# EUROMODNE

## 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.euromod.ac.uk









# **Award for Best UK Public Policy Impact won by** Dr Paola De Agostini

Dr Paola De Agostini won the Research Impact Award for Best UK Public Policy Impact for her work with the Scottish Parliament at the University of Essex's Celebrating Research **Impact Awards recently** 

Dr De Agostini leads ISER's ongoing work with the Scottish Parliament, providing evidence for policymakers looking at the potential impact of changes to taxes and benefits.

Following devolution of powers over tax and welfare to the Scottish Parliament, ISER has undertaken a framework agreement to support the use of EUROMOD, by the Scottish Parliament Information Centre (SPICe).

SPICe provides confidential and impartial information to Members of the Scottish Parliament (MSPs) and their staff on a range of issues including analysis of the costs and effects of proposed policy reforms on household income distribution and poverty risk. The use of EUROMOD by SPICe has:

- contributed to improvement and widening of the research-based support provided to policymakers in Scotland;
- · informed debate on policy issues in Scotland through SPICe's analysis published as parliamentary briefings or other reports for specific MSPs;
- generated new expressions of interest in using the model from other UK institutions that could develop into new collaborations; and
- enabled new commitment to further collaborative projects between ISER and SPICe.

See page 8 for information on a new Scottish project using EUROMOD





The World Bank uses EUROMOD for flagship report on the European Union

The World Bank has published a major new report, Growing United: Upgrading Europe's Convergence Machine looking at inequalities in the labour market, using EUROMOD

The report is based on findings of a background paper 'Fiscal Redistribution in the European Union' by Gabriela Inchauste and Jonathan Karver, which uses EUROMOD for analysis of income distribution across the EU states.

The report finds that since its foundation over sixty years ago, the European Union (EU) has become the modern world's greatest 'convergence machine', propelling poorer, and newer, member states to become high-income economies, and delivering to its citizens some of the highest living standards and lowest levels of income inequality in

But today, Europeans are increasingly recognising that convergence is not automatic. Inequality among people has been mounting in many parts of the EU since the 1990s, as low-income Europeans are falling behind in the labour market. And the productivity gap between Southern and Northern member states has been widening since the early 2000s. The EU is growing, but Europeans are not 'growing united'. Why? Growing United argues that technological change, by revolutionizing product and labour markets, is slowing down the old convergence machine: technology offers ever richer opportunities for well-skilled

workers and frontier firms, while low-skilled workers and less productive firms risk falling behind.

As a result, countries that provide fewer opportunities for people to build relevant skills and a less supportive environment for firms to thrive are losing ground.

This calls for an upgrade to Europe's

convergence machine, to seize the benefits of technological change for all Europeans. Growing United argues that the convergence machine, version 2.0, should focus on the convergence of opportunities for people and firms across the Union. It should support the capabilities of people (skills) and firms (innovation), and provide a level-playing field for people and firms through 'flexicure' labour markets and an enabling business environment.



# **EUROMOD-related research presented at conferences**

Meeting of the Indicators Sub-Group of the Social Protection Committee of the European Union, 25 May 2018, Brussels

- Iva Tasseva presented 'Decomposing changes in income inequality by tax-benefit policies in the EU, using the model EUROMOD'
- NetSILC3 International Conference, 18-19 April 2018, Athens
- Chrysa Leventi presented 'Assessing the anti-poverty effect of social transfers: net or gross? And does it really matter?

NORFACE Final Conference, 24-25 May 2018, Florence

- Daria Popova presented 'Social class gradients in poverty of mothers
- after childbirth and divorce in European welfare regimes' European Population Conference, 6-9 June 2018, Brussels
- Daria Popova presented 'Gender gap in incomes after divorce in twelve EU countries'

International Conference on 'Income redistribution and the role of tax-benefit systems in Latin America, 5-6 July 2018, Quito,

 A range of presentations featured SOUTHMOD-based analysis – see programme.



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# Meet the EUROMOD national teams: the Portuguese team

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







The members of the Portuguese national team are Carlos Farinha Rodrigues, Vítor Manuel Jungueira and Joana Andrade

Carlos Farinha Rodrigues is an Associate Professor at ISEG (Lisbon School of Economics and Management, University of Lisbon) and researcher in CEMAPRE (advanced research center devoted to Applied Mathematics with emphasis on problems coming from Economics, Management and Finance) in the fields of income distribution, inequality, poverty and social policies. He is also the chairman of Institute of Public Policy Lisbon (which hosts EUROMOD project in Portugal), coordinator of the Observatory of Inequalities (CIES-IUL), and advisor of the Statistics Portugal (INE) in the fields of income distribution and household statistics. He has been working with EUROMOD since the beginning, more than 20 years ago (1996).

