The tax-benefit microsimulation model for the European Union

EUROMOD is a tax-benefit microsimulation model for the European Union (EU) that enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU as a whole.

As well as calculating the effects of actual policies it is also used to evaluate the effects of tax-benefit policy reforms and other changes on poverty, inequality, incentives and government budgets.

EUROMOD is a unique resource for cross-national research, designed to produce results that are comparable across countries and meaningful when aggregated to the EU level.

EUROMOD is managed, maintained, developed and updated by a team of researchers in ISER. This is done in collaboration with national experts.

The current version of EUROMOD represents the accumulation of technical developments and expertise over a number of years and involving a large team of people. For more information on the design and development of EUROMOD click here.

www.iser.essex.ac.uk/euromod

Evidence from EUROMOD informs IMF fiscal policy and income inequality paper

The International Monetary Fund has published a new policy paper on fiscal policy and income inequality

It draws on six separate ISER research papers using EUROMOD as well as some additional data provided by ISER researchers.

The paper explores options for redistributive policies for policy makers to address income inequality within countries.

Professor Holly Sutherland, Director of EUROMOD said: “I am delighted that the IMF has found EUROMOD-based research so useful for its study on fiscal policy and income inequality.”

Research evidence from EUROMOD includes:

- PDF The distributional effects of fiscal consolidation in nine EU countries EUROMOD Working Paper EM2/13
- PDF The Distributional Impact of In-Kind Public Benefits in European Countries EUROMOD Working Paper EM10/09
- PDF The Effects of Taxes and Benefits on Income Distribution in the Enlarged EU EUROMOD Working Paper EM8/09

The policy paper can be downloaded here.
ISER research for CPAG comparing child poverty rates across the EU27

ISER has completed a briefing for the Child Poverty Action Group to provide a comparison of the effect of the 2012 tax-benefit systems on child poverty across the EU27.

The study by Dr Holguer Xavier Jara Tamayo and Chrysa Leventi uses EUROMOD to analyse data from all 27 countries in the EU.

The effectiveness of social security at tackling child poverty has been published as a briefing by the CPAG stating: “While child poverty is responsive to, and requires, many different types of policy intervention, international evidence shows that social security is an essential tool for reducing child poverty. The note prepared for CPAG by the Institute for Social and Economic Research at Essex University vividly illustrates the effect of taxes and benefits on child poverty rates across the EU27 for 2012.

Figure 1 shows that the UK’s child poverty starting point is very high – we have the second highest child poverty rate before taxes and transfers in the EU27.”

Figure 1. Child poverty rates before and after taxes and benefits (2012)

Notes: Countries are ordered according to child poverty rates before taxes and benefits are taken into account. EU refers to the EU27 average.

Source: EUROMOD version G1.4.

Workshop on understanding changes in income inequality in the austerity period

The workshop is jointly organised by the ESRC Research Centre on Micro-Social Change and the EUROMOD Project, both of which are based at the Institute for Social and Economic Research (ISER), and will take place at the University of Essex, UK, on 15-16 September 2014.

The workshop will provide the opportunity for academics to discuss different aspects of inequality in economic outcomes (household income, consumption, wealth, earnings, employment) in developed societies and to assess how welfare states are responding, or might respond to economic shocks such as the recent financial and economic crisis.

The keynote speaker will be Professor Richard Blundell (UCL and Institute for Fiscal Studies).

The workshop programme will be uploaded on the ISER website in April. The workshop is free to attend and a registration process will be opened in April.
Poverty and social policy in times of crisis: studying the case of Greece

Studies find Greek social safety net failing to deal effectively with steep rise in jobless families with no income support

Two new studies using EUROMOD, published by the Policy Analysis Research Unit at the Athens University of Economics and Business, have found that the Greek social safety net is failing to deal effectively with the country’s ‘New Social Question’: the steep rise in the number of jobless families with no income support.

In ‘Poverty in Greece: trends in 2013’ Manos Matsaganis and Chrysa Leventi present updated estimates of poverty trends up to 2013. They find that the relative poverty rate has crept up by three percentage points since 2009. On the other hand, they estimate that as many as 41 per cent of Greeks in 2013 were below the 2009 poverty threshold. More worryingly, the study shows that one in seven persons were below the extreme poverty threshold in 2013 (compared to one in nine in 2012, and one in 45 in 2009).

In ‘Poverty and social policy in (a) crisis: the case of Greece’ Manos Matsaganis describes the gaps in coverage left by the country’s patchy and inadequate social safety net. The research suggests that coverage gaps preceded the crisis, but were made worse by the slow and insufficient policy reaction.

