Analysis of policy reforms in the EU
2015-2016

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OECD TAX WEDGE AND EFFECTIVE TAX RATES ON LABOUR
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Table of contents

Preface........................................................................................................................................... 6
Acknowledgements........................................................................................................................ 7
1. Effects of policy reforms on benefit adequacy and work incentives..................................... 8
Annex A. Individual country fiches ............................................................................................. 15
A.1 Austria ...................................................................................................................................... 16
A.2 Belgium ................................................................................................................................... 19
A.3 Bulgaria ................................................................................................................................... 21
A.4 Croatia ...................................................................................................................................... 23
A.5 Czech Republic ...................................................................................................................... 25
A.6 Denmark .................................................................................................................................. 28
A.7 Estonia ...................................................................................................................................... 30
A.8 Finland ..................................................................................................................................... 33
A.9 France ...................................................................................................................................... 36
A.10 Germany ............................................................................................................................... 39
A.11 Greece .................................................................................................................................... 43
A.12 Hungary .................................................................................................................................. 45
A.13 Ireland .................................................................................................................................... 47
A.14 Italy ......................................................................................................................................... 49
A.15 Latvia ...................................................................................................................................... 51
A.16 Lithuania .................................................................................................................................. 53
A.17 Luxembourg ........................................................................................................................... 56
A.18 Malta ....................................................................................................................................... 59
A.19 The Netherlands .................................................................................................................... 62
A.20 Poland .................................................................................................................................... 64
A.21 Portugal ................................................................................................................................... 67
A.22 Romania .................................................................................................................................. 70
A.23 Slovak Republic ..................................................................................................................... 73
A.24 Slovenia .................................................................................................................................. 76
A.25 Spain .................................................................................................................................................. 78
A.26 Sweden ............................................................................................................................................... 79
A.27 United Kingdom .................................................................................................................................. 82
Annex B. Average wages and median disposable household income ......................................................... 84
Annex C. Methodology to calculate summary policy indices ...................................................................... 85
References .................................................................................................................................................. 88

Boxes

Box A.1. The tax reform in Austria ............................................................................................................. 16
Box A.2. The new tax credit in Estonia ...................................................................................................... 30
Box A.3. The reform of in-work benefits in France .................................................................................... 36
Box A.4. The reform of the housing allowance in Germany ...................................................................... 39
Box A.5. The reform of cash support for rented accommodations in Luxembourg ............................... 57
Box A.6. The reform of in-work benefits in Malta ...................................................................................... 60
Box A.7. The new “Family 500 Plus” programme in Poland .................................................................... 64

Box C.1. Aggregating policy indicators into summary indices .................................................................. 86
Preface

This report uses output of the OECD tax-benefit model (TaxBEN) to analyse the impact of tax-benefit policy reforms implemented between July 1st 2015 and July 1st 2016 in the EU Member States and in four other OECD economies.

The OECD tax-benefit model incorporates detailed policy rules for tax liabilities and benefit entitlements as they apply to working-age individuals and their dependent children. The model provides results for a broad set of stylised families across OECD and EU countries (sometimes referred to as “vignettes”, e.g. a married couple of 40 years old adults with two children aged 4 and 6 respectively). Many characteristics of these stylised families can be freely chosen to explore the functioning of policy mechanisms and their implications at the family level, as well as the consequences of policy reforms.

The model’s policy scope includes the main taxes on employment income (earnings), social security contributions paid by employees and employers, as well as the main cash and near-cash benefit programmes: unemployment insurance and unemployment assistance programmes, family benefits, guaranteed minimum-income benefits and social assistance programmes, cash housing benefits for rented accommodation and employment-conditional (“in-work”) benefits. Disability benefits and childcare support are included for a sub-set of countries and years. The most important policy areas that are outside the scope of the model include taxes on wealth or property, indirect taxes, (early-) retirement benefits, sickness benefits and in-kind transfers, e.g. free school meals, subsidised transport and free health care.

The main body of this report (Chapter 1) consists of a comparative account of principal tax-benefit reforms during 2015-2016 across countries. The impact of these reforms is assessed using a range of indicators of benefit adequacy and work incentives. The comparative analysis is complemented by individual country fiches (Annex A) which provide a concise overview of reforms and their implications for family incomes. Each country fiche contains three sections: the first two examine the policy levers that drive changes in the in-work and out-of-work incomes of selected family types. The third section shows the effect of changes in these income measures on a series of commonly used policy indicators. When policy changes have a “large” impact on family incomes, a box provides more in-depth information on the reform driving these results.

The data analysed in Chapter 1 are accessible online using the following link: Tax-benefit indicators 2015-2016. The results underlying the country fiches are organized in country-specific “policy evaluation scoreboards” which can be downloaded from within each of the fiches. Each scoreboard contains a separate “scorecard” for each family type. A methodology document, attached to this report, explains how to read and navigate the country scoreboards (OECD, 2017).
Acknowledgements

This document was produced with the financial assistance of the European Union Programme for Employment and Social Innovation “EaSI” (2014-2020).
1. Effects of policy reforms on benefit adequacy and work incentives

1. This chapter summarises key tax-benefit policy reforms and analyses the effect of these changes on selected indicators of benefit adequacy and work incentives. It considers reforms implemented between July 1st 2015 and July 1st 2016 in EU Member States, as well as in Iceland, Japan, Norway and the United States.

2. To ease the presentation and facilitate cross-country comparisons, indicators are first calculated for selected household types (“vignettes”), which are then aggregated into a summary index for each country. Indicators are calculated for three policy dimensions: 1) income adequacy for recipients of Guaranteed Minimum Income (GMI) benefits; 2) income adequacy for recipients of unemployment benefits; 3) financial incentives for GMI recipients to transition into employment. Table 1.1 provides definitions of the indicators and Annex C provides a detailed description of the aggregation procedure for deriving summary indices. The data analysed in this chapter are accessible online in an Excel file showing levels as well as changes that occurred between 2015 and 2016 for each summary index as well as the underlying individual indicators (Tax-benefit indicators 2015-2016).

Table 1.1. Indicators for income adequacy and work incentives

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Family and individual circumstances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Measure</td>
</tr>
<tr>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Income adequacy / Benefit generosity</td>
<td>For recipients of GMI benefits</td>
</tr>
<tr>
<td></td>
<td>For recipients of unemployment benefits</td>
</tr>
</tbody>
</table>

1 These indices are weighted averages of the individual indicators, with weights calculated using a statistical method that seeks to distil “the essence” of the original data by preserving, and therefore explaining, most of the cross-country (co-)variation in the original indicators. See Annex C.

2 The income adequacy indicator used in this report for unemployment benefit recipients, i.e. the Net Replacement Rate (NRRs) defined in Table 1.1, is a measure that captures well also financial incentives to take up employment. For this reason, the report does not show a direct measure of financial work incentives to transition into employment for unemployment benefit recipients.

3 Focusing on summary indices rather than individual indicators makes the analysis more concise while taking into account heterogeneous policy impacts across different household and individual circumstances. However, a potential disadvantage of aggregation is that it does not reflect situations where changes for one household type are offset by opposite changes for another. Therefore, summary indices are only presented in this chapter for the purpose of the cross-country comparison whereas the country fiches analyse changes in the individual indicators.
Financial incentives for transitions into work (Participation Tax Rate) 

<table>
<thead>
<tr>
<th>For recipients of GMI benefits</th>
<th>Participation Tax Rate: [1 - \frac{\text{Net}Y_{\text{ow}} - \text{Net}Y_{\text{iw}}}{\text{Gross}}]</th>
<th>One-earner couples and singles, with and without children</th>
<th>housing benefits</th>
<th>P10, P30, P50, P70 of earnings (principal earner)</th>
<th>N.A.</th>
</tr>
</thead>
</table>

Notes: - The indicators are calculated for selected family types and individual circumstances as reported in columns (3) to (6) of the table and then aggregated into summary indices following the procedure described in Annex C.
- NetY_{ow}: net out-of-work household income; MedianY: median equivalised disposable income in the population; NetY_{iw}: the net in-work household income; Gross: gross earnings. P10, P20, …, P90 are the 10\(^{th}\), 20\(^{th}\), …, 90\(^{th}\) percentile points of the full-time earnings distribution.
- Adults are 40 years old and one is has “long” employment record (i.e. 22 years) when this is relevant for benefit eligibility and entitlement. In couple households, one partner is assumed to be economically inactive with no earnings. Calculations for families with children assume two children aged 4 and 6.
- Social assistance and cash housing supplements are assumed to be available subject to relevant income conditions (column 4). When receipt of such assistance is subject to activity tests, such as active job-search or being “available” for work, these requirements are assumed to be met. Cash housing benefits are calculated assuming private market rent, plus other charges, amounting to 20\% of the full-time wage for all family types.

1.1. Summary of policy changes during 2015-2016

3. Considering the relatively short timeframe covered in this report, it is perhaps not surprising that the direct effect of these reforms on family incomes is small in most countries. Moreover, observed changes in indicator values were sometimes not the result of structural reforms but a consequence of benefit erosion and fiscal drag (i.e., of incomplete adjustments of policy parameters to a changing economic environment). Nonetheless, a number of countries implemented sizeable reforms between 2015 and 2016:

- **Unemployment benefits:** Portugal introduced a new unemployment benefit for very long-term unemployed whereas Austria, Estonia, the Netherlands and Sweden increased unemployment benefit entitlements.\(^5\)

- **Guaranteed minimum income:** GMI benefits were substantially increased in Estonia, Poland and Slovenia. Croatia and Portugal modified the rules for calculating social assistance entitlements, increasing benefit generosity for second adults and children. GMI benefit amounts for children were also increased in Lithuania and Sweden.

- **Cash housing assistance:** Austria, Estonia and Ireland introduced more generous provisions for determining applicable housing costs for claimants of the housing allowance. Germany increased entitlement amounts and eligibility. Luxembourg introduced a new separate housing benefit whereas housing assistance was only available for social assistance recipients prior to 2016.

- **Family benefits:** Poland introduced the “Family 500 Plus” programme, substantially increasing benefit entitlements. Family benefits were also increased in Estonia.

4 Benefit erosion and fiscal drag effects appear when the monetary parameters of the tax-benefit system fail to keep pace with nominal earnings growth (see Annex B).

5 Despite the relevance of this reform in Portugal the indicators used to calculate the summary indices do not capture the effect of this reform on benefit adequacy as very long-term unemployed are not considered within the indices (see also Section 1.2).
both countries, these reforms increased entitlements also for GMI recipients. Germany increased the supplementary child allowance for poor families. Portugal increased the lone-parent supplement.

- **Social security contributions:** Belgium reduced social security contributions for low earners whereas the Netherlands increased the Health Care Benefit which reduces employees’ health insurance contributions. On the opposite, Finland and Greece increased employee social security contributions. Belgium, Italy and Luxembourg reduced the employer social contribution rates, whereas Denmark, Finland, Greece and the Netherlands increased them. Estonia increased significantly the income threshold at which employees start paying social security contributions, while Austria, the Czech Republic, the Slovak Republic and Romania increased the ceilings at which employers stop paying contributions.6

- **Personal income tax:** A major tax reform was introduced in Austria, generally reducing tax liabilities across the earnings distribution. Bulgaria, Estonia, Hungary, Latvia, Lithuania, the Netherlands and Portugal all implemented reforms to the system of tax credits and tax allowances. Various changes to the tax schedule led to generally decreasing (increasing) tax liabilities relative to the average wage in Belgium, Italy and Romania (Finland, Greece and Sweden). Iceland, Norway and the United States implemented also changes to their tax schemes, which however had only marginal impacts on tax liabilities.

- **Employment-conditional ("in-work") benefits:** France introduced a new in-work benefit entitled “prime d’activité”, which replaced the former “prime pour l’emploi” and an activity-related component of social assistance (RSA). Finland increased the Earned Income Tax Credit (EITC) substantially and Malta extended the in-work benefit introduced in 2015 to single-earner couples. The Netherlands significantly increased the Income Dependent Combination Credit.

### 1.2. Income adequacy for recipients of GMI and unemployment benefits

4. This section analyses the impact of policy reforms on the adequacy of benefit support for recipients of unemployment benefit and guaranteed minimum income benefits. The policy indicator used as a metric for the adequacy of GMI policies is the (equivalised) household income of jobless families receiving GMI benefits, as a percentage of the median (equivalised) household income in the entire population. This indicator can therefore be used to measure the distance of GMI recipients’ income from a poverty line defined as a fixed percentage of median disposable income.7 For recipients of unemployment benefits, the policy indicator used as a metric for benefit adequacy is the commonly used net replacement rate, i.e., net household income of families entitled to unemployment benefits as a percentage of net household income of the same family prior

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6 In the Czech Republic, the Slovak Republic and Romania, however, these changes were not captured by the indicators that enter the calculation of the summary indices as they only concerned earnings levels above those considered for the calculation of these indicators.

7 For instance, a value below 60 implies that the net incomes of benefit recipients are below 60% of the median equivalised disposable income, which is the poverty line used by Eurostat to calculate the at-risk-of-poverty rate in EU countries. The equivalence scale used in the calculations is the square root of the household size.
to job loss. The net replacement rate measures the proportion of net income that is maintained at different points in the unemployment spell.

5. **Figure 1.1** shows levels (black markers) and percentage point changes (blue bars) in the index of income adequacy for GMI benefit recipients (see Table 1.1 and Annex C for details). Between 2015 and 2016, GMI benefits rose at least as quickly as median household income in most EU Member States. The (slight) increase in the average adequacy index for the EU as a whole is mainly driven by more generous benefit entitlements in Estonia, Poland and Portugal, either because of higher GMI benefits or because of more generous family benefits, which are also available to GMI recipients.

6. A notable case is Poland, where the introduction of the “Family 500 Plus” programme moved the index from the bottom half of the country ranking in 2015 to the top-ten in 2016 (black markers in Figure 1.1). In Croatia and Slovenia the positive change in the index was the result of higher social-assistance amounts whereas in Ireland’s was due to reformed housing-benefits entitlements. In Japan, a reduced child and housing supplements for social-assistance claimants slightly reduced the adequacy measure, while in Norway the small negative change is largely the result of incomplete indexation of housing benefit amounts and income thresholds to market incomes, which led benefit amounts to fall back relative to rising median incomes (see Annex B).

**Figure 1.1. Impact of policy reforms on incomes of GMI benefit recipients, 2015-2016**

Incomes of GMI benefit recipients as a percentage of median disposable household income

<table>
<thead>
<tr>
<th>Country</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>60</td>
<td>65</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>Ireland</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>Germany</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>Austria</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>Belgium</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td>Italy</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Slovenia</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>France</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>Spain</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Portugal</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>EU average</td>
<td>20</td>
<td>25</td>
</tr>
</tbody>
</table>

Note: See Table 1.1 and Annex C for definitions. Median disposable household incomes are calculated adjusting for household size, using the square-root of household size as equivalence scale.

Source: Secretariat calculations using the OECD tax-benefit model and the OECD Income Distribution Database (IDD).

7. In line with Figure 1.1, **Figure 1.2** shows levels (black markers) and percentage point changes (blue bars) in the income-adequacy index for unemployment benefit recipients (see Table 1.1 and Annex C). This index considers the average benefit entitlements received over a two-year unemployment spell by a jobseeker of 40 years old.

---

8 The child supplement of social assistance in Japan increased for children under 3 whereas for children of age 4 and 6, which is what is considered in the index, it decreased.
with “long” and uninterrupted employment and contribution records, henceforth referred to as the average Net Replacement Rate (NRR).

8. On average, out-of-work support for unemployment benefit recipients did not increase as quickly as market incomes in the EU over the period 2015-2016 (Figure 1.2). NRRs therefore fell in many EU Member States, particularly in those with large average-wage increases, notably Bulgaria, Lithuania, Romania and Iceland (see Annex B). In Austria, higher unemployment benefit amounts were offset by lower entitlements to other benefits, including social assistance and housing supplements. In Finland, NRRs were negatively affected by reductions in the amount of social assistance and family benefits relative to the average wage growth. In the Netherlands, higher unemployment benefit amounts were partly taxed away whereas other benefit supplements did not increase as quickly as average wages.

