

Inflation, fiscal policy and inequality*



By Antonio F. Amores (European Commission), Henrique S. Basso (Banco de España), Johannes Simeon Bischl (European Central Bank), Paola De Agostini (European Commission), Silvia De Poli (European Commission), Emanuele Dicarlo (Bank of Italy), Maria Flevotomou (Bank of Greece), Maximilian Freier (European Central Bank), Sofia Maier (European Commission), Esteban García-Miralles (Banco de España), Myroslav Pidkuyko (Banco de España), Mattia Ricci (European Commission), and Sara Riscado (Banco de Portugal)

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Following the post-pandemic inflation surge, governments in the euro area adopted a large array of fiscal measures to cushion its impact on households and firms, amounting to 2% of GDP in 2022. To guide effective policy interventions, it is crucial to understand how the sudden and strong increase in prices, as well as the fiscal measures implemented in response to it, affected families differently depending on their income. Using a comprehensive microsimulation approach, this policy brief uncovers both the distributional impact of high inflation and the impact of the government measures aimed at supporting households and containing prices. Our analysis confirms that lower-income households were more severely affected by the 2022 inflation surge than high-income households, although fiscal measures significantly reduced the inflation gap. However, most fiscal measures were untargeted, implying a high fiscal cost.

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The Government Response to High inflation

In the aftermath of the pandemic crisis, a sudden and unexpected acceleration of prices, in particular of food and energy goods, hit the world economy. In the euro area, inflation rose from 2.6% in 2021 to 8.4% in 2022. It is well known that high inflation has a detrimental impact on the purchasing power and welfare with lower-income households being disproportionately affected. That is because they spend a higher share of their income on energy-intensive and other essential goods. Besides, poorer households are often credit-constrained, and higher inflation immediately threatens their current consumption (Charalampakis et al., 2022).

As a response to this surge in prices since 2021, governments adopted a large array of fiscal measures to cushion the impact of the inflationary shock on households and firms. Often, these measures explicitly aimed to limit an increase in income inequality. In the euro area, discretionary fiscal measures are estimated to have been close to 2% of gross domestic product (GDP) in 2022 alone.¹ Around half of the government measures were aimed at supporting incomes (“income measures”), while the other half were aimed at containing the increase of prices (“price measures”).

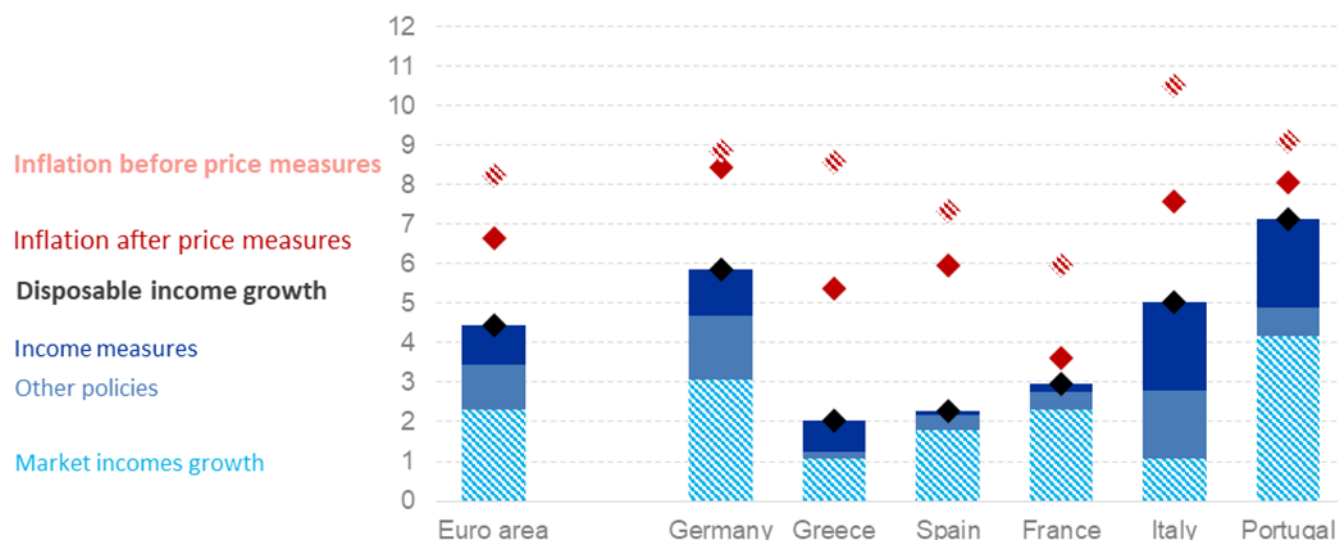
Simulating the Impact of Inflation and Counteracting Fiscal Measures

