

EUROMOD NEWS

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 years and involving a large team of people. For more information on the design and development of EUROMOD [click here](#).

www.euromod.ac.uk



University of Essex and Eurostat collaboration publishes new EU poverty statistics

A collaboration between the University of Essex and Eurostat, the statistical office of the European Union, has resulted in the publication of a new set of experimental statistics by Eurostat

The flash estimates of poverty and income distribution in 2016 – for all EU countries except the UK for which data on incomes in 2016 were already available – mainly use EUROMOD, the tax-benefit microsimulation model and employ related tools and methods developed at the University of

Essex. Microsimulation routines using the EUROMOD model and running on adjusted EU Statistics on Income and Living Conditions (EU-SILC) data from earlier years form the basis of the flash estimates in 22 of the 27 countries.

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Continued from previous page The publication of these experimental statistics forms a basis for feedback from users and the research community and the further improvement of these estimates. Our flash estimates of at-risk-of-poverty (AROP) rates and evolution of income deciles provide policy makers with an early indication of the magnitude and the direction these important statistics are moving in prior to the release of the official estimates in summer next year.

In anticipating the official numbers – which will be based on the yet-to-be-released 2017 EU-SILC data – the flash estimates are not expected to capture perfectly changes in the EU-SILC estimates. Nevertheless they improve the timeliness with which estimates are available of the directions of change of important social indicators. These experimental results show that poverty risk is estimated to have remained stable in most EU countries.

The publication of these statistics is the culmination of two years of cooperation and collaboration between Eurostat and the EUROMOD team based at Essex's Institute for Social and Economic Research (ISER). The aim is to issue the statistics annually in future.

Whilst the flash estimates are calculated and produced by Eurostat with the cooperation of National Statistical Institutes, the methodology behind the statistics draws heavily on pioneering work done at Essex to 'nowcast' income distributions and poverty rates using EUROMOD, including techniques to statistically adjust older EU-SILC data to reflect changes in the labour market and to the level of market incomes since the data were collected, combined with the simulation of the latest tax-benefit policies.

The new experimental statistics can be found [here](#) on the Eurostat website.

Introducing our new blog

You may have noticed that we've launched a [new blog series](#) on the EUROMOD website, containing write-ups of research using EUROMOD, infrastructure projects and think pieces. We've got more content planned but we would be delighted to receive offers to contribute. If you have an idea, let us know via euromod@essex.ac.uk.



The large quad of the Stadscampus at the University of Antwerp

BOOK NOW! EUROMOD-HHoT Winter School 'Using EUROMOD for model family simulations'

Applications are now open for the next hands-on EUROMOD training course to be held at the University of Antwerp, on 16-18 January 2018.

This Winter School includes the use of HHoT (or the Hypothetical Household Tool),

a tool for the simulation of hypothetical families, and also includes an optional module on microsimulation and variance estimation. The deadline for applications is 15 November 2017. For further details and to apply, click [here](#).

EUROMOD-related research presented at conferences

[Conference of the Italian Society of Public Economics, 21-22 September 2017, Catania](#)

- Francesco Figari presented 'Redistribution in a joint income-wealth perspective: a cross-country comparison' work conducted with Gerlinde Verbist and Sarah Kuyper.

[73rd Annual Congress of the International Institute of Public Finance, 20 August 2017, Tokyo](#)

- Sebastiaan Maes presented 'Piecemeal modelling of the effects of joint direct and indirect tax reforms' work conducted with Bart Capéau, Andre Decoster and Toon Vanheukelom
- Francesco Figari presented 'Homeownership taxation after the Great Recession onset in Europe: do property taxes compensate for income tax exemptions?' work conducted with Gerlinde Verbist and Francesca Zantomio
- Markus Tiefenbacher presented 'Simulating wealth taxes for Germany. Distributive and fiscal outcomes of current and alternative

polices' work conducted with Gerlinde Verbist and Sarah Kuyper

- Christian Wittneben presented 'Dynamic Scoring of Tax Reforms in the EU' work conducted with Salvador Barrios, Mathias Dolls, Anamaria Maftei, Andreas Peichl, Sara Riscado and Janos Varga
- Cortnie Shupe presented 'Work Incentives in Europe: The Effect of PTRs on Labor Supply Decisions' work conducted with Charlotte Bartels.