9. Only few countries implemented substantial reforms to the unemployment benefit system between 2015 and 2016. Sweden increased the maximum unemployment benefit amount whereas Estonia increased both the minimum “basic” amount of the unemployment assistance programme and the amounts of the social assistance and housing benefit supplements. Results for Poland are driven by the reform of family benefits as unemployment benefit amounts were frozen in nominal terms between 2015 and 2016. The effect of the new unemployment benefit for the very long term unemployed introduced in Portugal in 2016 is not captured by the index in Figure 1.2 as only individuals who have already exhausted any regular unemployment benefit entitlement (up to 36 months) for at least one year are eligible to this new benefit (cp. Table 1.1); the moderate increase in the index for Portugal is instead induced by the higher social assistance rates for second adults and dependent children.

Figure 1.2. Impact of policy reforms on Net Replacement Rates, 2015-2016

Levels (black markers) and changes (blue bars)

Note: See Table 1.1 and Annex C for definitions.
Source: Secretariat calculations using the OECD tax-benefit model.

9 However, the positive change in the index for Estonia shown in Figure 1.2 is entirely due to the higher amounts of the social assistance and housing benefit supplements as the earnings levels considered for the calculation of the index are too high to capture the positive change in the basic amount of the unemployment assistance programme.
1.3. Work incentives for recipients of GMI benefits

10. This section analyses the impact of policy changes between 2015 and 2016 on financial incentives for recipients of GMI benefits to move into paid work. As the measure assesses transitions into work, it is referred to as the Participation Tax Rate (PTR). Chapters 2 to 28 additionally consider PTRs for recipients of unemployment benefits and second earners, as well as Marginal Effective Tax Rates (METRs), which reflect the incentive to increase earnings for those who are already at work. METRs and PTRs measure the percentage of the additional earnings that is lost due to higher tax liabilities or lower benefit entitlements.

11. Figure 1.3 shows levels (black markers) and percentage point changes (blue bars) in the PTR index for GMI recipients (see Table 1.1 and Annex C). Higher work incentives, i.e. lower PTRs, were often the result of tax reforms that reduced tax liabilities for those who are in work. For instance, Lithuania increased the basic tax allowance and the Netherlands increased the Income Dependent Combination Credit. Bulgaria introduced a new child tax relief whereas Hungary and Lithuania increased existing child tax credits. Hungary and the Netherlands (partly) reduced tax rates in addition, as did Italy through lower regional surtaxes. Austria introduced a major tax reform that reduced tax burdens across the earnings distribution and especially at low earnings levels.

12. Benefit erosion of social assistance benefits was an additional driver for decreasing PTRs especially in Bulgaria, Hungary, Lithuania, Finland and Iceland. In contrast, in Germany the increase in the housing allowance strengthened the incentives for transitions into work as GMI benefit recipients who are out of work are eligible only to the basic housing supplements of the social assistance programme whereas they become eligible to more generous housing allowance when they move into paid work.

![Figure 1.3. Impact of policy reforms on PTRs of GMI benefit recipients, 2013-2015](image)

Levels (black markers) and changes (blue bars)

Note: See Table 1.1 and Annex C for definitions.
Source: Secretariat calculations using the OECD tax-benefit model.

The Income Dependent Combination Credit is classified as an in-work benefit in Chapter 20.
13. Policy changes increased PTRs in *Croatia, Estonia, Greece, Poland* and *Portugal*. In *Croatia* and *Estonia*, increases in social assistance and housing benefit amounts weakened work incentives as now recipients lose higher benefit amounts when they move into work. Similarly, in *Poland* and *Portugal*, increases in PTRs are driven by the more generous social assistance and family benefits for those who are out of work. In *Greece*, the higher PTRs are due to higher income taxes and social security contributions for those who are in work.
Annex A. Individual country fiches

This annex contains individual country fiches for the EU Member States covered in this report (Sections A.1 – A.27). Each country fiche contains three sections: the first two sections examine the policy levers that drive changes in the in-work and out-of-work incomes of selected family types. The third section shows the effect of changes in these income measures on a series of commonly used policy indicators. When policy changes have a “large” impact on family incomes, a box provides more in-depth information on the reform driving these results.

Results underlying the country fiches are organized in country-specific “policy evaluation scoreboards” which can be downloaded from within each of the fiches. Each scoreboard contains a separate “scorecard” for each family type. A methodology document, attached to this report, further explains how to read and navigate the policy evaluation scoreboards (OECD, 2017).

11 Results for the non-EU countries are illustrated in the main body of the report and in the country scoreboards that are available online: Iceland, Japan, Norway, United States. Data for one EU Member State that is not an OECD country (Cyprus) are missing as updated information on the policy changes implemented during the period covered in this report was not made available to the OECD.
A.1 Austria

1. Please click on this link to open the policy evaluation scoreboard for Austria.

Changes in in-work incomes

2. Austria introduced a series of changes to the income tax schedule in 2016 that increased net incomes across the earnings distribution (see Box A.1 for a description of the tax reform). Although the income gains generated by the lower tax liabilities were evenly distributed across earnings percentiles (Figure A.1.1, blue bars) low-earning families with more than two dependents did not benefit from reduced tax liabilities as their higher after-tax income triggered lower means-tested benefits (e.g. the housing benefits, light-grey bars in Figure A.1.1). The increase in the social security contributions ceiling generated losses for top income earners (dark-grey bars) which were however more than compensated by the incomes gains obtained from the tax reform.

Figure A.1.1. Percent change in net income components across the earnings distribution

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Box A.1. The tax reform in Austria

A wide-ranging tax reform entered into force in Austria on 1 January 2016. The number of brackets was increased from four to seven resulting in a more gradual increase in marginal tax rates and a lower tax burden. The reform integrated the standard employees’ tax credit (Arbeitnehmerabsetzbetrag) into the traffic tax credit

12 This effect partially disappears for low-earnings lone parents because the net income of this family is already above the eligibility threshold for the housing benefits. In this case the tax reform generates income gains also at the bottom of the earnings distribution.
(Verkehrsabsetzbetrag, a lump-sum compensation for commuting expenses that is provided to all employees irrespective of their actual expenses), which increased from EUR 291/year to EUR 400/year. The reform increased also the reimbursement of social security contributions (Negativsteuer) for employees with a negative tax liability up to EUR 400/year. The child tax allowance (Kinderfreibetrag) was also increased as part of the reform (from EUR 132 to EUR 300 per child per parent). Finally, the maximum contribution base for social insurance contributions increased of EUR 90 on the top of the statutory annual adjustment.

Figure A.1.2. The income tax schedule in Austria

Overall tax liabilities before and after the Income Tax (IT) reform

Note: For a couple with two children aged 4 and 6. One spouse is economically inactive.

Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work incomes

3. Entitlements to social assistance were frozen in nominal terms (Panel B of the scoreboard) whereas unemployment insurance parameters increased more than the average wage (Figure A.9 of the scoreboard). However, recipients of unemployment benefits were not better off in 2016 as the increase in unemployment benefit amounts was offset by the withdrawal of social assistance and housing supplements (Panel D of the scoreboard). As incomes of those out of work remained essentially unchanged and in-work incomes increased due to the tax reform, Net Replacement Rates (NRRs) decreased slightly for most family types considered in the scoreboard (Figure A.1.3).

Figure A.1.3. Net replacement rate across the unemployment spell

Note: For a couple with two children aged 4 and 6. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings are equal to the 50th percentile of full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
Changes in selected indicators

4. Policy changes strengthened financial work incentives, with PTRs falling for most family types and earnings levels. Again, the interactions between benefit entitlements and income tax liabilities modified the otherwise proportional effect of the tax reform on work incentives (Figure A.1.4). For instance, the 9ppt reduction in the METR for those with median earnings who increase working hours from 67% to 100% of full-time work (Figure A.1.4, Panel B) are due to a reduction in housing-benefit entitlement that occurred at lower earnings levels as a result of the tax reform. Housing-benefit withdrawals play less of a role for some of the transitions considered in Figure A.1.4, Panel B and METRs declined as a result.

Figure A.1.4. Changes in work incentives

Contributions of taxes and benefits

Panel A: Participation tax rates

Panel B: Marginal effective tax rates

Note: For a couple with two children aged 6 and 4. The adult is aged 40. One spouse is economically inactive. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

5. One of the aims of the tax reform in Austria was to reduce the average and marginal tax rates on labour income. In line with the results above, Figure A.1.5 shows that the reform reduces the effective tax rate on labour at low earnings levels for employees who do not claim housing benefits.

Figure A.1.5. Changes in effective tax rates on labour by earnings level

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P50 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
A.2 Belgium

1. Please click on this link to open the policy evaluation scoreboard for Belgium.

Changes in in-work-incomes

2. Policy changes slightly increased net incomes for working families between 2015 and 2016. Although tax rates were unchanged, tax bands were uprated and the income tax exemption amounts increased by 0.5%. The number of income bands for the allowance regarding work-related expenses was reduced from 4 to 3. These changes together reduced income tax liabilities relative to the average wage across all earnings deciles.  

Figure A.2.1. Percent change in net income components across the earnings distribution

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

3. The family benefit supplement for lone-parents was also increased in 2016. This benefit is means-tested and is only available to families with earnings below the 10th percentile point of the full-time earnings distribution shown in Figure A.2.1. The rates for the social security contribution reductions were also increased at these very-low earnings levels and this explains why the impact of this change is not displayed in Figure A.2.1. Panel A of the scoreboard shows the impact of these changes on family incomes across the entire earnings spectrum.

Changes in out-of-work-incomes

4. Social assistance rates and the income ceiling for the Allocation Familiale Garantie (AFG) increased by 2%, whereas AFG rates were frozen in nominal terms. These changes slightly increased out-of-work incomes for families eligible to guaranteed-minimum income benefits. Additionally, the earnings ceilings and the minimum and maximum amounts for unemployment insurance benefits increased. Also the family

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13 The rates for social security contribution reductions increased at very low earnings levels. The impact of this change does not show up in Figure A.2.1 as it was only applicable at earnings levels below the 10th percentile of the full-time earnings distribution. See Panel A of the scoreboard for details.
benefit supplement for children aged 6 or above was slightly increased. Both changes contributed to an increase in the out-of-work net income of unemployment benefit recipients up to 3 per cent relative to the average wage. These changes had only minimal impacts on NRRs (see Panel D of the scoreboard for details).

Changes in selected indicators

5. Incentives to move into work strengthened due to the lower tax liability, although this effect was slightly offset by higher social assistance payments and/or increased family benefit supplements for children of the unemployed (Figure A.2.2, Panel A). Reductions in PTRs were fairly modest, however, at less than 3 percentage points for all family types and earnings levels shown in the scoreboard.

6. Reductions in social security contributions at very low incomes (up to 63% of the average wage, which is below the 10th percentile of the full-time earnings distribution) reduced METRs for those who move from 33% to 67% of full-time work at median earnings. However, METRs increased for those who move from 50% or 67% to 100% of full-time work as the reductions in social security contributions are phased-out at these higher earnings levels. Changes in income taxes also increased METRs for moving towards full-time work as the reductions in the income tax liabilities are larger for low earnings levels (Figure A.2.2, Panel B).

**Figure A.2.2. Changes in work incentives**

**Panel A: Participation tax rates**

**Panel B: Marginal effective tax rates**

*Note:* For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](https://www.oecd.org).

7. Effective tax rates on labour decreased across all family types and earnings levels shown in the scoreboard by up to 2 percentage points. This change is mainly the result of reduced income tax payments and further supported by reductions in employer social security contribution rates of 6% (see Figure E.1 of the scoreboard for details).
A.3 Bulgaria

1. Please click on this link to open the policy evaluation scoreboard for Bulgaria.

Changes in in-work-incomes

2. Bulgaria implemented few structural changes in 2016, which affected mainly working families with children. A new tax relief for dependent children increased net incomes relative to the average wage at different percentiles of the full-time earnings distribution (Figure A.3.1). The impact remained marginal though due to the comparatively large growth of the average wage (7.5 per cent relative to 2015, see Annex B). Bulgaria increased also entitlements to family benefits for families with three or more children whereas benefit amounts remained unchanged for families with fewer dependants. As a result, the change in the amount of family benefit shown in Figure A.3.1 is negative relative to the change in the average wage. Finally, Bulgaria increased also the income threshold that defines eligibility to family benefits. Households with earnings between the 80th and 90th percentile gained from this change, although this is not shown in Figure A.3.1 as the change did not affect those at either the 80th or the 90th percentile.\(^{14}\) The negative change in the net income shown in Figure A.3.1 at the 30th percentile of the earnings distribution is due the erosion of social assistance benefits relative to the average wage faced by one earner couples with two children at this earnings level.

**Figure A.3.1.** Percent change in net income components across the earnings distribution

![Net income components diagram](image)

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. *Source:* Secretariat calculations using the OECD tax-benefit model.

\(^{14}\) Households at the 80th percentile continue were already eligible for the benefit in 2015 whereas those at the 90th percentile still did not qualify for family benefits in 2016 despite the positive increase in the income threshold. Single parents still receive a lone-parent benefit at the 90th earnings percentile (see the scoreboard for details).
Changes in out-of-work incomes

3. Reductions in out-of-work incomes are driven by the non-indexation of social assistance and/or family benefits, which meant that they fell relative to the average wage. As a result, NRRs also reduced slightly (see Panel D of the scoreboard).

Changes in selected indicators

4. The new child tax relief reduced tax liabilities for single-earner families with children. This reduced the PTRs and thus increased work incentives to move into work (Figure A.3.2, Panel A).\(^{15}\) PTRs decreased further due to the reduction in social assistance relative to the average wage. In line with the results from the first section, this pattern is reversed for single-earner couple families with children who move into work at the 30th percentile of the full-time earnings distribution, as these families do not receive social assistance anymore in 2016 when they move into work.

5. A similar effect appears also for the incentives to increase working hours (Figure A.3.2, Panel B). In 2016, single-earner couples with children working at 67% of full-time work were not entitled to social assistance, whereas they qualified for this benefit in 2015. This has weakened incentives to increase working hours from 33% to 67% of full-time work and, conversely, strengthened the incentive to increase working hours from 67% to 100% of full-time work.

**Figure A.3.2. Changes in work incentives**

\(^{15}\) This reform did not change work incentives for two-earner couples with children as these families are entitled to the new child tax credit independently of the activity status of the second adult who is moving into work, see Panel C of the scoreboard for details.
A.4 Croatia

1. Please click on this link to open the policy evaluation scoreboard for Croatia.

Changes in in-work-incomes

2. Only a few structural changes were introduced in Croatia in 2016, most of which did not have an impact on net incomes of working families. As tax and benefit rates were frozen in nominal terms between 2015 and 2016, net incomes slightly decreased relative to the average wage for all family types and earnings levels shown in the scoreboard (see also Figure A.4.1). Households with earnings at the 20th percentile of the earnings distribution received less family benefits in 2016 as result of the benefit erosion generated by the earnings growth and the frozen benefit parameters. Of all the families considered in the scoreboard, only lone parent families with earning below the 10th percentile of the full-time earnings distribution (i.e. not shown in Figure A.4.1) gained from a significant uprate of the family benefit parameters, leading to an overall increase in net incomes of more than 10 per cent relative to the average wage at this very low earnings levels and for this household type (see Panel A of the scoreboard for details).

