THE OECD TAX-BENEFIT MODEL

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www.oecd.org/els/soc/benefits-and-wages.htm
The OECD tax-benefit model (TaxBEN)

What is it?

• ... incorporates detailed tax and benefit rules in EU and OECD countries
• ... assesses tax burdens and benefit entitlements for working-age families, much like tax or benefit administrations would
• ... calculates net household incomes for a wide range of policy-relevant family situations

- Unique tool for cross-country comparisons and policy evaluations
- “Official” results: ministries provide information, validate and “sign off”
- Long history of use by IOs; acceptance in policy community
- Long time series: back to at least 2001 for most countries
- Comparability, consistency across countries and over time
- Versatile, flexible and “light”; e.g., no need for survey data
- Publicly available: indicators, policy descriptions
- Annual updates
**TaxBEN: Purpose**

- **Main output: policy indicators** (as opposed to outcome indicators)
  - For monitoring / benchmarking / exploring policy design
  - Valuable for statistical analysis
e.g. association benefit generosity <-> employment outcomes
- **Questions like:**
  - Do cash transfers prevent income poverty?
  - Do childcare costs make working financially unviable?
  - How generous are benefits for the unemployed?
  - What type of benefits do people receive when they are unemployed? For how long?
  - Do tax-benefit rules create incentives for couple families to share work more equally?
  - How has benefit generosity developed over the last years?
**TaxBEN: Scope**

- **Countries and policy years**
  

- **Broad set of social and fiscal policy levers**

  - Policy levers
    - Childcare support and costs
    - Personal income tax
    - Social security contributions
    - In-work benefits
    - Unemployment benefits
    - Social assistance
    - Housing benefits
    - (Disability benefits)
    - Family benefits
    - Parental leave benefits

  → Interactions between policy areas

- **Note: some policies are not simulated**
  - Taxes on wealth and property
  - Indirect taxes
  - Early-retirement / old-age benefits
  - Sickness benefits
  - In-kind transfers (e.g. free school meals or subsidised transport)
TaxBEN: Recent uses

- Employment Outlook
- Economic surveys
- Society at a Glance
- Education at a Glance
- Accession Reviews
- OECD policy briefs Minimum wage, basic income, benefit coverage

EC: European Semester, Employment and Social Developments in Europe, Tax Policies in the EU

- Investing In Youth
- Faces of Joblessness
- Going for Growth
How does TaxBEN work?
The model calculates taxes and benefits for hypothetical households given the characteristics specified by the user.

**Family**
age, number of children...

**Labour market**
economic activity, earnings, working hours, job tenure, unemployment duration...

**Benefit take-up**

**User choices**

**Policy rules:**
status quo or reform scenarios

**Output**
Net household income
What type of results can the model produce?

→ Net household incomes for different scenarios:

**By unemployment duration**

- Net household income

**By previous earnings**

- Net household income

**By working hours**

- Net household income
  - Gross earnings after taxes and social security contributions

**By current earnings**

- Net household income
  - Gross earnings after taxes and social security contributions

Legend:

- Gross earnings-IT-SSC
- Housing benefits (HB)
- Family benefits (FB)
- Social assistance (SA)
- In-work benefits (IW)
- Unemployment benefits (UB)
- Taxes
- Net income
- Gross earnings
Detailed descriptions of tax-benefit rules

- Focus on description of policy mechanisms
- Explicit links with the TaxBEN model
- Available online
Policy application with TaxBEN (1)
The 2017 reform package in Greece

**Income tax:** General tax credit↓, bottom tax rate↓, solidarity tax rates↓

**New GMI: Social Solidarity Income**
- rent allowance↓ but higher income limits,
- Earnings disregards (3 months of new employment)

**Family benefits**
- Amount↑ (1-3 children)
- large-family benefit abolished (4+)
- milder phase-out

### Net income
% of median disposable income, couple with two children

Note: 2016 baseline
Policy application with TaxBEN (2)