[7th Meeting of the Society for the Study of Economic Inequality \(ECINEQ\), 17-19 July 2017, New York](#)

- Holly Sutherland presented 'Reducing poverty and inequality through tax – benefit reform and the minimum wage: The UK as a case-study' work conducted with Anthony B. Atkinson, Chrysa Leventi, Brian Nolan and Iva V. Tasseva
- Francesco Figari presented 'Homeownership taxation after the Great Recession onset in Europe: do property taxes compensate for income tax exemptions?' work conducted with Gerlinde Verbist and Francesca Zantomio.



The project provides a sound basis for extending indirect tax simulations in EUROMOD

EUROMOD is extended to measure the impact of indirect taxation on household incomes in 10 EU countries

The European Commission has identified the area of indirect taxes as an important domain for tax policy reforms with potentially wide-ranging socioeconomic effects

There is renewed interest in tax shifts that reduce labour taxes and increase taxes on commodities, keeping the overall government revenue fixed. While often desirable from an economic or fiscal perspective, these shifts might entail substantial distributional changes.

Funded by the European Commission's Joint Research Centre in Seville, the Institute for Social and Economic Research at the University of Essex, jointly with the Department of Economics of the University of Leuven, has conducted a project related to the integration of indirect tax simulations into EUROMOD. The project 'EUROMOD extension to indirect taxation' has created an Indirect Tax Tool (ITT) plug-in that allows the analysis of indirect taxes such as VAT and excise duties for ten countries: Austria, Belgium, Czech Republic, Estonia, Finland, Greece, Latvia, Poland, Romania and the United Kingdom. This work built on two smaller projects covering four countries – France, Italy, Germany and Spain – designed last year to pilot a method already developed by the EUROMOD Belgian team from the University of Leuven.

As part of the project, consumption expenditures from national Household Budget Survey (HBS) data were used to inform the imputation of expenditure into the existing EUROMOD input data. Fiscal years have been coded for the period 2011-2016 for all 10 EU countries. The researchers also produced a detailed synopsis of the VAT and excises systems in each of the ten countries and a complete validation of the input data, as well as of the output produced by

the model. They also created cross-country comparative technical information and comparative baseline results, and analysed an example of a policy reform – involving a revenue-neutral switch from direct to indirect taxation across all countries – in terms of its distributional effects.

The new ITT allows for a more comprehensive assessment of the effects of policy changes on households than was previously possible in EUROMOD, enabling the analyst to perform static microsimulation analyses in a comparable way on a single platform. The tool allows for the evaluation of both the budgetary effects and the equity impact of (simultaneous) reforms to direct and indirect tax policies and to the social benefit system.

The project provides a sound basis for extending indirect tax simulations in EUROMOD to more, and eventually all, the EU Member States. For now, the ITT and related policy coding are not made available as part of the publicly-released EUROMOD model and software but anyone interested is invited to read the project's Final Report available [here](#) or to get in touch via euromod@essex.ac.uk.

'The new development allows for the analysis of the effects of reforms to indirect taxes in combination with reforms to direct taxes and social benefits'

A basic income? Three recent analyses employing EUROMOD

A basic income is remarkable insofar as it is a policy option that is proposed – in an increasing number of regional and country settings – as the solution to a range of problems presented by contemporary tax-transfer systems

Two recent EUROMOD working papers and an OECD Policy Brief have each simulated scenarios in EUROMOD that include, in one form or another, a basic income reform. We describe these analyses briefly below and point the reader to the papers; it is unlikely that these analyses will be the last to look at this topic using EUROMOD!

Tony Atkinson, Chrysa Leventi, Brian Nolan, Holly Sutherland and Iva Tasheva take Atkinson's book *Inequality: What Can Be Done?* as their starting point to examine a range of policy proposals designed to combat income inequality while also reducing reliance on means-testing.

