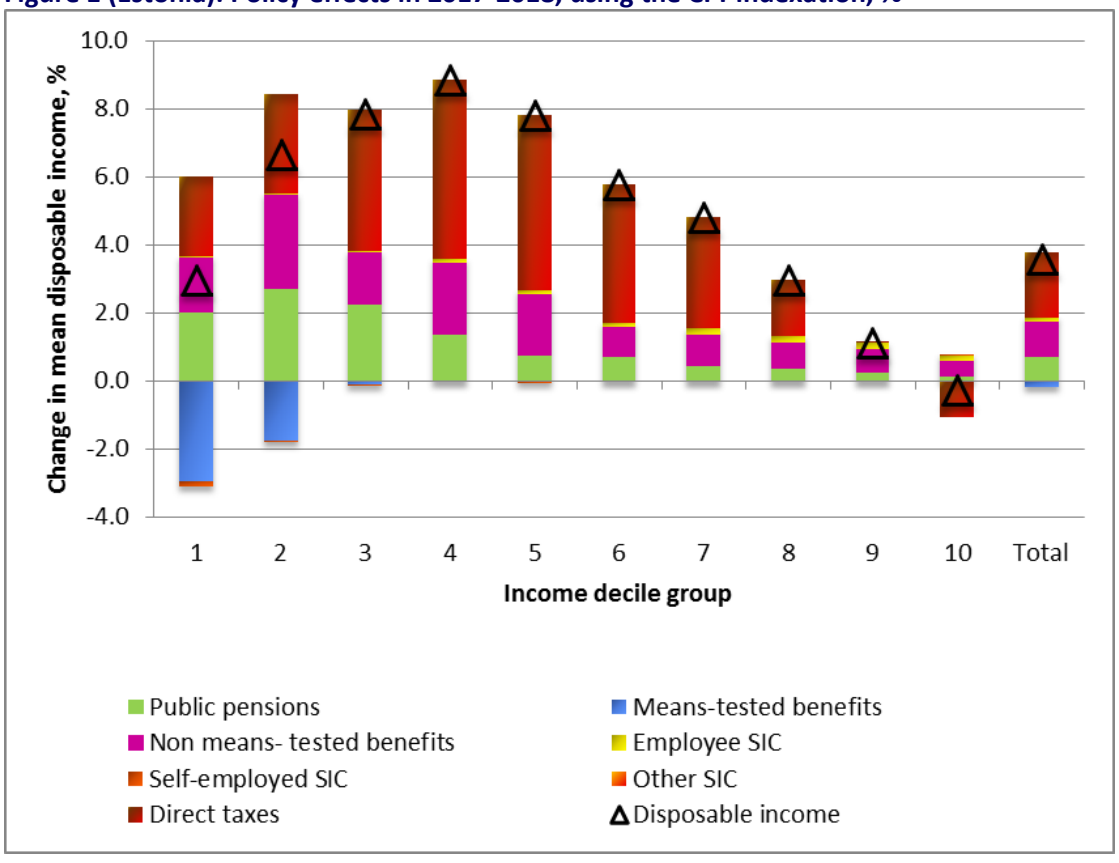
[11] The indexation of public pensions is largely based on the change in total pension social insurance contributions paid in the previous calendar year.

Table 1 (Estonia): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	2.00	-2.95	1.63	0.03	-0.14	0.00	2.36	**2.93**
2	0.00	2.69	-1.75	2.78	0.04	-0.01	0.00	2.90	**6.66**
3	0.00	2.23	-0.10	1.53	0.06	-0.01	0.00	4.12	**7.84**
4	0.00	1.37	-0.01	2.08	0.11	-0.01	0.00	5.28	**8.83**
5	0.00	0.73	-0.01	1.80	0.12	-0.01	0.00	5.16	**7.79**
6	0.00	0.70	0.00	0.89	0.13	-0.01	0.00	4.06	**5.76**
7	0.00	0.45	0.00	0.92	0.17	0.00	0.00	3.28	**4.81**
8	0.00	0.36	0.00	0.78	0.17	0.00	0.00	1.65	**2.95**
9	0.00	0.25	0.00	0.70	0.17	0.00	0.00	0.01	**1.12**
10	0.00	0.14	0.00	0.43	0.17	0.05	0.00	-1.06	**-0.27**
Total	**0.00**	**0.69**	**-0.18**	**1.03**	**0.14**	**0.00**	**0.00**	**1.89**	**3.58**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Estonia): Policy effects in 2017-2018, using the CPI-indexation, %



Ireland

In comparison to 2017 policies, (deflated) 2018 policies increased mean household income by 0.59% in total. The share of this increase was very progressive.

Changes in means-tested benefits accounted for an increase in average equivalised household disposable income of 0.22%. The changes reflect the increase in personal rates of means-tested benefits. They also reflect the increase in 10 euros per week in the income limits of the supplement for families with three or less children (kept constant for larger families). The increase in equivalised household disposable income is particularly large for individuals in the lowest income decile (1.4%). Changes in public pensions accounted for 0.2% of the increase in household disposable income, reflecting the increase in personal rates for pensions. The distribution of gains across income deciles reflects where recipients of public pensions are located.

Decreases in direct taxes accounted for an increase in average equivalised household disposable income of 0.18%. The changes mostly benefited the upper part of the income distribution. The effect might be driven by four factors: (i) small reductions in some tax rates of the Universal Social Charge and an increase in its second threshold; (ii) the increase of the maximum amount of Home Carers Tax Credit from 1,100 to 1,200 euros per year; (iii) the increase of the maximum amount of the Earned Income Tax Credit from 950 to 1,150 euros per year; and (iv) the increase of the standard tax rate bands of personal income tax. At the same time the tax credit for private rented accommodation of 200 euros was abolished and the mortgage interest relief ceiling for non-first time buyers was reduced from 3,000 to 2,250 euros per year.

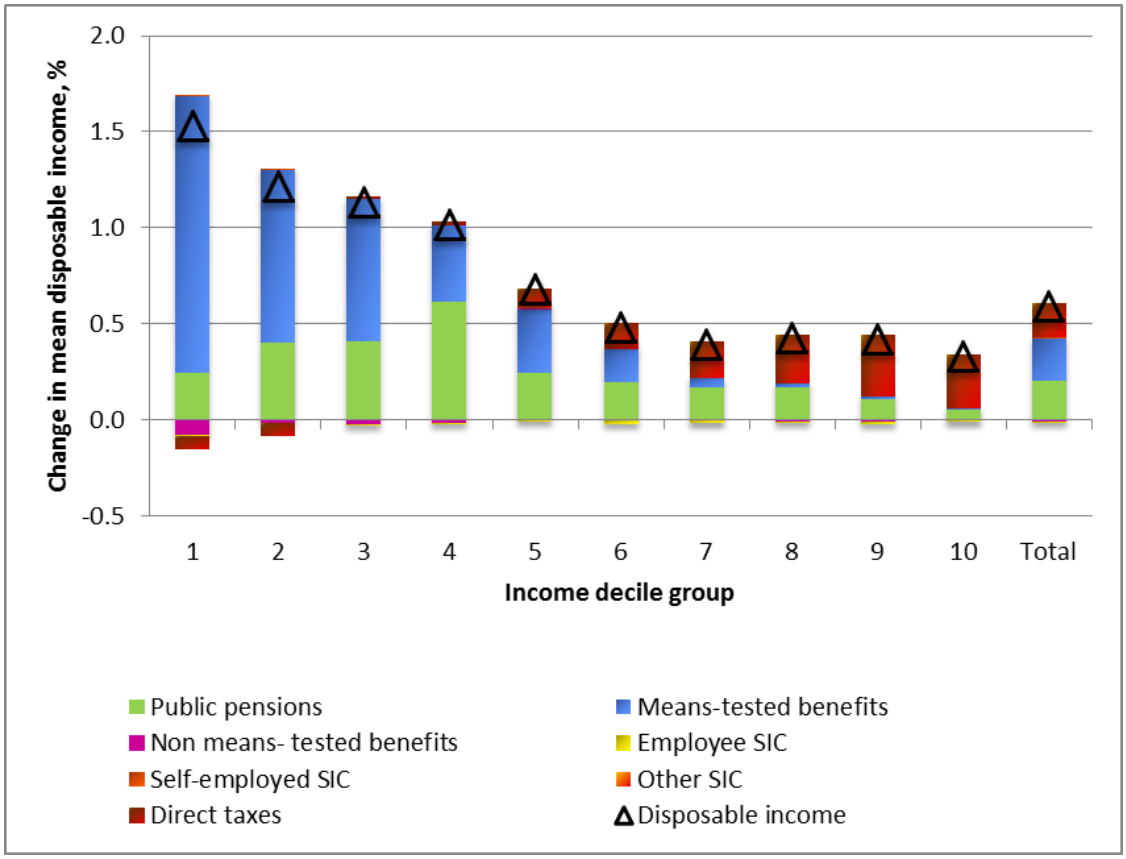
All other income components had only a very small effect on average equivalised household disposable income.

Table 1 (Ireland): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.24	1.44	-0.08	-0.01	0.00	0.00	-0.07	**1.53**
2	0.00	0.40	0.90	-0.01	0.00	0.00	0.00	-0.07	**1.22**
3	0.00	0.41	0.74	-0.03	0.00	0.00	0.00	0.01	**1.13**
4	0.00	0.61	0.40	-0.02	-0.01	0.00	0.00	0.02	**1.01**
5	0.00	0.24	0.33	0.01	0.00	0.00	0.00	0.10	**0.68**
6	0.00	0.19	0.17	0.00	-0.03	0.00	0.00	0.14	**0.48**
7	0.00	0.17	0.05	0.00	-0.02	0.00	0.00	0.19	**0.39**
8	0.00	0.17	0.02	-0.01	-0.01	0.00	0.00	0.26	**0.43**
9	0.00	0.11	0.01	-0.01	-0.01	0.00	0.00	0.32	**0.42**
10	0.00	0.05	0.01	0.00	-0.01	0.00	0.00	0.28	**0.33**
Total	**0.00**	**0.20**	**0.22**	**-0.01**	**-0.01**	**0.00**	**0.00**	**0.18**	**0.59**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Ireland): Policy effects in 2017-2018, using the CPI-indexation, %



Greece

Table 1 and Figure 1 account for the effects of all policies, including the 2017 social dividend - a one-off, lump-sum policy (reaching approximately 1.2 million households at the bottom of the income distribution) - which casts a shadow over all other changes in means-tested benefits that followed in 2018

Taking the one-off 2017 social dividend into account, then, policy changes in 2018 had a regressive effect on the income distribution. The overall disposable income decreased by around 1.4 percent but the decrease was much larger for the poorest segments of the population. This is mainly due to the fact that social dividend was only provided in 2017 (indeed, the overall situation changes drastically if this benefit is omitted from the analysis, which then shows a progressive pattern). Another reason was the major cut in pensioner's social solidarity benefit (EKAS) that took place in 2018. The decrease in disposable income caused by self-employed SIC was due to the enlargement of the contribution basis and to the increase in the SIC rates for farmers. Decreases in household disposable income driven by public pensions in deciles 1-9 were solely due to inflation. The decrease in the tenth decile was also due to the introduction of the €2,000 pension's cap. Moving to the impact of direct taxes, the abolition of the 1.5% tax credit for employees and pensioners was responsible for the small decrease in the richest decile's disposable income.

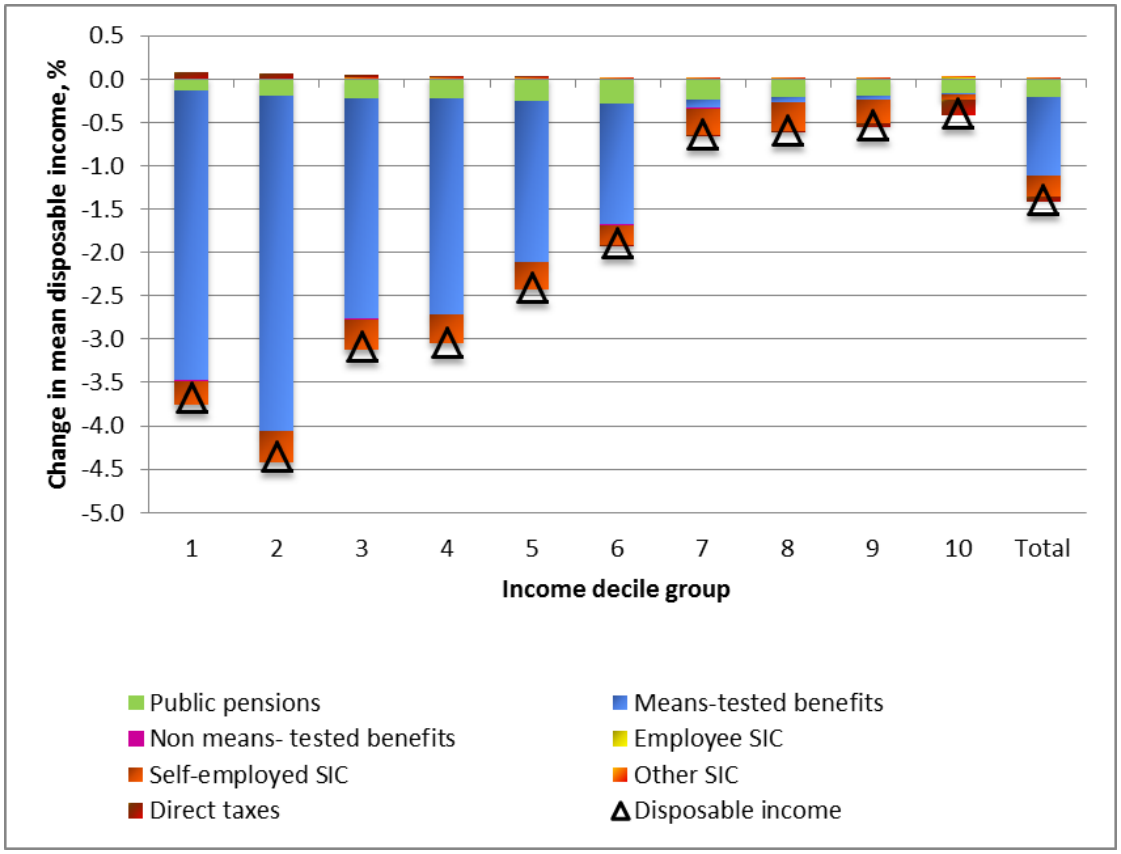
The remaining policy changes had a progressive effect on the income distribution. These were related to the major restructuring of child benefits and their incorporation into the new child benefit; the benefit's overall budget was significantly increased with the main beneficiaries being all eligible households with one or two children and poor households with three or more children.

Table 1 (Greece): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.13	-3.35	-0.02	0.00	-0.27	0.01	0.08	**-3.68**
2	0.00	-0.19	-3.86	-0.01	0.00	-0.36	0.01	0.05	**-4.36**
3	0.00	-0.22	-2.54	-0.01	0.00	-0.36	0.01	0.03	**-3.08**
4	0.00	-0.23	-2.48	-0.01	0.00	-0.33	0.01	0.00	**-3.03**
5	0.00	-0.25	-1.86	-0.01	0.00	-0.31	0.01	0.01	**-2.40**
6	0.00	-0.28	-1.40	-0.01	0.00	-0.22	0.02	-0.01	**-1.89**
7	0.00	-0.23	-0.09	-0.01	0.01	-0.31	0.01	0.00	**-0.63**
8	0.00	-0.20	-0.06	-0.01	0.01	-0.32	0.01	-0.02	**-0.59**
9	0.00	-0.18	-0.05	-0.01	0.01	-0.27	0.01	-0.05	**-0.54**
10	0.00	-0.16	-0.01	0.00	0.02	-0.06	0.01	-0.18	**-0.39**
Total	**0.00**	**-0.20**	**-0.91**	**-0.01**	**0.01**	**-0.24**	**0.01**	**-0.05**	**-1.39**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Greece): Policy effects in 2017-2018, using the CPI-indexation, %



Spain

Table 1 and Figure 1 show the effects on the disposable income of changes in policies from 2017 to 2018. In 2017-2018, households experienced on average a disposable income loss of 0.40%. Income dropped in all deciles, with the drop experienced by the eighth to the tenth deciles being less aggressive. Thus, the overall policy effects in the period were mildly regressive.