Vítor Manuel Jungueira is an economist and researcher in the fields of pensions and social security, income distribution and poverty. Currently, he is developing functions as the Director of the National Pension Center of the Social Security Institute. He has also worked for a long period at the research department of the Ministry of Labour and Social Security, after which joined the National Institute of Statistics as a member of the team in charge of the EU-SILC. He has been working with EUROMOD since 2010.

Joana Andrade Vicente is a research fellow at the Institute of Public Policy Lisbon, where she had the opportunity to be part of projects in the fields of social policies, management of public administration, and European Union economic policy. Previously, she was working at Deloitte, in the tax department. Currently she is also attending the Ph.D. Programme of Economics at ISEG. She is member of the team in charge for

the development of the Budget Watch project (which aims for an in-depth analysis of the national State Budget) and member of the team that hosts the Open Budget project in Portugal (which constitutes the most detailed analysis of the national State Budgets of more than 100 countries). She is the most recent addition to the EUROMOD Portuguese national team,

#### Some highlights of recent research by the Portugese EUROMOD team

Now that the EUROMOD project is hosted by the Institute of Public Policy, its results and statistics regarding Portugal have been more widely disclosed (through a section on the Institute of Public Policy website), reinforcing the potential that EUROMOD has. Institute of Public Policy is a Portuguese, independent and non-partisan academic think tank, that promotes policy research and debate in four key fields: EU economic policy, public finance and good governance, democracy and accountability, and social policy.

Recent research by the team includes the study 'Desigualdade do rendimento e pobreza em Portugal' ('Inequality of income and poverty in Portugal'), which used the results from EUROMOD to access the redistributive impacts of the austerity policies implemented in Portugal. This study contributes to clarify the main changes in income distribution, economic inequality and living conditions of the Portuguese families over the adjustment program period, between 2010 and 2014. It is a rigorous assessment of the social consequences of one of the most profound crises that Portugal has experienced in the last decades, and an analysis of the measures taken by the public authorities to deal with it.

In terms of potential research, there is a new project between the Institute of Public Policy and the Ministry of Finance, where the use of

EUROMOD will be essential. The Institute of Public Policy will be in charge to conduct a study to develop the necessary methodologies for the construction of a database that uses, simultaneously and in a consistent way, information anonymised by the Tax Authority regarding the Personal Income Tax and data from the Household Survey developed by the National Institute of Statistics. The main purpose of the project is to assess the redistributive effects of changes in fiscal policy in this area, taking into account data from Eurostat and the National Institute of Statistics. It is also intended to improve the current microsimulation model developed by the Ministry of Finance, in order to simulate the effects of specific fiscal changes to support political decision making, after taking in consideration redistributive effects (for example, changes in the poverty rate).

#### Imagine that you had the power to propose a radical/major policy reform for your country - what would it be?

Given that Portugal is a country that still presents high levels of poverty, social precariousness and social asymmetries, it is needed and it would make sense to implement a public policy with a more active role in the fight of these situations of greater vulnerability. The investment in a public policy that is able to set an adequate minimum income, based on schemes of adequate, accessible and enabled minimum income, would lead to a more inclusive society.

Additionally, we would propose the microsimulation of policies to fight child poverty, aiming for its eradication, which could be an incentive to create an extraordinary program to combat this kind of poverty. This would allow reflection on current policy measures to recognise, reformulate or design new policies more adequate to reality. Although in recent years several studies have been carried out on child poverty, it is necessary to update and deepen the analysis of this phenomenon to intervene ex ante, preventing the emergence of new situations of poverty and avoiding the escalation of others.

#### What are the best/worst things about working on the EUROMOD project?

EUROMOD project has an incredible international environment where people can learn a lot from the experiences of others. Some of the problems that we may face during our research may already have been experienced by other teams that can help us solve the problem without further ado.

EUROMOD software can be a little bit too technical and not so user-friendly for first-time users (or if we don't use it for a long time) but that can be a good thing too, as that's an incentive not to be away from it for too long!





# Income redistribution and the role of tax-benefit systems in Latin America

### International conference profiles the new ECUAMOD tool to policymakers and academics

The Instituto de Altos Estudios Nacionales (IAEN) and UNU-WIDER, in collaboration with the EUROMOD team at the Institute for Social and Economic Research (ISER) at the University of Essex hosted an international conference on income redistribution and the role of taxbenefit systems in Latin America, in July 2018, in Quito, Ecuador.

