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

Social Protection Policies and Microsimulation Workshop

Hosted by the Institute of Public Finance in Zagreb, 12-13 June, this workshop will bring together researchers, analysts and policy makers interested in the application of microsimulation models and related empirical techniques in economies facing employment and demographic challenges

The workshop, organised by Ivica Urban and Slavko Bezeredi from the Croatian national team will also serve as an introduction to their project, Application of Microsimulation Models in the Analysis of Taxes and Social Benefits in Croatia (AMMATSBC).

Participants will be able to exchange their experiences and discuss the effectiveness, efficiency and equity of various social protection policies, particularly those aimed at increasing employment rates and improving the living standards of families with children and the elderly.

Plenary speakers already lined up include ISER’s Holly Sutherland and Daria Popova, Francesco Figari from the University of Insubria and Predrag Bejaković from the Institute of Public Finance Zagreb. They will speak about the importance of microsimulation in policymaking, ‘policies for children’, ‘making work pay’ policies and Croatian labour market policies.

Guests will include policy makers from the Croatian ministries of social policy and labour. The call for papers for the workshop has now opened. Please send a paper or abstract before 17 March to workshop2017@ijf.hr. For more information on the workshop, go to www.ijf.hr/eng/workshop2017.

The workshop immediately precedes the Annual EUROMOD Project Meeting for researchers and analysts working with EUROMOD.
ECUAMOD moves closer with visit from IAEN colleagues

At the end of November 2016, ISER welcomed three visitors from Ecuador’s Instituto de Altos Estudios Nacionales (IAEN)

Mauricio Cuesta, Marcelo Varela and César Amores are contributing to the final stages of developing ECUAMOD, a tax-benefit microsimulation model for Ecuador, based on the EUROMOD platform. Their visit was supported by the ESRC’s Global Challenges Research Fund (GCRF) and UNU-WIDER.

ECUAMOD is being constructed as part of the UNU-WIDER-funded SOUTHMOD project that will also see new tax-benefit models created for several African countries.

The IAEN visitors spent a week in ISER, working closely with – and learning from – ISER’s Xavier Jara, who is taking the lead on the work to deliver ECUAMOD. During their visit, the visitors attended a three-day training course on the use of EUROMOD and worked with Xavier on the description and implementation in the model of tax-benefit policy changes occurring in recent years in Ecuador.

Where they turned up

Newly-published journal articles using EUROMOD include:


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

Celebrating 20 years of EUROMOD

Our new publication, Celebrating 20 years of EUROMOD, has been published and has received wide acclaim.

With a foreword from the late Professor Sir Anthony Atkinson, the publication summarises the keynotes from the recent Anniversary Conference, with contributions from Marianne Thyssen, European Commissioner for Employment, Social Affairs, Skills and Labour Mobility and a feature article from Professor Holly Sutherland describing EUROMOD’s history and looking ahead to an interesting future of new developments.

EUROMOD release G4.0+ available!

The most recent G4.0+ EUROMOD release now includes, for the EU-28 countries:

- tax-benefit policies up to 2016;
- input data from 2014 SILC for 16 countries and from 2015 SILC for one (Latvia); revisions to previous input data from 2012 SILC for all countries; and
- an updated version of the EUROMOD user interface, with many improvements and fixes.

The model includes a useful built-in Help which provides detailed information about the new features and improved functionalities of the model. Country Reports are available to download here. Information on how to access EUROMOD G4.0+ can be found here.
Most readers will already be aware of the very sad news that Tony Atkinson died on 1 January 2017. Among his many other contributions during his long and extraordinary career Tony inspired and helped to initiate the construction of EUROMOD back in 1996.

He was centrally involved in early projects and supported the endeavour ever since. This short article is an appreciation of this part of his life and work. Readers who are interested in the many other aspects of Tony’s professional life should visit the collection of obituaries and memories available at www.tony-atkinson.com

The idea of EUROMOD brought together two of Tony’s interests. One was the use of tax-benefit microsimulation models to provide a rigorous analysis of the distributional effects of policies and potential policy reforms. We had been working together with models for the UK since the early 1980s, to draw out the implications of policy alternatives, something Tony returned to with such effect in his last book published before he died (Atkinson, 2015).