The major factor driving negative effects was the changes in public pensions. The changes in public pensions delivered a similar-sized decrease in disposable income across all the income distribution, although the decrease was considerably weaker in the first decile: 0.09% as compared to the average of 0.24%. The decrease in disposable income due to public pensions was because the vast majority of public pensions remained frozen between 2017 and 2018, while prices increased.

Another effect worth highlighting is the effect of changes to means-tested and non means-tested benefits. On the one hand, changes in means-tested benefits had a small effect on overall figures (0.03% decrease), but they had a bigger effect for the lowest income deciles: 0.40% decrease in the first decile and 0.24% in the second. On the other hand, changes in non means-tested benefits decreased disposable income across the whole distribution but only very slightly. The changes reflect the fact that mean-tested benefits and non means-tested benefits amounts were kept unchanged as IPREM (the index generally used for adjusting benefit amounts over time) remained frozen between 2017 and 2018 compared to growth in prices.

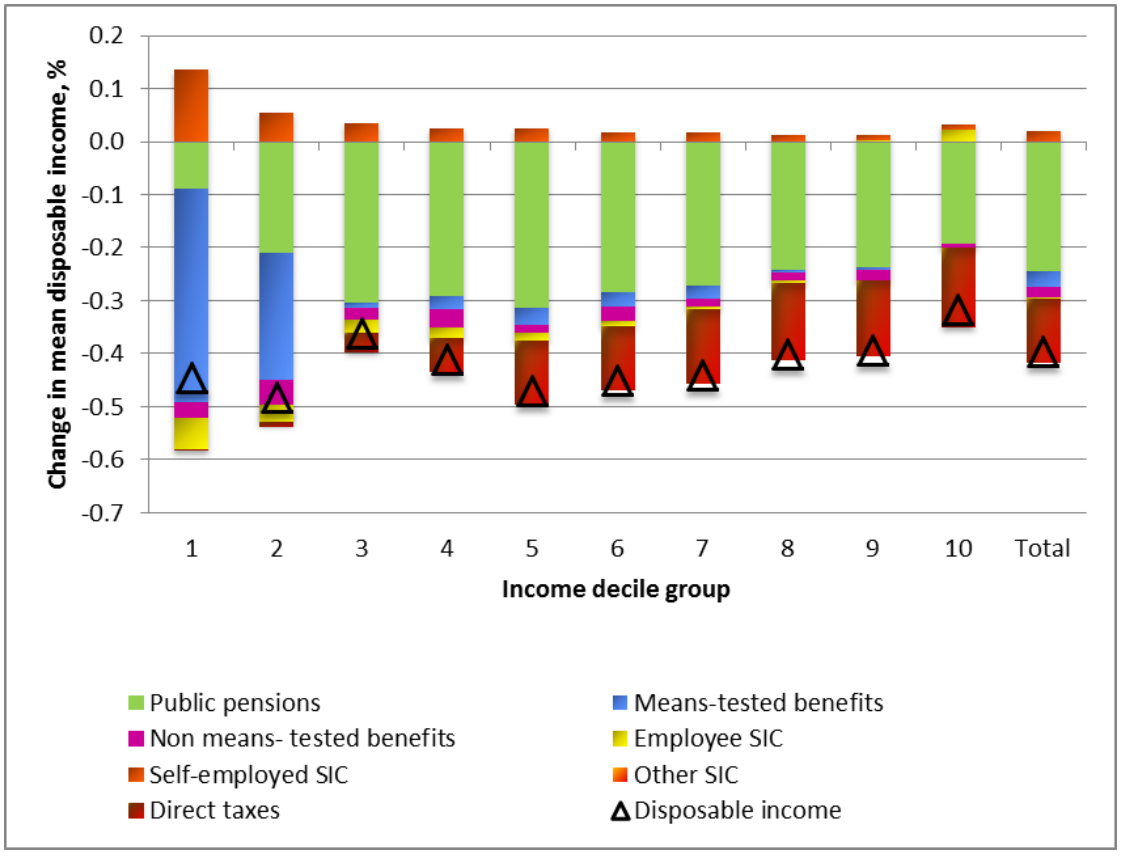
Finally, changes to direct taxes decreased incomes in all the deciles, although the drop was less in the lowest deciles: 0.05% of average increase in the first to fifth deciles. The effect was concentrated mainly in the top half of the distribution, and increased as we move upwards, ranging from a 0.12% decrease to a 0.15% decrease. Rates on capital income decreased, which can be expected to affect the top part of the distribution. State rates also decreased, but the reduction was stronger for top income brackets. Summarizing, the decrease in incomes attributable to direct taxes was felt alongside a drop in public pensions. Social insurance contributions had no significant effect between 2017 and 2018.

Table 1 (Spain): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.09	-0.40	-0.03	-0.06	0.14	0.00	0.00	**-0.45**
2	0.00	-0.21	-0.24	-0.05	-0.03	0.06	0.00	-0.01	**-0.48**
3	0.00	-0.30	-0.01	-0.02	-0.03	0.04	0.00	-0.04	**-0.36**
4	0.00	-0.29	-0.03	-0.03	-0.02	0.03	0.00	-0.07	**-0.41**
5	0.00	-0.31	-0.03	-0.02	-0.01	0.03	0.00	-0.12	**-0.47**
6	0.00	-0.28	-0.03	-0.03	-0.01	0.02	0.00	-0.12	**-0.45**
7	0.00	-0.27	-0.02	-0.01	-0.01	0.02	0.00	-0.14	**-0.44**
8	0.00	-0.24	0.00	-0.02	0.00	0.01	0.00	-0.15	**-0.40**
9	0.00	-0.24	-0.01	-0.02	0.00	0.01	0.00	-0.14	**-0.39**
10	0.00	-0.19	0.00	-0.01	0.02	0.01	0.00	-0.15	**-0.32**
Total	**0.00**	**-0.24**	**-0.03**	**-0.02**	**0.00**	**0.02**	**0.00**	**-0.12**	**-0.40**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Spain): Policy effects in 2017-2018, using the CPI-indexation, %



France

In 2018, policy changes delivered a decrease in average disposable income for all deciles, and an overall decrease of 1.16%. This decrease got largeras one moved up through the deciles. The highest decrease in disposable income took place in the top decile, essentially due to a sharp rise in direct taxes. The overall decrease was also caused by, but to a lesser extent, the decrease attributable to public pensions. Policy on non means-tested benefits also contributed slightly to the disposable income decrease.

Several changes in policies can explain this overall decrease. For direct taxes, the 1.7 point rise in the *Contribution sociale généralisée* (CSG) reduced incomes even if the rise was compensated for workers. The compensation did not extend to pensioners, however, who were affected strongly by this rise in taxes. Moreover, public pensions were revalued only by 0.8% which was too low to absorb the 1% rate of inflation in 2017.

The exceptional increase in social benefits like the *allocation de solidarité aux personnes agées* (ASPA), family support and family complement, and the move to unfreeze the *Prestations d'accueil de jeune enfant* (PAJE) baby bonus, led to an increase in disposable income with regard to the mean-tested benefits.

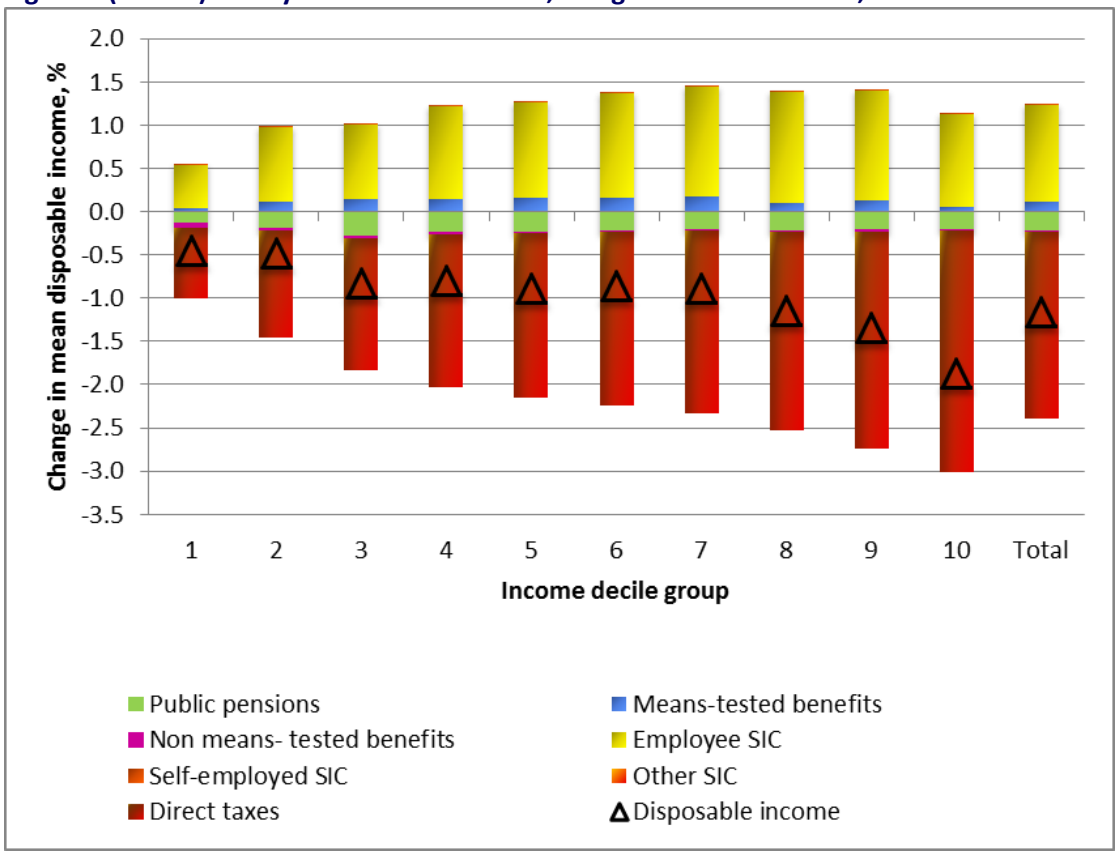
Finally, if we look at changes to employee SIC, the 0.75% drop in sickness contributions and the 1.4% drop in unemployment benefit for employees in the private sector led to gains in disposable income.

Table 1 (France): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.13	0.04	-0.06	0.51	0.00	0.00	-0.82	**-0.46**
2	0.00	-0.18	0.12	-0.04	0.85	0.00	0.00	-1.24	**-0.48**
3	0.00	-0.27	0.14	-0.03	0.86	0.00	0.00	-1.53	**-0.83**
4	0.00	-0.23	0.15	-0.02	1.07	0.00	0.00	-1.77	**-0.80**
5	0.00	-0.24	0.16	-0.02	1.10	0.00	0.00	-1.91	**-0.90**
6	0.00	-0.22	0.16	-0.01	1.21	0.00	0.00	-2.01	**-0.87**
7	0.00	-0.20	0.18	-0.01	1.27	0.00	0.00	-2.12	**-0.89**
8	0.00	-0.21	0.10	-0.02	1.28	0.00	0.00	-2.30	**-1.15**
9	0.00	-0.21	0.13	-0.03	1.26	0.00	0.00	-2.50	**-1.35**
10	0.00	-0.20	0.05	-0.01	1.08	0.00	0.00	-2.80	**-1.87**
Total	**0.00**	**-0.21**	**0.12**	**-0.02**	**1.11**	**0.00**	**0.00**	**-2.16**	**-1.16**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (France): Policy effects in 2017-2018, using the CPI-indexation, %



Croatia

Overall, changes attributable to (deflated) 2018 policies increased disposable income by 0.11% on average in real terms (0.61% in nominal terms). The pattern favoured those with lower incomes; decile groups 2 and 3 gained approximately 0.7%-0.8%I. Disposable income remained relatively stable in the remaining deciles.

The only policy change between 2017 and 2018 was the increase of minimum and maximum amounts of Maternity leave benefit, Parental leave benefit and Maternity and parental allowance, which are all non-means-tested benefits. Accordingly, we can notice an increase of equivalised income attributed to this benefit type, which is most pronounced for households in the second and third decile groups. The total effect is an increase of 0.28%. To some extent, the increase of parental benefits led to the fall of means-tested benefits (Child benefit and Subsistence benefit). These benefits are not inflation-adjusted in Croatia, so their real value also fell due to the increase in the price level. The largest fall in income, 0.61%, is felt by the first decile group, which is most dependent on means-tested benefits; decile groups 2 to 5 lost 0.3% of their income on average.

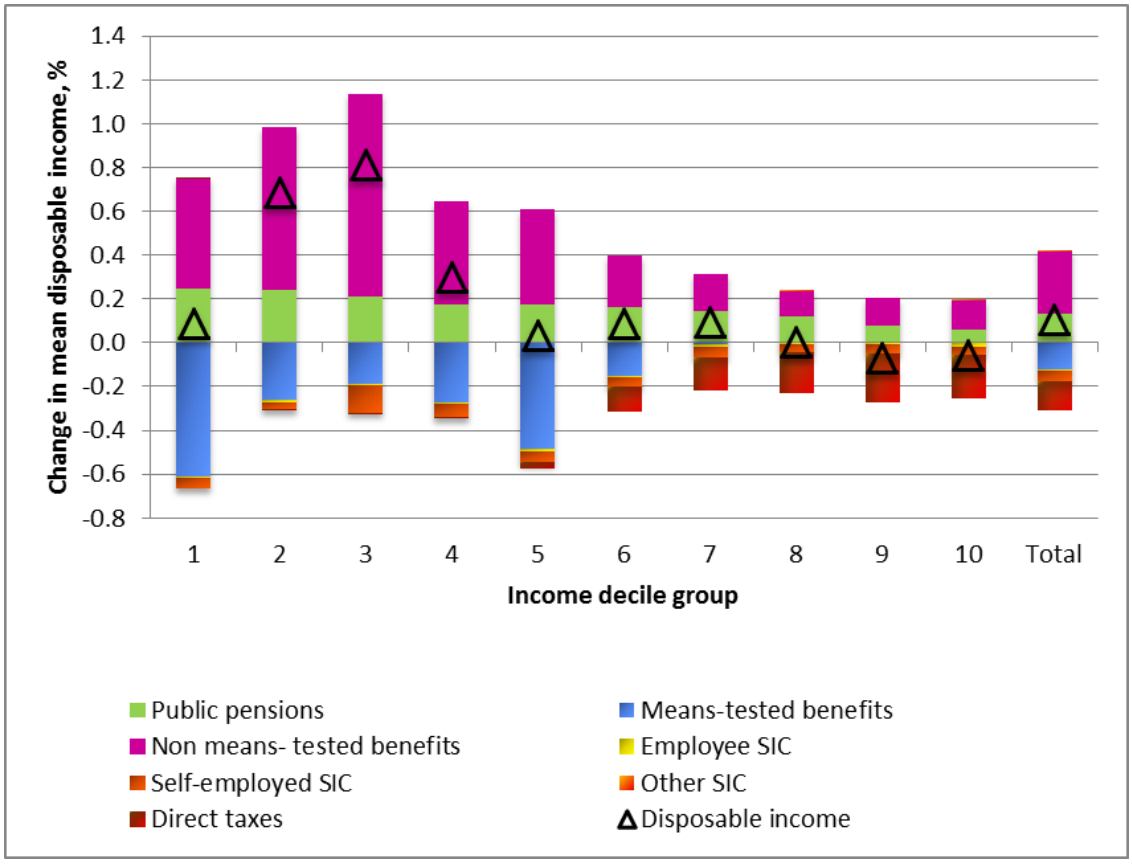
Whilst HICP was projected to rise by 1.4% between 2017 and 2018, public pensions are adjusted using the “current value of pension”, which increased by about 2%, i.e., more than the HICP. Therefore, pension income slightly increased in real terms, by about 0.2% in the first three decile groups, and somewhat less in the remaining groups.