The conference provided a space for discussion between academics and policy makers about the effect of tax-benefit systems on income redistribution in Ecuador and other Latin American countries. The event aimed to share knowledge about the most recent research on the role of tax-benefit systems in reducing income inequality and poverty, in particular work using ECUAMOD and other microsimulation models. The conference helped to create a link between academics and policy makers on working with these new tools and methods to assess the role of taxbenefit policies on income inequality and poverty, and the use of this tool for ex ante policy evaluation.

The keynote was delivered by Professor Olivier Bargain (University of Bordeaux and Institut Universitaire de France). The conference also included parallel sessions with contributed papers and a policy round table discussion with Andrés Mideros, former General Secretary of the Presidency of Ecuador, Diana Arias, Secretaría Nacional de Planificación y Desarrollo, Ecuador, Reinaldo Cervantes, Director of Instituto Nacional de Estadística y Censos, José Ramírez, Professor of Economics, Escuela Politécnica Nacional, Marcelo Varela, Decano del Centro de Economía Pública y Sectores Estratégicos, Instituto de Altos Estudios Nacionales.

The conference formed part of the activities of the SOUTHMOD project, creating tax-benefit microsimulation models for selected developing countries. ECUAMOD - the tax-benefit microsimulation model for Ecuador - has been developed in collaboration with IAEN, UNU-WIDER, and the EUROMOD team at the Institute for Social and Economic Research (ISER) at the University of Essex. ECUAMOD and other microsimulation models developed in the framework of the SOUTHMOD model are freely accessible for non-commercial research.

Xavier Jara Tamayo said: "The conference successfully brought together academics and policy makers to discuss openly about the role of the tax-benefit system in reducing income inequality and poverty in Ecuador and other Latin American countries. All participants highlighted the importance of organising events of this kind in Latin America, to be able to discuss the most recent developments in the study of income inequality and to share ideas about how to design policies to improve social protection in the region."

## **European Commission publishes Employment and Social Developments in Europe 2018**

Two pieces of EUROMOD research are cited in the latest edition of the annual Employment and Social Developments in Europe review. The report analyses key employment and social issues for the European Union and its Member States. This year's edition focuses on the changing world of work and its employment and social implications.

Chapter 5, 'Access and sustainability of social protection in a changing world of work', cites a forthcoming JRC study Income protection of atypical workers in case of unemployment in Europe, by H Xavier Jara Tamayo, and Alberto Tumino 2018, (JRC Working Papers on Taxation and Structural Reforms, forthcoming) and the European Observatory on the Social Situation and Demography Research Note, The take-up of social benefits, by Manos Matsaganis, Alari Paulus and Holly Sutherland (2008).



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# **EUROMOD** spring training round-up

## We have three training events to report on in this edition of EUROMOD NEWS, which were held in Antwerp, Athens and at ISER

In June 2018 a three-day EUROMOD-HHoT training course was held at the University of Antwerp.

The aim of the course was to provide academics, policy officers and other interested users, with an introduction to the concepts, structure and functioning of EUROMOD and HHoT. HHoT or the Hypothetical Household Tool is a state-of-the-art tax-benefit tool for the simulation of hypothetical families, based on EUROMOD.

The course included a variety of lectures, live demonstrations, and hands-on training exercise sessions. The group of participants consisted mainly of academics. However, there was also a specific interest from policy officers to follow this course. The Summer School was organised by the Centre for Social Policy as part of the InGRID-2 project.

In the context of the technical assistance provided by JRC to Greece, a two-day EUROMOD training course was organised in the Parliamentary Budget Office of Greece (PBO).

The participants were four members of the PBO, two from the Independent Fiscal Council, and one from the Economic Chamber of Greece. The objective of the training was to give a general overview on EUROMOD and its use, with a specific focus on Greece, since the three institutions are interested in using it for their analysis and forecasts.

The first day of the training was devoted to explain EUROMOD's logic and structure and to show a simple example of a policy reform, analysing its day-after effects. In the second day the most relevant

functions of the model were explained, and then some simulations on Greece were carried out following suggestions of the participants. An informal follow-up meeting is expected to take place in October, with the objective of assessing the EUROMOD-related projects that the participants plan to develop in the following months.

Finally, another EUROMOD training course was recently held at ISER, over 9-11 May 2018.

The 22 participants who attended the course originated from a variety of institutions including universities, financial institutions and ministries and involved academics, policy practitioners and other interested users.