Figure A.4.1. Percent change in net income components across the earnings distribution

![Percent change in net income components across the earnings distribution](image)

*Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution.*

*Source: Secretariat calculations using the OECD tax-benefit model.*

Changes in out-of-work-incomes

3. Benefit entitlements for of GMI benefit recipients remain unchanged between 2015 and 2016. As a result, benefit erosion reduced the net household incomes of about 2 per cent relative to the average wage for most of the family types considered in the scoreboard. An exception, in line with the first section, is for lone parents with children as for this family type there was a targeted uprate of social assistance and housing benefits that more than compensated the positive earnings growth. As a result, out-of-work

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16 For instance, while single-parent families do not pay income taxes below the 60th percentile of the full-time earnings distribution, families with earning beyond the 60th percentile faced a moderate fiscal drag due to frozen tax rates and brackets (see Figure A.4.1, dark blue bars). The same mechanism applies to family benefits for those family types with earnings levels below median earnings (Figure A.4.1, grey bars).
incomes increased for lone parents, leading to an increase in the NRRs up to 10ppts for those with low previous earnings who become eligible to social assistance and housing benefits during the unemployment spell (Figure A.4.2 and Panel D of the scoreboard).

**Figure A.4.2 Percent change in net income components across the unemployment spell**

Positive values denote a positive contribution relative to the change in the average wage.

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40 with a “long” and stable contribution history. ‘Low previous earnings’ refer to previous earnings at the P10-value of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

**Changes in selected indicators**

4. The increase in out-of-work benefits weakened work incentives for lone parents. Erosion of family benefits for those who are in work adds to this effect and pushes PTRs of about 10 ppts for lone parents who move into work at the 10th and 20th percentile of the earnings distribution (Figure A.4.3, Panel A). PTRs remained largely unchanged for the other family types. Because of the targeted increase in social assistance and housing benefit entitlements at very low earnings levels (see also first section), lone parents who increase work from 33% to 67% (or more) of full-time at median earnings face also higher METRs due to the higher benefit withdrawal relative to 2015 (Figure A.4.3, Panel B).

**Figure A.4.3. Changes in work incentives**

Note: For a lone-parent family with two children aged 6 and 4. Adults are aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
A.5 Czech Republic

1. Please click on [this link](#) to open the policy evaluation scoreboard for the Czech Republic.

Changes in in-work-incomes

2. Few structural changes were introduced in the Czech Republic, in 2016 and these had only a marginal impact on net incomes of working families. The child tax credit increased whereas other tax credits as well as the rate of the flat income tax remain unchanged in nominal terms. Earnings growth differed across the full-time earnings distribution and was more rapid at the bottom than the average wage. The change in the distribution of market incomes induced an increase in net earnings at low earnings levels that was, however, compensated partially by the subsequent increase in the tax liabilities (Figure A.5.1).

3. Entitlements to family benefits remained unchanged in nominal terms, reducing net incomes for benefit recipients relative to the average wage. The reduction of family benefits shown in Figure A.5.1 for lone parents with children working at the 30th percentile depends on two effects: the higher earnings growth at the bottom of the earnings distribution and the lack of indexation of benefit parameters. However, as the means-test of housing benefits includes also family benefits, eligible families could replace in part the lower family benefits with higher housing benefits (Figure A.5.1).

Figure A.5.1. Percent change in net income components across the earnings distribution

![Graph showing percent change in net income components across the earnings distribution](#)

*Note:* For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](#).

17 The increase in the housing costs that enter the calculation of housing benefit did not affect the calculation of housing benefits for all family types shown in the scoreboard. This is due to the methodological assumption of using 20% of the average wage as a default upper bound in the OECD tax-benefit model for housing costs. The prescriptive housing costs in the Czech Republic were above that level in 2015 and 2016.
4. The contribution ceiling for social security contributions slightly increased in 2016, but this only affected those with earnings above the 90th percentile of the full-time earnings distribution (see Figure A.7 of the scoreboard). Social contribution rates did not change between 2015 and 2016, inducing some fiscal drag at those earnings levels where wage growth was higher than the average wage growth (Figure A.5.1).

Changes in out-of-work-incomes

5. The maximum amount of unemployment insurance increased in 2016 and this induced a moderated growth of unemployment benefit entitlements relative to the average wage during the first period of the unemployment spell (Figure A.5.2). However, the change in net incomes for those without work was negative overall due to the nominal freeze of the monetary parameters defining entitlements to family benefits and social assistance (Figure A.5.2). Consequently, NRRs also decreased relative to 2015 (see Panel D of the scoreboard).

Figure A.5.2. Percent change in net income components across the unemployment spell

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40, with a “long” and stable contribution history and previous earnings equal to the P50 level of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Changes in selected indicators

6. Although tax liabilities for those in work increased slightly (see also first section), the nominal freeze in social assistance, housing and family benefit entitlements decreased out-of-work incomes and led therefore to an overall reduction in the PTRs (Figure A.5.3, Panel A). As lone parents who move into work at the 30th percentile of the full-time earnings distribution are not eligible anymore to family benefits in 2016 (see also first section) this family faces higher participation disincentives at this earnings level.

7. Incentives to increase working hours changed into different directions depending on earnings levels and family circumstances. For lone parents with children who increase work effort from 33% to 67% of full time at median earnings, METRs increased due to the increase in the non-wastable child tax credit. In contrast, the non-indexation of benefit amounts decreased METRs and thus strengthened work incentives. The most notable case is shown in Panel B of Figure A.5.3 for two-earner couples with two children, where family benefits are not granted anymore at 33% of full-time work in 2016, and so decreased METRs by about 14 percentage points as family benefits are no longer lost if the second earner increases earnings beyond this level.
Figure A.5.3. Changes in work incentives

Contribution of taxes and benefits

<table>
<thead>
<tr>
<th>Income Tax</th>
<th>Social Contributions</th>
<th>Social Assistance</th>
<th>Family Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Benefits</td>
<td>In Work Benefits</td>
<td>Unemployment Benefits</td>
<td>Total change</td>
</tr>
</tbody>
</table>

Panel A: Participation tax rates
Single-parent with two children

Panel B: Marginal effective tax rates
Two-earner couple with two children

Note: For families with children aged 6 and 4. Adults are aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours of the second earner from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution. The principal earner receives earnings of 67% of the average wage.

Source: Secretariat calculations using the OECD tax-benefit model.

8. The phase-out of family benefits at the 30th percentile of the full-time earnings distribution increased also the effective tax rates on labour at this earnings level by more than 5 percentage points for lone-parent families (see Panel E of the scoreboard). For the other family types considered in the scoreboards, effective tax rates on labour changed only marginally, mostly because of the nominal freeze of the income tax rate.
A.6 Denmark

1. Please click on this link to open the policy evaluation scoreboard for Denmark.

Changes in in-work-incomes

2. Denmark implemented mainly an uprating of existing tax-benefit rates and thresholds in 2016. As a result, net incomes for working households changed little relative to the average wage (Figure A.6.1). Social assistance and family benefit amounts were increased by less than earnings growth, so these benefit amounts fell relative to the average wage and induced an overall small reduction of net incomes across the earnings distribution for recipient families. The uprates in the income tax parameters, including the 5% increase in the income limits of the Earned Income Tax Credit, as well as the increased housing benefit entitlements for recipients of social assistance compensated in part the reduction of net incomes for families with earnings below the 60th percentile of the earnings distribution.

![Figure A.6.1. Percent change in net income components across the earnings distribution](image_url)

*Note: For a one-earner couple with two children aged 4 and 6. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.*

Changes in out-of-work-incomes

3. Net incomes for those out of work fell slightly as benefit uprating was lower than earnings growth. For this reason, households eligible to social assistance saw a small decrease in their net income relative to the average wage across all family types considered in the scoreboard. Maximum and minimum amounts for unemployment insurance benefits increased by about 1%, and thus also fell relative to the average wage.

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18 This only affects households with earnings below the 70th percentile of the full-time earnings distribution who are eligible for social assistance.
As in-work and out-of-work incomes fell by similar amounts, changes in NRRs were fairly small for all the considered family types (see Panel D of the scoreboard).

**Changes in selected indicators**

4. For most families, the reduction in social assistance amounts relative to the average wage slightly strengthened the incentives to move into working. One-earner couples are an exception to this overall trend as they receive social assistance benefits also when they are in-work at low earnings levels (see Panel A of Figure A.6.2 and also first section). The relative increase in tax liabilities at higher earnings levels increased PTRs for one-earner families moving into work paid at the 70th percentile of the full-time earnings distribution. However, the reduction in social assistance when being out-of-work more than offset this effect and the incentive to move into work at this earnings level slightly increased overall.

5. Changes in the METRs for one-earner couples with two children are similar to the changes in the PTRs (Panel B of Figure A.6.2). METRs only decreased for families moving from 100% to 150% of full-time work at median earnings. The underlying reason is that the amount of social assistance when working full time at the median wage fell in 2016 whereas those who work at 150% of full-time median earnings are not eligible to this benefit. Incentives to increase earnings above the median are thus strengthened as less social assistance is lost when earnings increase.

**Figure A.6.2. Changes in work incentives**

Contribution of taxes and benefits

<table>
<thead>
<tr>
<th>Income Tax</th>
<th>Social Contributions</th>
<th>Social Assistance</th>
<th>Family Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Benefits</td>
<td>In Work Benefits</td>
<td>Unemployment Benefits</td>
<td>Total change</td>
</tr>
</tbody>
</table>

**Panel A: Participation tax rates**

**Panel B: Marginal effective tax rates**

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.
A.7 Estonia

1. Please click on this link to open the policy evaluation scoreboard for Estonia.

Changes in in-work-incomes

2. A number of policy changes increased the incomes of working families in Estonia in 2016. Income tax liabilities were reduced as a result of the increase in the tax-free amount and the introduction of a new tax credit for low earners (see Box A.2 and Figure A.7.1 – dark blue bars). Families with children gained from an increase in family benefits whereas an increase in social assistance, which includes a housing component that also increased, benefited especially families with earnings at the 10th percentile of the earnings distribution (Figure A.7.1, dark-grey and white-smoke bars).19

Figure A.7.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Box A.1. The new tax credit in Estonia

In 2016, a new tax credit was introduced in Estonia to reduce the income tax liabilities of those with low incomes. The tax credit amount depends on an individual’s income: the maximum amount is €228 per month, but it is then reduced by 35% of an individual’s income. The tax credit is not refundable, that is, it can be used to offset income tax liabilities, but if the tax credit is larger than income tax liabilities, the remaining tax credit is not paid out. The tax credit thus eliminates completely the tax liabilities of those with incomes of less than 42% of the average wage for a single person without children. Above this income level, income tax liabilities increase rather steeply as for each additional euro

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19 The threshold at which employees start paying social security contributions also increased in 2016. This policy change is not shown in Figure A.7.1 as the threshold is below the 10th percentile of the earnings distribution and this change does not affect the contributions paid by those with earnings above the threshold as those with higher earnings pay contributions on the whole amount of their earnings and not just on the part that is above the threshold.
earned, the taxpayer loses 35 cents of tax credit as well as paying another 20 cents of tax – the marginal income tax rate is effectively 55% in the income range between this level and the point where the tax credit is exhausted (57% of the average wage for a single person without children), weakening individuals’ incentives to increase their earnings in this income range. The change in the income tax schedule for a single person without children is shown in Figure A.7.2

Figure A.7.2. Income tax (IT) schedule before and after the reform

Note: For a single person without children aged 40.
Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

3. Policy changes increased the incomes of those who are out of work. The minimum unemployment benefit amount and the unemployment assistance benefit amount were both increased, as were the levels of social assistance and the related housing component.20 Those who receive unemployment benefits, which is taxable in Estonia, also benefited from the reductions in the income tax (see also first section).

4. Figure A.7.2 shows these mechanisms for the case of a single person without children with previous earnings at the 10th percentile of the full-time earnings distribution: this person gained from the reduction in income tax liabilities during the first 3 months of the unemployment spell when the benefit is set at 50% of their previous earnings. When their unemployment benefit falls after 3 months, they benefit from the higher level of housing benefits. Overall, policy changes increase the income of this household type by around 20%. This gain is maintained when the individual moves on to social assistance following the end of their unemployment benefit entitlement as the guaranteed minimum income level has been also increased.

20 Changes in the unemployment benefit system do not affect the figures analysed in this section as the minimum unemployment benefit amount is not reached even when previous earnings are at the 10th percentile of the full-time earnings distribution (see Figure A.9 of the scoreboard for details). The scoreboard does not examine the cases of workers who receive unemployment assistance, e.g. cases of jobseekers with a short employment record.
Changes in selected indicators

5. Increases in social assistance and housing benefit levels have weakened work incentives for those in single-earner families as they now have more social assistance and housing benefit to lose when they move into work (Figure A.7.4, Panel A). This is partly (or completely, depending on the household type – see Panel C of the individual family scorecards) offset by lower income taxes in work as a lower proportion of earnings is lost to income tax when moving into work. For second earners in couples, changes to social assistance are not relevant as they do not receive these benefits when not working so work incentives strengthen as a result of the changes to income tax (see Panel C of the scoreboard for details).

6. METRs increased at low earnings levels for almost all family types (Figure A.7.4, Panel B). In some cases, this is because of the increase in social assistance and housing benefit entitlements, which means that these benefits now extend to higher income levels and so benefit recipients face benefit withdrawal at steep rates when they increase their earnings. In other cases, the new tax credit is responsible for the higher METRs (see Box A.2).
A.8 Finland

1. Please click on [this link](#) to open the policy evaluation scoreboard for Finland.

Changes in in-work-incomes

2. A number of policy reforms increased net incomes of those in work. Tax thresholds increased more than average wage growth, reducing slightly tax liabilities of working families. The earned income tax credit, which is classified as in “in-work” benefit in the OECD tax-benefit model, was also increased in 2016 (Figure A.8.1, grid-pattern bars). Finally, a new earnings disregard introduced in the housing benefit programme increased net incomes for eligible working households in the lower half of the earnings distribution (Figure A.8.1, white-smoke bars).

3. Other changes had an opposite effect on the incomes of working families, leading to an overall reduction in net household income levels in some cases. The local income tax and the minimum broadcasting tax were both increased in 2016, offsetting in part the positive effect of the higher tax thresholds described above. As a result, overall income tax liabilities did not change significantly between 2015 and 2016 (Figure A.8.1, dark-blue bars). Social security contribution rates increased slightly due to the higher contributions to sickness insurance and unemployment insurance (Figure A.8.1, light-grey bars). Social assistance entitlements were frozen in nominal terms and hence fell relative to average earnings (light-blue bars). Finally, family benefits did not increase by as much as the average wage whereas the maintenance allowance for single parents was reduced slightly (dark-grey bars).

Figure A.8.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

![Graph showing percent change in net income components across the earnings distribution](#)

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the [OECD tax-benefit model](#).

4. Another policy change which does not affect the examples in the scoreboard was the abolition of the fourth tax rate, which effectively lowered the threshold at which the top tax rate became payable. This increases income tax liabilities at very high earnings
levels, above the 90th percentile of the earnings distribution (See Figures A.1 and A.8 of the scoreboard for details).

**Changes in out-of-work-incomes**

5. In line with the changes described in the first section, falls in the levels of social assistance, family benefit and maintenance allowance relative to the average wage all reduced incomes of non-working families across the unemployment spell (Figure A.8.2). The amount of housing benefit received by a non-working was also lower in 2016 as the maximum housing benefit amounts were frozen in nominal terms in 2016. The basic unemployment benefit amount was also reduced in 2016. This reduced benefit levels for for those with low previous earnings.

![Figure A.8.2. Percent change in net income components across the unemployment spell](image)

*Note:* For a single person with children aged 6 and 4. The adult is aged 40 and is assumed to have a “long” and stable contribution history. Previous earnings are equal to the P10-value of the full-time earnings distribution.

*Source:* Secretariat calculations using the **OECD tax-benefit model**.

**Changes in selected indicators**

6. The increase in the earnings disregard in housing benefit affects METRs differently over different earnings ranges. At very low earnings levels, METRs fall as workers can earn more before housing benefits start to be withdrawn. However, those who see increases in their housing benefit entitlements face higher METRs as they now have more housing benefit entitlement to lose if they increase their earnings further (Figure A.8.3). Similarly, the expansion of the earned income tax credit reduces METRs at very low earnings levels where working more increases the amount of benefit received, but increases METRs at higher earnings levels since the tax credit is reduced as income rises.