The other was a passionate interest in the European Union (EU) and making the most of its potential to effect change for the better and in particular to increase social inclusion and social cohesion within and between member states. He was instrumental in stressing the importance of having the appropriate tools, including data, to monitor and understand the drivers of progress or lack of it. This involved, among other things, understanding the distributional implications of policy and other changes, considering the social and economic effects of policy together and the need to make cross-country assessments of the effectiveness of policies using comparable, national, micro-level analysis rather than macro aggregates. A microsimulation model for the member states of the EU (then only 15) that could be used for national analysis in countries without such models, or for consistent and detailed cross-country comparisons and at EU level seemed, to Tony, to be a natural extension of the work on comparing policy effects in two countries, France and the UK, using national microsimulation models that he had pioneered with François Bourguignon and others.

But EUROMOD was, in the early 2000’s, way ahead of its time in terms of its appreciation or recognition by the policy institutions of the EU. Tony’s second contribution was as ambassador of the value of the approach, not only within visible EU debates and publications and by providing exemplar analysis (see his early contributions to EUROMOD Working Papers here) but also in numerous patient, behind-the-scenes discussions explaining its potential to various officials; notably persuading Eurostat that its micro-data could be used as input to the model. At the same time Tony unfailingly encouraged those of us trying to keep the model funded, maintained and used for relevant research that our efforts were worthwhile. A combination of effective advocacy and persistence was rewarded and, as the EU enlarged, DG-Employment of the European Commission began to recognise EUROMOD’s value through financial support of the expansion of its country coverage and regular updating and maintenance. At that point Tony generously gave his time to chair the EUROMOD Steering Group, using his quiet authority and good judgement to indeed “steer” us and our stakeholders in constructive directions.

In the last few years, as EUROMOD’s reputation grew but Tony’s poor health constrained what he could do, he continued to give me informal and invaluable advice about anything related to EUROMOD and its future: from strategic direction to the best way to model a new policy detail. Most recently he was to have contributed a keynote talk at EUROMOD’s 20th Anniversary Conference in Essex in September 2016. He was unable to attend and instead sent the conference a message which is reproduced in the publication celebrating EUROMOD’s 20 years. The planned talk was to have been a longer version of this, under the title ‘From poverty in the UK in the 1960s, to poverty in Europe twenty years ago, and to global poverty today’. As a way of imagining what he might have said we can revisit an earlier paper with similar scope and direction (Atkinson, 2009) bearing in mind all the subsequent changes in EUROMOD and the world around it.

He is, and will be, missed much more than these few words can express. But he leaves so many legacies. Among them are the research communities and institutions that he was instrumental in establishing – including EUROMOD’.

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He is, and will be, missed much more than these few words can express. But he leaves so many legacies. Among them are the research communities and institutions that he was instrumental in establishing – including EUROMOD. He not only provided the intellectual foundations but also was the finest and most generous role model for how to collaborate with shared enthusiasm and mutual respect. Thank you, Tony.

Holly Sutherland


Meet the EUROMOD national teams: the Bulgarian team

In this edition of EUROMOD NEWS, we introduce you to the three members of the Bulgarian EUROMOD team

The members of the Bulgarian national team are Ekaterina Tosheva and Venelin Boshnakov from the University of National and World Economy, Sofia (Department of Statistics and Econometrics) and Dragomir Draganov from the Bulgarian Academy of Sciences (Institute for the Study of Societies and Knowledge).

The University of National and World Economy (UNWE) has been the host institution of the Bulgarian national team since 2009. A successor of the Free University of Political and Economic Sciences (1920) UNWE is the oldest Bulgarian higher education institution to offer programs in social sciences, and among the largest HEIs in Southeast Europe. Over 500 of its academic staff focus their research on current issues in business, management, social, political, economic, and law studies related to market transition, post-communist reforms and restructuring as well as institutional, social, and economic integration of Bulgaria in the EU.

Ekaterina Tosheva has worked at the UNWE as a lecturer at the Department of Statistics and Econometrics, Faculty of Applied Informatics and Statistics, since 2000. She holds a PhD degree in Applied Statistics and Demography from UNWE and her main duties include lectures on different courses in statistical analysis for undergraduate and graduate students as well as participation in research projects. Ekaterina’s major scientific interests are in the areas of empirical studies of the efficiency of Bulgarian social security system and the socio-economic effects of the introduction of the tree pillar pension system, including microsimulation of alternatives for the social insurance system. She has also gained competencies as an expert in sample data analyses during her participation in various research projects involving analysis of questionnaire survey data.