Miko Tammik, a member of the Essex EUROMOD team led the event together with colleagues Andrea Papini, Kostas Manios and Paola De Agostini, who helped with the exercises, and Cara McGenn handling the organisation behind the scenes. Time was allocated throughout the three days for practicing 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 and the majority of people found both the lectures and exercises to be very useful. Feedback from the course also showed a clear interest in a training aimed at more advanced users, giving us a lot of ideas to think about future courses.



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# **EUROMOD** working paper series

#### Demographic change and the European income distribution

**EUROMOD Working Paper Series EM9/18** 

Authors Mathias Dolls, Karina Doorley, Alari Paulus, Hilmar Schneider and Eric Sommer

Publication date 18 April 2018

**Abstract** This paper assesses the effect of key demographic changes (population ageing and upskilling) that are expected by 2030 on the income distribution in the EU-27 and examines the potential of tax-benefit systems to counterbalance negative developments. Theory predicts that population ageing should increase income inequality, while the effect of upskilling is more ambiguous. Tax-benefit systems may stabilise these expected changes though this is largely an empirical question given their typically complex nature. We use a decomposition technique to isolate the effect of projected demographic change on income inequality and poverty from the reaction of the labour market to this demographic change through wage adjustments. Our results show that demographic change is likely to lead to increasing inequality while related wage adjustments work mainly in the opposite direction. Changes to projected relative poverty are minimal for most countries. With a few exceptions, EU tax-benefit systems are able to absorb most of projected increase in market income inequality.

#### Inequality in EU crisis countries. How effective were automatic stabilisers? **EUROMOD Working Paper Series EM10/18**

Authors Tim Callan, Karina Doorley and Michael Savage

Publication date 19 April 2018 Abstract The Great Recession and the widespread adoption of fiscal austerity policies have heightened concern about inequality and how well tax-benefit systems redistribute. We examine how the distribution of income in the EU countries which were hardest hit during the recession evolved over this time. Using and extending a recently developed framework (Savage et al., 2017), the overall change in income inequality is decomposed into parts attributable to the change in market income inequality, changes in discretionary tax-benefit policy and automatic stabilisation effects. We implement this approach using the microsimulation software, EUROMOD, linked to EU-SILC survey data. Automatic stabilisation effects, particularly through benefits, are found to play an important role in reducing inequality in all the crisis countries. Their role is

less important if we focus on the working age population only, due to the relative importance of old-age benefits in southern European welfare systems. Discretionary policy changes also contributed to reductions in inequality, but to a much lesser extent.

#### Smooth income tax schedules: derivation and consequences

**EUROMOD Working Paper Series EM11/18** 

Authors Diana Estévez Schwarz and Eric Sommer

Publication date 21 May 2018

Abstract Existing tax schedules are often overly complex and characterised by discontinuities in the marginal tax burden. In this paper we propose a class of progressive smooth functions to replace personal income tax schedules. These functions depend only on three meaningful parameters, and avoid the drawbacks of defining tax schedules through various tax brackets. Based on representative micro data, we derive revenueneutral parameters for four different types of tax regimes (Austria, Germany, Hungary and Spain). We then analyse possible implications from a hypothetical switch to smoother income tax tariffs. We find that smooth tax functions eliminate the most extreme cases of bracket creep, while the impact on income inequality is mostly negligible, but uniformly reducing.

#### Comparing redistributive efficiency of taxbenefit systems in Europe

**EUROMOD Working Paper Series EM12/18** 

Author Daniela Mantovani

Publication date 19 June 2018

**Abstract** In empirical analysis, the Kakwani index is the most frequently used indicator for comparing progressivity across countries and over time. The Kakwani is often assumed to measure to what extent a policy design is targeted to the poor. It has, however, a major drawback: it is not defined for net tax incidence—that is, the whole system of taxes and benefits. Moreover, it is defined over different intervals for different pre-tax income distributions and different average tax rates. This paper proposes an extension to Kakwani index based on the concept of relative redistributive efficiency that is not affected by these drawbacks. The Redistributive Efficiency index was compared to the Kakwani index for taxes/benefits in EU countries by using Euromod baselines. In addition, the Redistributive Efficiency index was computed on the whole taxbenefit system; that is, taxes and benefits were evaluated together. Only Ireland and the UK combine high levels of redistributive efficiency with a relevant amount of tax revenues and social expenditures. They obviously obtain very high redistribution, above 15 points. Most of the countries considered show an intermediate level of redistribution (between 7 and 12 points), but with a different mix. A group of Central and Northern European countries plus Slovenia and Hungary combine medium levels of redistributive efficiency and medium size, while some Southern European countries (Spain and Portugal) and new members compensate a rather low amount of transfer and taxes with quite high levels of efficiency. The remaining new member states and Southern EU countries show a very low level of redistribution, below 7 points. Interestingly, they vary in the level of tax burden and of resources devoted to benefits but all of them show a poor Redistributive Efficiency. This suggests that low Redistributive Efficiency plays a key role in explaining why certain countries perform a limited amount of redistribution.