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21 The negative effect on the household income is shown in the scoreboard only for single-adult families with / without children, as for these families the assumed rent level of 20% of the average wage is below the maximum benefit amount.
7. The effective tax rate on labour decreased at low earnings levels mainly as a result of the new earnings disregard introduced in the housing benefit programme. Higher employer social security contributions and the lower levels of family benefits and maintenance allowance offset in part the effect of the lower income tax liabilities and of the higher in-work and housing benefits (Figure A.8.4).

Figure A.8.4. Changes in effective tax rates on labour by earnings level

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P50 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
A.9 France

1. Please click on [this link](#) to open the policy evaluation scoreboard for France.

Changes in in-work-incomes

2. The reform of employment-conditional (“in-work”) benefits implemented in 2016 (Box A.3) led to an increase in net incomes for low-paid employees and especially for one-earner couples (Figure A.9.1, grid-pattern bars). Before the reform, these families received only the “prime pour l’emploi” whereas in 2016 they receive a more generous bonus as part of the new “prime d’activité” programme.\(^\text{22}\) As the new in-work benefit enters the means test of the social assistance programme, the positive effect of the new in-work benefit on net incomes was partially offset by the parallel withdrawal of social assistance (Figure A.9.1, light-blue bars).

\[\text{Box A.1. The reform of in-work benefits in France}\]

Until 2015, the main make-work-pay policies in France were a tax credit, the “prime pour l’emploi”, and an allowance paid to recipients of social assistance who moved into work (“RSA

\[^{22}\] Lone parents with earnings up to the 30th percentile are also better off after this reform whereas two-earner couples with low earnings are slightly worse off after the reform as they were eligible for the “prime pour l’emploi” but not to the new “prime d’activité”. Lone parents in 2016 gained also from the higher amount of the “lone parent benefit” (ASF), see Panel B of the scoreboard for details.
prime pour l’emploi” was a tax credit calculated on the basis of individual earnings whose amount varied depending on the household characteristics. The “prime pour l’emploi” was reduced on a 1:1 basis by the “RSA activité”.

In 2016 France introduced the “prime d’activité”, which replaced the “RSA activité” and the “prime pour l’emploi”. The purpose of this benefit is still to encourage employment and income support for low-paid workers. The basic amounts of the “prime d’activité” and “RSA activité” are similar. The key difference is that the new benefit provides an additional individual bonus of maximum EUR 67 per month to each family member who is at work. Individuals are eligible to this individual bonus if the net monthly earnings are more than 59 times the gross hourly minimum wage. The bonus then increases linearly and reaches the maximum amount when the net earnings are 95 times the gross hourly minimum wage.

The schedules of social assistance and new in-work benefit show a discontinuity for almost all households (Figure A.9.2). This discontinuity is due to the interaction of these benefits with housing benefits: if the recipient of social assistance / in-work benefit receives housing benefits, this benefit is deducted from the amount of the allowance up to a certain limit that depends on the household type. For one-earner couple, the increase of former SA and new in-work benefit at 50% of average wage results from the withdrawal of the housing benefit at this earnings level.

Figure A.9.2. Social assistance and in-work-benefit schedules before and after the reform

Panel A: Social assistance (SA)

Panel B: In-work benefit (IW)

Note: For a one-earner couple without children. Adults are aged 40. One spouse is economically inactive. 
Source: Secretariat calculations using the OECD tax-benefit model.

Panel A of Figure A.9.2 shows that one-earner families without children received social assistance up to 83% of the average wage before the reform, while after the reform social assistance is paid only to those earning up to 28% of the average wage. Instead, in 2016, one-earner couple families with earning above that level and up to 91% of the average wage received the new in-work benefit (Figure A.9.2, Panel B).

Changes in out-of-work-incomes

3. Unemployment insurance amounts as well as the income thresholds for the calculations of the Universal Social Contribution (CSG) and the Contribution for the Reimbursement of Social Debt applied to unemployment benefits (CRDS) were all frozen in nominal terms, decreasing incomes of those out of work relative to the average wage. Similarly, housing benefit amounts and thresholds did not increase as quickly as average.
earnings, so also in this case families who were eligible to this benefit experienced a slight decrease in their net incomes relative to the average wage (Figure A.9.3).

**Figure A.9.3. Percent change in net income components across the unemployment spell**

Positive values denote a positive contribution relative to the change in the average wage

Note: For a one-earner couple with children aged 6 and 4. The adult is aged 40 with a “long” and stable contribution history. Previous earnings are equal to the P10-value of the full-time earnings distribution.
Source: Secretariat calculations using the OECD tax-benefit model.

**Changes in selected indicators**

4. The new in-work benefit reduced PTRs for one-earner couples who move into work (see Panel C of the scoreboard). The increase in work incentives was partially offset by the parallel reduction of social assistance, but the overall effect was still positive for this family types. On the contrary, for two-earner couples, the termination of the “prime pour l’emploi” programme and the structure of the new in-work benefits induced an overall reduction of participation incentives for second earners (see Panel C of the scoreboard).

5. Incentives to increase working hours as measured by METRs generally remain unchanged or decreased slightly since the new in-work benefit is reduced as income rises. The replacement of the “prime pour l’emploi” with the “prime d’activité” reduced METRs for two-earner couples without children as in 2016 less benefit is lost when earnings increase (Figure A.9.4 and Figure A.5 of the scoreboard).

**Figure A.9.4. Changes in marginal effective tax rates by earnings range**

Note: For a two-earner couple without children. Adults are aged 40. The notation “33 >> 67” in the horizontal axis refers to an increase in working hours of the second earner from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution. The principal earner receives earnings of 67% of the average wage.
Source: Secretariat calculations using the OECD tax-benefit model.

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A.10 Germany

1. Please click on this link to open the policy evaluation scoreboard for Germany.

Changes in in-work-incomes

2. Germany implemented few policy changes for working families in 2016. The most important were increases in the housing allowance (see Box A.4), the child tax credits\(^23\) and the supplementary child allowance\(^24\). These changes had a positive impact on the net incomes of low-earnings families and especially for those with children (Figure A.10.1).

Figure A.10.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a one-earner couple with two children aged 4 and 6. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

Box A.1. The reform of the housing allowance in Germany

A reform of the housing allowance became effective in Germany in 2016. First, the reform incorporated the recent development in rents and additional housing costs, which had not been adjusted since 2009. This led to an increase in tabulated housing allowance amounts of about 39 per cent, on average. Second, the eligible incomes and the eligible rent (i.e. the maximum rent for which the housing allowance is granted) were also increased. This had an impact especially in regions where rents grew disproportionately highly, such as Berlin, which is the reference region in the OECD tax-benefit model. In this case, the maximum rent for a single-person household was increased from 358 EUR in 2015 to 434 EUR in 2016. As a result, many households became eligible to housing allowance and, at the same time, they lost entitlement to social assistance.

\(^23\) The child tax credit is classified as a family benefit in the OECD tax-benefit model.

\(^24\) The supplementary child allowance is paid to families with children to prevent them from becoming social assistance recipients otherwise.
Figure A.10.2 shows the interaction between social assistance and housing benefit before and after the reform. One-earner families with two children received social assistance when earning up to 40% of the average wage before the reform, whereas after the reform social assistance was paid only up to 30% of the average wage (Panel A). Instead, one-earner families earning above that level received housing allowance in 2016 (Panel B). Additionally, housing allowance also increased for low-income families who were not eligible to social assistance before the reform.

Figure A.10.2. Social assistance and housing benefits before and after the reform

Panel A: Social assistance (SA)

Panel B: Housing benefits (HB)

Note: For a one-earner couple with two children aged 4 and 6. Adults are aged 40. Panel B includes both the housing component of social assistance and housing allowance paid under the Housing Allowance Act.

Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

3. Unemployment insurance amounts were frozen in nominal terms in 2016, decreasing slightly incomes of those out of work as a proportion of the average wage. However, out-of-work families also benefited from the reform of the housing allowance during the first year of unemployment. This increased net incomes relative to the average wage by up to 7 per cent compared to 2015 for one-earner couples with low previous earnings (Figure A.10.3, white-smoke bars). Additionally, the increase in the supplementary child credit raised net incomes further (dark grey bars).

Figure A.10.3. Percent change in net income components across the unemployment spell

Note: For a couple with two children aged 6 and 4. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings of the jobseeker are equal to the P10-value of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
4. These changes led to higher NRRs for jobless families with low previous earnings (Figure A.10.4). After one year of unemployment, the household becomes eligible to unemployment assistance, which in Germany is set at the same level as social assistance, and loses eligibility to the housing allowance and to the supplementary child credit. Since social assistance and the general child credit increased in line with the average wage and incomes for those in work increased at low earnings levels due to the reform of the housing allowance, the NRRs fell by around 6 percentage points from the 13th month of unemployment onwards.

![Figure A.10.4. Net replacement rate across the unemployment spell](image)

*Note:* For a couple with two children aged 4 and 6. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings are equal to the 50th percentile of full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](#).

### Changes in selected indicators

5. Since single earners families receive the housing allowance when they are in work and only the housing benefit component of social assistance as applicable when they are out of work, the increase in the housing allowance strengthened work incentives for these families (Figure A.10.5 Panel A). On the contrary, second earners face lower participation incentives in 2016 as they lose more housing benefits when moving into work. For this family type, the higher housing allowance increased PTRs up to 6 percentage points (Figure A.10.5 Panel B).

6. METRs decreased for recipients of the housing allowance as higher benefit amounts are now granted at lower earnings levels (see Figure C.3 of the scoreboard for details). The increased supplementary child credit had a similar effect. In the case of one-earner couples with two children, this effect is offset by the change in social assistance for families moving from 33% to 67% of full-time median earnings, as in 2015 they received social assistance whereas in 2016 they did not due the increase in the housing allowance.
Figure A.10.5. Changes in participation tax rates by earnings levels

Contribution of taxes and benefits

<table>
<thead>
<tr>
<th>Income Tax</th>
<th>Social Contributions</th>
<th>Social Assistance</th>
<th>Family Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Benefits</td>
<td>In Work Benefits</td>
<td>Unemployment Benefits</td>
<td>Total change</td>
</tr>
</tbody>
</table>

Panel A: One-earner couple with two children

Panel B: Two-earner couple with two children

Note: In Panel A, one spouse is economically inactive. In Panel B, the second earner moves into work while the principal earner works at 67% of the average wage. The P10-P70 values in the horizontal axis refer to the decile points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
A.11 Greece

1. Please click on [this link](#) to open the policy evaluation scoreboard for the Greece.

### Changes in in-work-incomes

2. Changes in the income tax schedule slightly reduced net incomes of working families in 2016. While tax rates for the second and third tax brackets were reduced, the thresholds at which these rates apply were lowered.\(^{25}\) Also, the level of the tax credit decreased except for families with three or more children, whereas employee (and employer) social security contributions increased. Figure A.11.1 shows the effect of these changes on the net incomes of one-earner couples with children across the full-time earnings distribution. The effect is similar for earnings between the 20\(^{th}\) and 80\(^{th}\) percentile of the distribution. Families working at the 10\(^{th}\) percentile are not affected by these changes as they do not pay taxes at this earnings level. Families at the 90\(^{th}\) percentile paid slightly less taxes in 2016 due to the lower withdrawal rate of the income tax credit relative to 2015.

#### Figure A.11.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

![Graph showing percent change in net income components across the earnings distribution](image)

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution. *Source:* Secretariat calculations using the [OECD tax-benefit model](#).

\(^{25}\) Greece introduced also a new tax bracket with a 45% marginal tax rate on annual earnings above 40,000 EUR. The effect of this reform is not shown Figure A.11.1 as the change had an impact only on earnings above the 90\(^{th}\) percentile. See Figure A.8 of the scoreboard for details.
Changes in out-of-work-incomes

3. Incomes for out-of-work families were largely unaffected in 2016 relative to 2015 (Panel D of the scoreboard).26

Changes in selected indicators

4. Incentives to move into work weakened slightly in 2016 due to the increase in income tax liabilities and social security contributions (Figures C.1 and C.2 of the scoreboard). These changes, together with the increase in employer social security contributions, had a negative impact also on the effective tax rates on labour which increased by up to 2 percentage points for the earnings levels considered in the scoreboard (Panel E of the scoreboard).

5. Incentives to increase working hours have also weakened across family types by up to 4 percentage points for the cases considered in the Scoreboard. The sole exception is for those who increase work from 67% to 100% of full-time median earnings, as the increase in income tax liabilities was relatively higher at 67% of median earnings due to the reduction in the amount of the “solidarity contribution” observed for those who work full time in 2016 (Figure A.11.2).

Figure A.11.2. Changes in marginal effective tax rates by earnings range

Note: For a single person without children aged 40. The notation “33 >> 67” in the horizontal axis refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

26 The increase in the income eligibility threshold for the “special unemployment assistance” programme had a positive impact on the net income of benefit recipients. This effect is not captured by the standard earnings levels considered in the scoreboard.
A.12 Hungary

1. Please click on this link to open the policy evaluation scoreboard for Hungary.

Changes in in-work-incomes

2. Changes in the income tax schedule increased the incomes of working families in Hungary. The (flat) income tax rate was reduced from 16% to 15% whereas the child tax credit increased for families with more than one child. The increase in the child tax credit reduced social security contributions at low earnings levels (see Figure A.12.1) as families whose tax credit entitlements are greater than the overall tax liability can use the remaining tax credit to reduce social security contributions.

3. Families with children received less family benefits in 2016 as benefit amounts were frozen in nominal terms and therefore fell relative to the average wage. The income threshold for receiving subsidised school meals was also frozen in nominal terms. As a result, a single-earner couple with children earning at the 30th percentile of the full time earnings distribution lost entitlement in 2016. This explains why the reduction in family benefits shown in Figure A.12.1 is particularly large at this earnings level.

Figure A.12.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

4. Social assistance benefit amounts were frozen in nominal terms in 2016 and thus fell relative to the average wage. Workless families with children also saw their incomes fall relative to the average wage as a result of the non-indexation of family benefits in the same way as those in work (see Figures B.1 and D.3 of the scoreboard).

5. Minimum and maximum levels of unemployment benefits were increased roughly in line with the average wage. NRRs thus did not change significantly for the first three months of the unemployment spell when those unemployed with long past employment
records receive unemployment benefits (see Panel D of the scoreboard). However, NRR for longer unemployment durations reduced slightly due to the nominal freeze in social assistance amounts (Figure A.12.3).

**Figure A.12.2. Net replacement rate across the unemployment spell**

![Net replacement rate graph](image)

*Note:* For a couple with two children aged 4 and 6. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings are equal to the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.

## Changes in selected indicators

6. The combination of lower incomes when out of work, as a result of lower levels of social assistance benefits, and higher incomes in work, as a result of lower income taxes, strengthened work incentives: PTRs fall for all groups and all earnings levels. Reductions in PTRs are particularly large for families with children as a result of the increase in the child tax credit (Figure A.12.3).

**Figure A.12.3. Changes in participation tax rates by earnings level**

![Participation tax rate differences](image)

*Note:* For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.

7. The cut in the marginal income tax rate and expansion of child tax credits reduced METRs too: workers now lose less of any additional earnings in taxes and social security contributions (see Figure C.3 of the scoreboard).
A.13 Ireland

1. Please click on this link to open the policy evaluation scoreboard for Ireland.

Changes in in-work-incomes

2. Changes to the Universal Social Charge (USC, classified as an income tax in the OECD tax-benefit model) increased the incomes of those in work. The lower two rates of the charge decreased by 0.5ppts and the highest rate by 1.5ppts. The largest proportional gains were thus at higher earnings levels (Figure A.13.1). For some working families with children at lower income levels, the effect of changes in the USC schedule were offset by lower levels of benefits, most notably a cash freeze in the level of the “Family Income Supplement” (classified as an in-work benefit in the OECD tax-benefit model). Low-earning lone parents also lost out as a result of a reduction in the earnings disregard in One Parent Family Payment (Figure A.13.1). An increase in the level of Child Benefit (a universal family benefit) had a small effect in the other direction. Single-parent families working at the 20th percentile of the full-time earnings distribution are now paying a contribution of 4% of their earnings whereas they were previously exempt. This is the result of fiscal drag as the earnings threshold at which employees pay social security contributions remained unchanged in nominal terms.

