

<p><b>Institution:</b> University of Essex</p>
<p><b>Unit of Assessment:</b> 18 – Economics and Econometrics</p>
<p><b>Title of case study:</b> EUROMOD: Enabling the European Commission and national governments to simulate the effects of policy change</p>
<p><b>1. Summary of the impact</b>          EUROMOD, a tax-benefit microsimulation model developed at Essex, has been used by the European Commission and various national administrations to improve the evidence base for policymaking. EUROMOD enables the measurement of potential effects of policy changes on government budgets, income distribution, and work incentives in the EU. It is used by the European Commission to inform policymaking and model the outcome of austerity measures. At a national level it has been used by the Greek Government to assess the potential impact of various austerity policies, and the Austrian Government to assist in monitoring the effect of policies on meeting poverty reduction targets and to allow the public to understand the impact of policy changes. EUROMOD has also been adapted for use outside the EU and spin-offs have been developed in Serbia and South Africa that are used to model the outcomes of potential policy developments.</p> <p><b>2. Underpinning research</b>          EUROMOD is co-ordinated, maintained, developed and disseminated by researchers at Essex's Institute for Social and Economic Research, under the direction of Professor Holly Sutherland (at Essex 2004 to present). A first version was initiated in 1998 and since relocating to Essex it has been re-constructed, extended from 15 to 28 countries, and is now regularly updated with the latest microdata and policy information.</p> <p>EUROMOD is the tax-benefit microsimulation model for the EU28 member states, based on household microdata from Eurostat's European Union Statistics on Income and Living Conditions. It provides consistent and comparable cross-country analysis of the effects of tax-benefit policies and policy reforms on national budgets, the distribution of household incomes, and work incentives. It is used to evaluate the effectiveness of current policies, to explore the implications of change to policies or economic conditions, and to design new policies with particular goals. Results may be evaluated for individual countries on their own or in comparison with each other, for the EU as a whole, or any sub-group of countries, such as the Eurozone.</p> <p>EUROMOD was constructed and is maintained and kept up-to-date by bringing together an appreciation of the analytical demands of a range of academic disciplines (e.g. public economics, comparative social policy, social statistics), drawing on state-of-the-art technical expertise (e.g. data analysis and management, software design and development) and a network of 28 national teams and many stakeholders. EUROMOD is not only a tool for carrying out research on policy-relevant topics, but it can also be applied to address particular questions of current interest to policymakers, either at EU or national level. Bridging academic enquiry and the analytical needs of policymakers it brings the two communities closer, especially as analysis using EUROMOD becomes increasingly recognised and respected in each of them.</p> <p>EUROMOD is unique in two respects: covering many countries and being generally accessible to all not-for-profit researchers. It is also designed to maximise flexibility and does not restrict the user to a fixed range of options but at the same time does not require specialised skills to use it. All these attributes mean that it can be straightforwardly adapted for use in <u>any</u> country with suitable microdata, and national components can be developed and elaborated as stand-alone projects. EUROMOD offers a short-cut for any national administration or other policy-focused body to build its own model. Research using EUROMOD has demonstrated how such models enhance the evidence base for policymaking and encourages the adoption of such techniques.</p> <p>In particular, recent dramatic changes due to the financial and economic crises have posed challenges for public policies affecting personal incomes. Publications by Essex researchers using EUROMOD have explored the implications of unemployment for household incomes, the distributional effects of austerity measures, and the design of new sources of public revenues and of social protection systems able to meet new demands. Comparing across countries provides new</p>

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perspectives and allows for mutual policy learning. The need to make short-term predictions of the effect of recent and current changes on poverty and income distribution, in the absence of timely micro-data, is an analytical challenge that is being met using EUROMOD to “nowcast” income distribution, focusing on countries experiencing the most unstable economic conditions.

The EUROMOD team at Essex also includes: Silvia Avram, Senior Research Officer (joined Feb 2011); Mariña Fernandez Salgado, Research Assistant (Nov 2010 – Jul 2012); Francesco Figari, Research Fellow (Aug 2006 – Nov 2010); Maria Iacovou, Senior Research Fellow; Chrysa Leventi, Senior Research Officer (joined June 2013); Horacio Levy, Research Fellow (Mar 2011 – Oct 2012); Jekaterina Navicke, Senior Research Officer (joined Feb 2012); Alari Paulus, Research Fellow (joined Jul 2006); Olga Rastrigina, Senior Research Officer (joined Feb 2012); Alexandra Skew, Senior Research Officer (Feb 2009 – Apr 2012); Alberto Tumino, Senior Research Officer (joined Oct 2009).

**3. References to the research**On the development of EUROMOD

Lelkes, O. and H. Sutherland (eds.) (2009) *Tax and benefit policies in the enlarged Europe: Assessing the impact with microsimulation models*. Farnham: Ashgate. ISBN 9780754678489

Figari, F., M. Iacovou, A. Skew and H. Sutherland (2012) Approximations to the truth: comparing survey and microsimulation approaches to measuring income for social indicators. *Social Indicators Research*, 105 (3): 387-407. DOI: 10.1007/s11205-010-9775-4

Sutherland, H. and F. Figari (2013) EUROMOD: The European Union tax-benefit microsimulation model. *International Journal of Microsimulation*, 6 (1): 4-26.