Table 1 (Croatia): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.25	-0.61	0.50	-0.01	-0.04	0.00	0.00	**0.09**
2	0.00	0.24	-0.26	0.75	-0.01	-0.03	0.00	0.00	**0.68**
3	0.00	0.21	-0.19	0.92	-0.01	-0.13	0.00	0.00	**0.81**
4	0.00	0.17	-0.27	0.47	-0.01	-0.06	0.00	-0.01	**0.30**
5	0.00	0.17	-0.48	0.44	-0.01	-0.05	0.00	-0.03	**0.03**
6	0.00	0.16	-0.15	0.24	-0.01	-0.04	0.00	-0.11	**0.09**
7	0.00	0.14	-0.01	0.17	-0.01	-0.05	0.00	-0.15	**0.09**
8	0.00	0.12	0.00	0.11	-0.01	-0.04	0.00	-0.18	**0.01**
9	0.00	0.08	0.00	0.13	-0.01	-0.04	0.00	-0.22	**-0.07**
10	0.00	0.06	0.00	0.13	-0.02	-0.04	0.00	-0.20	**-0.06**
Total	**0.00**	**0.13**	**-0.12**	**0.28**	**-0.01**	**-0.05**	**0.00**	**-0.13**	**0.11**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Croatia): Policy effects in 2017-2018, using the CPI-indexation, %



Italy

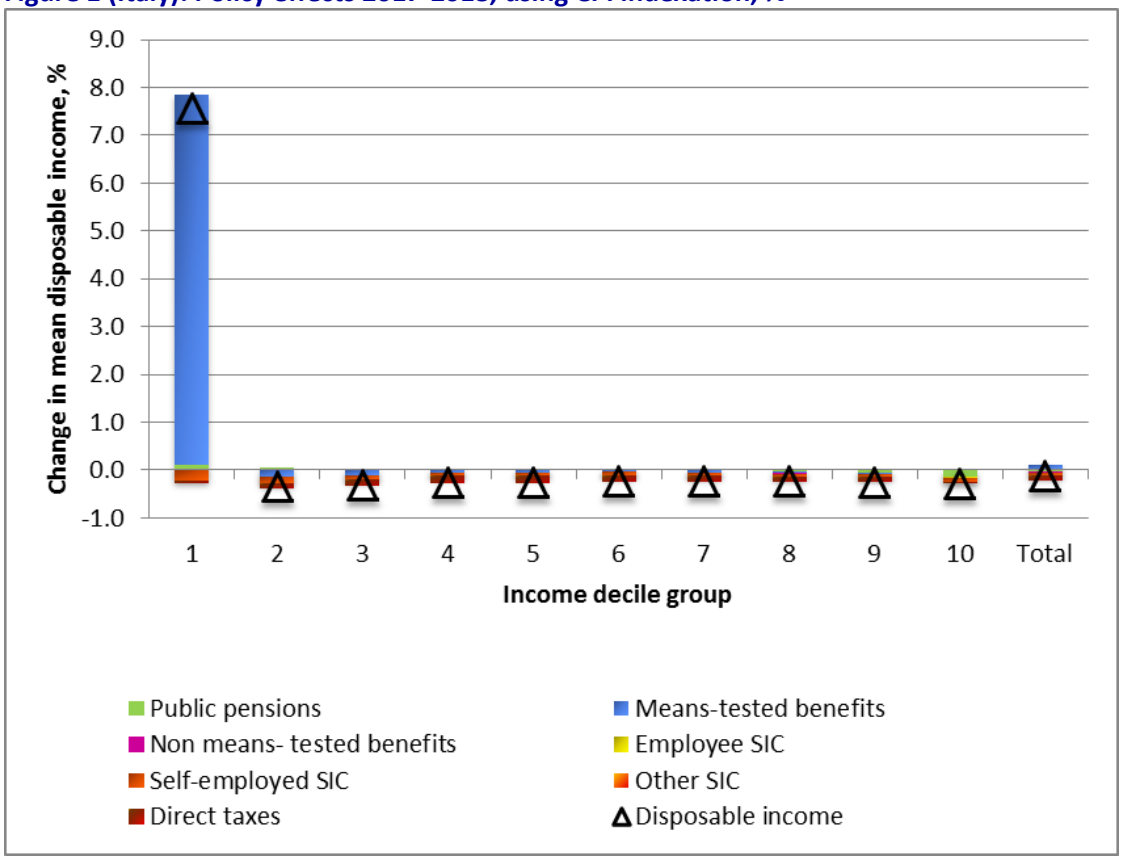
Table 1 and Figure 1 show the effects on disposable income of changes in tax-benefit policy between 2017 and 2018, with households experiencing an average income loss of 0.12%. This small overall effect hides substantial change at the bottom of the income distribution. In 2018 the *Reddito di Inclusione* (REI) was introduced as the new policy instrument to support family income. In 2018 REI (without family conditions) was given only for 6 months (from July, 1st). The effect on disposable income (assuming full take-up) is clear in Figure 2 (blue bar) for those in the first income decile group who experienced a positive change of around 8%.

Table 1 (Italy): Policy effects 2017-2018, using CPI indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.12	7.73	-0.01	0.00	-0.22	0.00	-0.04	**7.57**
2	0.00	0.04	-0.13	-0.01	0.00	-0.13	0.00	-0.13	**-0.35**
3	0.00	0.02	-0.11	-0.01	0.00	-0.07	0.00	-0.16	**-0.32**
4	0.00	0.02	-0.05	-0.01	0.00	-0.06	0.00	-0.16	**-0.26**
5	0.00	0.02	-0.05	0.00	0.00	-0.06	0.00	-0.15	**-0.26**
6	0.00	0.00	-0.03	0.00	0.00	-0.06	0.00	-0.14	**-0.24**
7	0.00	-0.01	-0.03	0.00	0.00	-0.06	0.00	-0.13	**-0.24**
8	0.00	-0.04	-0.03	0.00	0.00	-0.05	0.00	-0.12	**-0.25**
9	0.00	-0.07	-0.01	0.00	-0.01	-0.05	0.00	-0.11	**-0.26**
10	0.00	-0.14	0.00	0.00	-0.02	-0.07	0.00	-0.04	**-0.28**
Total	**0.00**	**-0.04**	**0.11**	**0.00**	**-0.01**	**-0.07**	**0.00**	**-0.11**	**-0.12**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Italy): Policy effects 2017-2018, using CPI indexation, %



Cyprus

The overall estimated effects of policy changes from 2017 to 2018 were relatively small in Cyprus and can mainly be explained by only marginal changes in 2017 policy rules. Most benefit levels, income thresholds and tax rates remained constant.

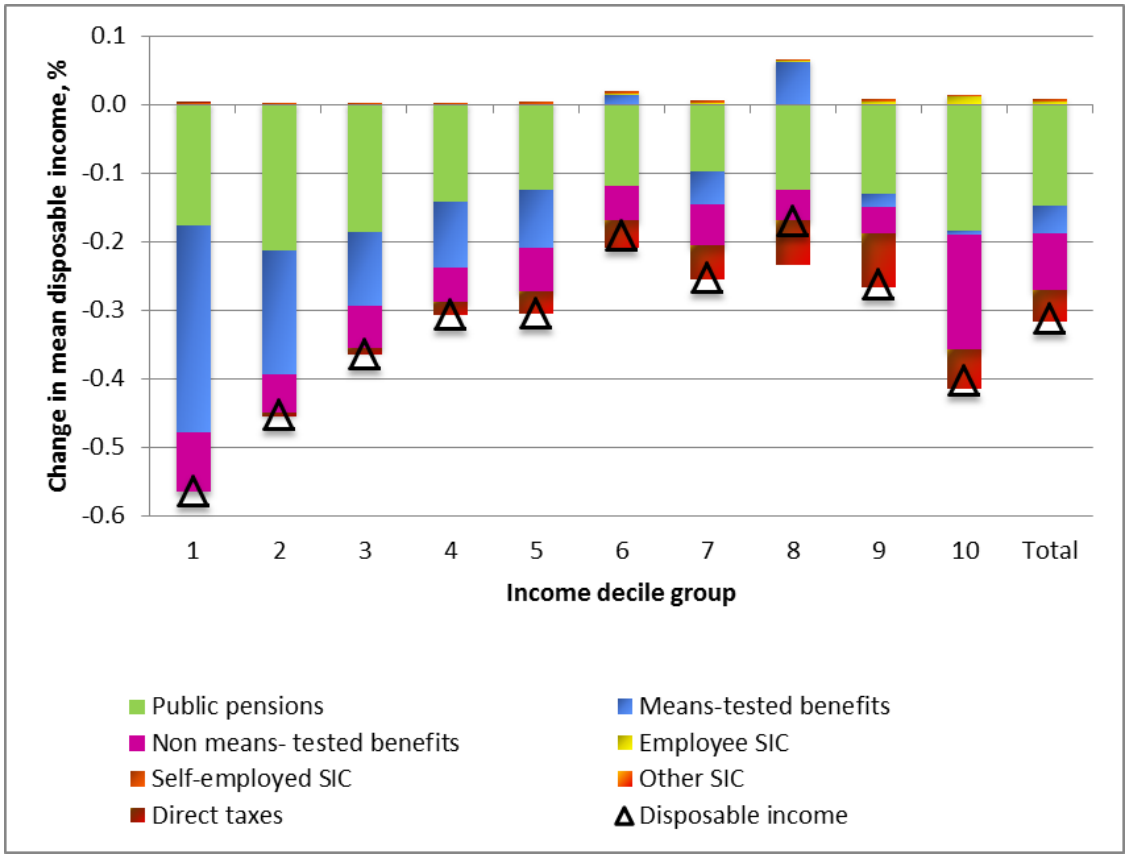
The effects were estimated to be broadly regressive with higher income decreases in the bottom income groups. This effect is however reversed for the highest two income groups. Across income groups, income losses are due to the non-indexation of pensions and especially in lower income groups due to lower means-tested benefits which was not due to policy changes per se but due to the non-indexation of benefit levels. The increased income threshold of the child benefit for families with 4 or more children is estimated to have had a positive effect for the eighth decile only. The number of families with 4 or more children is usually very small which leads to very small policy effects.

Table 1 (Cyprus): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.18	-0.30	-0.09	0.00	0.00	0.00	0.00	**-0.56**
2	0.00	-0.21	-0.18	-0.06	0.00	0.00	0.00	0.00	**-0.45**
3	0.00	-0.19	-0.11	-0.06	0.00	0.00	0.00	-0.01	**-0.36**
4	0.00	-0.14	-0.10	-0.05	0.00	0.00	0.00	-0.02	**-0.31**
5	0.00	-0.13	-0.08	-0.06	0.00	0.00	0.00	-0.03	**-0.30**
6	0.00	-0.12	0.01	-0.05	0.00	0.01	0.00	-0.04	**-0.19**
7	0.00	-0.10	-0.05	-0.06	0.00	0.00	0.00	-0.05	**-0.25**
8	0.00	-0.12	0.06	-0.05	0.00	0.00	0.00	-0.06	**-0.17**
9	0.00	-0.13	-0.02	-0.04	0.00	0.00	0.00	-0.08	**-0.26**
10	0.00	-0.19	-0.01	-0.17	0.01	0.00	0.00	-0.06	**-0.40**
Total	**0.00**	**-0.15**	**-0.04**	**-0.08**	**0.00**	**0.00**	**0.00**	**-0.05**	**-0.31**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Cyprus): Policy effects in 2017-2018, using the CPI-indexation, %



Latvia

Policies implemented in 2018 produced a strong and moderately progressive effect on disposable income. The main contribution to the increase in income came from direct taxes, being driven by the major PIT reform implemented in 2018. First, a reduction in the PIT rate from 23% to 20% for annual income not exceeding 20,000 EUR effectively produced an across-the-board reduction in tax liability and contributed to an increase in the disposable income in all income deciles, and a particularly strong increase in the middle of the income distribution. The positive effect of direct taxes in upper deciles was smaller for two main reasons. First, individuals in upper deciles have part of their employment income (income exceeding 20,000 EUR per annum) taxed at the pre-reform rate of 23%. Second, the basic allowance in 2018 was further increased for low wage earners and reduced for high wage earners, producing a progressive impact on income distribution. The smaller effect of direct taxes in the bottom deciles is due to a smaller proportion of employed individuals, higher proportion of pensioners who are eligible for a higher non-taxable allowance, and due to the fact that for many low wage earners their income was fully covered by non-taxable allowances that were effective before the reform, hence they do not gain from changes in the PIT rules that came into force in 2018.

Like in previous years, changes in pensions had a progressive effect on income, mainly due to pension indexation rules, which imply a larger proportional increase in low pensions. The effect of non means-tested benefits is more uniform across the income distribution, but the largest positive contribution is observed in the bottom decile, mainly due to the introduction of special supplementary payments to families with two children or more.

The effect of changes in social insurance contributions was negative and progressive, being driven by an increase in the SIC rate. The progressivity of the effect is due to the higher proportion of non-employed individuals at the bottom of income distribution.

The effect of self-employed SIC was negative and progressive. First, because of the reduction in the income threshold that obliges the self-employed to make social contributions, the number of self-employed paying SIC increased in all deciles of income distribution[12]. At the same time, however, the SIC rate for income below the minimum wage is low, thus the reduction in the income threshold produced a very small increase in the amount of payable SIC for individuals with low income from self-employment. Therefore, the effect of self-employed SIC in the bottom deciles is very small. Second, individuals with high income from self-employment, who are concentrated in the top deciles, faced an increase in payable SIC because of an increase in the SIC rate for self-employed.

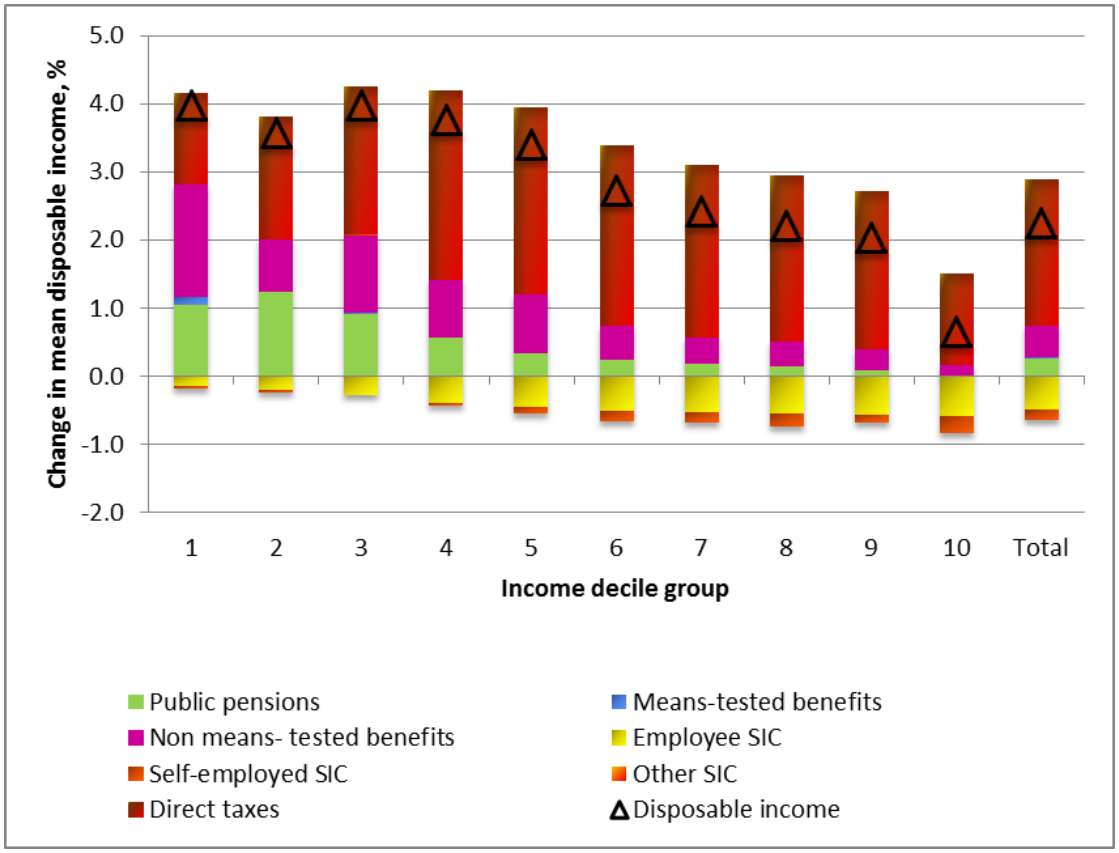
[12] Before 2018, a self-employed could choose not to make social contributions if his/her monthly income was below the minimum wage; as of 2018, if his/her annual income is above 50 EUR, contributions in the amount of 5% become mandatory. If his/her monthly income exceeds the minimum wage, he/she has to pay SIC in accordance with the general rules.