Figure A.13.1. Percent change in net income components across the earnings distribution

![Figure A.13.1](image)

*Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.*

Changes in out-of-work-incomes

3. Most non-working families saw a reduction in their net income as a result of the non-indexation of unemployment and social assistance benefits. Maximum rent levels paid by housing benefits (Rent Supplement) increased but this does not impact on any of the figures in Panel B and D of the scoreboard with the exception of the case of a single person without children. This is because in other cases the maximum rent amounts were
already below the rent level used in these simulations (20% of the average wage for all family types).

Changes in selected indicators

4. The reduction in the earnings disregard in One Parent Family Payment increased PTRs for lone parents as it led to benefits being withdrawn more quickly when entering work. This policy change reduced METRs, however, as those already in work have now less to lose if they increase their earnings (Figure A.13.2).

Figure A.13.2. Changes in work incentives

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

5. The combination of the policy changes implemented in Ireland in 2016 had varying overall impacts on the work incentives for the family types considered in the scoreboard. Since eligibility to cash housing support requires working less than 30 hours per week, PTRs for single persons without children who enter into full-time work increased as a result of the increase in housing benefit when out of work (see Panel C of the scoreboard for single persons without children). Reductions in social assistance received when not working and income taxes paid while working led to lower PTRs for couples without children, by contrast. For single-earner couples with children at earnings levels up to the median, in-work and out-of-work benefits fell by similar amounts, so PTRs did not change significantly (see Panel C of the scoreboard for one-earner couples without children). The reduction in in-work benefits had the opposite effect on work incentives of two-earner couples with children: PTRs fell for second earners in couples with children as they now had less Family Income Supplement to lose if they entered work (see Panel C of the scoreboard for two-earner couples with children).
A.14 Italy

1. Please click on this link to open the policy evaluation scoreboard for Italy.

Changes in in-work-incomes

2. Italy introduced only minor changes to the tax-benefit system in 2016. Changes in net incomes were mainly the result of the reduction in the regional surcharge taxes (Figure A.14.1). Income gains are evenly distributed across the earnings deciles with the only exception of the 10th percentile which, depending on the family type and the related family tax credits, is exempt from income tax payments.

Figure A.14.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a couple with two children aged 6 and 4, adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

3. Net incomes for those out of work did not change significantly between July 2015 and July 2016. As the new minimum income scheme “SIA” (Sostegno per l’inclusione Attiva”) was extended to the entire national territory only in September 2016, the 2016 model update does not include this reform. Italy did not change other benefit entitlements in 2016 and, as a result, the NRRs reduced marginally in line with the increase in the in-work income (see Panel D of the scoreboard). The reference region for this regional surcharge tax in the OECD tax-benefit model is Lazio.

27 The reference region for this regional surcharge tax in the OECD tax-benefit model is Lazio.

28 This happens only for those whose previous earnings were above the so-called “no-tax-area”. For the others the NRRs are nearly the same in the two periods.
Changes in selected indicators

4. Effects on financial work incentives are small and overall positive as a result of the lower amount of the regional surtax (Figure A.14.2).