In the context of the UK, they analyse the effect of introducing a variant of a basic income, a Participation Income (PI), as part of a package of reforms. Atkinson's PI is not intended to be universal in the sense that it would involve restricting the payment to adults who participate in society in some way (through paid work, caring responsibilities and so on) or who are unable to. Introduced alongside reforms to make income tax much more progressive and to increase significantly the value of Child Benefit, the authors find that a PI set at around £4,000 per annum would reduce poverty and inequality very substantially while remaining fiscally neutral. But another impact of this major package of reforms might be to reduce work incentives, due primarily to the rise in income tax rates used to offset the costs of the proposed changes.

• For the full results and further detail on how the proposed PI that is examined interacts with the tax-benefit system, see EM13/17, available [here](#).

Malcolm Torry's working paper is another that examines the operationalisation of a basic income in the context of the UK's tax-benefit system. Torry focuses on what he terms a Citizen's Basic Income (CBI) which is again implemented as part of a revenue-neutral package of reforms that includes an uplift in Child Benefit payments and progressive changes to the structure of income tax and National Insurance contributions to cover the cost. The value of the CBI is dependent on the age of the recipient, with working age adults receiving

a little over £3000 per annum (and all others somewhat less).

The results of the implementation – as per the Atkinson et al paper – point to powerful redistributive effects with sharp reductions in poverty and inequality.

• For the full working paper and assumptions behind the implementation, see EM12/17, available [here](#).

A recent OECD Policy Brief offers a wider overview of the basic income (BI) concept but moves from concept to policy reform proposals, testing these reforms in EUROMOD for four countries – Finland, France, Italy and the UK. For all countries the implementation is the same: BI is received by those below retirement age, is taxable, and initially set to match guaranteed minimum income (GMI) levels in each country before being scaled up or down to achieve budget neutrality (in the aggregate, BI payments costing the same as existing benefits and tax-free allowances which are mostly abolished to make way). In contrast to the implementations in the two EUROMOD working papers, then, there is no

accompanying restructure of income tax rates. Nor are households with children boosted by an increase in the value of Child Benefit; instead BI amounts for children are set so that a workless household with two children receives the same income before and after the reforms.

As the Policy Brief notes, EUROMOD is particularly suitable for this kind of analysis as it allows a comparative evaluation of the reforms across the four countries. The results point to some notable cross-country differences both in application (the value of BI differs considerably both nominally and in relation to the proportion of existing GMI covered across the countries) and also in the demographics (age, family type, income group) affected by the reforms. There are also important similarities across the four countries. In all cases, there are a substantial number of winners and losers across the income distribution – as might be expected for such a fundamental change. The results also suggest that this particular implementation of a BI would not reduce poverty in any of the countries covered. Poverty rates would remain the same in Italy but the reforms would increase the number of poor in the other countries covered, and substantially so in the UK.

• The OECD policy brief can be downloaded [here](#) and is accompanied by a technical background note [here](#).



Helsinki in Finland – one country currently testing basic income through policy reform

Meet the EUROMOD national teams: the Cypriot team

In this edition of *EUROMOD NEWS*, we introduce you to the two members of the Cypriot EUROMOD team



The members of the Cyprus national team are Christos Koutsampelas and Alexandros Polycarpou both working at the Economics Research Centre of the University of Cyprus (CypERC).

The CypERC is an independent non-profit research institution aiming at high quality policy oriented research in economics with emphasis on subjects concerning the Cyprus economy. The CypERC is financed by research organisations in Cyprus and the European Union, through competitive funding procedures, and contributions from governmental and other organisations. CypERC has the necessary research infrastructure (suitably trained researchers, computer software and hardware, and constantly updated databases) to respond timely and effectively to research needs in a rapidly changing economy. The centre also benefits from the expertise offered by established academics in Cyprus and abroad who participate in the research effort as Research Associates and Fellows. CypERC aims at encouraging economists of high calibre to become involved in research on subjects of interest to the Cyprus economy. It also aims at serving as a channel for directing local and European research funds to economic research. Among the objectives of the CypERC is to study subjects of wider economic interest and publish articles in international academic journals.