We present an analysis of the impact of the inflationary shock and the fiscal policy response on the distribution of income and welfare for households in the euro area. The analysis considers the four largest euro area countries – Germany, Spain, France, and Italy – as well as Portugal and Greece. These six countries covered about 80% of the population of the euro area and more than three-quarters of the euro area GDP in 2022. Using EUROMOD and its Indirect Tax Tool (ITT)² extension, we can simulate the impact of inflation across the household income distribution and analyse the counteracting effect of inflation compensation measures (ICMs) introduced by governments on household income and welfare in a *ceteris paribus* context (i.e. in the absence of behaviour effects). Our simulations show that average consumer inflation in the euro area in 2022 would have been 1.6 percentage points higher without the government price measures. At the same time, government income support measures to compensate for high consumer price inflation contributed 1 percentage point to this household income growth. Taken together, fiscal measures on the income and price side compensated households for about one-third of their welfare loss on average. After considering all inflation compensation measures, other income measures unrelated to the inflation surge, and changes in market incomes, a difference of two percent between consumer inflation and the increase in disposable income remains.

¹ See Bańkowski et al. (2023a) and Bańkowski et al. (2023b) for details on the government response to high inflation and its effect on public finances.

² See <https://euromod-web.jrc.ec.europa.eu/> and Sutherland and Figari (2013) for information on EUROMOD, as well as Akoğuz et al. (2020) specifically for the ITT.

Figure 1: Impacts on equivalised disposable income and consumer inflation in the euro area and euro area countries (in percentage, 2021-2022)