**Figure A.14.2. Changes in work incentives**

Contributions of taxes and benefits

```
Panel A: Participation tax rates

Panel B: Marginal effective tax rates
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*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.

5. The lower employer social security contribution reduced the effective tax rate on labour in 2016 (Figure A.14.3). Reductions are between 3.9 and 4.5 ppts depending on the family types considered in the scoreboard (see Panel E of the scoreboard).

**Figure A.14.3. Changes in effective tax rates on labour by earnings level**

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P50 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.
**A.15 Latvia**

1. Please click on [this link](#) to open the policy evaluation scoreboard for Latvia.

**Changes in in-work-incomes**

2. As a major structural policy change between 2015 and 2016, Latvia increased the amount of personal tax allowance from EUR 75 to EUR 100 per month and made it income-dependent. This reform introduced a degree of progressivity in the Latvia flat tax system as gains in net income were higher at lower earnings levels (Figure A.15.1).

**Figure A.15.1. Percent change in net income components across the earnings distribution**

![Graph showing percent change in net income components across the earnings distribution]

*Note:* For a single person without children, aged 40. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution.  
*Source:* Secretariat calculations using the [OECD tax-benefit model](#).

3. In addition to the reform of the personal tax allowance, eligibility to tax allowance for dependent spouses was restricted. This led to an increase in the tax liability for one-earner couples in 2016 (see Figure B.1 in the scorecard for one-earner couples).  

**Changes in out-of-work-incomes**

4. Non-contributory benefits in Latvia are not subject to an annual uprating mechanism. Thus, most families out of work experienced decreases in their incomes relative to the average wage as the nominal amounts of guaranteed minimum income and universal family benefits remained unchanged in 2016 (Figure A.15.2).  

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29 This was a temporary change: the eligibility to tax allowance was restored in 2018.

30 The average wage growth in Latvia was 6% between 2015 and 2016 (Annex B). The reference city for the calculations of guaranteed minimum income and housing benefits in Latvia is Riga.
work incomes composed exclusively of unemployment insurance benefits, which are set as a proportion of the previous wage, kept up with growth in average earnings.

**Figure A.15.2. Percent change in net income components across the unemployment spell**

Positive values denote a positive contribution relative to the change in the average wage

![Figure A.15.2](image)

*Note:* For a couple with two children aged 6 and 4. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings of the jobseeker are equal to the P10-value of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.

### Changes in selected indicators

5. The reform of the personal tax allowance reduced PTRs, i.e. strengthened incentives to take up employment, especially at low earnings levels. The withdrawal of the tax allowance as earnings increase induced an increase in METRs along some earnings ranges, providing weaker incentives to work more hours (Figure A.15.3).  

![Figure A.15.3](image)

*Note:* For a single person without children, aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.

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31 The effect for one-earner couples is different due to the temporary abolition of tax allowance for dependent spouses, which was reversed in 2018.
A.16 Lithuania

1. Please click on this link to open the policy evaluation scoreboard for Lithuania.

Changes in in-work-incomes

2. Lithuania increased the basic tax allowance (BTEA) by 20 per cent in 2016. This change reduced income tax liabilities especially at lower earnings levels for most family types considered in the scoreboard (Figure A.16.1). However, the phase-out of the BTEA became sharper, leading to small reductions in net income for single-person families at higher earnings percentiles (see Figure B.1 in the scorecard for this family type). Families with children saw an additional decrease in tax liabilities as the child tax allowance was doubled.

3. The non-indexation of benefit monetary parameters combined with the high earnings growth in Lithuania (9% between 2015 and 2016, see Annex B) reduced family incomes at lower earnings levels relative to the average wage. Benefit erosion more than offset the income gains produced by the lower tax liabilities at low earnings levels for most of the family types considered. This is shown in Figure A.16.1 for the case of one-earner couples with two children, who saw a rapid withdrawal of social assistance in 2016 due to the lack of indexation of the benefit parameters. A similar effect appears for lone parents because of the non-indexation of family benefits (see the scorecard for this family type for details).

Figure A.16.1. Percent change in net income components across the earnings distribution

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

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32 Lithuania increased social assistance support to children aged 7+. However, this is not illustrated in the scoreboard where children are assumed to be 6 and 4 years old, respectively.
Changes in out-of-work-incomes

4. Most non-working families saw a substantial decrease in their net income relative to the average wage as benefit levels did not increase as quickly as average earnings (Figure A.16.2). This applies to recipients of both guaranteed minimum income benefits and unemployment benefits as the increase in the maximum amount for unemployment benefits was not sufficient to increase incomes of benefit recipients relative to the average wage. As a result, benefit erosion reduced NRRs for most family types (Figure A.16.3).

Figure A.16.2. Percent change in net income components across the unemployment spell

Note: For a couple with two children aged 6 and 4. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings of the jobseeker are equal to the P10-value of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Figure A.16.3. Net replacement rate across the unemployment spell

Note: For a couple with two children aged 4 and 6. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings are equal to the 50th percentile of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Changes in selected indicators

5. PTRs generally fell for all family types due to the more generous BTEA. Benefit erosion moved PTRs in the same direction by lowering social assistance and family benefits for those out of work. An exception is for single-parent families who move into work at the 20th percentile of the full-time earnings distribution. For this family type the
reduction in benefit entitlements in the in-work and out-of-work scenario was similar and thus PTRs were unchanged (Figure A.16.4, Panel A).

6. Incentives to increase working hours moved in different directions depending on the earnings level. The reduction of the BTEA reduced METRs for those who increase working hours at low earnings levels (Figure A.16.4, Panel B). Yet, benefit erosion decreased work incentives for single-parents to move from 33% to 67% of full-time work as benefit entitlements were lower in 2016 at 67% of full-time work relative to 2015. For the same reason, however, incentives to move from 67% to 100% of full-time work increased overall, as the benefit entitlements that are lost when increasing working hours up to full time were lower compared to 2015 (Figure A.16.4, Panel B).

**Figure A.16.4. Changes in work incentives**

**Contributions of taxes and benefits**

Panel A: Participation tax rates

Panel B: Marginal effective tax rates

*Note:* For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.
A.17 Luxembourg

1. Please click on this link to open the policy evaluation scoreboard for Luxembourg.

Changes in in-work-incomes

2. Policy changes in 2016 had relatively little effect on the incomes of most working families. Fiscal drag in the income tax system – all income tax allowances and band limits were frozen in nominal terms in 2016 – and the non-indexation of social assistance and family benefit amounts tended to reduce family incomes slightly.

3. The major structural change in the tax-benefit system was a reform to how cash support for housing costs is delivered (see Box 5). This reform increased incomes for some low-earning families as the maximum earnings level to qualify for benefits is now higher. For instance, the lone parent families examined in the scoreboard qualifies for this housing benefit up to the 50th percentile of the full-time earnings distribution; one-earner couple without children up to the 30th percentile, and the one-earner couple with children up to the 40th percentile (the latter is shown in Figure A.17.1). The maximum benefit amount increased for families with children, too. Also, those who qualified for housing benefits under the previous system saw reductions in their income taxes and social security contributions as the new housing benefit is not subject to either of these.

![Figure A.17.1. Percent change in net income components across the earnings distribution](image)

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. *Source:* Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

4. Workless families gained from the change to housing benefits (Box A.1. The reform of). For workless families with children, the amount of housing benefit received is now higher, without children benefitted too as although the housing benefits they receive
have not changed, the new payment is not taxable and so they saw their income tax and social security contribution payments fall. The non-indexation of social assistance benefits offset this effect slightly (Figure A.17.2).

**Figure A.17.2. Percent change in net income components across the unemployment spell**

Positive values denote a positive contribution relative to the change in the average wage.

*Note:* For a couple with two children aged 6 and 4. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings of the jobseeker are equal to the P10-value of the full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](https://www.oecd.org/).

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**Box A.1. The reform of cash support for rented accommodations in Luxembourg**

Prior to 2016, cash support for housing costs was provided through social assistance programmes, which are taxable and subject to social security contributions: an additional allowance was paid to those with rental costs, which in practice always amounted to a fixed amount – in 2015, €123.94 per month – for those who qualified for social assistance. The amount paid did not vary by family type. In 2016, a separate housing benefit (subvention de loyer) was introduced. The benefit is calculated on the basis of a ‘reference rent’, which varies by family type and is means-tested against family income. The benefit is fully withdrawn when income exceeds a certain level, and is not taxable or subject to social security contributions. However, there is a maximum benefit amount which is binding in most cases. This amount varies by family type. For those without children, the maximum amount is similar to that for the previous form of cash support at €124 per month, but it is significantly higher for those without children.

The main impacts this policy change has on family incomes are as follows:

- The benefit amount is higher for families with children than under the previous system. Under the previous system, the benefit amount was the same for all family types, but the new benefit gives a higher amount for larger families.
- The benefit is withdrawn at a higher earnings level than the previous system of support. As a result, some low earning families become eligible for support and so see their incomes increase.
- Those who qualified for cash housing support under the old system see their income taxes and social security contributions fall as the new benefit is not subject to these payments.
Changes in selected indicators

5. The change in PTRs largely depends on whether the reform to housing benefits increased entitlements in work or out of work by more. At those points in the earnings distribution where the family becomes eligible to housing benefits (e.g. in the lone-parent case, up to the 50th percentile of the full-time earnings distribution, Figure A.17.3), PTRs fall as the increase in benefits when in work is larger than that when out of work. By contrast, in the case of the single-earner couple with children examined in the scoreboard (Panel C), PTRs increase at all earnings levels other than the 30th percentile, since the increase in housing benefits is larger when not working.

6. For single adults without children, the reform to housing benefits has little effect on overall PTRs as benefits remain the same when out of work and are still fully withdrawn when in work even when working at the 10th percentile of the full-time earnings distribution. In this case, fiscal drag in the income tax system increases PTRs slightly (Panel C of the scoreboard).

7. The changes to housing benefits lead to cash support for housing costs being withdrawn at slightly higher income levels. Thus METRs generally fall at low earnings ranges but slightly increase at higher ranges (Figure C.3 of the scoreboard).

Figure A.17.3. Changes in participation tax rates by earnings level

![Graph showing changes in participation tax rates by earnings level.](image)

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

8. The effective tax rate on labour falls for those who benefit from increased support for housing costs, but is broadly unchanged for others. Higher income tax liabilities and lower family benefit entitlements are offset by lower employer social security contributions: the accident insurance contribution for employers was reduced from 1.1% to 1% (Panel E of the scoreboard).
A.18 Malta

1. Please click on this link to open the policy evaluation scoreboard for Malta.

Changes in in-work-incomes

2. A number of tax and benefit changes affected the incomes of working families in Malta in 2016. The extension of in-work benefits to single-earner couples with children increased net incomes for this family type at low earnings level (See Box A.6 for details on the reform and Figure A.18.1). However, for two-earner couples with children who already qualified for the benefit, entitlements fell relative to the average wage as benefit amounts were frozen in nominal terms.

3. Structural changes to the tax system affected the incomes of working families only very slightly. The income threshold for paying income tax was increased in 2016, benefitting those in the lowest tax bracket. Those in the second tax bracket were broadly unaffected by income tax changes. Those in the new third tax bracket that was introduced in 2016, which has the same 25%-rate as the second bracket but a lower deductible amount, saw their incomes fall as a result. Higher earners benefited from a change to the social security contribution ceiling, which did not increase as quickly as the average wage (Figure A.18.1 and Figure B.1 of the scoreboard).

4. Most benefit rates and thresholds in Malta were either frozen in nominal terms or increased by only 1% in 2016, less than the growth in the average wage of 4% (Annex B). As a result, the levels of housing, family and in-work benefits received by working families fell relative to the average wage. In some cases, the under-indexation of income limits for housing benefits led to more dramatic changes in family incomes as earnings growth increases family incomes above the income limit and so families lose their entitlement to housing benefits. This occurs at the 30th percentile of the earnings distribution for a single person without children, and at the 50th percentile for both the lone parent and the couple with children (Figure A.18.1).

**Figure A.18.1. Percent change in net income components across the earnings distribution**

Positive values denote a positive contribution relative to the change in the average wage

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. *Source:* Secretariat calculations using the [OECD tax-benefit model](http://www.oecd.org).
Box A.1. The reform of in-work benefits in Malta

An in-work benefit was introduced in Malta in 2015, and in 2016 it was expanded to include single-earner couples with children. There is a minimum level of earnings to qualify for the benefit. Above the minimum income level there is a phase-in range where the benefit amount increases and then a phase-out up to the maximum income level.

These income thresholds and benefit rates differ for different family types. Benefit amounts are highest and earnings thresholds the lowest for lone parents, who receive a maximum of €1200 per child per year. Two-earner couples with children are eligible for a slightly lower maximum rate of €1000 per child per year, but can receive the benefit up to a higher maximum earnings level. The extension of the benefit to single-earner couples with children in 2016 has been at a much smaller scale: the maximum amount is €350 per child per year. Families without children do not qualify for the benefit.

Changes in out-of-work-incomes

5. Reductions in benefit levels relative to average earnings decreased the incomes of workless families, too. Unemployment benefits, social assistance, family benefits and lone parent benefits were all indexed by less than growth in average earnings and so fell relative to the average wage. Maximum housing benefit amounts were frozen in nominal terms and thus similarly fell relative to average earnings levels (Figure D.3 of the scoreboard).

Changes in selected indicators

6. Reductions in the levels of benefits received when out of work tended to strengthen work incentives as less benefit entitlements are lost when individuals move into work. Changes to income taxes compound this effect at lower earnings levels, where tax burdens fall, but offset it slightly at higher earnings levels where tax burdens rise. For single-earner couples with children, the expansion of in-work benefits to cover this group further reduced PTRs (see Figure A.18.2 and Panel C of the scoreboard).

7. There are a few exceptions to this rule. In some cases policy changes reduced in-work benefits by as much or more than benefits received out of work. This is the case for lone parents (Figure A.18.2), who see lower entitlements to in-work benefits as a result of the nominal freeze in benefit amounts. The same applies to cases where housing benefit entitlements fell dramatically in work as earnings growth pushed family incomes above the eligibility threshold (as described above, this includes single people without children earning at the 30th percentile of the full-time earnings distribution, and the lone parent and single-earner couple with children at the 50th percentile examined in Panel C of the scoreboard).
Figure A.18.2. Changes in participation tax rates by earnings level

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.
Source: Secretariat calculations using the OECD tax-benefit model.

8. The under-indexation of income limits in the housing benefit programme shifted downwards the range of earnings where METRs are high: the withdrawal of housing benefits increased METRs over lower earnings ranges and decreased them over higher earnings ranges. By contrast, changes to income tax reduced METRs over low earnings ranges, because the tax-free threshold increased, but increased them over higher earnings ranges, because of increases in income taxes for higher earners through the introduction of a new third tax bracket (Figure C.3 of the scoreboard).
A.19 The Netherlands

1. Please click on this link to open the policy evaluation scoreboard for the Netherlands.

Changes in in-work-incomes

2. A number of policy changes mainly increased net incomes for working families in the Netherlands in 2016. Tax rates for medium to higher earnings decreased whereas the general tax credit as well as the work tax credit increased. Tax brackets were adjusted too. The highest tax rate of 52% was applied to annual earnings above EUR 66,421 whereas in 2015 the threshold was at EUR 57,585. Overall, changes in the income tax schedule increased net incomes relative to the average wage across the earnings distribution for most family types considered in the scoreboard (see Figure A.19.1 – dark blue bars for the case of a single-parent family).

3. The increase in the income-dependant Health Care Benefit, which in the Netherlands can be used to reduce employees’ health insurance contributions, increased further net incomes especially for low earners (Figure A.19.1, light grey bars). Similarly, the increase in the Income Dependant Combination Credit, which is classified as an in-work benefit in the OECD tax-benefit model, increased net incomes for lone-parents and two-earner couples with children (grid-pattern bars in Figure A.19.1).

Figure A.19.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Changes in in-work-incomes

4. Most non-working families saw little change in their net income in 2016 as a result of offsetting policy impacts. On the one hand, the unemployment benefit under the Supplementary Benefits Act increased, resulting in higher net incomes relative to the
average wage for low-income families. However, as unemployment benefits are taxable in the Netherlands, part of the increase in net incomes was taxed away (Figure D.3 of the scoreboard).

Changes in selected indicators

5. Incentives to enter work have strengthened for all family types due to the lower income tax liabilities and social security contributions. The increase in the Income Dependant Combination Credit decreased PTRs further for eligible family types, as shown in Panel A of Figure A.19.2. The slight increase in social assistance for those who are out of work induced an effect in the opposite direction leading to an overall decrease in PTRs.

6. Policy changes had a similar impact also on the effective tax rates on labour, which decreased in 2016 for all family types and earnings percentiles considered in the scoreboard (Panel E). This holds despite the increase in the employer social security contributions, which pushed upwards the effective tax rates.

7. Incentives to increase working hours strengthened for most family types in which the first adult moves from 33% to 67% of full-time work with earnings at the 50th percentile of the full-time earnings distribution (Figure A.19.2, Panel B). However, METRs slightly increased beyond this level as the reduction in social security contributions was larger for earnings around 67% of median earnings and decreased for earnings beyond this level.

Figure A.19.2. Changes in work incentives

Contributions of taxes and benefits

Panel A: Participation tax rates

Panel B: Marginal effective tax rates

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
A.20 Poland

1. Please click on this link to open the policy evaluation scoreboard for Poland.

Changes in in-work-incomes

2. Policy changes dramatically increased the incomes of working families with children in 2016: a new family benefit, the “Family 500 Plus” programme, was introduced (see Box A.7 below) whereas reforms to existing family benefit programmes made them more generous (Figure A.20.1).

Figure A.20.1. Percent change in net income components across the earnings distribution

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine decile points of the full-time earnings distribution.
Source: Secretariat calculations using the OECD tax-benefit model.

3. For families without children, policy changes were more limited and tended to reduce incomes slightly. For instance, income tax bands and allowances were frozen in nominal terms in 2016, inducing a moderate fiscal drag that increased income tax liabilities across the earnings distribution (Figure B.1 of the scoreboard). A policy change that does not affect any of the cases examined in the scoreboard is the increase in the earnings threshold of the social security contribution schedule: this only affects earners with earnings levels considerably above the 90th percentile of the earnings distribution (see Panel A, Figure A.7 of the scoreboard).

Changes in out-of-work-incomes

4. Changes to family benefits (Box A.1. The ) also increased the incomes of workless families with children (Figure A.20.3). Incomes for workless families without children too as a result of increases in social assistance benefits: benefit amounts increased by 17% for single people without children and 12.7% for other groups (Figures B.1 and D.3 of the scoreboard). Jobseekers claiming unemployment benefits saw their incomes decline relative to the average wage, however, as benefit amounts were not indexed in 2016 (Figure D.3 of the scoreboard).

Box A.1. The new “Family 500 Plus” programme in Poland

A new family benefit, called “Family 500 Plus” was introduced in Poland in 2016. As
its name suggests, it is worth 500 PLN per month per child. The benefit is means-tested for the first child – it is withdrawn completely if income per family member exceeds 800 PLN per month (or 1200 PLN per month if there is a disabled child in the family) – but the benefit for the second and subsequent children is paid irrespective of income.

Reforms were also made to the existing family allowance. The benefit is still means-tested, but instead of being fully withdrawn when income per family member exceeds a threshold, it is withdrawn gradually though at a steep rate: the benefit amount declines as income rises above the threshold on a one-for-one basis. The benefit amount (including the lone parent supplement) and the income threshold have also been increased.

