

3rd Banca d'Italia Workshop on Microsimulation modelling
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“Opening address”

Andrea Brandolini
Bank of Italy, DG Economics, Statistics and Research¹

It is my pleasure to open the third edition of our Workshop on Microsimulation Modelling. I would like to extend a warm welcome to all of you – speakers, discussants, and participants.

I would also like to thank for their presence our colleagues from the ECB and national central banks, who attended the 12th meeting of the ESCB Network on Microsimulation Modelling at our premises yesterday.

By bringing together experts from both institutions and academia, this Workshop facilitates the exchange of ideas and fosters methodological innovation as well as disseminating key research questions and insights. We are delighted to see this event continuing to grow in terms of both the number of participants and the quality and variety of papers presented, edition after edition.

Microsimulation models are now widely used across the Eurosystem for assessing tax-benefit policies and other factors that affect income distribution and individual incentives. The growing attention devoted to this field highlights its relevance for both empirical research and policy analysis.

In recent years, the Bank of Italy has invested significantly in developing and refining BIMic, its microsimulation model for analysing the tax-benefit system.

BIMic is a living entity: it grows and evolves. The latest significant addition is the accounting for in-kind benefits supplied by the public sector, such as healthcare, education, childcare, and social housing. This addition will enable us to monitor the full redistributive capacity of the Italian tax-benefit system, providing the microeconomic counterpart of the Adjusted Household Disposable Income – the national accounts variable advocated by the Stiglitz-Sen-Fitoussi Commission as a more accurate measure of material living standards.² The main results have already been published in the Bank of Italy's latest *Annual Report*.³

Looking ahead, BIMic+ will incorporate an experimental new module, that modifies the existing static, non-behavioural framework to include labour supply responses. You will find out more about BIMic+ in the next session. There is no

need to convince you of the importance of modelling behavioural responses, particularly when analysing wide-ranging reforms that are likely to alter people's economic decisions. Though, in my view, in many real-world situations these responses may be more muted than economists tend to assume.⁴

This advancement, however, does not mean that we will abandon the static version. The two models must be viewed as complementary. Static microsimulation remains a powerful and reliable tool for most of the analyses we carry out as part of our routine work. For example, we are currently using the static version, BIMic, to estimate the size of fiscal drag and benefit erosion at the household level – research prompted by the recent temporary upsurge in inflation.

There is another line of research that is equally important and which we are currently pursuing at the Bank of Italy: the microsimulation of the business sector.

We have some experience of using firm-level data to simulate the liquidity and capital position of Italian companies in order to evaluate how a sudden shock could change their probability of default. This proved to be a particularly useful tool during the Covid-19 pandemic, when there was widespread concern that many businesses might not survive the recession. Our simulations showed early on that government support measures were effective in preventing a liquidity shortfall and reducing the weakening of firms' net worth, which was reassuring.⁵

Our current goal is to expand the scope of our microsimulation tools to include taxes and transfers affecting firms. Firms are undoubtedly much less investigated than households in the microsimulation literature. Capturing the distributional effects and the responses of firms would be an important step forward in improving our understanding of the impact of budgetary policies on the broader economic landscape. It is a way of identifying policy decisions that are more effective and equitable. The transfer side of the analysis naturally links to the extensive literature on the impact of various types of subsidies and incentives for the business sector. I hope that we can complement the ex-post assessment of the effectiveness of these measures with a powerful tool for their ex-ante evaluation.

I am delighted that, for the first time at this Workshop, a session is devoted to this highly relevant topic.

The presence of many experts and practitioners from national and international institutions, research centres, and universities leads me to my final point.

Cross-fertilisation of ideas, innovations, and methodologies is vital for advancing research in the field of microsimulation, and workshops such as this one are important for this. However, we should probably go beyond simply sharing ideas and experiences.

First, there is the obvious need to strengthen the links with the statistical community, in a broad sense. I am thinking of the growing efforts, which are often carried out in parallel, to construct integrated income, consumption and wealth databases as well as of the necessity of merging survey and administrative data.

Second, microsimulation is, by its nature, a policy-oriented discipline. Comparing and cross-validating results across different models is very important because it enhances the credibility and robustness of policy advice, particularly when decisions have significant social and economic implications. Informal conversations about the technical and modelling choices as well as the specifics of simulations could improve transparency, highlight key assumptions, and explain why different models produce different results when simulating the same policy.

This is essential for gaining credibility with policymakers and the general public alike. Even more so when we bear in mind Tony Atkinson's lesson about the ultimate goal of microsimulation models:⁶

Interdependency between benefits and taxes is one of the factors leading to complexity in this field; and there can be little doubt that this is a barrier to effective policy debate. ... It is however important that discussion of policy reform in this area should not be confined to a small circle of academics and other specialists.

In this regard, I would like to extend my warmest thanks to our keynote speaker, Camille Landais, for joining us today. His experience at the French Council of Economic Advisers has given him valuable insight into how structured dialogue between experts – based on solid evidence and robust models – can inform policy decisions effectively. His insights will undoubtedly be precious in helping us to reflect on how we can further develop and institutionalise exchanges between microsimulation practitioners and policymakers.

More practically, in my country, I would welcome the different microsimulation teams – Istat, UPB, the Treasury, Euromod, and us – sitting together and discussing these details.

Finally, I am delighted to announce that the Editor of the *International Journal of Microsimulation* has suggested collecting selected papers from this workshop in a special issue of the journal.

With that, I wish you all a productive and stimulating day of discussion. I am confident that today's presentations will further enrich our understanding of microsimulation modelling and its applications.

¹ I thank Nicola Curci for helping me in preparing this text.

² J.E. Stiglitz, A. Sen and J.-P. Fitoussi, "Report by the Commission on the Measurement of Economic Performance and Social Progress", 2009.

³ "Gli effetti redistributivi dei servizi pubblici in Italia", in Banca d'Italia, *Relazione annuale. Anno 2024*, pp. 138-141, Roma, 2025.

⁴ A new issue is the challenge that artificial intelligence tools pose to economists' traditional approach of modelling behavioural responses based on utility maximisation. See M. Naddaf, "This AI 'thinks' like a human – after training on 160 psychology studies. The Centaur model goes beyond single tasks and predicts a wide array of human behaviour", *Nature*, 2 July 2025, doi: 10.1038/d41586-025-02095-8: "An innovative artificial intelligence (AI) system can predict the decisions people will make in a wide variety of situations – often outperforming classical theories used in psychology to describe human choices".

⁵ A. De Socio, S. Narizzano, T. Orlando, F. Parlapiano, G. Rodano, E. Sette, G. Viggiano, "The effects of the Covid-19 shock on corporates' liquidity needs, balance sheets and riskiness", Banca d'Italia, Note Covid-19, 13 November 2020.

⁶ A.B Atkinson, *Poverty and Social Security*, Hemel Hempstead, Harvester Wheatsheaf, 1989, p. 230.