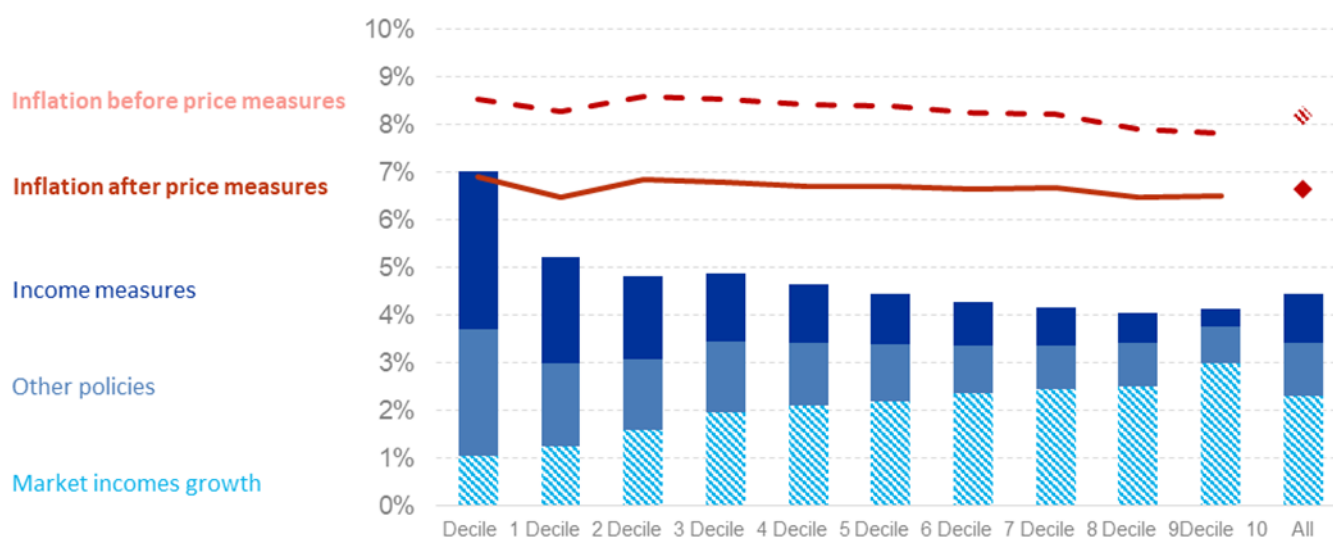


Source: Own calculations based on EUROMOD and ITT simulations, using EU-SILC and HBS data.

The Distributional Impact on Income and Welfare

We find that inflation and government measures had a differential impact across the income distribution (Figure 2). First, a comparison with the estimated counterfactual inflation rates (i.e. inflation rates in the absence of price measures) reveals that the inflation rate differential between the richest and poorest households would have amounted to 0.7 percentage points, due to differences in consumption composition. The government measures implemented on the price side reduced this inflation gap by half.

Figure 2: Impacts on equivalised disposable income and consumer inflation in the euro area by income (in percentage, 2021-2022)



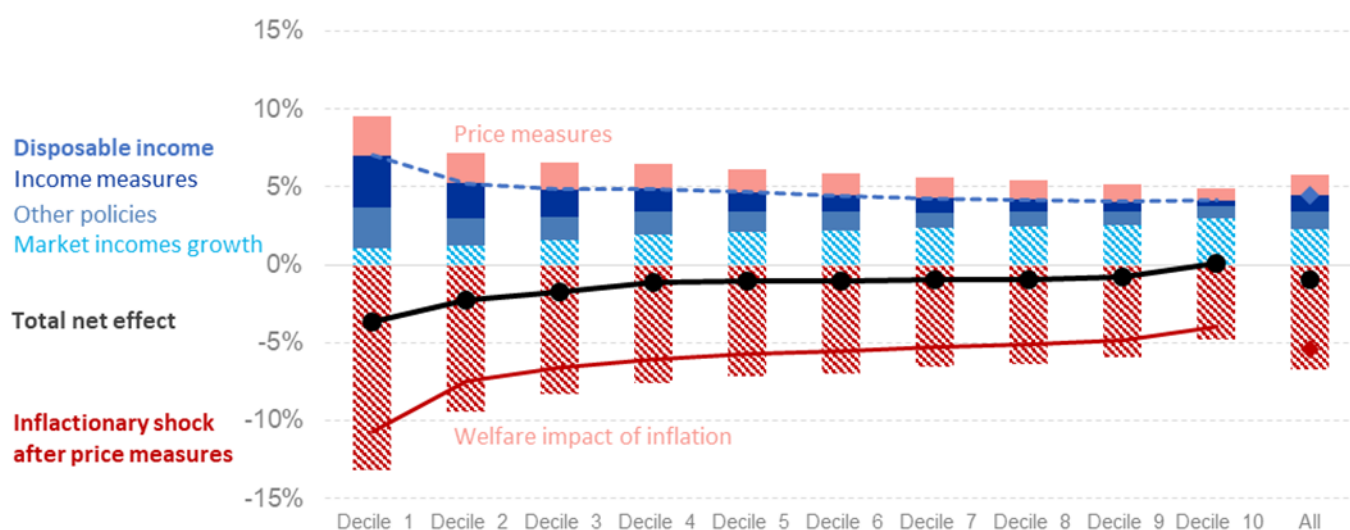
Source: Own calculations based on EUROMOD and ITT simulations, using EU-SILC and HBS data.

Notes: This chart shows the simulation results for the euro area aggregate, separately depicting the growth in nominal disposable income and prices by income decile. Changes in prices and incomes are presented as a proportion of their own bases. Accordingly, the change in price is related to the price level and can be interpreted as “consumer inflation”. The bars in the chart show the various components driving the change in nominal disposable income by decile, with the top part of the bar, dark blue showing the impact of income measures.