## **Book now! InGRID-2** Winter School in **Cross-Country** Microsimulation at ISER

Applications are now open for the next hands-on EUROMOD training course to be held at ISER, University of Essex, on 21-23 November 2018.

The course will cover 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 is dedicated to teaching EUROMOD functions which form the building blocks of the EUROMOD 'language'. At the end of the course, participants are expected to have a good understanding of how EUROMOD works and to be capable of using EUROMOD for their own purposes.

The deadline for applications is 3 September 2018. See <u>here</u> for further details and to apply.

# **EUROMOD:** introducing the team

## In this edition of EUROMOD **NEWS**, Francesco Figari describes his work

What is your background? After a degree in Political Science at the University of Genova (Italy) I got a Master in Public Economics at the University of York (UK) and then I moved to ISER to start a PhD in Economics. It was September 2004 and one of the reasons why I decided to start the PhD at ISER was the fact that Holly was about to move the Microsimulation Unit from Cambridge to Essex. I had heard about EUROMOD during my Master and I thought it could be an interesting tool for empirical public economics analysis on which I wanted to work as part of my PhD. I started working with the EUROMOD team (only Holly and Horacio Levy, at that time!) in the summer of 2006 because they needed a research assistant to test the feasibility of using a new dataset (EU-SILC!) as input for microsimulation models! We tested it on Spain and since then EUSILC and EUROMOD have come a long way if we think about the current close collaboration with Eurostat, the achievements in terms of Flash Estimates and more general the consideration of EUROMOD as a key tool in understanding income distribution and redistribution in the European Union.

What are your research interests? I am interested in the design and functioning of fiscal systems and their effects on individuals' wellbeing. I really like the idea of the European Union as a natural social laboratory where it is possible to observe and experiment the effects of different fiscal and social policies on the real life of individuals. As such the comparative crosscountry perspective offered by EUROMOD is something great and to be exploited as much as possible.

Which countries do you work on? Despite leaving ISER in 2011 for a position at the University of Insubria (Italy) I am still part (and proud of!) of the Essex core team with responsibility for mantaining and updating the Italian module, a task which I share with the Italian national team.



'I really like the idea of the **European Union as a natural** social laboratory where it is possible to observe and experiment the effects of different fiscal and social policies on the real life of individuals'

#### Do you have any special responsibilities?

I do not have specific responsibilities related to the EUROMOD update project but I always try to give my feedback on the developments of the different aspects of the project, considering my long-term involvement as EUROMOD developer and user. In the last years I contributed to a number of projects financed by the JRC which try to extend the policy scope of EUROMOD (e.g. Personal Income Tax Expenditures, Housing taxation, Wealth taxes) and then require a close collaboration with the Essex core team in order to guarantee their updating and future integration in the public version of the model.

#### What are you working on at the moment?

At the moment I am mainly working on three projects. With Gerlinde Verbist and Sarah Kuypers (University of Antwerp) we are exploring the redistributive capacity of the European Welfare systems taking into account wealth both as source of individual wellbeing and as an actual or potential tax base. As part of this project, we have derived new EUROMOD input data based on the HFCS data recently released by the European Central Bank. I think it is a promising feature for the future of EUROMOD as well! With Salvador Barrios (JRC), Flavia Coda Moscarola (CeRP Collegio Carlo

Alberto) and Luca Gandullia (University of Genova) we are working on the redistributive and budgetary effects of pension related tax expenditures which push our microsimulation analysis closer to a normative approach than traditionally done. Moreover, I have recently extended the labour supply model for Italy I developed for my PhD in order to take into account self-employment and demand side constraints (with Flavia Coda Moscarola, Ugo Colombino and Marilena Locatelli) and the joint decision of labour supply and childcare (with Edlira Narazani).