Table 1 (Latvia): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	1.04	0.12	1.66	-0.14	-0.05	0.00	1.35	**3.97**
2	0.00	1.24	0.00	0.77	-0.20	-0.05	0.00	1.81	**3.57**
3	0.00	0.91	0.01	1.14	-0.27	0.02	0.00	2.18	**3.98**
4	0.00	0.57	0.00	0.84	-0.39	-0.05	0.00	2.80	**3.77**
5	0.00	0.33	0.00	0.86	-0.46	-0.09	0.00	2.75	**3.39**
6	0.00	0.23	0.00	0.51	-0.50	-0.16	0.00	2.66	**2.73**
7	0.00	0.18	0.00	0.38	-0.54	-0.15	0.00	2.54	**2.41**
8	0.00	0.14	0.00	0.36	-0.55	-0.20	0.00	2.45	**2.20**
9	0.00	0.09	0.00	0.30	-0.58	-0.10	0.00	2.32	**2.03**
10	0.00	0.00	0.00	0.16	-0.58	-0.26	0.00	1.34	**0.66**
Total	**0.00**	**0.26**	**0.00**	**0.48**	**-0.50**	**-0.15**	**0.00**	**2.15**	**2.24**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Latvia): Policy effects in 2017-2018, using the CPI-indexation, %



Lithuania

Overall, changes in policies between 2017 and 2018 had a large and positive impact throughout the income distribution (a rise of greater than 3.5% across the whole population), but especially so for the first two income deciles. The first income decile gained around a quarter of disposable income due to policy reform. The increase in the second decile was also over 10%. In comparison, the two highest deciles gained around 1% on average. Hence it can be concluded that policy reform between 2017-2018 was progressive and had a pro-poor orientation.

We see the largest positive effect on total disposable income attributable to non-means-tested benefits. Changes in household disposable income due to non means-tested benefits were due to an introduction of universal child benefit, increase in the reference amounts and ceilings of contributory benefits. Also, the reform of unemployment benefit was modelled in the EUROMOD baseline as of 2018. Moreover, there was a newly introduced benefit of long-term employment. The positive income effect was the highest for the lower income deciles and amounted to around 13% in the first decile.

The changes in means-tested programmes included increased generosity of social assistance due to increased level of state supported income and income disregards. While the overall effect on disposable income was marginal, it was substantial (around 10%) for the first income decile.

As for public pensions, there were no changes in policy as such, besides the ad-hoc indexation of pensions. The overall change in disposable income due to increases in pensions is positive, more so for those in the second to the fourth income deciles, where pensioners are typically located.

The changes to direct taxes had a negative impact on mean disposable income. This can be attributed to the withdrawal of child tax allowances to finance universal child benefits. We observe higher negative effects on those in second to sixth income deciles, where families with children are situated.

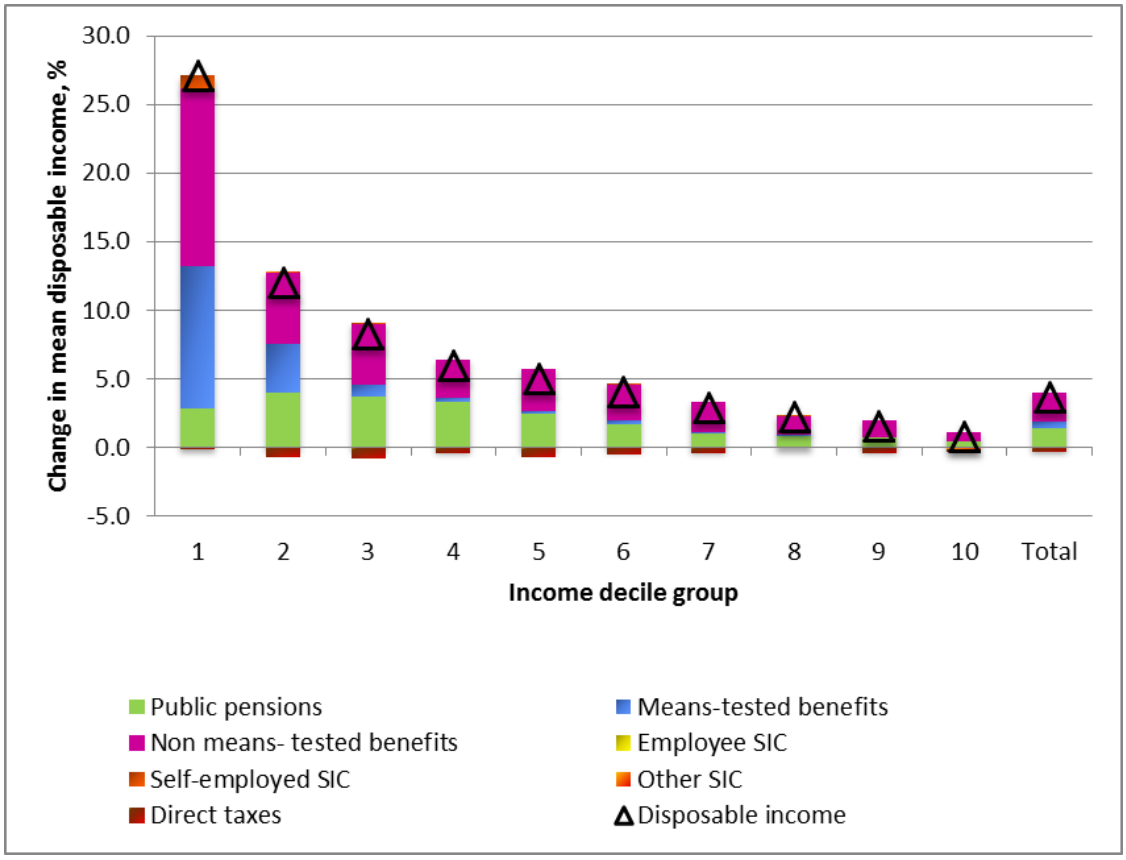
There were no changes in employee social insurance contributions (except the introduction of SIC floors, which is not modelled in the baseline). However, there were changes in SIC policies for the self-employed. The positive effect we observe for the first income decile can be attributed to introduction of tax allowance for the self-employed. The overall effect of self-employment SIC reforms on disposable income was marginal.

Table 1 (Lithuania): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	2.80	10.39	13.01	0.00	0.91	-0.03	-0.03	**27.05**
2	0.00	4.02	3.51	5.16	0.00	-0.01	0.01	-0.69	**11.99**
3	0.00	3.66	0.93	4.41	0.00	0.07	-0.08	-0.76	**8.24**
4	0.00	3.30	0.28	2.78	0.00	-0.01	0.00	-0.42	**5.92**
5	0.00	2.43	0.23	3.02	0.00	0.00	-0.01	-0.72	**4.95**
6	0.00	1.66	0.27	2.62	0.00	0.03	-0.01	-0.54	**4.02**
7	0.00	1.02	0.07	2.17	0.00	-0.02	0.00	-0.37	**2.86**
8	0.00	0.84	0.06	1.33	0.00	0.01	-0.01	-0.10	**2.14**
9	0.00	0.71	0.00	1.22	0.00	0.00	-0.01	-0.41	**1.52**
10	0.00	0.42	0.02	0.63	0.00	-0.10	-0.01	-0.20	**0.76**
Total	**0.00**	**1.40**	**0.50**	**2.12**	**0.00**	**-0.01**	**-0.01**	**-0.37**	**3.64**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Lithuania): Policy effects in 2017-2018, using the CPI-indexation, %



Luxembourg

The analysis of the effects of policy changes between 2017 and 2018 shows that overall policy effects were very modest - mean disposable income decreased by just 0.55%. The largest contribution being attributable to direct taxes and public pensions (decrease by 0.18% and 0.32% respectively). The effect from all the other components was negligible and remained under 0.1%.

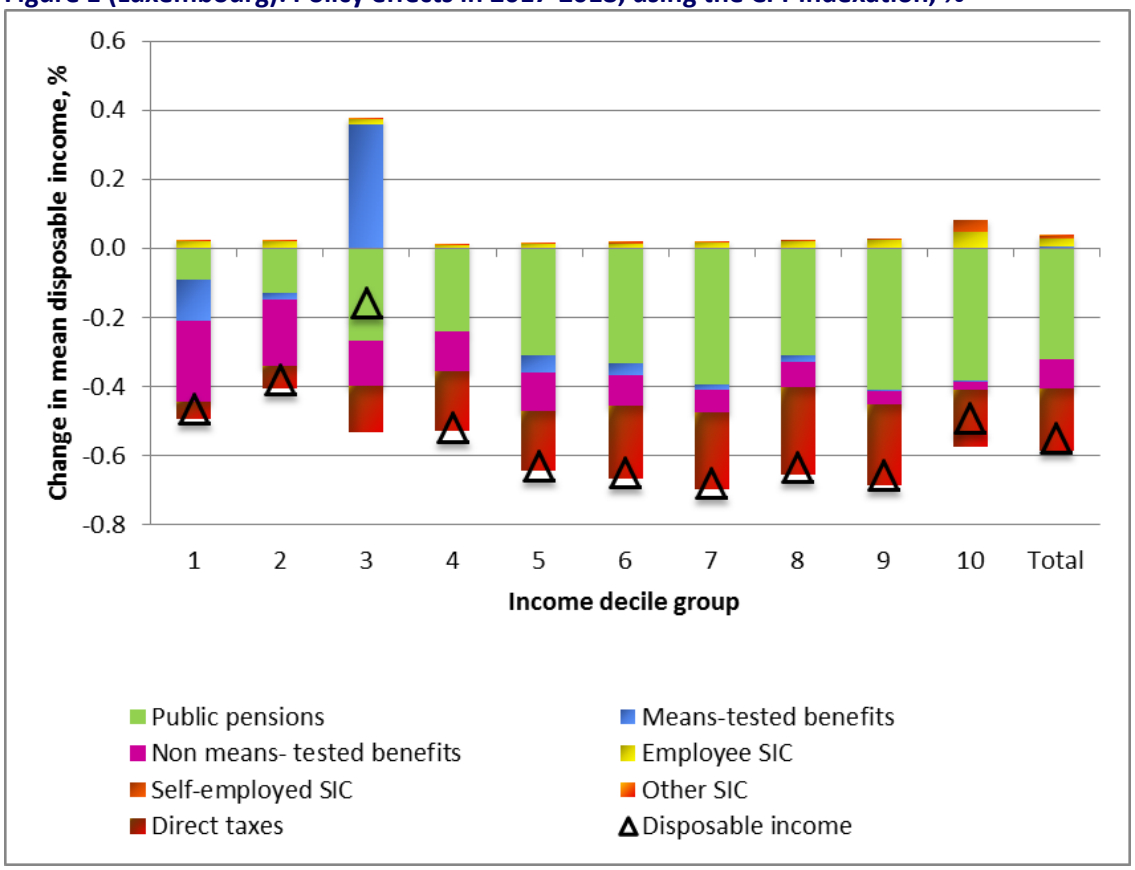
This negative effect is mostly due to inflation. Nominally there were almost no changes between 2017 and 2018.

Table 1 (Luxembourg): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.09	-0.12	-0.23	0.02	0.00	0.01	-0.05	**-0.47**
2	0.00	-0.13	-0.02	-0.19	0.02	0.00	0.00	-0.06	**-0.38**
3	0.00	-0.27	0.36	-0.13	0.01	0.00	0.00	-0.13	**-0.16**
4	0.00	-0.24	0.00	-0.12	0.01	0.00	0.00	-0.17	**-0.52**
5	0.00	-0.31	-0.05	-0.11	0.01	0.00	0.00	-0.17	**-0.63**
6	0.00	-0.33	-0.03	-0.09	0.01	0.00	0.00	-0.21	**-0.65**
7	0.00	-0.39	-0.02	-0.07	0.02	0.00	0.00	-0.22	**-0.68**
8	0.00	-0.31	-0.02	-0.07	0.02	0.00	0.00	-0.25	**-0.63**
9	0.00	-0.41	-0.01	-0.04	0.02	0.00	0.00	-0.23	**-0.66**
10	0.00	-0.38	0.00	-0.03	0.05	0.03	0.00	-0.16	**-0.49**
Total	**0.00**	**-0.32**	**0.00**	**-0.08**	**0.02**	**0.01**	**0.00**	**-0.18**	**-0.55**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Luxembourg): Policy effects in 2017-2018, using the CPI-indexation, %



Hungary

The analysis shows that changes in the tax-benefits system between 2017 and 2018 yielded an average overall negative effect of 0.10% of equivalised disposable income which was driven by reductions in real terms of Public Pensions (0.07%), means-tested (0.02%) and non means-tested benefits (0.06%), an increase in self-employed social insurance contributions (SIC) (0.05%) and a decrease of direct tax (0.06%) and employee SIC (0.04%).

Overall, the largest contribution to the decrease in disposable income was due to Public Pensions and non-means tested benefits, respectively 0.07% and 0.06%. Although there were no structural changes to benefits calculations between 2017 and 2018, the amount of means-tested benefits - such as social assistance for old age, the regular social assistance benefit and the stand-by allowance - and the amount of non means-tested benefits - such as child care allowance, child raising support, family allowance and maternity grant - depend on the National Minimum Pension value. National Minimum Pension has remained unchanged in nominal terms over time, resulting in a cut in real terms of any benefit linked to it (although almost negligible considering the very small changes in the price index). On the other hand, the National Minimum Wage, used as a base value for the calculation of selected benefits - such as unemployment benefits and job seekers allowance - increased from HUF 127,500 to HUF 138,500 per month. Such an increase is much higher than the increase registered by the consumer price index, hence balancing out the negative effects due to freezing of National Minimum Pension. On the other hand, this also means that self-employed SIC for those on National Minimum Wage (or under) increased faster than inflation, hence the negative effect on household income observed.

Across the income distribution the effect was the most negative in the first decile (-1.63%), whilst other decile groups lost less of their income (at most 0.13%). There are only two decile groups where the policy changes implemented between 2017 and 2018 had positive effects: the third and fourth deciles gained respectively 0.15% and 0.04% on average. Deciles 2 to 4 also benefited from cuts in income tax and employee SIC.

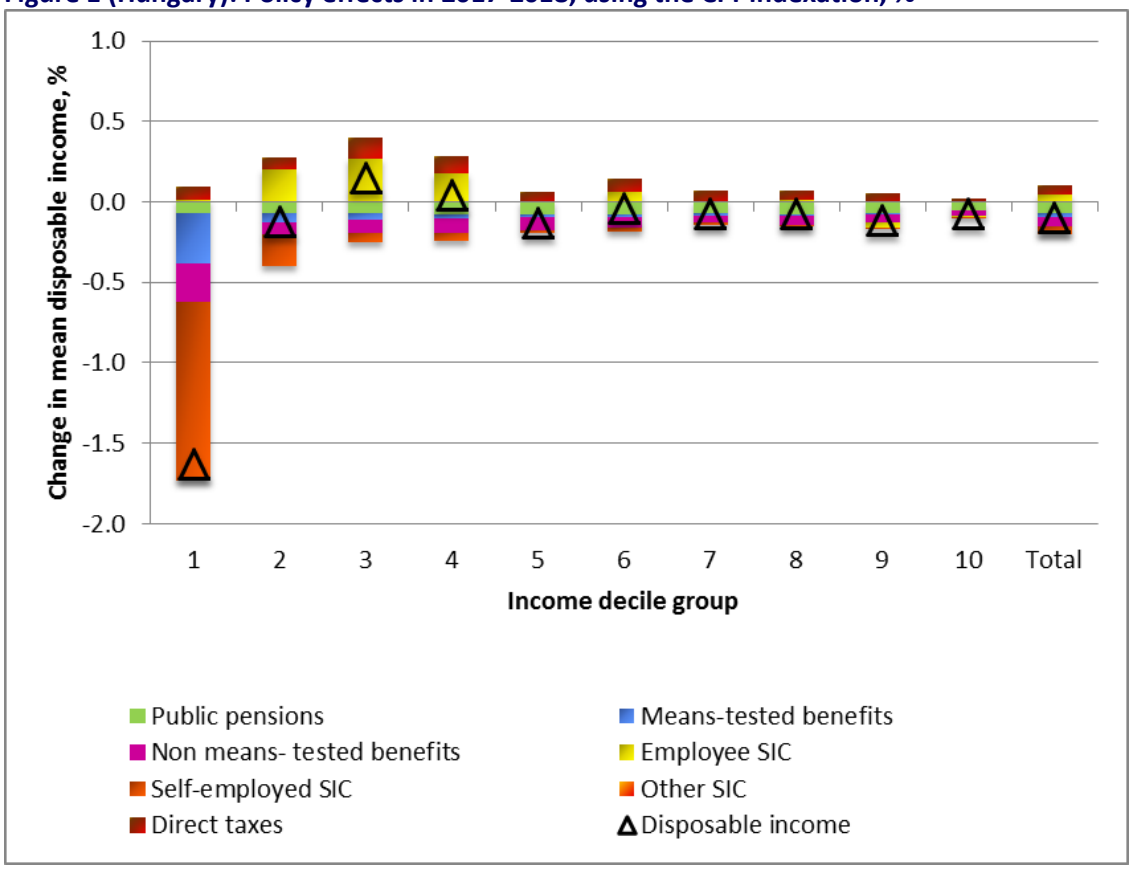
In summary, on average almost all income groups were net losers, but bottom decile was hardest hit, losing on average 1.63% of its disposable income against the 0.08% lost by the top decile.