Second, looking at the nominal income growth distribution in 2022, income measures had a strong inequality-reducing effect, raising incomes by 3.3% for the lowest decile compared to only 0.4% in the richest decile. Other income measures unrelated to inflation also benefited lower-income households more. Richer households, on the other hand, benefited mainly from growth in salaries, wages, and pensions. Summing up these effects, the variation in real disposable income is progressive, with the richest households suffering the largest erosion of the purchasing power of their income.

However, as we turn to the effect on welfare, the picture is somewhat different. The welfare perspective takes into account differences in the propensity to consume, as changes in expenditures due to the rise in prices are now measured in terms of the household's disposable income. Lower-income households must spend much larger shares of their income to maintain their consumption when an inflation shock hits. This can be observed in Figure 3, showing the effects of inflation, income growth, and government policies on households' welfare across income deciles. Negative bars show the increase in household expenditure as a share of household disposable income before considering compensating government policies on the price side. Positive bars in blue show changes in income as in Figure 2. Positive red bars reflect the price measures. The total net effect (sum of all bars) is negative for all deciles except for the richest 10%.

Figure 3: Price and income effects on households' welfare, euro area average, by decile
(in percentage, 2021-2022)



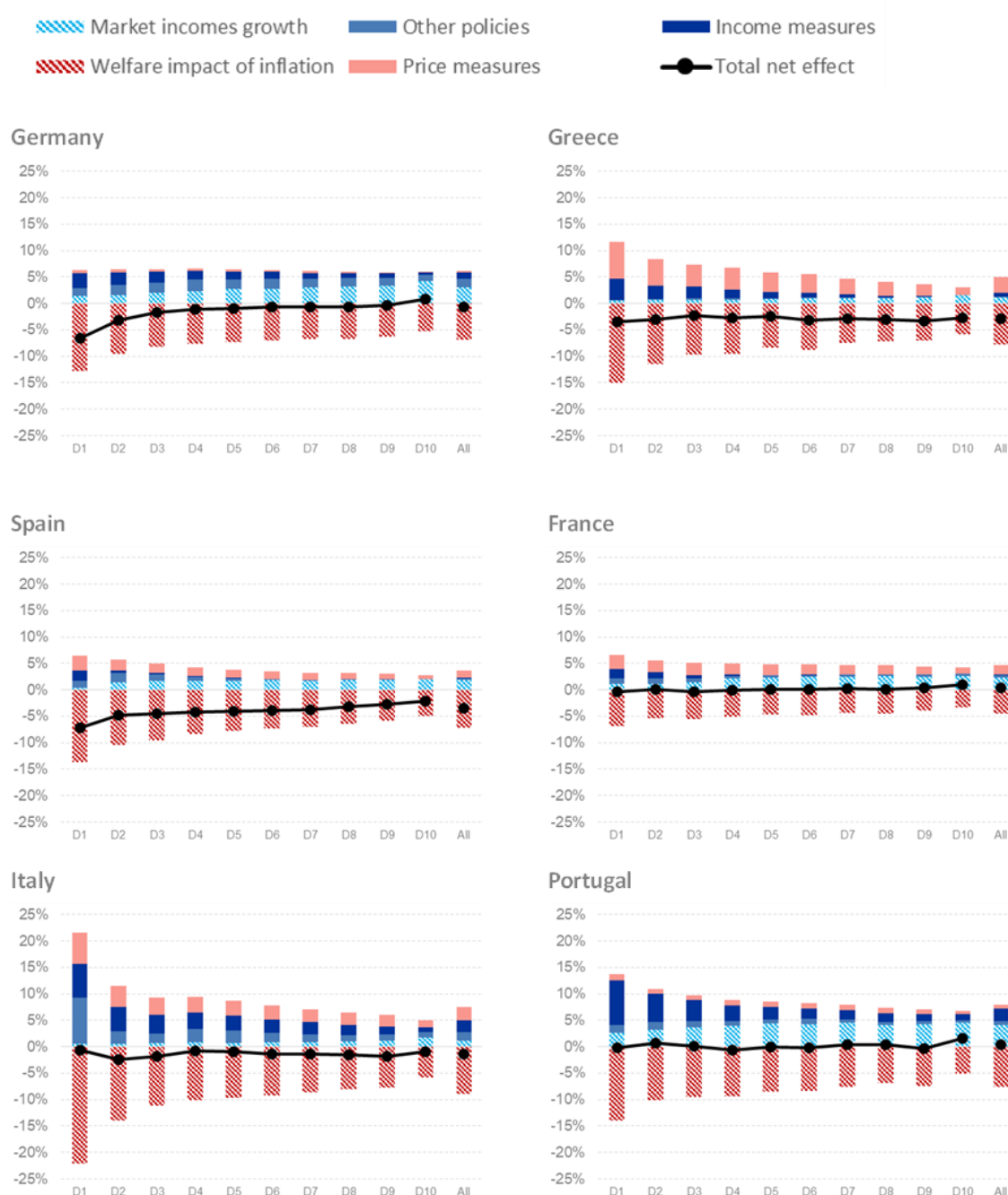
Source: Own calculations based on EUROMOD and ITT extension simulations, using EU-SILC and HBS data.