[http://microsimulation.org/IJM/V6\\_1/2\\_IJM\\_6\\_1\\_Sutherland\\_Figari.pdf](http://microsimulation.org/IJM/V6_1/2_IJM_6_1_Sutherland_Figari.pdf)

On the application of EUROMOD

Callan, T., C. Leventi, H. Levy, M. Matsaganis, A. Paulus and H. Sutherland (2012) The distributional effects of austerity measures: a comparison of six EU countries. EUROMOD Working Paper EM6/11 Colchester: ISER, University of Essex.

<https://www.iser.essex.ac.uk/publications/working-papers/euromod/em6-11.pdf>

Fernandez Salgado, M., F. Figari, H. Sutherland and A. Tumino (2013) Welfare compensation for unemployment in the Great Recession. *Review of Income and Wealth*. DOI: 10.1111/roiw.12035

Navicke, J., O. Rastrigina and H. Sutherland (2013) Using EUROMOD to nowcast poverty risk in the European Union. *Eurostat Methodologies and Working Papers*, Luxembourg: Eurostat

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-RA-13-010/EN/KS-RA-13-010-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-13-010/EN/KS-RA-13-010-EN.PDF)

Avram, S., F. Figari, C. Leventi, H. Levy, J. Navicke, M. Matsaganis, E. Militaru, A. Paulus, O. Rastrigina and H. Sutherland (2013) The distributional effects of fiscal consolidation in nine EU countries. EUROMOD Working Paper EM2/13 Colchester: ISER, University of Essex.

<https://www.iser.essex.ac.uk/publications/working-papers/euromod/em2-13.pdf>

**Grants awarded to Holly Sutherland**

*Improving the Capacity & Usability of EUROMOD (I-CUE)* European Commission, 01.05.05 to 30.04.08, £448,381.

*EUROMOD – Year 1*. European Commission, 01.02.09 to 31.01.10, £1,274,770.

*EUROMOD – Year 2*. European Commission, 01.02.10 to 31.01.11, £1,197,493.

*EUROMOD – Year 3*. European Commission, 01.02.11 to 31.01.12, £1,244,411.

*EUROMOD – Year 4*. European Commission, 01.02.12 to 31.01.13, £1,242,873.

*EUROMOD – Year 5*. European Commission, 01.02.13 to 31.01.14, £1,214,943.

**Total:** £6,622,871

**4. Details of the impact**

EUROMOD has an impact at EU-level through informing analysis and policy formation within the

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European Commission. It has been used by various national governments within the EU, including those of Greece and Austria. EUROMOD spin-offs have been developed for use outside the EU – these include SAMOD (South Africa) and SRMOD (Serbia).

### 1. EU policy

The European Commission's Directorate-General for Employment, Social Affairs & Inclusion (DG-EMPL) makes extensive use of EUROMOD in policy formation and has stated that EUROMOD "provides comparative information of the highest available statistical standard in the EU, which is only scarcely available from other sources. This makes Euromod a particularly useful tool for analysis and policy formulation at the EU level" [corroborating source 1]. DG-EMPL has confirmed that "Euromod outputs... regularly feed into the analytical reports published by the European Commission, such as the EU Employment and Social Situation Quarterly Review or the annual flagship Employment and Social Developments in Europe Review... These reports provide analytical underpinning for the policy formulation by the European Commission in the employment and social fields" [1]. For example, the *Annual Report on Employment and Social Development* (2012) cites EUROMOD in numerous places, including a number of explicit references to Essex research [corroborating source 2].

Much of the DG-EMPL's use of EUROMOD has involved modelling the effects of austerity measures, and it has confirmed that "Euromod data are used to support the analysis of consolidation packages implemented in a number of Member States, which in turn underpins Commission policy recommendations to the Member States" [1]. For instance, the *EU Employment and Social Situation Quarterly Review* of March 2013 models fiscal consolidation using EUROMOD, while that of December 2011 uses EUROMOD to model outcomes of austerity measures [3].

Sutherland has presented EUROMOD findings at DG-EMPL events and she was invited to present the paper that compares distributional effects in six countries at the European Commission conference on *Inequalities in Europe and the Future of the Welfare State* (December 2011) [4]. In November 2012 DG-EMPL held the *Microsimulation for Policymaking in Times of Crisis* conference, which included an opening presentation by Sutherland and a further talk on nowcasting from Essex researchers – both of which are available on the DG-EMPL's website [5]. A recent DG-EMPL working paper includes an analysis of nowcasting poverty using EUROMOD and draws on Navicke et al. (2013) [6]. DG-EMPL has confirmed that "the on-going EUROMOD work on nowcasting provides valuable and timely information on the most probable recent trends in the distribution of incomes and particularly in the share of population at risk of poverty" [1].