These features can be observed in Figure A.20.2 below which shows family benefits by earnings level for a single-earner couple with two children aged 6 and 4. Very significant increases in family benefits are observed at all earnings levels, but one can also see that the existing benefit is now withdrawn more gradually and from a higher earnings level (around 88% of the average wage rather than 75%). The ‘cliff-edge’ withdrawal of the “Family 500 Plus” benefit for the first child can also be observed, at around 105% of the average wage in this example.

Figure A.20.2. Family benefits (FB) before and after the reform by earnings range

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive.

Source: Secretariat calculations using the OECD tax-benefit model.

Figure A.20.3. Percent change in net income components across the unemployment spell

Note: For a single-parent family with two children aged 6 and 4. The jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings of the jobseeker are equal to the P10-value of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

Changes in selected indicators

5. In most cases, policy changes weakened work incentives. For families without children, the increase in benefits when out of work is generally lower than the increase in
benefits when in work. Exceptions to this rule occur in cases where families gained from the change to the design of the family allowance means test, that is, in cases where the family’s income would previously have been just over the income threshold to receive benefits while they now qualify in 2016. This occurs for lone parents at the 30th percentile of the earnings distribution (Panel A of Figure A.20.4). For those without children, the increase in PTRs is caused by increases in income taxes when in work combined with higher levels of social assistance benefits when out of work (Panel C of the scoreboard).

6. Policy reforms do not significantly affect METRs for those without children. In some cases examined in the scoreboard (Figure C.3) changes are either small, e.g. in the case of a single-earner couple without children moving from one-third to two-thirds of full-time work at median earnings, or are limited to very specific earnings levels. This is the case for a single person without children who increases earnings from 50% to 100% of median earnings: as the income threshold to qualify for housing benefits fell slightly relative to median earnings, single persons without children earning half the median wage no longer qualify as they go from being just below the threshold to just above it. They therefore no longer face withdrawal of housing benefits if they increase their earnings, and hence their METR falls. However, METRs do not change for those earning just less than median earnings, as they still face withdrawal of housing benefits if they increase their earnings, or for those earning just above median earnings, who did not qualify for housing benefits under the 2015 system.

7. The reforms to family benefits affect METRs for those with children differently at different earnings levels. At low earnings levels, METRs are either unaffected by these changes or are reduced as a result of the more gradual withdrawal of family allowance. At higher earnings however, the means test for the new “Family 500 Plus” payment increases METRs dramatically (Panel B of Figure A.20.4). Other changes affect the METRs of those with children: increases in social assistance increase METRs at low earnings levels in some cases as low earners lose more social assistance if they increase their earnings, or for those earning just above median earnings, who did not qualify for housing benefits under the 2015 system.

**Figure A.20.4. Changes in work incentives**

**Panel A: Participation tax rates**

Single-parent with two children

**Panel B: Marginal effective tax rates**

One-earner couple with two children

*Note:* For families with children aged 6 and 4. Adults are aged 40. In Panel B, one spouse is economically inactive. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](https://www.oecd.org).

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A.21 Portugal

1. Please click on this link to open the policy evaluation scoreboard for Portugal.

Changes in in-work-incomes

2. Two income tax reforms affected the incomes of those in work in Portugal in 2016. First, the surtax rates were reduced (the first two by 0.5ppts and the top rate by 1.5ppts), which increased incomes for those subject to this surcharge. Second, the way in which support for children was provided through the tax system changed: the family quotient introduced in 2015, which had increased the width of each tax band with family size, was abolished in 2016 and replaced with a larger child tax credit. As the family quotient was not worth to those in the first tax bracket, this change benefited middle-income families with children, but not those with the lowest incomes, who did not pay any income tax in the first place, or those with higher incomes, for whom the abolition of the family quotient offset the increase in the child tax credit (see Figure A.21.1 for the example of a single parent with two children).

3. Changes to family benefits also increased the incomes of working families with children. Family benefit rates were increased very slightly relative to the average wage, and the supplement received by lone parents was increased from 20% to 35% of the child benefit amount (Figure A.21.1). As family benefits are means-tested in Portugal, this change did not benefit those with earnings at the 90th percentile of the earnings distribution.

Figure A.21.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

4. The incomes of those out of work were affected by reforms to social assistance and unemployment benefits as well as the increases in family benefits described above.
Social assistance rates were increased a little for a single person without children and substantially for other family types as the supplements for second adults and dependent children rose significantly. A new unemployment benefit was introduced for the very long-term unemployed who have not received a benefit for a year (in the examples used in the scoreboard, where the individual is 40 years old and has a long social security contribution record, this benefit is available between months 48 and 54 of the unemployment spell. However, for families with children the introduction of this new benefit does not affect net incomes overall as it simply reduces social assistance entitlement.

5. Increases in social assistance and the introduction of the new benefit programme for the very long-term unemployed increased NRRs at long unemployment durations (Figure A.21.2). In the case of couples with children whose previous earnings were relatively low, NRRs rose also at short durations as their unemployment benefit entitlements are below the guaranteed minimum income level at all durations (Panel D of the scoreboard).

![Figure A.21.2. Net replacement rate over the unemployment spell](image)

**Note:** For a couple without children. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings are equal to the 10th percentile of the full-time earnings distribution.

**Source:** Secretariat calculations using the OECD tax-benefit model.

**Changes in selected indicators**

6. Policy changes have weakened incentives for most groups to move into work. Higher levels of social assistance when not working increase the amount of benefit lost when moving into work, increasing PTRs (Figure A.21.3, Panel A). The exceptions to this rule are single persons without children at high earnings levels, for whom the increase in social assistance when not working is small and more than offset by lower income taxes when in work, and second earners in couples in cases where the reduction in income taxes for single-earner families is less than that for a two-earner couple. For two-earner couples without children, this occurs at high earnings levels where they benefit from the reduction in surtax rates, but for two-earner couples with children it occurs at lower earnings levels where the increase in the child tax credit reduces the additional income tax paid when the second earner moves into work (Panel C of the scoreboard).

7. The impact of reforms on incentives to increase working hours is mixed. At very low earnings levels, higher levels of social assistance increase METRs for most family
types substantially as they now have more social assistance to lose if they increase their earnings (Figure A.21.3, Panel B). For those with children, tax reforms reduced METRs at slightly higher earnings levels – the increase in the child tax credit increased the amount that can be earned without paying taxes – but increased METRs towards the top earnings levels since the abolition of the family quotient effectively reduced the width of each tax bracket for those with children. Those without children tend to see METRs fall more uniformly as a result of the reduction in surtax rates (Figure C.3 of the scoreboard).

**Figure A.21.3. Changes in work incentives**

*Contributions of taxes and benefits*

<table>
<thead>
<tr>
<th>Income Tax</th>
<th>Social Contributions</th>
<th>Social Assistance</th>
<th>Family Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Benefits</td>
<td>In Work Benefits</td>
<td>Unemployment Benefits</td>
<td>Overall change</td>
</tr>
</tbody>
</table>

**Panel A: Participation tax rates**

**Panel B: Marginal effective tax rates**

*Note:* For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 => 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.
A.22 Romania

1. Please click on this link to open the policy evaluation scoreboard for Romania.

Changes in in-work-incomes

2. Changes to income taxes and family benefits affected the incomes of working families in Romania in 2016. Income tax allowances increased and the threshold at which the income tax allowance starts to be withdrawn increased as well, but it is now withdrawn more quickly above the threshold. This increased incomes at low to middle earnings levels and reduced them at around the 70th percentile of the full-time earnings distribution for most family types (Figure A.22.1). Income tax allowances were already fully withdrawn from the highest earners (from around the 80th percentile of the full-time earnings distribution, Figure A.22.1), so these changes did not affect them at all.

3. Family benefit rates were frozen in nominal terms during a period of fast earnings growth (see Annex B) and thus fell relative to average earnings (Figure A.22.1, dark-grey bars). The threshold at which the means-tested portion of family benefits is withdrawn was also frozen in nominal terms, with the effect that some of the cases examined in the scoreboard see very substantial drops in their income as they no longer receive the means-tested component of family benefits because their income now exceeds the threshold. For example, for a single-earner couple with two children, this occurs at the 70th percentile of the full-time earnings distribution (Figure A.22.1).

Figure A.22.1. Percent change in net income components across the earnings distribution

![Percent change in net income components across the earnings distribution](image)

*Note:* For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. *Source:* Secretariat calculations using the OECD tax-benefit model.

4. Another policy change in 2016 that affected the incomes of some workers is the increase in the social security contribution limit for high earners. As this change only affected earnings well above the 90th percentile of the earnings distribution, the impact on net earnings is not illustrated in Figure A.22.1 (see Panel A, Figure A.7 of the scoreboard).
Changes in out-of-work-incomes

5. Other benefit amounts including social assistance and basic unemployment benefit amounts were also frozen in nominal terms in Romania in 2016. Workless families thus saw their benefit entitlements fall relative to the average wage (Figure A.22.2).

Figure A.22.2. Percent change in net income components across the unemployment spell

Positive values denote a positive contribution relative to the change in the average wage

![Graph showing percent change in net income components across unemployment spell.]

Note: For a couple with two children aged 6 and 4. One spouse is economically inactive whereas the jobseeker is 40 years old with a “long” and stable contribution history. Previous earnings of the jobseeker are equal to the P10-value of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Changes in selected indicators

6. Reductions in benefit levels when out of work and in income tax liabilities when in work reduce PTRs for most cases examined in the scoreboard (Panel C). The only exceptions are the cases (discussed above) where the freeze in the income threshold for receiving the means-tested component of family benefit leads to significant losses in family benefit entitlement in work (e.g. for a single-earner couple with two children at the 70th percentile of the full-time earnings distribution as above, Error! Reference source not found.).

Figure A.22.3. Changes in work incentives

Contribution of taxes and benefits

Panel A: ‘Short-term’ participation tax rates

Panel B: ‘Long-term’ participation tax rates

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. Panel A shows “short-term” PTR, assuming eligibility to potential temporary into-work benefits, while Panel B shows “long-term” PTR, where this eligibility is assumed away. The P10-P70 values in the horizontal axis refer to the decile points of the full-time earnings distribution.
7. Reductions in PTRs are slightly smaller when considering the immediate transition from benefits into work rather than the change in income in the long run after transitional payments have expired (Panel A versus B of Error! Reference source not found.3). This is because individuals keep receiving whatever social assistance they were entitled to for the first three months on entering work. The reduction in social assistance levels relative to the average wage thus does not reduce PTRs in the short term as it reduces in-work and out-of-work benefits by the same amount.

8. Changes to the income tax system reduce METRs at low earnings levels but increase them at higher levels. Increases in the income tax allowance and the threshold at which the allowance starts to be withdrawn reduce METRs at low levels of earnings, but for those above the withdrawal threshold, METRs increase as the income tax allowance is now withdrawn more quickly (Figure C.3 of the scoreboard).

9. The fall in the threshold at which the means-tested component of family benefits is withdrawn shifts the earnings ranges over which METRs are very high downwards. For those with children, METRs therefore rise at low income ranges but fall at higher income ranges (Figure A.22.4).

Figure A.22.4. Changes in marginal effective tax rates by earnings range

Contribution of taxes and benefits

Source: Secretariat calculations using the OECD tax-benefit model.

Note: For a single-parent family with two children aged 6 and 4. The adult is aged 40. The notation “33 >> 67” in the horizontal axis refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.
A.23 Slovak Republic

1. Please click on this link to open the policy evaluation scoreboard for the Slovak Republic.

Changes in in-work-incomes

2. Earnings growth was stronger than the average at lower earnings levels in the Slovak Republic in 2016 (Figure A.23.1, dot-pattern bars). The minimum wage was increased by 6.6% against a growth of the average wage of 2.4% (Annex B). As most benefit rates and tax thresholds are not indexed in the Slovak Republic and most tax allowances and credits\(^\text{33}\) were frozen in nominal terms between 2015 and 2016, the level of the health insurance contribution allowance and the levels of most benefits including family benefits, housing benefits, social assistance and the alimony replacement benefit for lone parents, all decreased slightly relative to the average wage. Higher income tax liabilities and social security contributions, together with lower levels of benefit receipt due to benefit erosion contributed to an overall reduction of net incomes for working families (Figure A.23.1).\(^\text{34}\)

![Figure A.23.1. Percent change in net income components across the earnings distribution](image)

*Note: For single person of 40 years old with two children aged 6 and 4. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution.*

*Source: Secretariat calculations using the OECD tax-benefit model.*

Changes in out-of-work-incomes

3. The non-indexation of social assistance, housing benefits and the alimony replacement benefit reduce the level of benefits for workless families, too. There were no

\(^\text{33}\) Note that refundable tax credits, i.e. the employment and child tax credits, are classified as in-work benefits in the OECD tax-benefit model.

\(^\text{34}\) Social security contributions were increased for some very high income groups through an increase in the “maximum assessment base”. However, this only affected those above the \(90^{\text{th}}\) percentile of the full-time earnings distribution since the maximum assessment base is around 4.5 times average earnings whereas the \(90^{\text{th}}\) percentile of the earnings distribution is about half this level (see Panel A, Figure A.7 of the scoreboard).
reforms to unemployment benefits, however, so income levels were broadly unchanged during the first six months of the unemployment spell (Figure D.3 of the scoreboard).

### Changes in selected indicators

4. The impact of policy changes on incentives to move into work was not uniform across family types (Panel C of the scoreboard). For lone parents, PTRs increased as a result of fiscal drag in the tax and social security contribution systems and the freeze in child tax credits, which are classified as an “in-work” benefit in the OECD tax-benefit model (see Figure A.23.2, Panel A). Fiscal drag increased income tax liabilities and social security contribution payments in work also for one-earner couples without children. However, for this family type reductions in benefit entitlements received when out of work were more substantial. This produced an overall increase in financial incentives to move into work for this family type, as less social assistance and housing benefits is lost when taking up employment (Figure A.23.2, Panel B).

5. This pattern holds also for one-earner couples with children at higher earnings levels. At lower earnings levels, however, where social assistance can also be received in work, PTRs increase as the reduction in social assistance benefits in work is greater than the reduction when out of work (see Panel C of the scorecard for this family type). For those with a partner in paid work, the non-indexation of tax allowances and tax credits as well as the freeze in the health insurance allowance threshold, increased income tax and social security contribution payments in work and led to higher PTRs (see Panel C of the scorecard for this family type).

**Figure A.23.2. Changes in participation tax rates by earnings levels**

<table>
<thead>
<tr>
<th>Contribution of taxes and benefits</th>
<th>Panel A: Single-parent with two children</th>
<th>Panel B: One-earner couple with two children</th>
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<tbody>
<tr>
<td>Income Tax</td>
<td>![Graph A]</td>
<td>![Graph B]</td>
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<tr>
<td>Social Contributions</td>
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<td>![Graph B]</td>
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<td>Social Assistance</td>
<td>![Graph A]</td>
<td>![Graph B]</td>
</tr>
<tr>
<td>Housing Benefits</td>
<td>![Graph A]</td>
<td>![Graph B]</td>
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<tr>
<td>In Work Benefits</td>
<td>![Graph A]</td>
<td>![Graph B]</td>
</tr>
<tr>
<td>Unemployment Benefits</td>
<td>![Graph A]</td>
<td>![Graph B]</td>
</tr>
<tr>
<td>Overall change</td>
<td>![Graph A]</td>
<td>![Graph B]</td>
</tr>
</tbody>
</table>

*Note:* Adults are aged 40. Children are aged 4 and 6. The P10-P70 values in the horizontal axis refer to the decile points of the full-time earnings distribution.

*Source:* Secretariat calculations using the OECD tax-benefit model.

6. For all family types considered in the scoreboard, short-run PTRs, that is, examining the situation immediately after an individual makes the transition from economic inactivity to employment, increased by more or fall by less than long-run PTRs, which ignore transitional payments received on moving into work (compare Figures C.1 and C.2 in the scoreboard). This is because in the short-run case individuals receive the “special allowance” when they move into work, and this benefit was not uprated in 2016. This weakened work incentives as individuals moving into work receive less of this “special allowance” relative to the average wage.
7. The freeze in the Health Insurance Contribution allowance had small but different effects on METRs over different income ranges (Figure A.23.3). At low earnings ranges, METRs increase as the fall in the allowance relative to the average wage means that less can be earned before health insurance contributions have to be paid. At higher earnings ranges, however, since the allowance is withdrawn as earnings rise, METRs fall as workers have less to lose if they increase their earnings.

![Figure A.23.3. Changes in marginal effective tax rates by earnings levels](image)

*Note:* For a single person without children aged 40. The notation “33 >> 67” in the horizontal axis refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](#).

8. Increases in taxes and social security contributions and lower benefit entitlements when in work increase the effective tax rate on labour for all family types and earnings levels (Figure A.23.4). Note that the freeze in the health insurance allowance also applies to employer social security contributions, so these also contribute to the increase in the effective tax rate on labour.

![Figure A.23.4. Changes in effective tax rates on labour by earnings level](image)

*Note:* For a single-parent family with two children aged 6 and 4. The adult is aged 40. The P10-P50 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.

*Source:* Secretariat calculations using the [OECD tax-benefit model](#).
A.24 Slovenia

1. Please click on this link to open the policy evaluation scoreboard for Slovenia.

Changes in in-work-incomes

2. The biggest policy change introduced in Slovenia in 2016 was a significant increase in the level of minimum income benefits, which also had a knock-on effect on the level of housing benefits received by people in work as a family’s own contribution to the rent depends on the level of minimum income benefits. These changes benefited mainly lower-income families, though increases in housing benefits occurred as high as the 80th percentile of the earnings distribution for families with children (Figure A.24.1). An additional rate of family benefits was introduced in 2016, which gave some higher-earning families entitlement. However, as the level of family benefits was increased by less than the growth in the average wage, family benefit entitlements fell slightly for lower-income families relative to the average wage.35

Figure A.24.1. Percent change in net income components across the earnings distribution

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

Changes in out-of-work-incomes

3. The increase in social assistance benefits increased the incomes of those receiving these benefits whereas those entitled to unemployment benefits saw little changes to their incomes (Figures B.1 and D.3 in the scoreboard).

35 Tax changes were relatively minor in 2016: most families saw a slight increase in their income tax liabilities as most tax allowances and thresholds were frozen in nominal terms. However, some higher earners benefited from an increase in the second tax threshold.
Changes in selected indicators

4. The changes to social assistance and housing benefits increased PTRs in some cases but reduced them in others. For those lower earners who receive social assistance when in work, PTRs fall because the amount of social assistance received when in work increases by more than the amount received out of work (this is because the basic benefit amount for an adult working more than 128 hours per month is a larger percentage of the basic minimum income level than for a non-working adult). However, for higher earners who are not entitled to social assistance when working, PTRs increase as they lose more social assistance on entering work (Figure A.24.2, Panel A).

5. PTRs fell for those who become entitled to housing benefits when in work as a result of the change in the basic minimum income level, which affects the point at which housing benefits start to be withdrawn. This occurs at different earnings decile points for different family types, e.g. at median earnings for one-earner couples without children (Figure A.24.2, Panel A).

6. The housing benefit change affects METRs differently over different income ranges, since it shifts the income range over which housing benefit is withdrawn. For example, for a single person without children (Figure A.24.2, Panel B), housing benefit is no longer withdrawn over the range between 33% and 67% of median earnings, but is instead withdrawn between 67% and 100% of median earnings. As a result, the METR fell over the range from one-third to two-thirds of median earnings, but increased over the range from two-thirds to 100% of median earnings.