Things begin to change slowly from 2013. Specifically, the government introduced a means-tested child benefit and an unemployment benefit for the self-employed, broader eligibility conditions for unemployment assistance and a minimum income scheme to be piloted in 2014 in two local areas. A careful analysis of these measures suggests that, although welcome, they suffer from design faults and insufficient funding. The study concludes by outlining a strategy for bolstering the country’s social safety net and upgrading basic social services.

The Policy Analysis Research Unit is an informal group of staff and students at the Athens University of Economics and Business, co-ordinated by Manos Matsaganis. The Newsletter series is produced by Kritiki Publishers and is supported by the EUROMODupdate2 project. For more information click here or, to email the Policy Analysis Research Unit, click here.

Winter school: cross country microsimulation

The first winter school on EUROMOD cross country microsimulation was recently held at the Institute for Social and Economic Research, University of Essex (UK) over three working days, 26-28 February 2014

The 25 participants who attended originated from a variety of institutions across the European Union including Universities, Banks and Ministries and involved academics, policy practitioners and other interested users.

Professor Holly Sutherland kicked off proceedings with an introduction to the Winter School. Dr Silvia Avram, a member of the EUROMOD team led the event with the support of colleagues Alberto Tumino, Chrysa Leventi & Iva Tasseva. The course covered the basics of tax-benefit microsimulation, the logic and structure behind EUROMOD, working with EUROMOD’s user interface, input data, EUROMOD ‘language’ and using existing documentation. The bulk of the course was dedicated to teaching EUROMOD functions which form the building blocks of the EUROMOD ‘language’.

Time was allocated throughout the three days for practice hands on exercises, allowing time to get used to the tool. Participants were also provided with the opportunity to present their projects to the group, explaining how they would be using EUROMOD to push these forward.

Initial feedback following the course has been very positive, with participants quoting that ‘it was very useful and really well-organised’ and ‘a great introduction to EUROMOD’.

The winter school in cross country microsimulation is part of the policy pillar of InGRID. Another winter school is planned to be held at the Institute for Social and Economic Research, University of Essex in February 2015; further details will be announced later this year.

The winter school participants
Meet the EUROMOD national teams: the Latvian team

Home to the Latvian EUROMOD team, the Baltic International Centre for Economic Policy Studies is an independent research centre located in Riga (Latvia) founded in 2002

BICEPS ● is located in the premises of Stockholm School of Economics in Riga and has strong links with the School.

It is also part of a network of research institutes led by the Stockholm Institute for Transition Economics at the Stockholm School of Economics (Sweden), which connects leading research institutes in Belarus, Georgia, Poland, Russia and Ukraine.

The Latvian EUROMOD team currently consists of three members – Alf Vanags (Director of BICEPS), Anna Zasova (research fellow at BICEPS) and Anna Zdanovica (research fellow at BICEPS).

Alf Vanags has been the Director of BICEPS since its foundation. He is a professional economist with more than 40 years' experience of policy oriented analysis. Educated at University College London and the London School of Economics, he has extensive experience at national and EU levels of research, policy evaluation and policy comment on economic issues in Latvia and the Baltic states. He has been involved in the EUROMOD project since 2006 when he was the joint author of the first Latvia feasibility study.

Anna Zasova has been a research fellow at BICEPS since 2007. She holds a PhD in economics from the University of Latvia. She has worked with EUROMOD as a member of the national team since 2010.

Finally, Anna Zdanovica has been a research fellow at BICEPS since 2013. Anna holds a masters degree in economics from the University of Latvia and is currently doing PhD in economics at the University of Latvia. She started working with EUROMOD in 2013, and she is using EUROMOD in her PhD thesis.

Recently, the team, in co-operation with Olga Rastrigina, a senior research officer at ISER and the EUROMOD developer responsible for the Latvian model, have been using EUROMOD very actively to estimate the distributional impact of recent reforms in Latvia. Latvia was one of the hardest hit economies during the crisis and there were many tax and benefit reforms implemented in recent years. Since there is no national tax-benefit micro-simulation model in Latvia, the analysis done with EUROMOD has invariably attracted attention of both the public and policy makers. In 2012, they produced and published a couple of works (a policy brief, a policy paper in the Baltic Journal of Economics and a paper with the Baltic Center for Investigative Journalism) that looked at the distributional impact of policies implemented during the crisis (austerity measures) and policies implemented before and after the crisis. The major conclusion was that there is a general lack of distributional considerations in the design of the Latvian tax-benefit policies. They showed that, despite the impact of the implemented austerity measures being progressive, the measures were mostly correcting previous policy failures.