'EUROMOD proved a very useful tool in the context of the recent economic crisis in Cyprus, when the government had to consolidate public finances and implement a series of interventions in the benefit-tax system'

Alexandros Polycarpou is a researcher at the Economics Research Centre of the University of Cyprus. He has a BSc in Economics, an MSc in Economics Analysis and a PhD in Economics from the University of Cyprus, and an MSc in Economics from the University of Wisconsin-Madison. His research interests are in the areas of public and labour economics. He is working on issues relating to tax-evasion, active labour market policies, labour supply behaviour of individuals, tax and benefit systems simulation and the returns of human capital investment. He has worked on projects funded by the Cyprus Research Promotion Foundation, the University of Cyprus, the Cyprus Government, and the European Commission. He has published in journals such as *Economica*, *Labour Economics*, *International Journal of Educational Development*, *European Journal of Public Health*, *Water Resources Management*, and *Cyprus Economic Policy Review*.

Christos Koutsampelas is a researcher at the Economics Research Centre of the University

of Cyprus and a national expert on social inclusion for Cyprus in the context of the European Social Policy Network. He earned a BSc in Economics in 2004, a MSc degree in International Economics and Finance in 2005 and a PhD in Economics in 2009 at the Athens University of Economics and Business. His primary research interests lie in the field of economic inequalities focusing on issues such as the measurement of income inequality, the interrelation between educational and income inequalities, the microsimulation of public policies and the impact of social policy on poverty, inequality and social exclusion. He has published his work in international peer-reviewed journals, national reports, policy essays and opinion articles in the media.

How long has the team been working with EUROMOD?

Alexandros Polycarpou has been a member of the team since the beginnings of the EUROMOD project in Cyprus in 2009. Christos Koutsampelas joined the team in 2012.

Some highlights of recent research by the Cyprus EUROMOD team

Typically we use microsimulation analysis to evaluate the distributive impact of actual or potential public policies in Cyprus. Our prime motivation is to contribute actively to public debates using evidence-based arguments. Our findings are usually disseminated through national reports, policy essays as well as through our bi-annual newsletter. That said, it is important to highlight that EUROMOD proved a very useful tool in the context of the recent economic crisis in Cyprus, when the government had to consolidate public finances and implement a series of interventions in the benefit-tax system. On the basis of EUROMOD analyses we were able to inform policymakers on the impact of their decisions on households' income, especially as regards the more vulnerable. Having this goal in mind, our team presented our research results in meetings with public officers and other experts and stakeholders. Here, we should also highlight the expression of genuine interest from International Monetary Fund (IMF) staff, who, in some occasions, sought for independent opinions on matters pertaining to the impact of fiscal consolidation. For example, our EUROMOD-based paper 'Austerity and the Income Distribution: The case of Cyprus' was cited by IMF. Also, from informal talks we held with Ministry officials we are in position to know that our research influenced (we believe in a positive way!) policy-making during this troubled period.

Working papers

Welfare Analysis and Redistributive Policies

EUROMOD Working Paper Series EM16/17

Author Olivier Bargain

Publication date 30 October 2017

Abstract Applied welfare analyses of redistributive systems nowadays benefit from powerful tax benefit microsimulation programs combined with administrative data. Arguably, most of the distributional studies of that kind focus on social welfare defined as a function – typically inequality or poverty indices – of household equivalised income. In parallel, economic research has made considerable progress in the measurement of welfare along several dimensions. Distinct but related branches of the literature have attempted (i) to model different behaviour (in a way that matter for incidence and redistribution of tax benefit policies), (ii) to go beyond income, (iii) to better define and estimate equivalence scales, (iv) to open the household black box and measure welfare at the individual level. I suggest a general framework to critically review these streams of literatures and to discuss whether recent advances in each of these fields have been or could be readily operationalised in welfare analyses and policy simulations.