Table 1 (Hungary): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.07	-0.31	-0.24	0.01	-1.11	0.00	0.09	**-1.63**
2	0.00	-0.07	-0.06	-0.08	0.20	-0.19	0.00	0.07	**-0.12**
3	0.00	-0.06	-0.04	-0.09	0.27	-0.06	0.00	0.13	**0.15**
4	0.00	-0.07	-0.03	-0.09	0.18	-0.05	0.00	0.11	**0.04**
5	0.00	-0.08	-0.02	-0.08	0.00	-0.02	0.00	0.06	**-0.13**
6	0.00	-0.08	-0.01	-0.07	0.06	-0.03	0.00	0.09	**-0.04**
7	0.00	-0.07	-0.02	-0.05	0.01	-0.01	0.00	0.06	**-0.07**
8	0.00	-0.08	-0.01	-0.05	0.01	0.00	0.00	0.06	**-0.08**
9	0.00	-0.07	-0.01	-0.05	-0.04	-0.01	0.00	0.06	**-0.11**
10	0.00	-0.05	0.00	-0.03	-0.01	0.00	0.00	0.02	**-0.08**
Total	**0.00**	**-0.07**	**-0.02**	**-0.06**	**0.04**	**-0.05**	**0.00**	**0.06**	**-0.10**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Hungary): Policy effects in 2017-2018, using the CPI-indexation, %



Malta

Measured in real terms, policy changes led to an overall decrease in average household disposable income by around 0.21%. All deciles saw a similar size decrease with the poorest decile experiencing the biggest decrease of 0.37%. The small positive effect from direct taxes was offset by changes in SIC and means tested benefits.

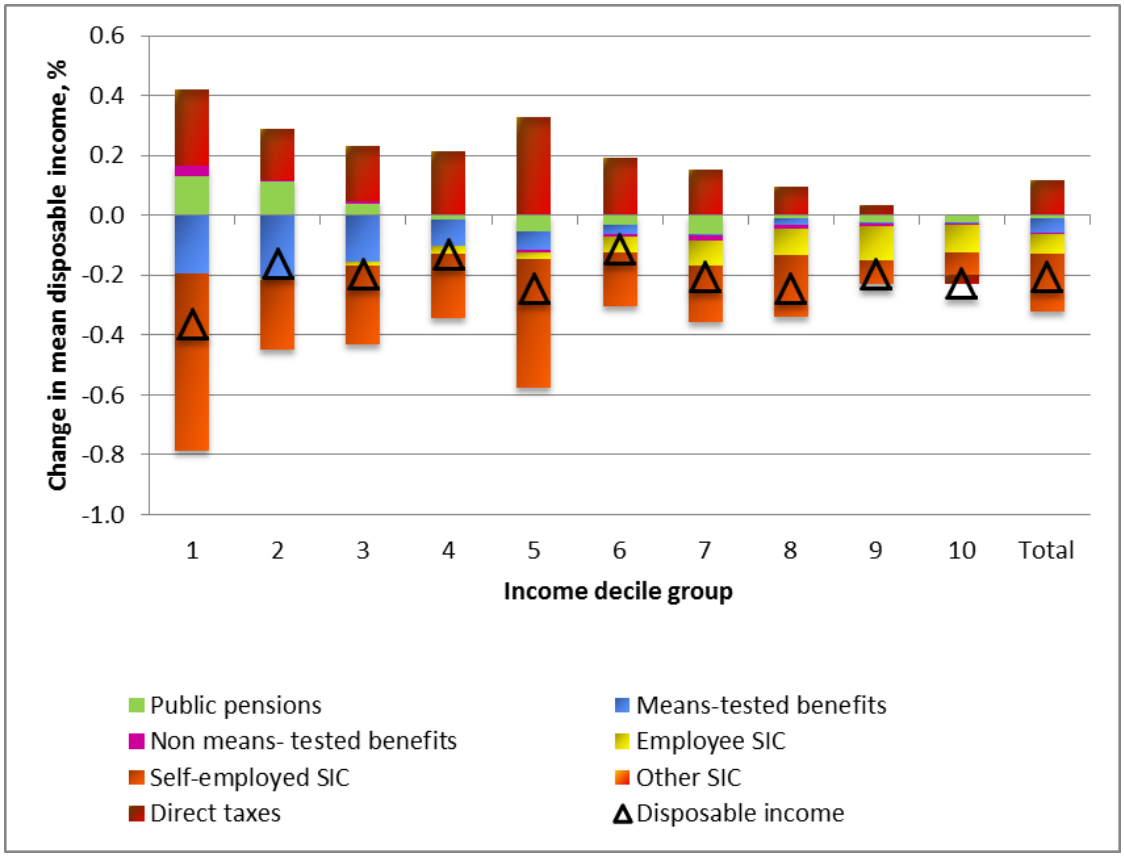
Overall the mean policy effects of different components were very small and always staying within the range of -0.2% to 0.2%. Nominally there were some positive gains but pension and benefit changes were in most cases below the rate of inflation and therefore resulted in a loss in real terms.

Table 1 (Malta): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.13	-0.19	0.04	0.00	-0.59	0.00	0.26	**-0.37**
2	0.00	0.11	-0.21	0.00	-0.01	-0.23	0.00	0.17	**-0.16**
3	0.00	0.04	-0.15	0.01	-0.02	-0.26	0.00	0.18	**-0.20**
4	0.00	-0.01	-0.09	0.00	-0.03	-0.21	0.00	0.21	**-0.13**
5	0.00	-0.06	-0.06	-0.01	-0.02	-0.43	0.00	0.33	**-0.25**
6	0.00	-0.03	-0.03	-0.01	-0.05	-0.18	0.00	0.19	**-0.11**
7	0.00	-0.06	-0.01	-0.02	-0.08	-0.19	0.00	0.15	**-0.20**
8	0.00	-0.01	-0.02	-0.01	-0.09	-0.21	0.00	0.10	**-0.24**
9	0.00	-0.02	-0.01	-0.01	-0.11	-0.08	0.00	0.03	**-0.20**
10	0.00	-0.02	-0.01	-0.01	-0.09	-0.08	0.00	-0.03	**-0.23**
Total	**0.00**	**-0.01**	**-0.05**	**0.00**	**-0.07**	**-0.19**	**0.00**	**0.12**	**-0.21**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Malta): Policy effects in 2017-2018, using the CPI-indexation, %



The Netherlands

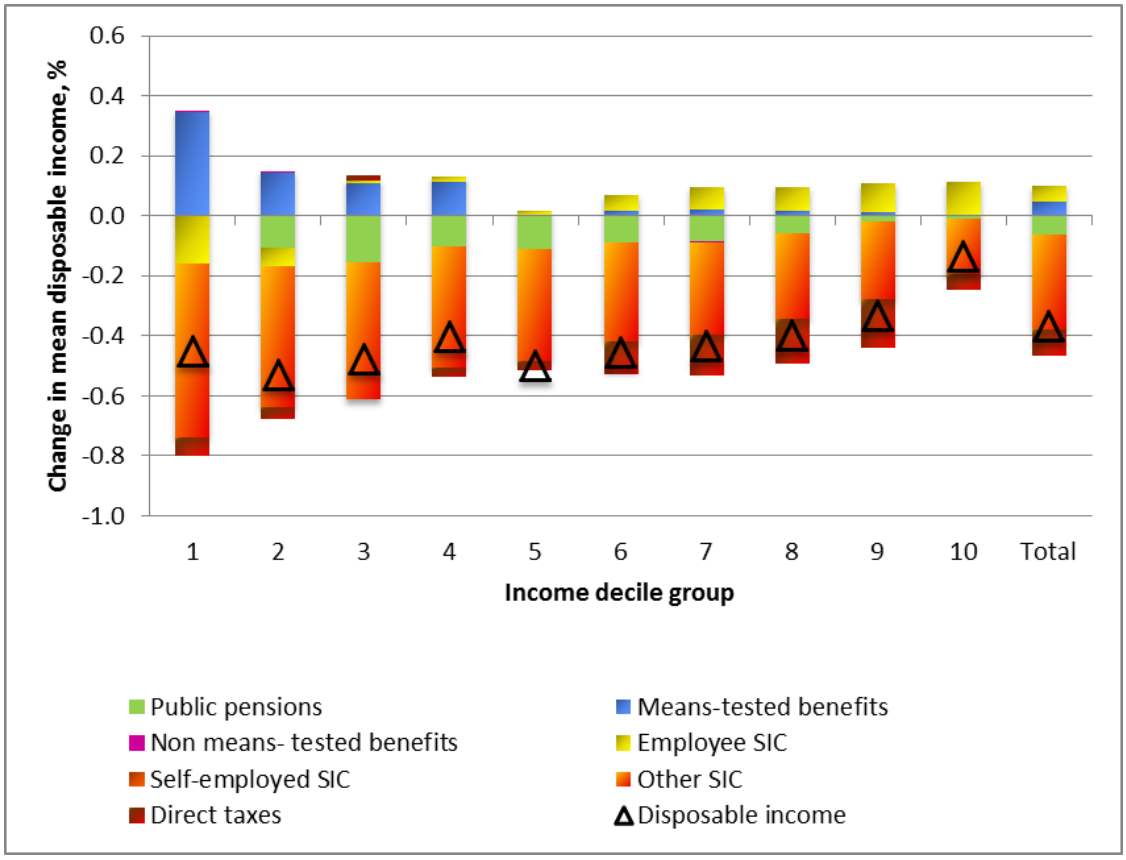
The total effect of (deflated) 2018 policies is a decrease in disposable income of 0.37%. This is mainly driven by higher health SIC (-0.32%), higher direct taxes (-0.09%) and lower public pensions (-0.06%). Although the policy effect across the income distribution is negative across all decile groups, the decrease varies in a range between 0.14% and 0.53%, with the highest decile seeing the lowest loss. For most decile groups, the decrease in disposable income is driven by an increase of the flat rate part of the other (health) SICs together with a slight decrease in the real value of the public pension and a small rise in direct income tax which is only partly compensated by higher means-tested benefits and/or lower employee SICs. In the lowest decile, the increase in the other (health) SICs is accompanied by a slight increase in employee SICs and income tax, and by a higher (means-tested) health care allowance, resulting in an average loss of 0.45% of their 2017 net income.

Table 1 (Netherlands): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.00	0.35	0.00	-0.16	0.00	-0.58	-0.06	**-0.45**
2	0.00	-0.11	0.15	0.00	-0.06	0.00	-0.47	-0.04	**-0.53**
3	0.00	-0.15	0.11	0.00	0.01	0.00	-0.46	0.01	**-0.48**
4	0.00	-0.10	0.11	0.00	0.02	0.00	-0.40	-0.03	**-0.40**
5	0.00	-0.11	0.01	0.00	0.01	0.00	-0.37	-0.03	**-0.50**
6	0.00	-0.09	0.02	0.00	0.05	0.00	-0.33	-0.11	**-0.46**
7	0.00	-0.08	0.02	0.00	0.08	0.00	-0.31	-0.13	**-0.44**
8	0.00	-0.06	0.02	0.00	0.08	0.00	-0.28	-0.15	**-0.40**
9	0.00	-0.02	0.01	0.00	0.10	0.00	-0.26	-0.17	**-0.33**
10	0.00	-0.01	0.00	0.00	0.11	0.00	-0.18	-0.06	**-0.14**
Total	**0.00**	**-0.06**	**0.05**	**0.00**	**0.05**	**0.00**	**-0.32**	**-0.09**	**-0.37**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Netherlands): Policy effects in 2017-2018, using the CPI-indexation, %



Austria

In 2017-18, on average, households experienced a real decrease of -0.6% of their disposable income due to policy changes. With the clear exception of the first income decile (-0.3%), the policy effect was slightly pro-rich with an income-decreasing peak effect of -0.9% in the fourth decile.

The income decrease in all decile groups was to a large extent driven by bracket creep within the income tax system and the (average) indexation of pensions below the CPI (used for EUROMOD).

In the case of income tax, the loss is smaller in the first decile as many persons in this decile do not have to pay any income tax because of the basic tax allowance.

On average, public pensions were increased by a rate lower than the rate of price growth (in EUROMOD related to the period from June 2017 to June 2018), which resulted in income losses along the entire income distribution.

The loss in terms of non means-tested benefits is concentrated slightly more in the lower income deciles due to the higher number of children in households at the bottom of the income distribution. The loss relates to the non-indexation of non means-tested family benefits, which is however balanced out to some extent by the increase in the main family allowance by 2%.

The change from the flat-rate models in the framework of the childcare benefit to the child care benefit account did not seem to cause significant changes in terms of means-tested benefits.

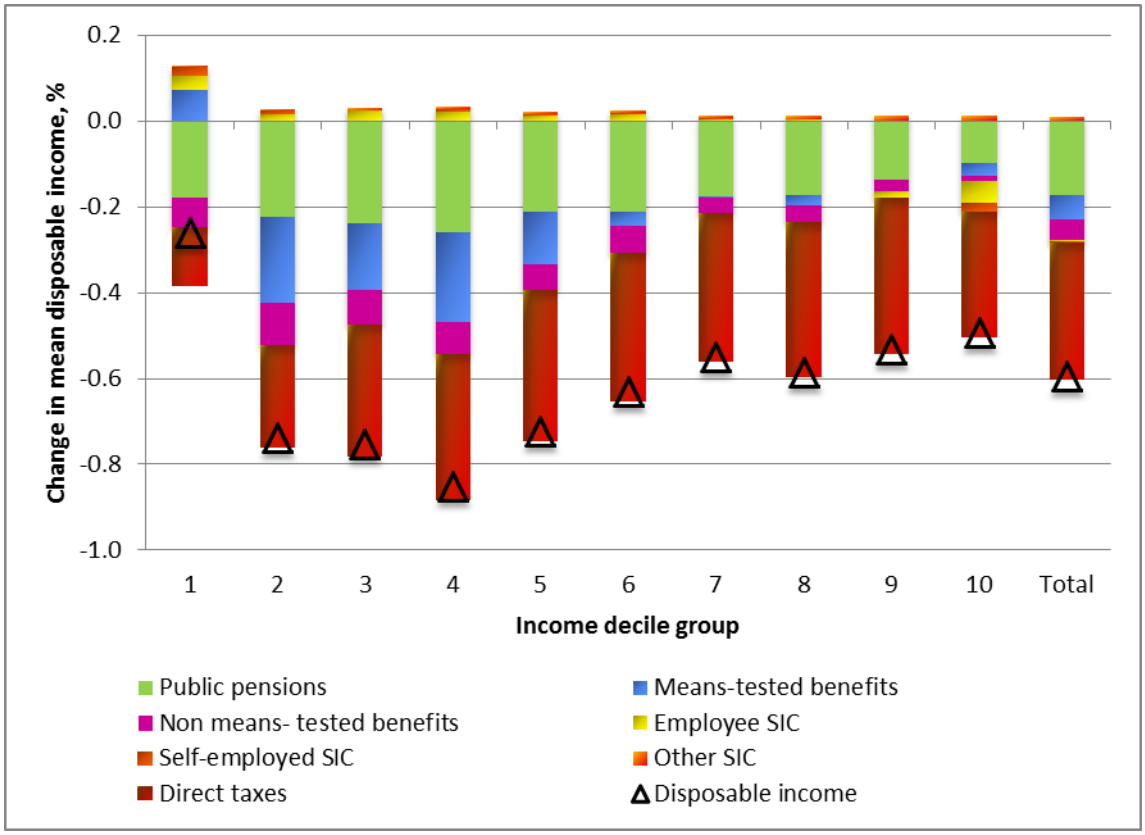
The very small income increase in terms of employee and self-employed social insurance contributions seems to be due to the reduction of pension insurance contributions by 50% for active persons in pension age.