What do you enjoy most about working with EUROMOD? It is difficult to say something original after the many interviews with the EUROMOD developers in the previous issues of the newsletter! However, I cannot avoid to repeat what has already been said by my friends and colleagues... working with the EUROMOD team is great! Since I left ISER I had the chance to work in different places but I have not found a more passionate, enthusiastic and committed group of people as the one in ISER! Regardless the number of projects and deadlines, it is always fun to work with the core team in Essex! I think that the motto of the Luxembourg Income Study – 'Work hard, play hard' – has been well accepted and interpreted by the EUROMOD team over the years and I am sure Holly plays a crucial role in disseminating this positive attitude!

Would you like to share any recent highlights? I live in a country of microsimulators! Recently in Italy they have counted at least 18 static microsimulation models! None of them is publicly available and the level of transparency varies a lot. However, in the latest years the interest for EUROMOD has increased a lot and nowadays there are more Italian researchers and institutions who contact us to use the model for their analysis rather than starting from scratch. Together with the Italian national team, we now have joint projects and regular contacts with the Ministry of Economics and Finance and Parliamentary offices, we use the model for academic teaching in specific Masters programs and we are frequently asked to intervene in the debates about enhancements of microsimulation approaches and their uses in our country. I think it is a great recognition of EUROMOD's reputation and Holly's original approach to make the model transparent as much as possible and freely available knowing that the most important achievement is the full engagement of the community of users.



## **Projects using EUROMOD**

This time we highlight two research projects, both using EUROMOD: 'Feasibility study on register-based EUROMOD input dataset for Estonia' and 'Projecting Child Poverty in Scotland'.

#### Feasibility study on register-based EUROMOD input dataset for Estonia

Praxis Centre for Policy Studies is carrying out a feasibility study for the Estonian Ministry of Finance on developing a register-based EUROMOD input dataset for Estonia. Its aim is to enhance the model in terms of accuracy, level of policy detail and more up-to-date data.

The study will map EUROMOD data requirements for Estonia and provide an inventory of relevant administrative databases and their content, along with an initial data quality assessment. The study also addresses data access and protection issues and discusses alternative technical modes of model deployment in this context. Further core activities include an assessment of EUROMOD technical capacity to handle large datasets and speed performance, and surveying ongoing and potential future model developments (extensions). The study concludes with an overall assessment of the feasibility of developing a register-based input for Estonia, providing recommendations and a road map for achieving that.

#### **Projecting Child Poverty in Scotland**

Since 2015, the Scottish Parliament Information Centre (SPICe) has been using EUROMOD - the tax-benefit microsimulation model for the EU - to provide impartial evidence-based analyses to Members of Scottish Parliament (MSPs) and Scottish parliamentary committees, as well as answer political parties' inquiries on a range of issues including in some cases analysis of the costs and effects of proposed policy reforms.

Following the passing of the Child Poverty (Scotland) Act 2017 in December 2017, the Scottish Government has announced its first delivery plan to reduce child poverty in Scotland in April 2018.

This is a very important and high-profile policy area in Scotland and it is fundamental for the Scottish Parliament to be able to assess if and how well the policy reforms proposed by the Government may contribute to meet the interim and final child poverty targets. This can assist committees such as the Social Security Committee, and MSPs more broadly in assessing the appropriateness of these policies and potentially make alternative policy suggestions.

Dr Paola De Agostini, from the Essex EUROMOD team, is collaborating with SPICe to produce such analyses, supported by University of Essex ESRC **Impact Acceleration** Account fund. The research project will:

- 1 assess how recent changes in the personal tax and benefit system have impacted on child poverty in Scotland;
- 2 consider how future possible policy options could impact on child poverty in Scotland; and
- 3 deliver a set of child poverty projections to assist scrutiny of the first Scottish Government's child poverty reduction plan, helping to assess the magnitude of the task involved in meeting both the 2022/23 interim targets and the 2030/31 final targets set out in the Child Poverty (Scotland) Act

The project uses EUROMOD for simulating the tax and benefit rules to produce an estimate of the net income of each household, and of various measures of poverty in 2015/16, 2018/19, 2022/23 (1 April 2023 being the current date set in legislation for the interim targets) and 2030/31 (when the final targets must be met). It will use these to assess the impact of various policy changes on child poverty in Scotland.

The project's outputs will inform policy makers in decisionmaking in a high-impact policy area and potentially inform new policy reforms to ensure the achievement of the child poverty targets by 2030-31. They will be published as a SPICe briefing and/or wider briefings to MSPs and their staff and presented in a Scottish Parliament breakfast seminar as well as to the Social Security Committee and other relevant committees in the Scottish Parliament.





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