The Effects of a Hybrid Negative Income Tax on Poverty and Inequality: a Microsimulation on the UK and Italy

EUROMOD Working Paper Series EM15/17

Author Alexander Tromp

Publication date 30 October 2017

Abstract This paper aims to propose a social protection system that 'decommodifies' labour and fulfils the properties of a Social Protection Floor satisfying revenue-neutrality. To this end, firstly, a Universal Basic Income (UBI) scheme is explored. Secondly, the UBI is transformed into a Negative Income Tax (NIT) scheme, providing universal protection instead of universal benefits. Finally, the NIT is modified into a Hybrid NIT (HNIT), being a mixture of NIT and a classic social assistance scheme. It features a 100% withdrawal rate, consequently allowing for a higher guaranteed minimum income level than would be possible with either an NIT or UBI. A static microsimulation, using the EUROMOD model, is conducted on the HNIT scheme, implementing two scenarios. One scenario establishes what the maximum levels of entitlements could be, assuming revenue-neutrality and current marginal tax levels. The other scenario assumes more generous entitlements and computes which tax rates would be necessary to pay for such a scheme. The models are applied to both Italy and the United Kingdom. The results are interpreted in terms of poverty and inequality statistics while closely looking into the assumptions of the microsimulation models. In the first scenario a modest level of guaranteed minimum income is feasible, decreasing both poverty and inequality decidedly compared to current levels. This effect is even stronger in the second scenario, however, it results in unrealistically high tax rates,

especially for Italy. The impact on poverty and inequality of the HNIT scheme is markedly higher for Italy in both scenarios suggesting that the United Kingdom has currently a social protection system in place that redistributes more efficiently than Italy.

Dynamic scoring of tax reforms in the European Union

EUROMOD Working Paper Series EM14/17

Authors Salvador Barrios, Mathias Dolls, Anamaria Maftei, Andreas Peichl, Sara Riscado, Janos Varga and Christian Wittneben

Publication date 30 October 2017

Abstract In this paper, we present the first dynamic scoring exercise linking a multi-country microsimulation and DSGE models for all countries of the European Union. We illustrate our novel methodology analysing a hypothetical tax reform for Belgium. We then evaluate real tax reforms in Italy and Poland. Our approach takes into account the feedback effects resulting from adjustments in the labour market and the economy-wide reaction to the tax policy changes. Our results suggest that accounting for the behavioural reaction and macroeconomic feedback to tax policy changes enriches the tax reforms' analysis, by increasing the accuracy of the direct fiscal and distributional impact assessment provided by the microsimulation model for the tax reforms considered. Our results are in line with previous dynamic scoring exercises, showing that most tax reforms entail relatively smaller feedback effects in terms of the labour tax revenues for tax cuts benefiting workers, compared with the ones granted to firms.

Where they turned up

Since the last edition of *EUROMOD NEWS*, newly-published journal articles using EUROMOD include:

De Agostini P., J. Hills and H. Sutherland (2017) Were we really all in it together?

The distributional effects of the 2010-2015 UK Coalition government's tax-benefit policy changes, *Social Policy and Administration*

Figari, F., A. Paulus, H. Sutherland, P. Tsakloglou, G. Verbist and F. Zantomio (2017) Removing homeownership bias in taxation: the distributional effects of including net imputed rent in taxable income, *Fiscal Studies*

Perez, S. A. and M. Matsaganis (2017) The Political Economy of Austerity in Southern Europe, *New Political Economy*

Bargain, O., T. Callan, K. Doorley and C. Keane (2017) Changes in Income Distributions and the Role of Tax-Benefit Policy

During the Great Recession: An International Perspective, *Fiscal Studies*

Boshnakov, V. (2017) How much is the bill? Simulating selected proposals for income policy adjustments during the 2017 Bulgarian parliamentary election campaigns, *Public Sector Economics*, 41(3) 299-314

Badenes-Plá, N. and J. M. Buenaventura-Zabala (2017) The Spanish income tax reform of 2015: analysis of the effects on poverty and redistribution using microsimulation tools, *Public Sector Economics*, 41(3) 315-334

Dolls, M., K. Doorley, A. Paulus, H. Schneider, S. Siegloch and E. Sommer (2017) Fiscal sustainability and demographic change: a

micro-approach for 27 EU countries, *International Tax and Public Finance*, 24(4) 575-615

Let us know of your journal publications using EUROMOD, and don't forget to submit your articles to the EUROMOD working paper series!