Table 1 (Austria): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.18	0.07	-0.07	0.03	0.02	0.00	-0.14	**-0.26**
2	0.00	-0.22	-0.20	-0.10	0.02	0.01	0.00	-0.24	**-0.74**
3	0.00	-0.24	-0.15	-0.08	0.02	0.00	0.01	-0.31	**-0.75**
4	0.00	-0.26	-0.21	-0.07	0.02	0.01	0.01	-0.34	**-0.85**
5	0.00	-0.21	-0.12	-0.06	0.01	0.00	0.01	-0.35	**-0.73**
6	0.00	-0.21	-0.03	-0.06	0.02	0.00	0.01	-0.35	**-0.63**
7	0.00	-0.18	0.00	-0.04	0.00	0.00	0.01	-0.35	**-0.55**
8	0.00	-0.17	-0.03	-0.04	0.00	0.00	0.01	-0.36	**-0.59**
9	0.00	-0.14	0.00	-0.03	-0.01	0.00	0.01	-0.36	**-0.53**
10	0.00	-0.10	-0.03	-0.01	-0.05	-0.02	0.01	-0.29	**-0.49**
Total	**0.00**	**-0.17**	**-0.06**	**-0.05**	**0.00**	**0.00**	**0.01**	**-0.32**	**-0.60**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Austria): Policy effects in 2017-2018, using the CPI-indexation, %



Poland

Table 1 and Figure 1 show that between 2017-2018 the average equivalised household disposable income (HDI) - measured in real values - increased by 0.37%. This change was mainly driven by an increase in public pensions, supported by a smaller increase in the non means-tested benefits income component. Although the overall effect is positive for the whole distribution, gains were most pronounced in the lowest deciles. The income group which gained the most was the first decile with an average increase of equivalised HDI of 0.84%.

The most visible positive change at the bottom of the income distribution is associated with changes in public pensions. On average this income component increased household incomes by 0.54% with the first and second income deciles gaining the most (0.79%). The changes in public pensions had a positive impact on households for all income decile groups, and resulted in average increases of HDI ranging from 0.28% to 0.79%.

The approach to indexation of means-tested benefits is the main reason for that income component acting to offset gains elsewhere, producing an average 0.18%reduction of HDI. Annual indexation of the Nursing Supplement and a number of elements of Family Benefits were overall not sufficient to compensate for inflation. Many values of Family Benefits supplements, as well as benefit values and thresholds in Social Assistance, Housing Benefits and in particular the Childcare Allowance (Family 500+ benefit), remained frozen in nominal terms. This especially influenced the incomes of households from the fisrt income decile group, and resulted in an average decrease of HDI of 0.93%.

The negative effect of the Employee SIC is very small and related to the annual indexation of income thresholds for old-age pension and disability insurance which is linked to expected wage increases.

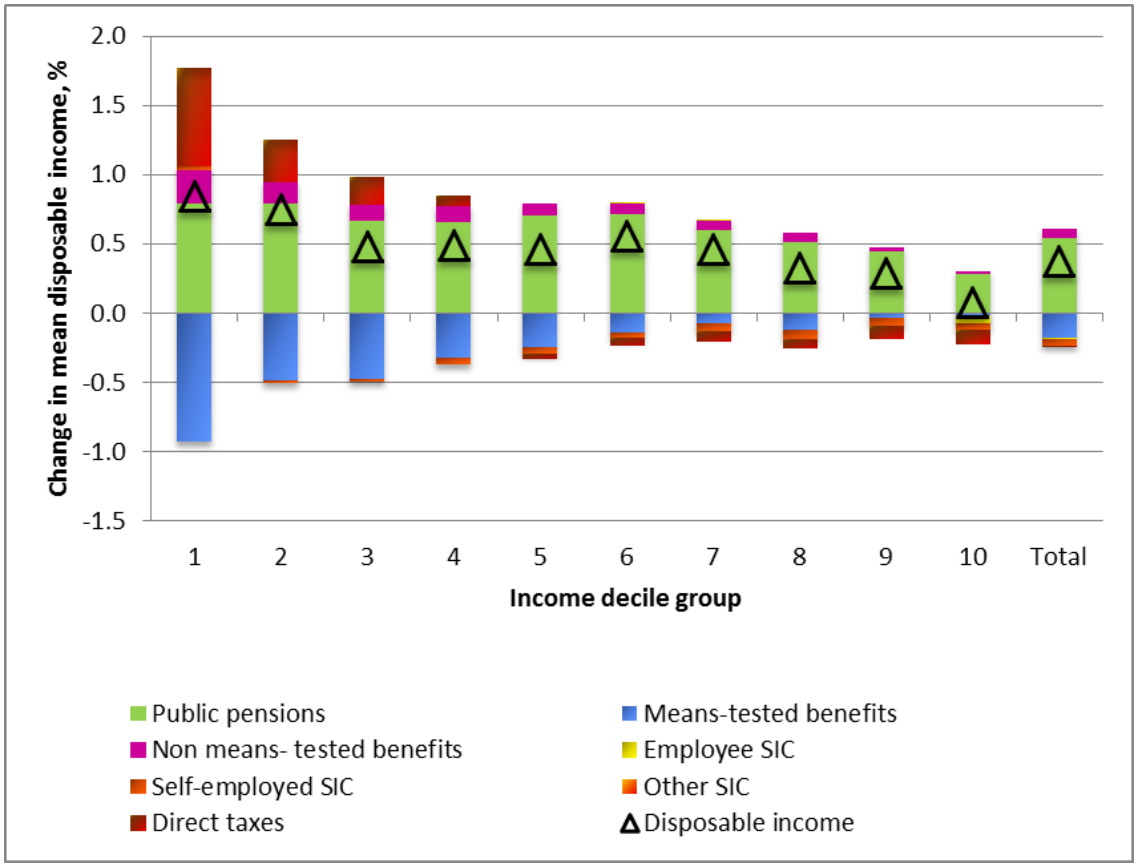
A reform that also heavily contributed to the positive changes of HDI at the bottom of the distribution is a decrease of income tax. The rise of the tax allowance contributed to increased incomes in the first decile by 0.72%. However, the policy had a negative impact on decile groups 5 through 10, causing the aggregate effect of the reform to be neutral.

Table 1 (Poland): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.79	-0.93	0.24	0.00	0.03	0.00	0.72	**0.84**
2	0.00	0.79	-0.49	0.16	0.00	-0.02	0.00	0.31	**0.74**
3	0.00	0.67	-0.47	0.11	0.00	-0.02	0.00	0.20	**0.48**
4	0.00	0.65	-0.32	0.12	0.00	-0.05	0.00	0.08	**0.49**
5	0.00	0.70	-0.25	0.09	0.00	-0.05	0.00	-0.04	**0.46**
6	0.00	0.71	-0.14	0.08	0.00	-0.04	0.00	-0.06	**0.55**
7	0.00	0.60	-0.07	0.07	0.00	-0.05	0.00	-0.08	**0.46**
8	0.00	0.51	-0.12	0.07	0.00	-0.07	0.00	-0.07	**0.33**
9	0.00	0.44	-0.03	0.03	-0.01	-0.05	0.00	-0.10	**0.29**
10	0.00	0.28	-0.02	0.02	-0.06	-0.05	0.00	-0.10	**0.07**
Total	**0.00**	**0.54**	**-0.18**	**0.07**	**-0.01**	**-0.04**	**0.00**	**0.00**	**0.37**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Poland): Policy effects in 2017-2018, using the CPI-indexation, %



Portugal

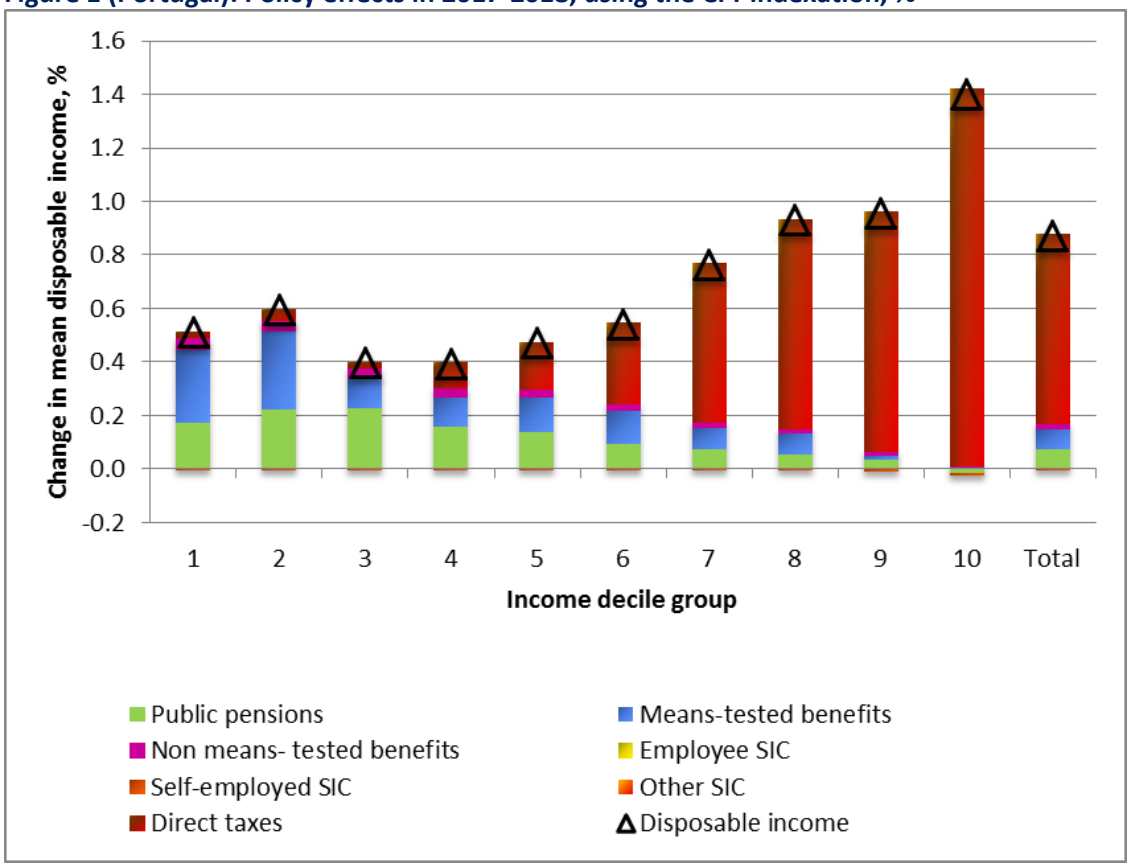
Policy changes in 2018 had a small positive effect on disposable incomes. In general, households' disposable income is increased by 0.87%, with the top income deciles recording a greater increment (more than the average in the eighth and ninth deciles and an increase in the highest decile of 1.4%. Still, when looking at the changes in income broken down by decile, different income components had different impacts dependent on where the household sits in the income distribution. For instance, means-tested benefits grow larger in the first deciles (0.27% and 0.29% in the first two deciles compared to an overall 0.08%) – this is the expected outcome of increasing child benefits for toddlers, especially in the lower income families, or of increasing in real terms the social insertion income amount. The increase in income from the middle to top deciles was mainly due to changes in the personal income tax, namely the introduction of the two new taxes brackets and the abolition of the extraordinary surtax. The higher increase of top decile (1.4%) is clearly associated with the latter.

Table 1 (Portugal): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.17	0.27	0.04	0.00	0.00	0.00	0.03	**0.51**
2	0.00	0.22	0.29	0.04	0.00	0.00	0.00	0.04	**0.59**
3	0.00	0.23	0.11	0.04	0.00	0.00	0.00	0.02	**0.40**
4	0.00	0.16	0.11	0.04	0.00	0.00	0.00	0.09	**0.39**
5	0.00	0.14	0.13	0.03	0.00	0.00	0.00	0.18	**0.47**
6	0.00	0.10	0.12	0.03	0.00	-0.01	0.00	0.30	**0.54**
7	0.00	0.07	0.08	0.02	0.00	0.00	0.00	0.59	**0.76**
8	0.00	0.05	0.08	0.02	0.00	-0.01	0.00	0.79	**0.93**
9	0.00	0.03	0.02	0.01	0.00	-0.01	0.00	0.90	**0.95**
10	0.00	-0.02	0.00	0.01	0.00	-0.01	0.00	1.41	**1.40**
Total	**0.00**	**0.07**	**0.08**	**0.02**	**0.00**	**-0.01**	**0.00**	**0.71**	**0.87**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Portugal): Policy effects in 2017-2018, using the CPI-indexation, %



Romania

As a result of policy changes between 2017 and 2018 the disposable income of all households saw on average a very large decrease of approximately 9.7%. By decile, the income changes are noticeably different with the richest deciles experiencing a decrease of more than twice that of the poorest deciles.

The largest income effects are as expected due to the various changes to the Social Insurance Contributions - approximately -16% from changes to the employee SIC and -1.2% from changes to the self-employed SIC. These very large negative effects are somewhat offset by the lowering of the income tax rate which on average increased household income by around 6.7% and the annual indexation rate of public pension being higher than the consumer prices index increased incomes an additional 1.13%.

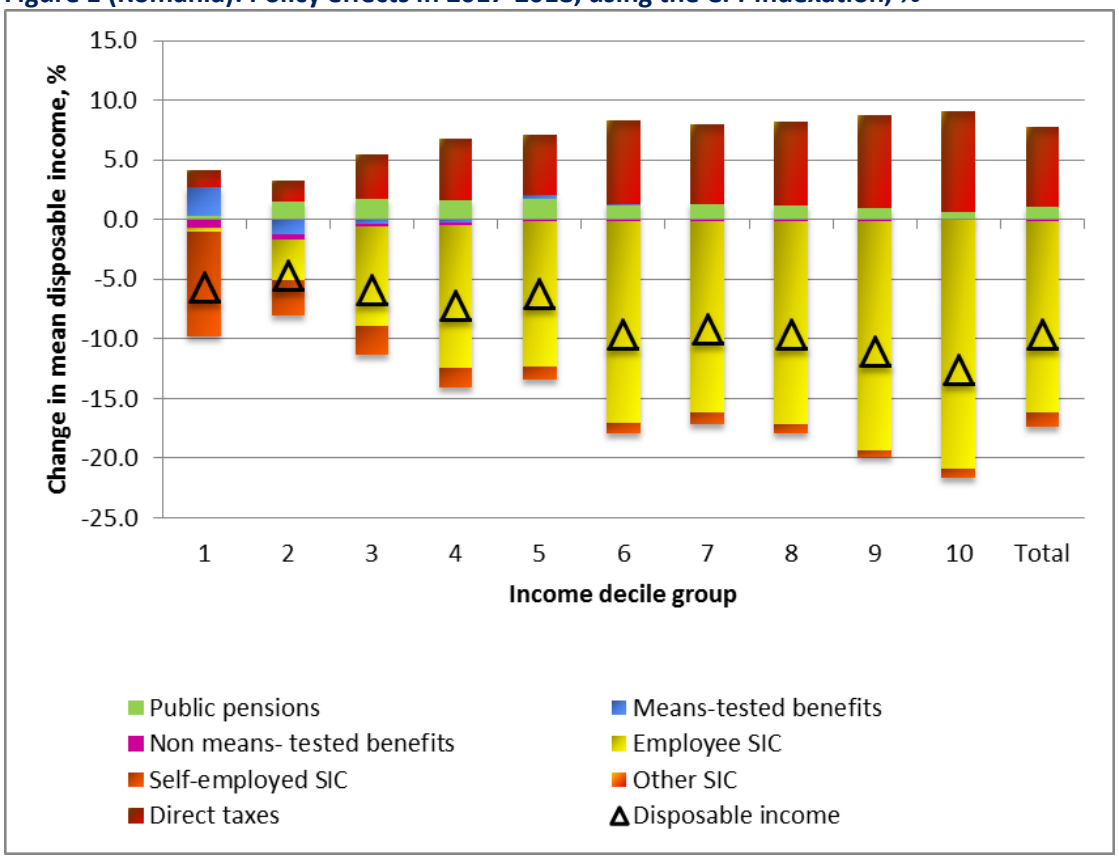
These relatively large changes in household disposable income are the result of major policy reforms in Romania. The biggest reforms carried out in 2018 were income tax being cut from 16% to 10% and moving the social insurance contribution tax burden from employers to the employees. It must be noted however that the real effect of especially the latter change is not clear-cut and will most likely differ from the effect provided by EUROMOD because EUROMOD does not yet have data on 2018 incomes which would show the actual behavioural response from the firms. In all likelihood the gross wages of employees will rise considerably softening the actual effect of these reforms on the household disposable income.