Venelin Boshnakov is currently a lecturer at the Department of Statistics and Econometrics of UNWE. After being for a short period (1995-1996) with the Ministry of Economic Development as statistics expert he became a postgraduate researcher (1997) and junior faculty member (1998) at the same Department where he acquired a PhD degree in Applied Statistics and Demography (2005). After obtaining initial training on EUROMOD during his visit at ECASS (European Center for Analysis in the Social Sciences at ISER) Venelin became a coordinator of the Bulgarian national team during its first years of operation (2009-2012). His research interests are focused on the empirical analysis of major phenomena during market transition in Bulgaria: (a) income distribution, tax-benefit redistribution, inequality, microsimulation; (b) hidden economy and its socio-economic impacts; (c) international flows of production factors: international labor migration, foreign direct investment.

Institute for the Study of Societies and Knowledge (ISSK) is a public-funded autonomous research body at the Bulgarian Academy of Sciences (BAS). Dragomir Draganov is currently a research fellow at ISSK at the BAS - before joining the Institute he had worked at the Bulgarian Ministry of Labour and Social Policy for almost a decade. He has a PhD degree in Sociology and his research interests are in public policy analysis, particularly in the field of poverty and inequality research as well as welfare regimes and social policies development and evaluation. He is currently contributing to a research project called “The income distribution and social inclusion of youth in the EU: lessons for Bulgaria” funded by the Programme for Support to Young Scientists at BAS. As far as the project aims at assessing the influence of income distribution on youth inclusion across the EU, EUROMOD provides excellent opportunities and will be extensively used throughout the project implementation.

How long has the team been working with EUROMOD?
Ekaterina, Venelin, and Dragomir have been part of the Bulgarian team since its formation in 2009 – the year when the preparation of the EUROMOD Continued on next page
The Bulgarian team

Continued from previous page

Feasibility Study for Bulgaria started. Since then the team participates in the annual model update activities cooperating successfully with the Essex core team for enhancing the Bulgarian module in EUROMOD. Since 2013 Ekaterina has been leading the national team along with her work on the country reports focused on the presentation of income taxation and social insurance regimes. Dragomir’s annual efforts for updating the description of Bulgarian policies on social transfers, both contributory benefits and social assistance, are highly appreciated assuming the complexity of this system. Venelin has major role in the validation procedures and the overall compilation of the country reports by the national team. Since 2016 the team members have started to implement successfully tax-benefit simulations related to their current research work.

Some highlights of recent research by the Bulgarian EUROMOD team

The Bulgarian EUROMOD team has focused its research on issues related to the alternatives for a re-design of the social assistance policies, including non-contributory child support and minimum income provision. These issues are considered as substantial problems for social policy makers in a country that has one of the highest poverty rates in the EU. Special attention is also paid to the dissemination of information and knowledge about EUROMOD capabilities amongst the Bulgarian socio-economic research community. In this respect, the team participated in the publishing of two articles in leading Bulgarian journals – Statistics Journal (published by the National Statistical Institute) and Economic Thought (Economic Research Institute at BAS). The articles contain empirical evidence from the evaluation of the effects from Bulgarian tax-benefit system shifts on the inequality and poverty for the period 2011-2015, based on simulation results derived by EUROMOD.

In February 2016, Ekaterina and Dragomir received a visiting grant by the FP7-supported InGRID programme for a five day visit to ISER. During the visit they investigated how EUROMOD could be best used in assessing the direct influence of hypothetical changes in personal income taxation in Bulgaria on poverty and inequality. As a result, some policy change scenarios have been simulated and the first results of the assessment have been summarized in a conference paper presented in December 2016. Their interest and future plans are to further investigate the redistributive effects of alternative personal tax regimes in Bulgaria that are currently under public debate.

EUROMOD-related research presented at conferences

XXIV Encuentro de Economía Pública, January 26-27 2017, Toledo

Presentations by Sara Riscado on behalf of Riscado, Barrios, Greve, Hussain, Paulus and Picos (Measuring the fiscal and equity impact of tax evasion: Evidence from Denmark and Estonia); by Milagros Paniagu (An Introduction to EUROMOD); by Adrián Hernández Martín on behalf of Hernández and Paniagu (La distribución de la renta y los incentivos laborales en España durante la crisis: Un análisis empírico a través de EUROMOD); by Olga Cantó on behalf of Cantó and De Agostini (Evaluating the distributive impact of VAT reforms in Spain).

