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Special session S33: Spatial Microsimulation – Methodological advances and empirical applications

Distributional effects of child benefits in Greece and Italy at local level

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Extended abstract

The paper showcases a new spatial microsimulation model, developed as an extension of EUROMOD (the tax-benefit model for the European Union), enabling the evaluation of the fiscal and distributional impact of public policies at local level.

Microsimulation techniques have long been established, and are widely used by governments around the world for the analysis of redistributive policies. In particular, EUROMOD is being currently used by researchers and policy analysts across Europe and beyond, as well as by member state governments and the European Commission. EUROMOD enables users to calculate in a comparable manner the effects of taxes and benefits on household incomes and work incentives for the population of each member state and for the EU as a whole. Cross-country comparability is enabled by coding the policy systems of all member states according to a common framework based on a standard set of modelling conventions. The findings of microsimulation research are often quoted in the media in the context of reporting on government policies and their impact on households.

The limitations of most microsimulation models' traditional reliance on national-level data have been made plain by the growing importance of the local level as the focus of analysis. Again, several factors have contributed to that. To start with, a change of policy at the national level may well produce significantly different effects at the local level. Besides, the impact of an asymmetric macroeconomic shock is likely to have an impact on the geography of prosperity, employment, poverty, and inequality. Furthermore, the resulting spatial inequalities may occasionally erupt on the national scene. Lastly, the shift in focus of microsimulation analysis away from the national level has been rendered urgent by the devolution of tax-benefit policies from central government to local (i.e. regional or municipal) ones, as seen in Italy, Spain, and elsewhere.

In order to explore spatial variation in living conditions, and to monitor the effects of changes in tax-benefit policies at the local level, one would need much larger income surveys. These are currently unavailable. Conceivably, the sample size of SILC might be greatly increased to ensure statistical significance at the NUTS-3 level, or even lower. Unfortunately, the cost of that is likely to be seen as prohibitive. What is more, in countries like Italy and Spain the sample size of SILC is already larger than in other countries, to enable analysis at the NUTS-2 level, so the chances of a further sample size increase are probably slim.

A promising alternative might be to run EUROMOD on registry data, such as tax returns, given the large number of observations, high degree of accuracy, and granularity at local level. After all, such datasets are already being used to great effect, for instance in order to estimate geographical patterns of intergenerational income mobility in the US and elsewhere. The disadvantages of relying on tax registries include limited coverage of vulnerable populations (e.g. individuals and families that are too

poor to pay taxes), lack of socio-demographic information often used to decompose the results (e.g. individuals by education level or economic sector), and privacy concerns forcing government agencies to restrict access to data.

Spatial microsimulation is a third approach. Adding spatial detail to microsimulation requires microdata reflecting the characteristics of individuals and households in regions, sub-regional units (e.g. provinces or prefectures), cities, or neighbourhoods. Given the lack of geographically disaggregated microdata at the sub-national level, spatial microsimulation combines population census data at small area level, tax return data in aggregate form, and survey microdata at national – or, at best, regional – level, in order to create a synthetic population whose characteristics mirror as closely as possible those of the local areas under examination.

The paper presents a new such spatial microsimulation model (*EUROMOD-spatial*) for Italy and Greece, which allows us to evaluate the fiscal and distributional impact of public policies at NUTS-3 level. We use EU-SILC 2019 data to create representative samples at local level by modifying the sampling weights based on information derived from population census and income tax returns. We apply the model to assess the anti-poverty effects at local level of child benefit in Greece (*Επίδομα παιδιού*) and Italy (*Assegno Unico Universale*). The introduction of the above benefits marked an important turn in social policy in the two countries, consolidating and upgrading income support for families with children.

In Greece, income support for families with children had in the past been generous for only two types of families: those with three or more children, and those of employees in public utilities, banks, and the civil service. In contrast, the overwhelming majority of children received little or no benefit, even when poor. In 2013, most pre-existing family benefits and tax relief for dependent children were replaced by a 'unified' (i.e. non-categorical) child benefit (*Ενιαίο επίδομα στήριξης τέκνων*), payable on a means-tested basis. Its introduction brought public assistance within the reach of hundreds of thousands of low-income families that had been ineligible for income support under the previous system. The amount of benefit varies by family income and number of children. In 2018, child benefit was given a new name (*Επίδομα παιδιού*), became more generous, while the means test was also streamlined.

In Italy, the new child benefit (*Assegno unico e universale per i figli a carico*) was introduced in 2022, replacing a pre-existing array of income transfers to families with children, which comprised tax credits, a family allowance of a contributory and categorical nature, reserved for wage and salary earners including retired ones (*Assegno per il Nucleo Familiare*), as well as a number of minor bonuses paid as a lump sum. The new benefit was designed in a rather innovative way, combining elements of universality and selectivity: all families with children are eligible for the new child benefit, but all claims are subject to a means test in order to determine the amount of benefit, which is inversely related to claimants' income (and assets). *Assegno Unico Universale* boosted the number of families eligible for income support, which for the first time reached low-income families previously unable to benefit from tax credits (since their income was too low to pay tax), nor entitled to *Assegno per il Nucleo Familiare* (if no household member was an employee, or had been one if currently retired). The new child benefit by design favours larger families (as the benefit amount rises more than proportionally with the number of children), and two-earner ones (as the benefit formula results in a higher amount when both parents work). At the same time, the universal nature of the new benefit implies that high-income families are also eligible, thereby reducing the degree of progressivity and increasing overall fiscal costs relative to a targeted scheme.

The paper evaluates the anti-poverty effects of child benefit in Greece and Italy at local level. We assess such effects by reference to two poverty benchmarks: a relative and an extreme poverty threshold set at 60% and 40% of median equivalent income respectively. We also present results in terms of absolute poverty in Italy, by reference to a threshold determined by the country's national statistical agency (*Istat*), set equal to the minimum level of consumption expenditure deemed necessary "to avoid severe forms of social exclusion".

Our results reveal considerable spatial heterogeneity, inform the debate on the optimal design of income support to families with children, and illustrate the usefulness of spatial microsimulation as a tool for the analysis of the local effects of public policies.