The unemployment benefit reform in Lithuania

- Required contribution months ↓
- Minimum + maximum amounts ↑
- Duration ↑
- Relation with previous earnings ↑

Average net replacement rate, 2-year unemployment spell
Single person without children. Previous employment full-time, median wage

- Average NRRs decreased between 2009 and 2014
- Reform makes benefits more generous than ever before, but NRRs still below OECD average
Policy application with TaxBEN (3)
The new childcare benefit in Ireland

Eligibility for up to 40 hours/week of care
Max amount: €3.76 - €5.11/hour depending on age

Means test: phase out starts at €22,700

Net childcare costs
low-earning lone parent working full-time, two children

<table>
<thead>
<tr>
<th>% of gross earnings</th>
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</thead>
<tbody>
<tr>
<td>Childcare fee</td>
</tr>
<tr>
<td>Childcare benefit/rebates</td>
</tr>
<tr>
<td>Other benefits</td>
</tr>
<tr>
<td>Tax reduction</td>
</tr>
<tr>
<td>Net cost</td>
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</tbody>
</table>

Note: lone parent working full time at the 25th percentile of the female full-time earnings distribution with two children aged 3 and 6. Childcare costs calculated only for the 3-year old child assuming full time pre-school attendance. Childcare cost are assumed to be zero for the older child.
Policy application with TaxBEN (4)

How sensitive are unemployment-benefit entitlements to changes in people’s employment records?

Average net replacement rates, 2-year unemployment spell
Single person without children. Previous earnings: 67% of AW

Notes: 2016 policies. Unweighted average over 24 months of unemployment. Calculations based on a single person without children who was working full-time at 67% of the average wage. Where receipt of social assistance or other minimum-income benefits is subject to activity tests (such as being "available" for work), these requirements are assumed to be met.
Policy application with TaxBEN (5)
“Does work pay?”

Participation tax rates of a one-earner couple with children
From inactivity to employment at 10th percentile of (FT) earnings
(Higher values mean weaker work disincentives)

Note: PTRs gives the proportion of total earnings that are lost in higher taxes or lower benefit entitlements when someone moves into work. 2014 policy rules
Policy application with TaxBEN (6)

«Without policy co-ordination, increasing the minimum wage may do little to bolster family incomes»

Share of an minimum wage increase that adds to net income, after accounting for taxes and benefit reductions
(Lone-parent with 2 children)

Notes: Calculations refer to a 5% minimum-wage increase and a single-adult household with two children. They assume that all tax and benefit provisions remain as they were before the increase, and account for minimum-income and other means-tested benefits that are primarily income related and are typically accessible for low-income families
Source: Minimum wages after the crisis: Making them pay (OECD, 2015)
TaxBEN: Flexible parameters

- Model users are free to change several family characteristics from their default settings:
  - **Age and number of adults and children** (default: adults are 40 years old while children are aged 4, 6, 8 and 10 depending on their number)
  - **Social security contribution record** (default: 22 years)
  - **Housing costs** (default: 20% of the average wage, when applicable)
    - Housing costs include both the rent and any housing-related expenditure
  - **Unemployment duration** (default: 2 months)
    - Unemployment duration is calculated at the end of any waiting period (when applicable)
  - **Hours of work** (default: 40 hours/week)
  - **Benefit eligibility**
    - Benefits can be switched on/off when the model is running
**TaxBEN: Key model assumptions**

- Standard assumptions to enhance understanding of the outputs and facilitate cross-country comparisons:
  - Families do not use “itemized” tax deductions and / or specific tax credits that may be available.
  - In cases where a former spouse is expected to pay alimony or child support, such support is not forthcoming.
  - Where benefit receipt is subject to activity tests (such as active job-search), these requirements are met.
  - In countries where there are regional differences, the model uses national default if it exists, or incorporates policies of a “typical” region.
  - Wage data and, where applicable, tax or contribution rules refer to standard employment contracts in the private sector.
Thank you!

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