InGRID project wrap up

The final conference for ‘Better science infrastructure for evidence-based policies on inclusive growth in Europe’ was held in Brussels on 17 January 2017

The FP7 European social sciences research infrastructure project, InGRID, aimed at integrating and innovating research infrastructures and bringing them closer together by providing transnational data access, creating mutual knowledge exchange opportunities and improving methods and tools for comparative research in the field of ‘Poverty and Living Conditions’ and ‘Working Conditions and Vulnerability’.

At the final conference, organised by HIVA KU-Leuven, project partners presented outcomes to research colleagues, policy makers and other stakeholders from all over Europe. ISER, together with their partners from the University of Antwerp, introduced the jointly developed tax-benefit hypothetical household simulation tool - HHoT. This is a new and flexible application within EUROMOD to create artificial household input data. Tools like this can be used to show the effect of tax-benefit policies and their interactions on stylised cases. Using this application as part of the EUROMOD user interface will offer the possibility to not only analyse the effects of a current system but also the effects of policy changes.

The conference was a great occasion to review the results of this four year project, to discuss challenges for the future and to think about future collaborations, including InGRID-2.
Preparing to move to a new home for the updating and maintenance of EUROMOD

February 2017 marked the beginning of a process of transferring responsibility for the regular updating and maintenance of EUROMOD from the University of Essex to the European Commission.

This is a reflection of the Commission’s commitment to EUROMOD’s long term future and to the value it places on analysis using EUROMOD as part of the European Semester as well as for policy-relevant research in general.

It demonstrates what a success our project has been and is an indicator of the impact EUROMOD has had, as well as securing its position to continue to do so for many years to come. There is a commitment for EUROMOD users in the academic and policy-making research communities to continue to have access to the annual updates for the EU28, as now.

The transfer of responsibility will take place over a four year period. In this first year Essex will be responsible for the updating work as in the past, while also developing concrete and practical plans with the Commission for an efficient and effective transfer over the following two to three years. EUROMOD NEWS will include updates on progress.

Estonia training course participants get hands-on with EUROMOD

A three-day EUROMOD training course was held on 1-3 February 2017 in Tallinn, Estonia. Nearly 20 analysts from the Ministry of Finance, Ministry of Social Affairs, Bank Estonia and Praxis Centre for Policy Studies took part.

The course included lectures and hands-on training exercises. Among other things, the participants had a chance to learn and practice using the model by applying it to ongoing tax-benefit reforms in Estonia: the introduction of a new means-tested benefit for single pensioners and an income tax reform.

The next EUROMOD training course – already fully booked – is scheduled for Essex in March. Thereafter, we expect to hold courses at Essex in Autumn 2017 and Spring 2018.

EUROMOD analysis in European Semester country reports

New analysis using EUROMOD been published as part of the annual cycle of country reports by the European Commission.

The Commission publishes a series of country reports for each Member State, analysing their economic and social policies. It then provides EU governments with country-specific recommendations for the next 12-18 months. EUROMOD has been used to assess the impact of policies in 10 different countries in the 2017 European Semester country reports.

The ten countries are Denmark, Spain, France, Hungary, Italy, Latvia, Lithuania, Austria, Poland, Slovenia and Sweden.

The European Semester provides a framework for the coordination of economic policies between the countries of the European Union. It allows the EU member countries to discuss their economic and budget plans and monitor progress at specific times throughout the year.

Professor Holly Sutherland, Director of EUROMOD, said: “It is very gratifying to see our work being used to improve the evidence base in the formal process for assessing the effects of policies in Europe, and ultimately to contribute to better policymaking”.

Course participants relax over an evening meal during the EUROMOD training course.
Distributive and revenue effects of a tax shift from labor to property
EUROMOD Working Paper Series EM13/16
Authors: Jorg Paetzold
Markus Tiefenbacher
Publication date: 30 Dec 2016
Abstract: Contrary to frequent recommendations of the public finance literature and international institutions, a persistently high tax wedge on labor is observed in Europe. Simultaneously, the scope for shifting taxes to more growth-friendly revenue sources appears underused. This motivates our simulation of a tax shift from labor to property for Germany, a country where property tax revenues are particularly low and the tax wedge on labor income is among the highest in industrialized countries. We simulate a reform where property income is no longer taxed by its (often) outdated cadastral value but by its market value, using the additional revenue to reduce social insurance contributions (SIC). To make such a simulation possible, we match property-related information with the input data of the tax-benefit micro-simulation model EUROMOD. We find a considerable increase in property tax revenues, allowing to reduce the implicit tax rate on labor from 37.2% to 36.5%. Distributive effects tend to be modest, and depend critically on the design of the SIC reduction. Overall, our results suggest that more households would gain than lose from the tax shift, with gainers mostly situated in the middle of the income distribution.