In 2013, they started to work on a project commissioned by the Latvian Ministry of Economics, which aims at identifying the major directions of tax-benefit reforms that would help to combat poverty and reduce income inequality. EUROMOD is the major tool that we use in the analysis. Their research with EUROMOD in Latvia is used by policy makers and others. For instance, their work with the Baltic Center for Investigative Journalism was widely cited, both in Latvia and abroad, and attracted considerable public attention. The investigation has brought the issues of poverty and income inequality to the focus of public debate. Shortly after the publication, the need to reduce poverty and income inequality became major issues in the policy debates and both topics have become priorities of the government tax-benefit policy. The aforementioned project with the Ministry of Economics of Latvia will produce specific recommendations for reforming tax-benefit policies, and these recommendations are supposed to form the basis for future reforms.

Projects using EUROMOD

In each newsletter we highlight a research project that uses EUROMOD. This time, we look at NEUJOBS

NEUJOBS is a collaborative research project (2011-2015), funded by the European Commission under the FP7 programme.

It brings together nearly 30 research institutions, and is led by the Centre for European Policy Studies (CEPS). Its objective is to assess the implications for the European labour markets of the four broad types of processes in the societies: socio-ecological transition, demographic changes, spatial dynamics and skills transition. One of its strands aims to project occupational, skills and geographical distribution of labour supply, labour demand, and employment in the EU in 2030 and consider the impact on the income distribution. This work is largely based on micro-simulation modelling, EUROMOD in particular, and involves ISER collaborating with the Institute for the Study of Labor (IZA).

More information about NEUJOBS and publications can be found here. ●
Working papers

- **Integrating Indirect Taxation into EUROMOD: Documentation and Results for Germany**
  - **EUROMOD Working Paper Series: EM20/13**
  - Authors: André Decoster, Richard Ochmann, Kevin Spiritus
  - **Publication date** 2 December 2013
  - **Abstract** This paper documents the integration of microsimulation tools for direct taxation, indirect taxation, and social benefits in the context of the European tax and benefit simulator, EUROMOD. Integration has been developed parallely for the two countries, Belgium and Germany. The paper at hand documents the process and presents simulation results for the case of Germany. An integrated data base underlying EUROMOD that contains household-level information on income and consumption is generated. Consumption micro data from the 2008 cross section of the household budget survey for Germany is used to impute information on spending for durable and non-durable commodities into EU-SILC data, applying regression-based imputation techniques. Engel curves are estimated at the household level for total non-durable spending, expenditures on durables, goods, as well as non-durable expenditure share equations. Distributional plots evaluate the goodness of fit of the imputations. As a result, status quo tax legislation is simulated in EUROMOD on imputed household spending, and incidence analysis of baseline VAT is undertaken. Finally, several arbitrary policy reforms implementing VAT rate uniformity are analysed with respect to their distributional impact.

- **Changes in Income Distribution and the Role of Tax-Benefit Policy During the Great Recession: An International Perspective**
  - **EUROMOD Working Paper Series: EM21/13**
  - Authors: Olivier Bargain, Tim Callan, Karina Doorley, Claire Keane
  - **Publication date** 6 December 2013
  - **Abstract** This paper examines the impact on inequality and poverty of the economic crisis in four European countries, namely France, Germany, the UK and Ireland, and the contribution of tax and benefit policy changes. The period examined, 2008 to 2010, was one of great economic turmoil, yet it is unclear whether changes in inequality and poverty rates over this time period were mainly driven by changes in market income distributions or by tax-benefit policy reforms. We disentangle these effects by producing counterfactual (no reform) scenarios using tax-benefit microsimulation and representative household surveys of each country. For the period under study, we find that the policy reaction has contributed to stabilizing or even decreasing inequality and relative poverty in the UK, France and especially in Ireland, a country where rising unemployment would have otherwise increased poverty. Market income inequality has nonetheless pushed up inequality and relative poverty in France. Relative poverty and, notably, child poverty, have increased in Germany due to policy responses combined with the increasing inequality of market income.

- **Fiscal Integration in the Eurozone: Economic Effects of Two Key Scenarios**
  - **EUROMOD Working Paper Series: EM1-14**
  - Authors: Mathias Dolls, Clemens Fuest, Dirk Neumann, Andreas Peichl
  - **Publication date** 24 January 2014
  - **Abstract** The 2008-09 crisis has shown that some euro area member countries were unable to sufficiently stabilise their economies which has given rise to a debate about deeper fiscal integration in Europe. In this paper, we analyse the redistributive and stabilising effects of two scenarios of fiscal integration in the Eurozone, namely the introduction of i) a joint tax and transfer system that replaces 10 per cent of national systems and ii) a system of fiscal equalization that equalizes 10 per cent of differences in tax capacity. Based on the European tax-benefit calculator EUROMOD and representative household micro data for the current 17 euro area member states, our conceptual experiment shows that a joint tax and transfer system would only lead to moderate gains in terms of stabilisation while redistribution would flow especially towards the Eastern European member states. In contrast, a fiscal equalisation mechanism that redistributes revenues across countries could even lead to destabilising effects.