Readers may be interested in the following article in appreciation of Tony Atkinson. A number of the contributions mention his role in establishing EUROMOD: Aaberge, R., F. Bourguignon, A. Brandolini, F. H. G. Ferreira, J. C. Gornick, J. Hills, M. Jäntti, S. P. Jenkins, E. Marlier, J. Micklewright, B. Nolan, T. Piketty, W. J. Radermacher, T. M. Smeeding, N. H. Stern, J. Stiglitz and H. Sutherland (2017) Tony Atkinson and his Legacy, *Review of Income and Wealth* 63(3) 411-444

EUROMOD: introducing the team

In this edition of *EUROMOD NEWS*, Miko Tammik, EUROMOD Research Data & Policy Analyst, describes his work

What is your background? I studied Economics with the focus on public policy and economic modelling at the University of Tartu and started working at the Estonian think tank Praxis Centre for Policy Studies while finishing my Master's Degree. I attended an EUROMOD training course with the aim of taking a role in the Estonian National Team but instead ended up joining the core Essex team last year when I realised how fascinating EUROMOD really is.

What are your research interests? My main research interests lie in income inequality and poverty with gender pay gap and child poverty being two topics that are especially important to me. However, I am mostly a numbers person and I enjoy working with almost any kind of data which has resulted in me being involved in many different projects ranging from estimating the environmental effects of oil shale mining to studying the impacts of diversity on business success.

Which countries do you work on? I am responsible for France, Luxembourg, Malta and Romania. These four countries offer a rather unique snapshot of the whole EU



Miko Tammik

'My main research interests lie in income inequality and poverty with gender pay gap and child poverty being two topics that are especially important to me. However, I am mostly a numbers person and I enjoy working with almost any kind of data'

and that makes it very interesting to work with them. This variation is also reflected in the complexity of their policy systems and simulation possibilities.

Do you have any special responsibilities? I am responsible for generating the overview of the key statistics released on our website

every year under 'EUROMOD Statistics on the Distribution and Decomposition of Disposable Income' and for the first time this year I am also responsible for writing the report for Baseline results. I am also helping to review if and how EU-SILC disaggregated benefit variables are used in the EUROMOD input data creation process and collecting information on potential issues and to see if anything can be done to improve the quality of those disaggregated variables. I am also preparing to have a bigger role in EUROMOD training courses and I am currently working on creating web-based learning courses and putting together a shortened EUROMOD guide used independently of the training courses.

What do you enjoy most about working with EUROMOD? I really like technical type of work. Working with data, writing and fixing Stata commands and working on the policy systems is a perfect match for me. I also enjoy working in the EUROMOD's highly international team. It offers a very unique experience and really shows you how people from across the world can all be different and yet still very similar. But most importantly I have always tried to achieve real impact with my work and with EUROMOD I see that happening. Governments, researchers and other interested parties are using EUROMOD all over the EU to create an environment for smarter policymaking and I have seen it have a direct effect on the decisions a government makes. It feels great to be part of the team making this happen.

Would you like to share any recent highlights? My son was born in October and this overshadows any recent EUROMOD-related highlight I can think of. Taking care of a newborn also makes it seem that, in comparison, EUROMOD is actually a very easy model to learn and understand.



EUROMOD is financially supported by the European Union Programme for Employment and Social Innovation 'Easi' (2014-2020). For further information please consult [here](#). The information contained within this document does not necessarily reflect the position or opinion of the European Commission.

Published by the
Institute for Social
and Economic Research
University of Essex
Wivenhoe Park
Colchester CO4 3SQ
United Kingdom

Phone: +44 (0) 1206 872957
Fax: +44 (0) 1206 873151
Email: iser@essex.ac.uk
www.iser.essex.ac.uk