7. The increase in social assistance benefit levels also increased NRRs at long durations for most family types (Panel D of the scoreboard). However, as the reform also increases the incomes of some workers with low earnings levels, this is not uniform: NRRs fell in some cases for workers at the 10th percentile of the full-time earnings distribution.

Figure A.24.2. Changes in work incentives

Contribution of taxes and benefits

Panel A: Participation tax rates
One-earner couple without children

Panel B: Marginal effective tax rates
Single person without children

Note: Adults are aged 40. The P10-P70 values in the horizontal axis of Panel A refer to the decile points of the full-time earnings distribution. The notation “33 >> 67” in the horizontal axis of Panel B refers to an increase in working hours from 33% to 67% of full-time work (40 hours) with earnings at the 50th percentile of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
A.25 Spain

1. Please click on this link to open the policy evaluation scoreboard for Spain.\(^{36}\)

Changes in in-work-incomes

2. Almost no structural policy changes were implemented in Spain in 2016 and net incomes for working families remained effectively unchanged. The third income threshold in the national tax schedule increased by 3.5%, which slightly increased net incomes relative to the average wage for earnings at the 90\(^{th}\) percentile of the full-time earnings distribution. Other tax parameters were frozen in nominal terms and this led to a reduction in net incomes at all the other earnings percentiles. However, as the growth of the average wage between 2015 and 2016 was less than 1\%, fiscal drag had a negligible impact on net incomes (changes in net incomes were less than 0.4\% across all family types and earnings levels, see Figure B.1 of the scoreboard).

3. The lower and upper wage thresholds for the calculation of social security contributions were increased by 1\% in 2016. The lower limit does not affect the earnings levels examined in the scoreboard whereas the upper limit applies to the 90\(^{th}\) percentile of the earnings distribution, producing however marginal changes in net incomes. Finally, the increase in the income thresholds of the family benefit schedule increased marginally the incomes of some families with children at earnings levels below the 10\(^{th}\) percentile of the full-time earnings distribution.

Changes in out-of-work-incomes

4. Non-indexation of rates and thresholds for social assistance, unemployment and family benefits slightly reduced incomes for non-working families by up to 1 per cent relative to the average wage. As this in line with the change in the net incomes in work, NRRs remained largely unchanged (Panel D of the scoreboard).

Changes in selected indicators

5. In line with the results above, financial work incentives changed little relative to 2015. While nominally frozen tax thresholds tended to push PTRs upwards, the non-indexation of benefit levels moved PTRs in the opposite direction, as fewer benefits are now paid in 2016 to those out of work. Changes in PTRs and METRs across family types and earnings levels are all below 1ppt (Panel C of the scoreboard).

\(^{36}\) The scoreboard illustrates results for families living in Madrid. This assumption is different from the one characterizing previous results for Spain. As variation in regional tax schedules in Spain has been increasing over time (each regional government applied a different tax scale in 2016), the OECD changed the methodology for the calculation of tax-burden and tax-benefit indicators for Spain, using the city of Madrid for the calculations of tax liabilities instead of average tax parameters across Spanish regions.
A.26 Sweden

1. Please click on this link to open the policy evaluation scoreboard for Sweden.

Changes in in-work-incomes

2. For all groups except lone parents, policy changes slightly reduced the incomes of working families in Sweden in 2016. Three changes in the income tax schedule reduced net incomes (Figure A.26.1, dark-blue bars): the basic income tax allowance was reduced, the average local income tax rate slightly increased, and the tax-free threshold for the central government income tax was frozen in nominal terms and hence fell relative to average earnings.\(^{37}\) The reduction in the basic allowance also reduced the maximum amount of the Earned Income Tax Credit (Figure A.26.1, grid-pattern bars), which was also withdrawn from the highest earners, i.e. from around the 90\(^{th}\) percentile of the full-time earnings distribution. Other changes that reduced the incomes of working families included the non-indexation of family benefits and housing benefits, both of which therefore fell relative to the average wage.

Figure A.26.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution. Source: Secretariat calculations using the OECD tax-benefit model.

3. Working lone parents were also affected by these changes, but these income losses were more than offset by a significant increase in the level of the alimony advance payment (see Figure B.1 in the scorecard for this family type).\(^{38}\)

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\(^{37}\) This last change only affected higher earners who pay the central government tax, generally from the 70\(^{th}\) percentile of the full-time earnings distribution.

\(^{38}\) The OECD tax-benefit model assumes that lone parents do not receive any maintenance payments. In practice, those who do receive maintenance from a former spouse will not be entitled to this benefit in Sweden.
Changes in out-of-work-incomes

4. A number of policy changes affected the incomes of workless families. Social assistance benefit levels fell for those without children but increased for those with children as the adult benefit components were not indexed and thus fell relative to average earnings, whereas the child components increased substantially.

5. For those entitled to unemployment insurance benefits, incomes generally increased as the maximum benefit amount increased significantly, with a new higher rate for the first 100 days of unemployment. This change increased NRRs at short benefit durations for most family types (see Figure A.26, for the case of a single person without children).  

![Figure A.26. Net replacement rate over the unemployment spell](image)

Note: For a single person without children. The adult is aged 40 with a “long” and stable contribution history. Previous earnings are equal to the 10th percentile of the full-time earnings distribution. 

Source: Secretariat calculations using the OECD tax-benefit model.

Changes in selected indicators

6. Policy changes in 2016 did not affect PTRs significantly. The combination of higher income taxes when working and, for those with children, higher levels of social assistance when out of work as well as faster withdrawal of housing benefit on entering work, slightly increased PTRs (Figure A.26.3). However, as social assistance levels were reduced for families without children, PTRs for these families fell at lower earnings levels where the increase in income tax liabilities was smaller (see Panel C of the scoreboard for details).

7. The faster withdrawal of housing benefit resulting from the non-indexation of rates and income thresholds strengthened work incentives in the case of a second earner in a couple with children. In this case, since the couple receives less housing benefit in

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39 A reform that does not affect the incomes of the families examined in the scoreboard, all of whom have long previous employment records, is the increase in the level of the basic unemployment benefit for those whose past employment record is not long enough to qualify for unemployment insurance benefits.
the case where only one person works, less housing benefit is lost when the second adult moves into work (Panel C of the scoreboard).

8. For a one-earner couple with children, the increase in PTRs is more muted when considering the immediate transition into work than when considering the long-run case ignoring transitory benefits on entering work (Panel A versus B of Figure A.26.3). This is because the withdrawal rate of social assistance is lower for the first six months after entering work, and so the increase in social assistance benefit levels for this family type increases both in work and out of work benefits for the first six months of a new employment spell (whereas later on only out of work benefits are higher as they have no social assistance entitlement in work).

**Figure A.26.3. Changes in work incentives**

Contribution of taxes and benefits

Panel A: ‘Short-term’ participation tax rates

Panel B: ‘Long-term’ participation tax rates

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. Panel A shows “short-term” PTR, assuming eligibility to potential temporary into-work benefits, while Panel B shows “long-term” PTR, where this eligibility is assumed away. The P10-P70 values in the horizontal axis refer to the decile points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.

9. METRs change only very slightly in most cases. The sole exception to this is the case of a one-earner couple with children, where the increase in social assistance benefit levels means that a larger proportion of any increase in earnings is lost to withdrawn benefits at low income levels (see Figure C.3 of the scoreboard).
A.27 United Kingdom

1. Please click on this link to open the policy evaluation scoreboard for the United Kingdom.

Changes in in-work-incomes

2. Earnings growth was particularly rapid at the lowest earnings levels in the United Kingdom in 2016 following the introduction of the National Living Wage (a higher minimum wage level for those aged 25 and over). By contrast, at higher earnings levels (the 50th, 60th, 70th and 90th percentiles of the full-time earnings distribution) earnings growth was relatively slow (see Figure A.27.1 below and Figure B.1 of the scoreboard).

3. There were no structural tax-benefit changes in the United Kingdom in 2016. Benefit levels were frozen in nominal terms, and thus fell as a proportion of the average wage. The threshold for paying income tax was increased more quickly than the average wage (though less quickly than the 10th percentile of the full-time earnings distribution, so those earning at this level saw some of their increased earnings taxed away), but the threshold for paying employee social security contributions was frozen in nominal terms. Most employees thus saw their income tax liabilities fall and their social security contributions rise. For higher earners, the threshold at which the second 40%-tax rate starts to apply was increased less quickly, so gains from income tax changes were smaller.

4. The net effect of these changes was to increase incomes for those who do not receive means-tested benefits, and to reduce incomes for those who do (e.g. in Figure A.27.1, which shows the example of a single-earner couple without children). At the 10th and 20th percentiles, incomes fall relative to the average wage as a result of cuts to in-work and housing benefits, whereas at higher earnings levels changes to income tax increase net income, though this is offset by falls in gross earnings in some cases.

Figure A.27.1. Percent change in net income components across the earnings distribution

Positive values denote a positive contribution relative to the change in the average wage

Note: For a couple without children. Adults are aged 40. One spouse is economically inactive. The P10-P90 values in the horizontal axis refer to the nine deciles points of the full-time earnings distribution.

Source: Secretariat calculations using the OECD tax-benefit model.
Changes in out-of-work-incomes

5. All benefit amounts were frozen in nominal terms in 2016, so net incomes of those out of work fell slightly relative to the average wage for most family types (Figures B.1 and D.3 of the scoreboard).

Changes in selected indicators

6. Among single-earner families, PTRs increased marginally for those who receive means-tested benefits in work (i.e. those with children at low and middle earnings levels, see Figure A.27.2, and low earners without children), and fell slightly for those who do not. The nominal freeze in benefit withdrawal thresholds had the effect of increasing the proportion of earnings lost to benefit withdrawal when moving into work as in-work benefit receipt fell by more than benefit receipt out of work. By contrast, for those not receiving benefits when in work, the fall in out-of-work benefit levels strengthened work incentives, though changes in PTRs are overall small.

7. For two-earner couples, the increase in the income tax threshold and the reduction in family benefit entitlements both strengthened work incentives as a lower proportion of earnings is now lost to income taxes and less benefit entitlements are withdrawn when the second earner enters into work (see Panel C of the scoreboard).

Figure A.27.2. Changes in participation tax rates by earnings level

Note: For a couple with two children aged 6 and 4. Adults are aged 40. One spouse is economically inactive. The P10-P70 values in the horizontal axis refer to the deciles points of the full-time earnings distribution.
Source: Secretariat calculations using the OECD tax-benefit model.

8. METRs fell for almost all family types, though for different reasons. For those receiving means-tested benefits, the reduction in the level of these benefits means that they have less to lose in terms of benefit entitlement if they increase their earnings. At higher earnings levels, however, the fall in METRs was the result of an increase in the threshold where marginal income tax rate increases from 20% to 40% (see Figure C.3 of the scoreboard).
Annex B. Average wages and median disposable household income

Table B.1. Average wages and median disposable household income

Nominal values and Percent changes, 2015-2016

<table>
<thead>
<tr>
<th>Country</th>
<th>ISO3</th>
<th>Average wage (national currency)</th>
<th>Percentage change</th>
<th>Median disposable income (national currency)</th>
<th>Percentage change</th>
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Note: Median disposable household income expressed in equivalized terms using the square root of household size. Source: OECD tax-benefit model and the OECD Income Distribution Database (IDD).
Annex C. Methodology to calculate summary policy indices

To ease presentation and facilitate country-comparison, Chapter 1 uses country-specific “summary” indices calculated for three policy dimensions: 1) income adequacy for GMI recipients; 2) income adequacy for unemployment benefit recipients; 3) financial incentives to move into work for GMI recipients. Each index is a weighted average of a given policy indicator (e.g. Net Replacement Rates for the index of income adequacy for unemployment benefit recipients) calculated for selected family types and other individual circumstances, such as earnings levels or the months of unemployment. Formally, in a dataset with Q indicators $x_1, x_2, \ldots, x_Q$ for a set of countries and a given policy dimension, a summary index can be defined as $Y = \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_Q x_Q$, where the $\beta_i$ coefficients range between zero and one and sum up to one. 40

The country ranking based on such an index depends crucially on the weights that enter the sum of the individual indicators. These weights are calculated through Principal Component Factor Analysis (PCFA), a well-known data-reduction method whose aim is to distil “the essence” of the original dataset, assigning higher weights to those indicators sharing similar variations across countries. 41 An index calculated using PCFA has a series of advantages for cross-country comparisons. First, from a pure data-reduction perspective, it makes sense to assign less weight to those indicators that do not contribute much to the explanation of the overall data structure (e.g. those with a comparatively high standard deviation). Second, the final index is calculated in a way that it preserves, and therefore explains, the maximum possible proportion of the original cross-country variance in the individual indicators. Finally, because of the linear structure of the summary index, it is relatively straightforward to retrieve the underlying indicators whenever a more granular analysis is necessary (the data attached to Chapter 1 provides the final index, the underlying indicators and the set of weights).

The large number of countries and indicators available using the OECD tax-benefit model makes this aggregation procedure particularly attractive. 42 Yet, there are also

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40. These coefficients show the relative contribution of each indicator to the final index.

41. PCFA is a statistical technique that reveals from a set of Q correlated indicators a (potentially) smaller number of unobserved variables (“factors”) that, together, will explain most of the cross-countries (co-)variations of the individual indicators. Weights calculated through PCFA are essentially a function of the correlation coefficients between a certain estimated factor $F_j$ and each indicator $x_i$. Hence, as factors in PCFA are estimated so as to account for the maximum amount of the cross-country variance in the original indicators, the indicators sharing common cross-country patterns will enter the final index $Y$ with larger coefficients $\beta_i$, as they will be strongly correlated with a certain factor. Similarly, indicators with large cross-country variance will enter the summary index with smaller coefficients.

42. FPCA provides best results when the underlying data have enough variation and the original indicators are highly correlated. To date, the OECD tax-benefit model covers 40 countries, which ensures that the underlying data have enough cross-country variation. Also, policy indicators calculated for different family and individual circumstances (e.g. net replacement rates for one-earner couples with and without children) are typically highly correlated.
shortcomings when using a data-driven methodology. For instance, data revisions and updates, possibly implying additional observations (such as the inclusion of new countries or the revision of systems for already included countries), may change the set of weights that are used to calculate the summary index between different years. Results are likely to be sensitive also to the presence of outliers and data limitations may create difficulties in the statistical identification of the overall indices (OECD, 2008). These potential shortcomings are addressed during the empirical analysis by checking the robustness of the results through sensitivity analysis (see also Browne et al., 2017).

Box C.1 provides a step-by-step implementation of the methodology to calculate the weights of the summary indices used in Chapter 1. Nicoletti et al. (2000) describe the method in detail and show how to apply it in the context of the OECD index of Product Market Regulation (PMR). OECD (2008) also provides a detailed description of the methodology and compares the results with other aggregation methods.

Box C.1. Aggregating policy indicators into summary indices

The calculations of the weights used to derive a certain country-specific index can be summarized in the following three steps:

1. Principal-Component Factor Analysis of the original data. In a dataset with \( Q \) indicators \( x_i = x_{i1}, x_{i2}, \ldots, x_{iq} \), for a set of countries this step implies estimating the following model:

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\begin{align*}
z_1 &= a_{11}F_1 + a_{12}F_2 + \cdots + a_{1q}F_q + \epsilon_{1i} \\
& \vdots \\
z_Q &= a_{q1}F_1 + a_{q2}F_2 + \cdots + a_{qq}F_q + \epsilon_{qi} \\
\end{align*}
\]

Where \( z_1, z_2, \ldots, z_Q \), are the standardized original indicators, i.e. \( z_i = \frac{x_i - \mu_i}{\sigma_i} \), with \( \mu \) being the mean value and \( \sigma \) the standard deviation. The variables \( F_i = F_1, F_2, \ldots, F_Q \) are the \( Q \) estimated unobserved factors; the \( a_{ij} \)'s are the estimated coefficients called "factor loadings", and the \( \epsilon_{ij} \)'s are error terms assumed to be independently and identically distributed across countries and indicators. Although there are several approaches to deal with the model above, e.g. maximum likelihood factors, principal-factor methods, etc., one of the most common is the use of Principal Component Analysis (PCA) to estimate the factors (OECD, 2006) and to use them in the subsequent steps.

PCA estimates factors as "principal components", which are linear combinations of the original indicators, e.g. \( F_1 = w_{11}x_{1} + w_{12}x_{2} + \cdots + w_{1q}x_{q} \), with weights \( w_{ij} \) chosen so that \( i \) factors \( F_i \) are uncorrelated, \( ii \) the sum of the squared weights of each factor is equal to one \( (w_{11}^2 + w_{12}^2 + \cdots + w_{1q}^2 = 1) \), and \( iii \) the first factor \( F_1 \) accounts for the maximum possible proportion of the cross-country variance of the original indicators \( x_i \), the second factor \( F_2 \) accounts for the maximum of the remaining variance, and so on until the last factor \( F_Q \) absorbs all the remaining variance not accounted for by the preceding components. It can be proved that weights calculated under these three identification restrictions are the correlation coefficients between the estimated factors and the underlying indicators. For instance, \( w_{1i} = \frac{cov(F_1, x_i)}{\sigma_{F_1} \sigma_{x_i}} \).

PCA calculates as many factors as the number of original indicators. However, depending on the degree of correlation between the \( x_i \)'s, a smaller number of factors are often sufficient to preserve most of the information content of the original dataset.\(^{43} \) For

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\(^{43} \) Robustness checks are not included in the report but are available upon request.
instance, it is possible that cross-country variations in certain indicators mainly reflect variation in only one estimated factor, which can be therefore used to reduce the dimensionality of the original data. The literature has proposed several techniques to identify the optimal number of factors. This report uses the so called maximum-variance criterion, i.e. it retains the first \( N \) factors that explain together at least 85% of the common cross-country variations in the original indicators.\(^5\)

2. **Transformation of the factor loadings.** After the extraction of the first \( N \) factors from the original dataset, it is common practice in PCFA to perform a matrix transformation of the factor loadings so as to enhance the interpretability of the results. This transformation changes ("rotates") the coordinates (axis) of the \( N \) retained factors toward a direction that minimizes the number of large loadings on the same factor; it therefore produces a clearer pattern of loadings across the factors without affecting the explanatory power of the overall statistical model. This report uses the so-called “varimax rotation” – a technique that calculates a new set of orthogonal coordinates where the loadings of a certain factor have the maximum variation.\(^2\)

3. **Calculation of the set of weights.** The final step is to calculate the coefficients \( \beta_i \) that enter the summary index \( Y \). This step requires first to standardize the rotated squared loadings in terms of the overall variance in the original data explained by the retained factors (see footnote b). This means "scaling" each loading so that they will reflect the contribution to the overall variance that the \( N \) retained factors are able to account for. The next step is to choose for each indicator the standardized (factor-specific) loading that maximizes the contribution to the overall variance, i.e. \( \beta_i = \max (\gamma_{i1}, \gamma_{i2}, \ldots, \gamma_{iN}) \), where the generic \( \gamma_{ij} \) is the standardized squared (rotated) loading referring to indicator \( i \) and factor \( j \). Finally, the weights of the \( Q \) indicators are divided by their sum, so that they sum up to one.

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\(^a\) The information content of the original dataset is defined in terms of the correlation matrix of the original indicators.

\(^b\) To see how to calculate the the cross-country variance in the original indicators explained by the first \( N < Q \) factors, consider that factors calculated with PCFA are orthogonal (i.e. uncorrelated) with unit variance (due to the standardization of the original indicators). This means that model \([1]\) allows decomposing the variance of each indicator \( x_i \) as: \( \text{Var}(x_i) = \text{Var}(a_{i1}F_1 + a_{i2}F_2 + \ldots + a_{iQ}F_Q) = a_{i1}^2 + a_{i2}^2 + \ldots + a_{iQ}^2 = 1 \). Hence, the square of a generic factor loading (\( \alpha_{ij}^2 \)) is the fraction of the total variance in indicator \( x_i \) explained by factor \( F_j \), whereas the sum of the squared loadings characterizing a given factor \( F_j \) gives the total variance of the \( Q \) indicators that \( F_j \) can account for. As a result, the sum of these total variances over the first \( N \) factors is the cross-country variance in the original data explained by the first \( N \) factors. An ancillary result of this note is that the higher the correlation between a given factor \( F_j \) and a certain indicator \( x_i \) (i.e. the coefficient \( w_{ij} \)) the higher the variance in indicator \( x_i \) explained by factor \( F_j \) (i.e. the coefficient \( a_{ij} \)).

\(^c\) This means that the loadings of a given factor will tend to polarize between the two extremes, i.e. near zero (no explained variance) and one (i.e. full explained variance). Note that different rotation methods imply different rotated loadings and this can affect the interpretation of the results. See OECD (2008) for a discussion on this point.
References