- **Could a Universal Family Payment improve gender equity and reduce child poverty in Australia? A microsimulation analysis**
  - Authors: Phillip Hayes, Gerry Redmond
  - **Publication date** 10 February 2014
  - **Abstract** The Australian income tax and transfer system has undergone considerable reform since the mid 1980s. As a number of commentators have pointed out, one impact of reforms to cash transfers for families, as well as of some reforms to direct taxes, has been the evolution of a defacto system of family taxation, with negative consequences, in terms of incentives to earn (and consequent deadweight loss), for parents, and especially for secondary earners in couple families with children. In this paper, we use a new Australian microsimulation model, ATM, built on the EUROMOD platform to examine the extent to which policies to support families with children through the tax and transfer system have been achieved at the expense of gender equity, and how the system could be better designed to achieve child poverty reduction with gender equity. Our analysis suggests that the institution of a universal family payment that would both improve incentives and reduce child poverty is potentially affordable, even before reduction of deadweight loss under the current system is taken into account. However, such reforms as are modelled here would be politically difficult, since the main gainers would be families with children in the top half of the income distribution, and the main losers would be taxpayers who do not have dependent children.

- **PDF Distributional impacts of cash allowances for children: a microsimulation analysis for Russia and Europe**
  - **EUROMOD Working Paper Series: EM2-14**
  - Author: Daria Popova
  - **Publication date** 27 January 2014
  - **Abstract** This paper analyses programmes of cash allowances for children and compares their effectiveness in combating child poverty in Russia and four EU countries Sweden, Germany, Belgium and the United Kingdom. These countries are selected as representatives of alternative family policy models. Using microsimulation models (RUSMOD and EUROMOD), this paper estimates the potential gains if the Russian system were re-designed along the policy parameters of these countries and vice versa. Such an exercise rests on the idea of policy learning and provides policy relevant evidence on how a policy would perform, given different national socio-economic and demographic settings. The results confirm that the poverty impact of the program design is smaller than that of the level of spending. Other conditions being equal, the best outcomes for children are achieved by applying the mix of universal and means-tested child benefits, such as those employed by the UK and Belgium. At the same time, the Russian design of child allowances does not appear to be less effective in terms of its impact on child poverty when transferred to European countries in place of their current arrangements.
EUROMOD: introducing the team

In this edition of EUROMOD NEWS, Silvia Avram, Senior Research Officer with the EUROMOD team based at ISER, describes her work.

What is your background? I come from Bacau, a small city in the east of Romania. I obtained my bachelor degree from the National School of Political Science and Public Administration where I studied political science and sociology. I then moved abroad, first to Belgium where I completed a master degree in international social policy analysis from K.U. Leuven and then to Italy where I obtained a PhD in social and political sciences from the European University Institute with a thesis on social assistance programs in Central and Eastern Europe. I joined ISER in February 2011.

What are your research interests? Distribution of income and wealth; relative poverty and deprivation; impact of social and fiscal policies on individual and household welfare, behavioural responses to taxes and transfers, and the low-paid labour market.

Do you have any special responsibilities? I am currently in charge of coordinating the EUROMOD training courses. I’m also the editor of the EUROMOD Working Papers series.

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Which countries do you work on? I currently work on France, Romania and Malta. I’ve also worked on Slovakia in the past.

What are you working on at the moment? In addition to contributing to the maintenance and updating of EUROMOD, I’m using the model to examine the distributional effects of income tax expenditures in six European countries and the effect of child related policies on child poverty and inequality in Romania. I’m also carrying out experimental work applying ideas from behavioural economics to the field of taxes and benefits, as well as being part of a project that investigates the employment effects of a recent policy change affecting income support for lone parents in the UK.

What do you enjoy most about working with EUROMOD? From a professional perspective, EUROMOD is a very powerful tool for looking into the effects of social and fiscal policies, which is my main research interest. From a human perspective, I very much enjoy working with a large, multinational, culturally diverse but very friendly team that feels like a second family.

Would you like to share any recent highlights? One of the EUROMOD roles I very much enjoy is teaching the associated training course. As part of the InGRID project, ISER has organised a winter school in cross-country microsimulation in February 2014 which I have taught in collaboration with three other colleagues from ISER. EUROMOD schools and training courses are a very good opportunity to meet other academics and policy researchers interested in tax-benefit modelling, to exchange ideas and to observe how our work on building and updating the model is benefiting the wider community of scholars and interested users. Recently I had the opportunity to present my paper on the distributional effect of income tax expenditures at a workshop on the use of tax expenditures in times of fiscal consolidation organised by DG ECFIN in Brussels. I’ve also presented two EUROMOD based papers at the 4th General Conference of the International Microsimulation Association in December 2013.