The role of an EMU unemployment insurance scheme on income protection in case of unemployment
EUROMOD Working Paper Series EM11/16
Authors: Holguer Xavier Jara Tamayo
Holly Sutherland
Alberto Tumino
Publication date: 19 Dec 2016
Abstract: The aim of this paper is to explore the potential of an EMU unemployment insurance scheme (EMU-UI) to improve the income protection available to individuals and their families in case of unemployment. Our analysis uses an illustrative EMU-UI scheme, which has a common design across member states and can therefore be considered as a benchmark with respect to which gaps in national unemployment insurance schemes are assessed. We make use of EUROMOD, the EU-wide tax-benefit microsimulation model, to simulate entitlement to the national and EMU-UI and calculate their effect on household disposable income for all individuals currently in work and those with the highest unemployment risk, in case they would become unemployed. Our results show that the EMU-UI has the potential to reduce current gaps in coverage where these are sizeable due to stringent eligibility conditions, to increase generosity where current unemployment benefits are low relative to earnings and to extend duration where this is shorter than twelve months. The illustrative EMU-UI would reduce the risk of poverty for the potentially new unemployed and would have a positive effect on household income stabilization. The extent of these effects varies in size across EMU member states for two main reasons: differences in the design of national unemployment insurance schemes and differences in labor force characteristics across member states.
EUROMOD: introducing the team

In this edition of EUROMOD NEWS, Paola De Agostini, Senior Research Officer, describes her work

What is your background? I joined the EUROMOD team in June 2011. I am an economist – I have specialised in applied micro-econometric analysis of social policies. I have a PhD in Applied Social and Economic Research, a MSc in Applied Economics and Data Analysis awarded by the University of Essex and a Degree (Laurea) in Economic and Business awarded by the University of Verona in Italy. My research experience extends over the following fields: distributional effects of tax-benefit policies, food economics, consumer behaviour and health economics, cost evaluation and policy analysis, market analysis, forecasting and spatial microsimulation models, time-use analysis and environmental economics.

What are your research interests? My current research interests include tax-benefit microsimulation modelling, distributional effects of tax-benefit policies, inequality and well-being, consumption, demand and consumer behaviour.

Which countries do you work on? I am responsible for Hungary, Netherlands, Poland and the UK. As my colleagues know, they are my ‘EUROMOD babies’ and I am really proud to see them developing and improving over time.

Do you have any special responsibilities? Apart from being the developer for the four countries above, I am (together with Holly) the National Team for the UK. This means more work (of course!), but also rewards such as contributing simulations to Tony Atkinson’s book or fostering collaborations with the Scottish Parliament Information Centre (SPICe) and the Welsh Government, which hopefully contribute to enlarge the visibility of the EUROMOD’s team work. I am also a member of the EUROMOD Communication Committee Meeting which meets once a month to discuss, among other things, what enters this newsletter.

What are you working on at the moment? At the moment, apart from starting the EUROMOD development of Year 8, I am involved in the integration of indirect tax simulation into EUROMOD. On the research side, I am working with Mike Brewer on a project for the Low Pay Commission looking at the interaction between the National Minimum Wage and National Living Wage with the tax-benefit system in the UK. I am also working with Michal Myck and Patricia Gallego-Granados (respectively from the Polish and German teams) on Modelling Implicit Equivalence Scales from tax-benefit systems in Germany, Italy, Poland and the UK.

Would you like to share any recent highlights? We are currently incorporating indirect taxes into EUROMOD. We developed a prototype for four countries last year and this year we have been adding ten more. The indirect tax tool is still in a testing phase, but I can’t wait to use it for research.

Paola De Agostini

‘Most of all, I like the international character of the EUROMOD team and I enjoy the variety of people’s personalities within it. I enjoy the opportunity of knowing Europe a little bit more...’