Table 1 (Romania): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.30	2.45	-0.67	-0.34	-8.81	0.00	1.37	**-5.71**
2	0.00	1.48	-1.24	-0.43	-3.44	-2.92	0.00	1.82	**-4.72**
3	0.00	1.69	-0.38	-0.22	-8.29	-2.47	0.00	3.79	**-5.88**
4	0.00	1.62	-0.26	-0.17	-11.99	-1.62	0.00	5.21	**-7.21**
5	0.00	1.75	0.30	-0.14	-12.23	-1.08	0.00	5.11	**-6.28**
6	0.00	1.17	0.16	-0.11	-16.97	-0.87	0.00	6.95	**-9.67**
7	0.00	1.30	0.02	-0.11	-16.09	-0.97	0.00	6.70	**-9.16**
8	0.00	1.21	-0.06	-0.09	-16.96	-0.79	0.00	7.00	**-9.69**
9	0.00	1.01	-0.01	-0.06	-19.31	-0.48	0.00	7.76	**-11.09**
10	0.00	0.61	-0.01	-0.05	-20.83	-0.81	0.00	8.44	**-12.66**
Total	**0.00**	**1.13**	**0.00**	**-0.12**	**-16.09**	**-1.21**	**0.00**	**6.66**	**-9.65**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Romania): Policy effects in 2017-2018, using the CPI-indexation, %



Slovenia

Table 1 and Figure 1 show the effects of policy changes in 2017-2018 on mean equivalised household disposable income by income component and income decile group. Disposable income for the total population increases by 0.81%, however the effects of tax/benefits changes are quite heterogeneous along the distribution of disposable income. In fact, the poorest decile experiences an extremely high increase in disposable income (greater than 20%), while the second decile experiences 5.7% growth in disposable income. The third income decile experiences a mild increase in disposable income (0.34%), while all other income groups experience a mild decrease in disposable income, between 0.02% and 0.83%, with the richest deciles characterised by lower decreases.

Almost all deciles experienced an increase in disposable income due to means-tested benefits, although the effect differs across the income distribution. The overall effect of means-tested benefits (1.35% increase in disposable income for the total population) can be explained by two reasons. First, minimum income, which is the base for social assistance and income support, has been heavily increased in 2018. The number of new recipients of these benefits and the amount received by the existing recipients have largely increased which caused the increase in disposable income in the first two or three deciles. The highest income deciles have experienced the growth of disposable income due to means-tested benefits as well. This can be explained by re-entitlement to the child benefit for seventh and eighth income bracket. The changes in means-tested benefits were less favourable for the middle income deciles, which were not reached by any of described changes.

Direct taxes, mainly personal income taxes, represent the factors driving the highest decrease in disposable income between 2017 and 2018, with a loss of 0.53% for the total population, with different experience by deciles. The middle-income deciles experienced the highest decrease in disposable income due to direct taxes. This resulted from the changed general allowance for PIT for the second personal income bracket which decreased. All other deciles experienced a slight decrease in disposable income due to direct taxes which was driven by non-uprated income thresholds for tax brackets despite increasing wages.

Public pensions represent another factor driving the increase in disposable income for all deciles between 2017 and 2018, with an annual growth of 0.05% for the total population, with very slightly higher growth experienced by the poorest deciles. These results can be explained mostly by indexation, which made public pensions increase in real terms, especially for the lowest deciles, where the share of pensions in disposable income is larger.

Non means-tested benefits had a small negative impact (a 0.06% decrease) on disposable income across all income deciles. Such an effect was plausibly caused by the indexation of imputed benefits which are not simulated in EUROMOD.

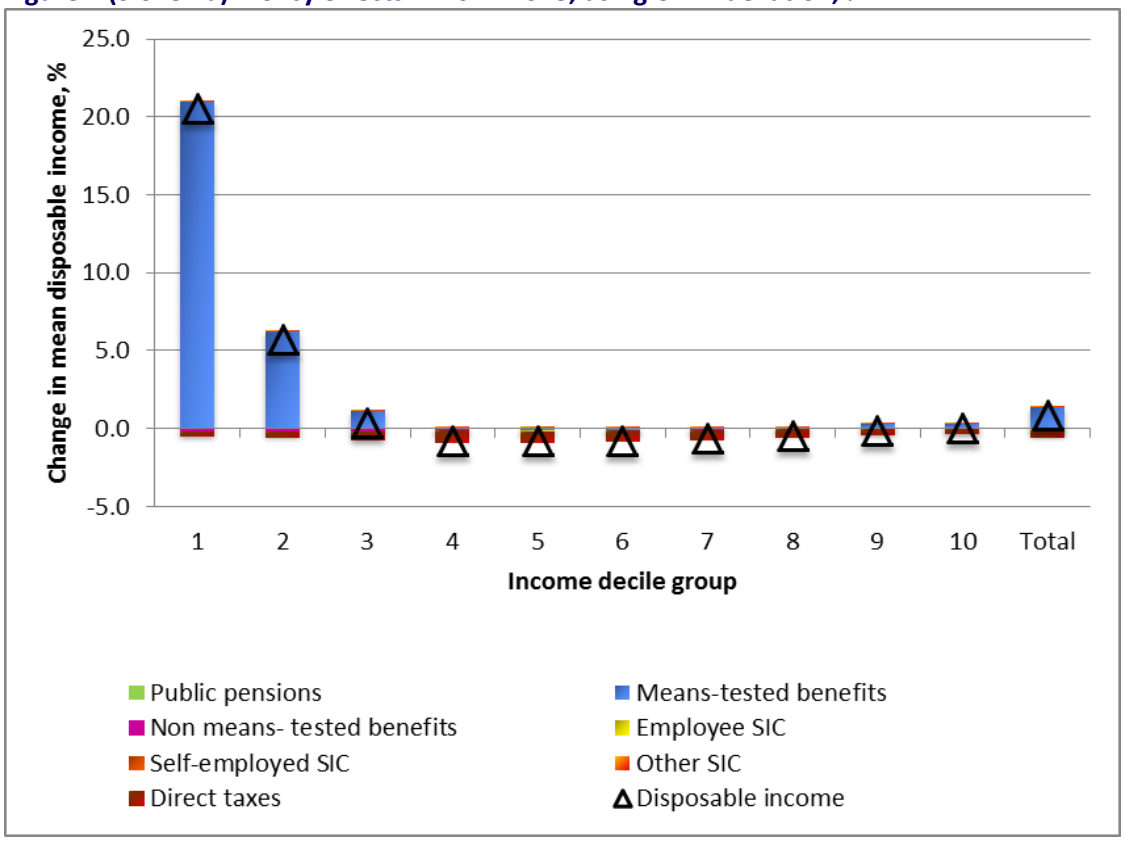
Finally, the effect of employee's social insurance contributions on disposable income growth is almost negligible, across all income deciles. The overall effect is driven by indexation and not by policy changes, as wage increases were higher than CPI.

Table 1 (Slovenia): Policy effects in 2017-2018, using CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.08	20.93	-0.20	-0.01	0.00	0.04	-0.28	**20.55**
2	0.00	0.08	6.18	-0.16	-0.01	0.00	0.03	-0.42	**5.70**
3	0.00	0.08	1.01	-0.16	-0.01	0.00	0.04	-0.62	**0.34**
4	0.00	0.06	0.00	-0.07	-0.02	0.00	0.03	-0.83	**-0.83**
5	0.00	0.07	-0.08	-0.05	-0.02	0.00	0.03	-0.78	**-0.83**
6	0.00	0.05	-0.07	-0.04	-0.02	0.00	0.02	-0.76	**-0.81**
7	0.00	0.05	-0.05	-0.05	-0.01	0.00	0.02	-0.63	**-0.66**
8	0.00	0.05	0.05	-0.03	-0.02	0.00	0.02	-0.53	**-0.45**
9	0.00	0.04	0.28	-0.02	-0.01	0.00	0.02	-0.43	**-0.12**
10	0.00	0.04	0.25	-0.02	-0.01	0.00	0.01	-0.30	**-0.02**
Total	**0.00**	**0.05**	**1.35**	**-0.06**	**-0.01**	**0.00**	**0.02**	**-0.54**	**0.82**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Slovenia): Policy effects in 2017-2018, using CPI-indexation, %



Slovak Republic

In comparison to 2017 policies, (deflated) 2018 policies decreased mean household disposable income by approximately 0.03% in total. The change in household disposable income by deciles shows a regressive pattern, i.e., lower income groups lose more in relative terms. Households located in the first income decile experienced the highest decrease in disposable income across the income distribution (-1.06%). The total reduction of mean household disposable income was mainly due to the decrease of means-tested and non means-tested benefits along with an increase in taxes and social insurance contributions.

Changes in means-tested and non means-tested benefits accounted for a decrease in household disposable income of 0.02% and 0.04% respectively. The effect is most likely driven by a lower indexation of these benefits in comparison to the higher growth of CPI, as no major changes in benefits took place between 2017 and 2018. The largest decrease in disposable income observed in the first decile reflects that the fact that recipients of means-tested benefits are allocated at the bottom end of the income distribution. Changes in public pensions partly offset the decrease in disposable income and the effect is due to pensions' indexation being higher than the increase in prices. The distribution of gains across income deciles reflects where recipients of public pensions are located.

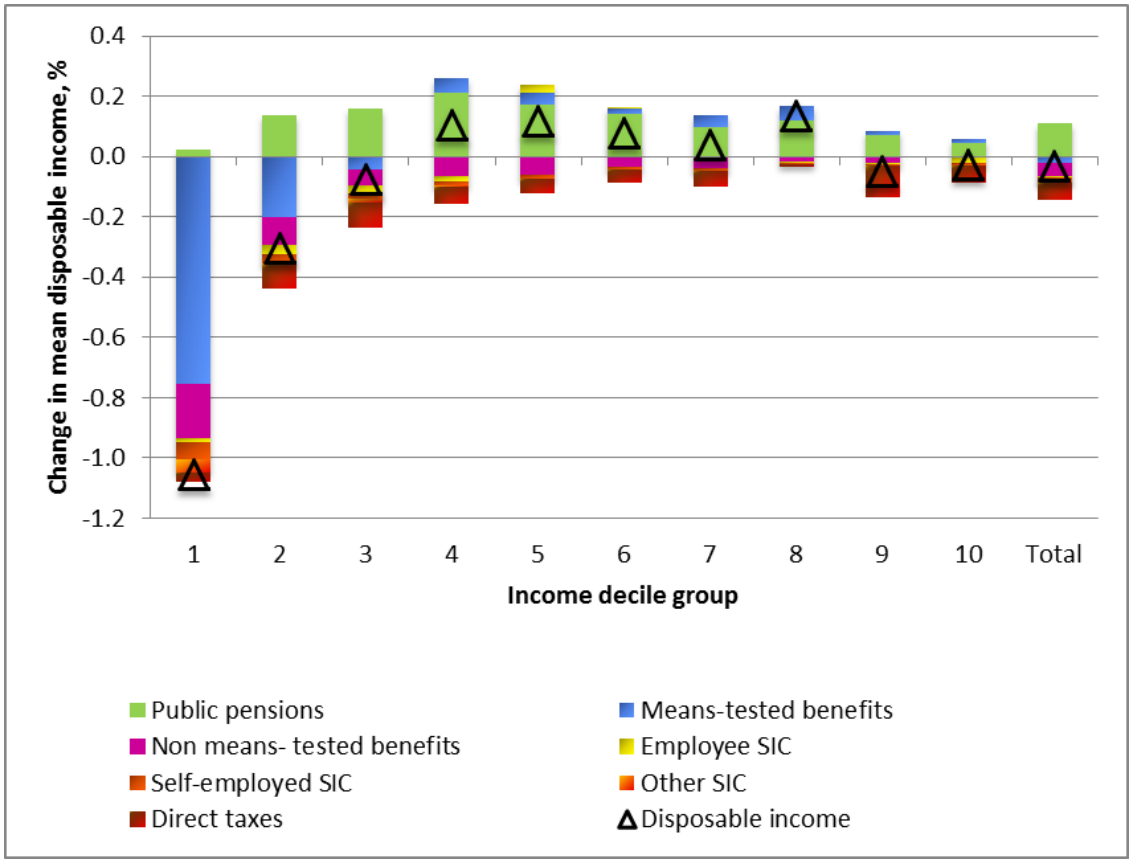
Changes in direct taxes and self-employed social insurance contributions had a negative effect on household disposable income. For the latter, this is likely due to the increase in the upper ceiling for the SIC assessment base. For the former, although in 2018 a new tax credit on mortgage interest was introduced, the impact in real terms was negative, offsetting the expected decrease in tax liabilities. The negative effect is driven by the low indexation of the basic tax allowance. The introduction of the new tax credit on mortgage interest mitigated the negative effect of direct taxes, without this tax credit, changes in direct taxes would have decreased household disposable income by 0.12% (instead of 0.06%).

Table 1 (Slovak Republic): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.02	-0.75	-0.18	-0.01	-0.06	-0.05	-0.03	**-1.06**
2	0.00	0.14	-0.20	-0.09	-0.03	-0.03	0.00	-0.08	**-0.30**
3	0.00	0.16	-0.04	-0.05	-0.03	-0.02	-0.01	-0.08	**-0.08**
4	0.00	0.21	0.05	-0.06	-0.02	-0.02	0.00	-0.06	**0.10**
5	0.00	0.17	0.04	-0.06	0.03	-0.01	0.00	-0.05	**0.12**
6	0.00	0.14	0.02	-0.04	0.00	-0.01	0.00	-0.04	**0.08**
7	0.00	0.10	0.04	-0.04	0.00	-0.01	0.00	-0.05	**0.04**
8	0.00	0.12	0.05	-0.02	-0.01	0.00	0.00	-0.01	**0.14**
9	0.00	0.07	0.01	-0.02	0.00	-0.01	0.00	-0.10	**-0.05**
10	0.00	0.04	0.01	0.00	-0.02	-0.01	0.00	-0.06	**-0.03**
Total	**0.00**	**0.11**	**-0.02**	**-0.04**	**-0.01**	**-0.01**	**0.00**	**-0.06**	**-0.03**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Slovak Republic): Policy effects in 2017-2018, using the CPI-indexation, %



Finland

In 2018, policy changes acted to decrease disposable income in all the income deciles, and the mean disposable income shows a decrease of 0.59%. The strongest negative effect is experienced by the lower part of the distribution. The mean equivalised household disposable incomes in the first five deciles are estimated to have decreased by around 1-1.5%. The changes in means-tested benefits were the main drivers of this decrease, and were caused mainly by the abolition in 2018 of the Student housing supplement.