### 2. National-level impact within the EU

#### Greece

EUROMOD has been used in the design of new policies in Greece between 2011 and 2013. The model provides simulations of the likely and distributional effects of various alternative policies, which are either adopted or abandoned as a result. Although these simulations are not publically available, the Chairman of the Greek Government's Council and of Economic Advisors has informed us of four specific impacts: (i) a new real estate tax has been introduced, which is linked with the cadastral value of the dwelling and other variables that are mostly available in the EUROMOD data base (this tax was introduced in Law 4021/2011 and updated in Law 4152/2013); (ii) "radical change" in the design of family benefits – tax allowances have been abolished and the benefits have become income-related (these changes came into force through Law 4093/2012 and Law 4110/2013); (iii) progressive cuts have been applied to the sum of pensions received by individual pensioners – until recently Greece had no register of pensioners, only pensions (this change was introduced in Law 4110/2013); (iv) the decision to introduce means testing to disability benefits was abandoned due to EUROMOD simulations, which showed that the cost incurred would outweigh the potential benefit [7].

#### Austria

The Austrian Federal Ministry of Labour, Social Affairs and Consumer Protection (bmask) has used EUROMOD in two ways as part of a project in which Essex is an official partner [8]. Firstly, the Social Reform Microsimulation was designed in order to help Austria meet poverty-reduction targets in line with the "Europe 2020 strategy". This reduced version of EUROMOD was introduced

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in January 2013 to assess the effects of policy change in particular “impact dimensions”. Secondly, this simplified version of EUROMOD allows the public to assess the potential impact of policy changes. This can be done through a web portal that all Austrians can use – registration is required but the service is provided free of charge. Bmask has stated that “without the existing EUROMOD model it would not have been possible to offer an instrument for the quantitative impact assessment of the Europe 2020 target group within the Austrian impact assessment system at reasonable cost” [9]. The ultimate impact of this work with bmask is not yet known, but the impact to date is that a national government is relying on EUROMOD to develop strategies to reduce poverty and to help the public better understand policy change.

### 3. Impact outside the EU

EUROMOD has been adapted for use outside of the EU. For instance, a team in Serbia (with Essex as a partner) developed the SRMOD microsimulation, which has been used in the development of the Law on Social Protection (Official Gazette of the Republic of Serbia, No. 24/2011) [10]. The World Bank office in Belgrade asked the SRMOD team to make the ex-ante analysis of the distributional and poverty effects of the draft law. The World Bank then used the results of this analysis as the basis for recommendations for improvement of the draft law. Some of these recommendations were then included in the final version of the law [10]. A further example is in South Africa where the SAMOD microsimulation has been developed by the South African government and a team at the University of Oxford’s Centre for the Analysis of South African Social Policy, with Essex having joint ownership and Sutherland acting as an advisor [11]. To date, six projects have been commissioned by the Department of Social Development, Office of the Presidency, and Statistics South Africa. A member of the Oxford team has confirmed that “SAMOD is thus having a direct impact on policy development within Government, particularly on policy development planning within the Department of Social Development” [12].

### 5. Sources to corroborate the impact

All documents are available from HEI on request.

[1] Official, Directorate-General for Employment, Social Affairs and Inclusion.

[2] Directorate-General for Employment, Social Affairs and Inclusion (2012) *Employment and social developments in Europe 2012*. Brussels: European Commission. See pp. 39, 225, 256-269.

[3] European Commission (2012) *The EU Employment and Social Situation Quarterly Review*, December 2011. See pp. 59-63.

European Commission (2013) *The EU Employment and Social Situation Quarterly Review*, March 2013. See pp. 42-45.

[4] Programme from conference on *Inequalities in Europe and the Future of the Welfare State*. <http://ec.europa.eu/social/main.jsp?langId=en&eventsId=357&furtherEvents=yes&catId=88>

[5] Website and programme for the Microsimulation for Policymaking in Times of Crisis conference: <http://ec.europa.eu/social/main.jsp?langId=en&catId=88&eventsId=811&furtherEvents=yes>

[6] Directorate-General for Employment, Social Affairs and Inclusion (2013) Social protection budgets in the crisis in the EU, Social Europe. Working Paper 1/2013 <http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7575>

[7] Chairman of Council of Economic Advisors in Greece.

[8] Link to homepage of the Social Reform Microsimulation. The “Information about the microsimulation model” acknowledges Essex as a partner in the project. See pp. 7 & 9. Link: <http://soresi.bmask.gv.at/Mefisto/willkommen.html>

[9] Head of Department: Principle Social Policy Affairs and Research (Dep. V/B/4), Austrian Federal Ministry of Labour, Social Affairs and Consumer Protection.

[10] Teaching Assistant in Faculty of Economics and member of SRMOD team, University of Belgrade.

[11] Information on SAMOD from University of Oxford’s Centre for the Analysis of South African Social Policy website: <http://www.casasp.ox.ac.uk/microsim.html>

[12] Deputy Director of Centre for the Analysis of South African Social Policy, University of Oxford.