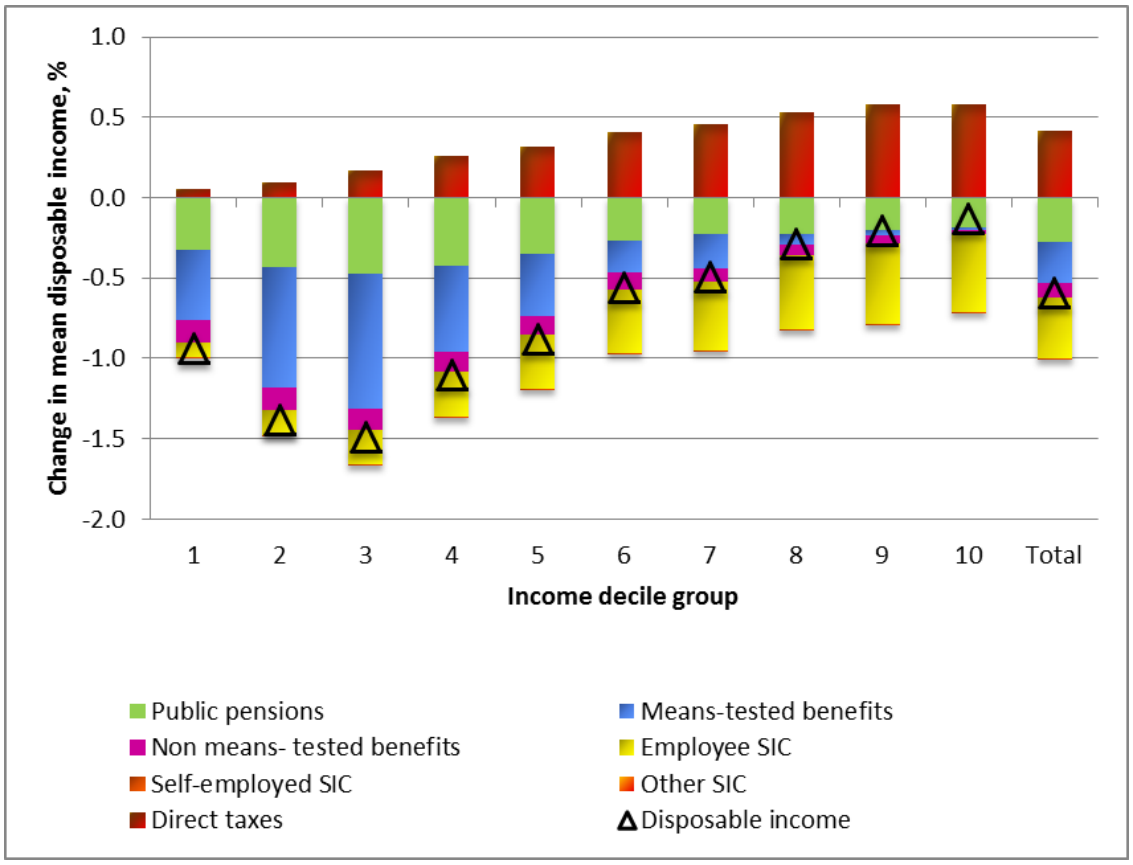
A negative effect was also due to public pensions, as the pension indexation was lower than the HICP expected growth between 2017 and 2018. This negative effect was compensated by a reduction in direct taxation, felt most strongly by the top part of the distribution.

Table 1 (Finland): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	-0.32	-0.44	-0.14	-0.09	0.00	0.00	0.05	**-0.94**
2	0.00	-0.43	-0.75	-0.14	-0.16	0.00	0.00	0.10	**-1.39**
3	0.00	-0.48	-0.84	-0.13	-0.21	0.00	0.00	0.17	**-1.49**
4	0.00	-0.43	-0.53	-0.12	-0.28	0.00	0.00	0.26	**-1.10**
5	0.00	-0.35	-0.38	-0.12	-0.34	-0.01	0.00	0.31	**-0.89**
6	0.00	-0.26	-0.20	-0.11	-0.40	0.00	0.00	0.41	**-0.56**
7	0.00	-0.23	-0.21	-0.08	-0.43	0.00	0.00	0.46	**-0.49**
8	0.00	-0.23	-0.06	-0.07	-0.46	0.00	0.00	0.53	**-0.29**
9	0.00	-0.20	-0.04	-0.05	-0.50	0.00	0.00	0.58	**-0.21**
10	0.00	-0.18	-0.01	-0.03	-0.49	0.00	0.00	0.58	**-0.13**
Total	**0.00**	**-0.28**	**-0.25**	**-0.08**	**-0.39**	**0.00**	**0.00**	**0.42**	-0.59

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Finland): Policy effects in 2017-2018, using the CPI-indexation, %



Sweden

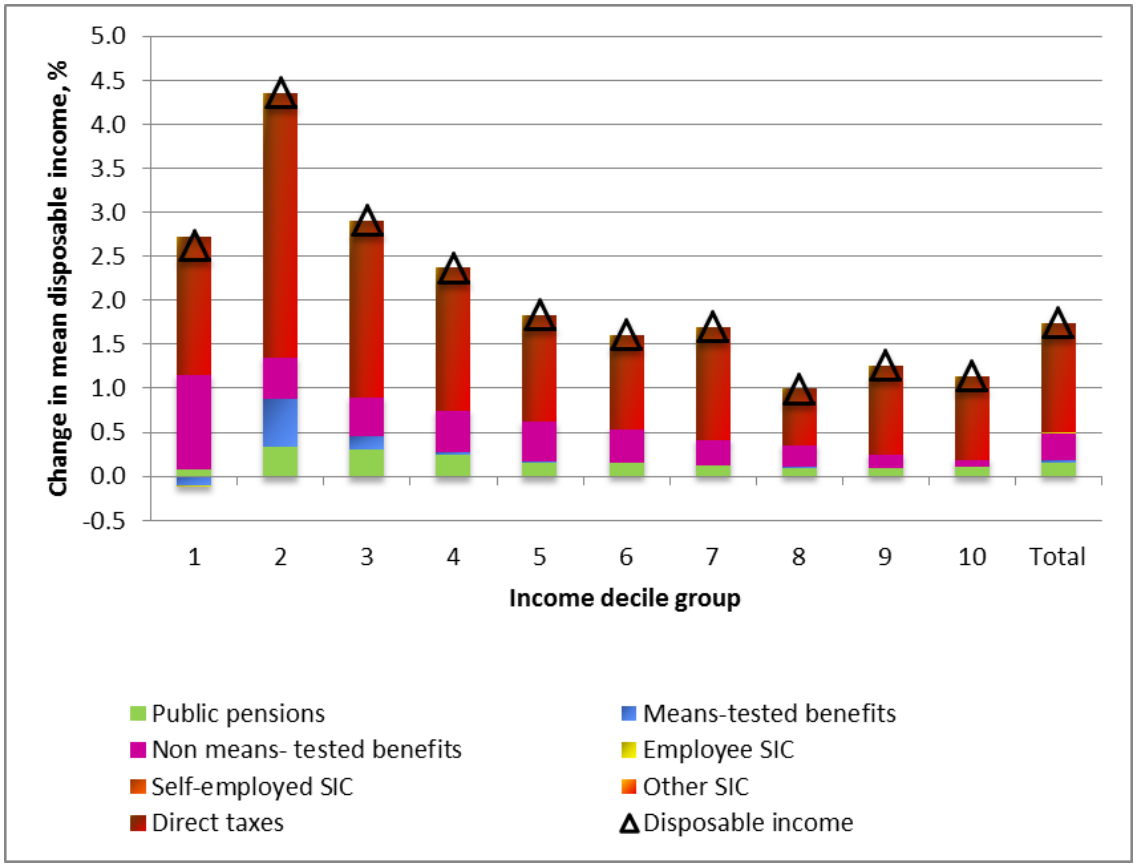
In comparison to 2017 policies, (deflated) 2018 policies increased mean household income by 1.74% in total. This total increase was very progressive. Changes in direct taxes accounted for most of the increase in household disposable income (1.25%), which is likely due to increases in government income tax bands, the introduction of a disability tax credit, small decreases in municipal and funeral tax rates (counteracted by a small increase in the county council tax rate) and an increase in the additional allowance for pensioners. The total effect of these changes was very progressive, except in the first decile, which is probably related to a lower density of taxation in that part of the distribution. Changes in non means-tested benefits accounted for some of the increase in household disposable income as well (0.30%), which is due to the increase in the basic amount of child benefits from 1,050 to 1,250 euros per month. Changes in public pensions accounted for a small part of the increase in household disposable income (0.15%) reflecting that pension indexation was higher than growth in CPI. The distribution of gains across income deciles reflects where recipients of pensions are located. Lastly, means-tested benefits increased slightly mean household disposable income (0.04%). The effects are due to a decrease in the reductions from housing allowance for families with children, an increase in the upper limits of housing costs for housing allowance for pensioners and an increase of personal and common needs for social assistance. Larger effects are observed in some parts at the bottom of the distribution (the decrease in the first decile is probably related to social assistance for childless people growing less than CPI and no increase of their housing allowances). All other tax and benefit instruments had only a very minor distributional impact.

Table 1 (Sweden): Policy effects in 2017-2018, using the CPI-indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.08	-0.10	1.07	0.00	0.00	0.00	1.57	**2.62**
2	0.00	0.33	0.54	0.47	0.00	0.00	0.00	3.01	**4.35**
3	0.00	0.31	0.14	0.44	0.00	0.00	0.00	2.01	**2.91**
4	0.00	0.25	0.02	0.47	0.00	0.00	0.00	1.63	**2.37**
5	0.00	0.16	0.01	0.45	0.00	0.00	0.00	1.21	**1.83**
6	0.00	0.15	0.00	0.38	0.00	0.00	0.00	1.07	**1.61**
7	0.00	0.12	0.01	0.29	0.00	0.00	0.00	1.28	**1.70**
8	0.00	0.10	0.01	0.25	0.00	0.00	0.00	0.64	**1.00**
9	0.00	0.09	0.00	0.15	0.00	0.00	0.00	1.01	**1.26**
10	0.00	0.11	0.00	0.08	0.00	0.00	0.00	0.95	**1.14**
Total	**0.00**	**0.15**	**0.04**	**0.30**	**0.00**	**0.00**	**0.00**	**1.25**	**1.74**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (Sweden): Policy effects in 2017-2018, using the CPI-indexation, %



United Kingdom

The total effect of (deflated) 2018 policies on mean household income is -0.24 per cent. This is mainly the result of lower (in real terms) means-tested benefits (-0.22 per cent) and slightly higher direct taxes (-0.08 per cent) only partly compensated by higher public pensions and lower social insurance contributions.

The distributional pattern of policy effects between 2017 and 2018 is regressive: with the second decile group losing around 1.04 per cent of income and the top three deciles losing between 0.01 and 0.08 per cent of income on average. Hence, although all decile groups lose on average, people from the sixth to the tenth decile lose relatively less than those from the first to the fifth. The bottom part of the income distribution loses from frozen (in nominal value) means-tested and non means-tested benefits. On the other hand, state pensions rose slightly more than inflation thanks to the triple-lock indexation, meaning that there are small but positive real changes to Public Pension across the income distribution.

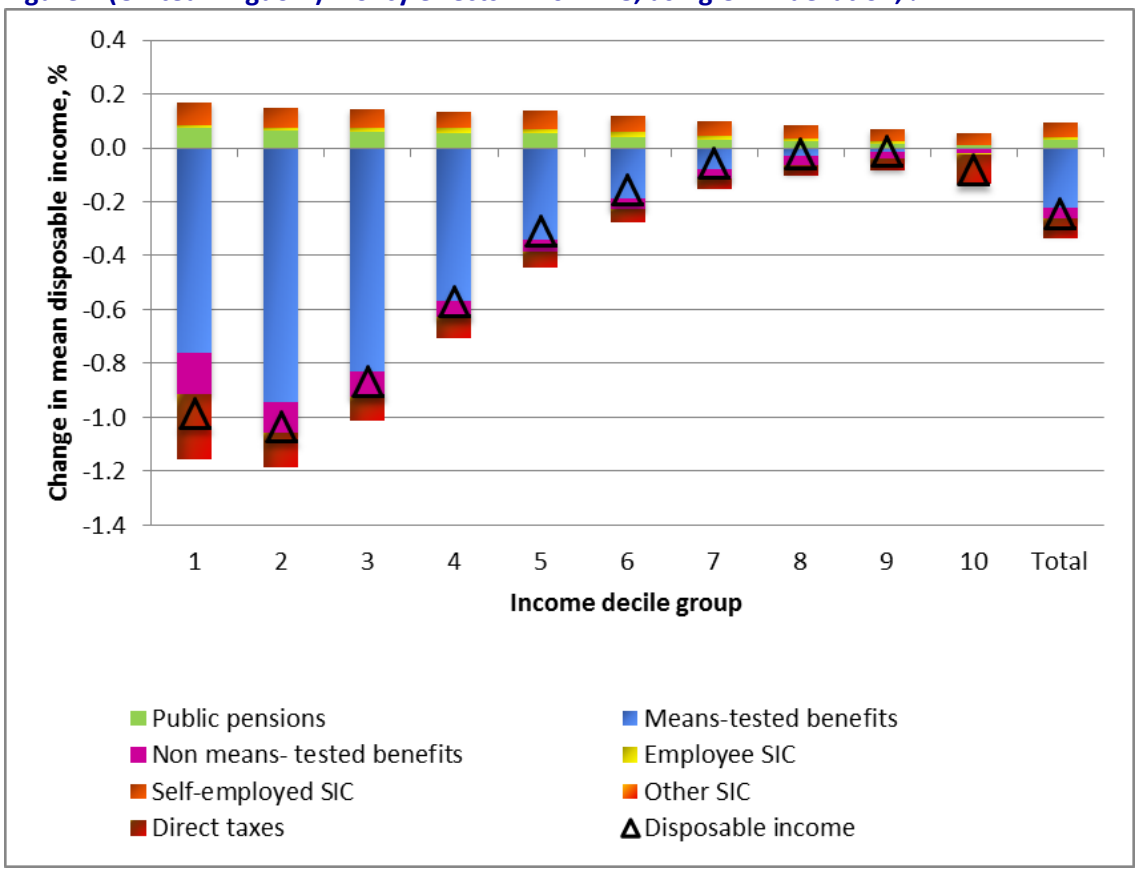
Direct taxes are shown to have had a negative impact on household disposable income between 2017 and 2018. This is mainly driven by Council Tax increasing faster than inflation across the whole UK. The combination of other changes to Personal Income Tax Allowance (which increased faster than inflation), uprating of income tax band limits and the new income schedule introduced in Scotland - with a combination of five income tax rates (19%, 20%, 21%, 41%, 46%) instead of the usual three adopted in the rest of the UK (20%, 40% and 45%) - had an average positive effect on disposable household income (though not enough to counter the wider negative effects).

Table 1 (United Kingdom): Policy effects in 2017-18, using CPI indexation, %

Decile	Original income	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Other SIC	Direct taxes	Disposable income
1	0.00	0.08	-0.76	-0.15	0.01	0.08	0.00	-0.24	**-0.98**
2	0.00	0.06	-0.94	-0.11	0.01	0.07	0.00	-0.13	**-1.04**
3	0.00	0.06	-0.83	-0.09	0.02	0.07	0.00	-0.09	**-0.87**
4	0.00	0.06	-0.57	-0.06	0.02	0.06	0.00	-0.08	**-0.57**
5	0.00	0.06	-0.34	-0.04	0.02	0.06	0.00	-0.06	**-0.31**
6	0.00	0.04	-0.19	-0.04	0.02	0.06	0.00	-0.05	**-0.16**
7	0.00	0.03	-0.08	-0.03	0.02	0.05	0.00	-0.04	**-0.06**
8	0.00	0.02	-0.03	-0.03	0.01	0.05	0.00	-0.04	**-0.02**
9	0.00	0.02	-0.01	-0.02	0.01	0.05	0.00	-0.05	**-0.01**
10	0.00	0.01	0.00	-0.01	-0.01	0.04	0.00	-0.11	**-0.08**
Total	**0.00**	**0.03**	**-0.22**	**-0.04**	**0.01**	**0.05**	**0.00**	**-0.08**	**-0.24**

Notes: shown as a percentage change in mean equivalised household disposable income by income component and income decile group. Income decile groups are based on equivalised household disposable income in 2017, using the modified OECD equivalence scale. Each policy system has been applied to the same input data, deflating monetary parameters of 2018 policies by Eurostat's Harmonized Index of Consumer Prices (HICP).
Key (shaded cells): 1.00 represents increase in income >= 1%; 3.00 represents increase >= 3%; 1.00 represents reduction in income >=1%; 3.00 represents reduction >=3%.

Figure 1 (United Kingdom): Policy effects in 2017-18, using CPI indexation, %



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