Notes: Market outcomes (before any government policies) are shaded. Government policies are shown in solid colours. Contributions to changes in disposable income pertaining to the price (income) side are shown in red (blue) tones. The coloured lines show the total effect on the income (price) side in blue (red). Individuals are ordered across deciles according to their equivalised disposable income in 2021.

Welfare losses are highest at the bottom of the income distribution, resulting in a much larger welfare gap of 8.4 percentage points between the lowest and highest income deciles. This is driven by the large effect of the inflationary shock on low incomes. The welfare gains from price and income measures differ between the richest and poorest deciles by 1.7 and 2.9 percentage points, respectively. In relative terms, the first decile's gains from income measures are 8.7 times those of the 10th decile, while they are only 3.2 times higher for price measures. Overall, the combination of price and income measures closes about half of the welfare gap.

The inflationary shock played out quite differently across countries (Figure 4). Consumer inflation differed significantly across euro area countries in 2022. Model simulations suggest that it was more than twice as high in Germany as in France, for example. Similarly, the distributional impact of the inflation surge in 2022 varied across countries. The welfare loss prior to government measures was four times higher among the poorest than among the richest households in Italy, while it was only two times higher in France. Also, government responses to the inflation surge varied widely across countries. While some countries placed a strong focus on containing price increases (e.g., Greece), others took more measures to support households via transfer payments (e.g., Portugal). Notably, the adverse effect of the inflationary shock on inequality was broadly offset in all countries, with the exceptions of Germany and Spain.

Figure 4: Price and income effects based on households' welfare in the euro area countries (in percentage, 2021-2022)



Source: Own calculations based on EUROMOD and ITT extension simulations, using EU-SILC and HBS data

Notes: Market outcomes (before any government policies) are shaded. Government policies are shown in solid colours. Contributions to changes in disposable income pertaining to the price (income) side are shown in red (blue) tones. Individuals are ordered across deciles according to their equivalised disposable income in the baseline scenario (2021).

Efficiency of Policy Measures

In principle, the aim of inflation-compensating fiscal measures should have been to address the adverse impact of inflation to shield the least well-off, as supported by our finding that high inflation affects this group more severely. After all, the cost of higher consumer prices can only be redistributed and not completely eliminated. Fiscal measures, together with increases in market incomes, were successful in counterbalancing most of the inflationary shock of 2022 by protecting real incomes across the income distribution. However, the fiscal cost of about 2% of GDP was substantial. As already alluded to, income measures are much more targeted and therefore more effective at protecting the incomes of the poorest. We estimate that for the same level of government expenditure, income measures raise the welfare of the first decile by more than 3 times the amount price measures do. Stronger reliance on targeted income measures could have similarly safeguarded the lowest incomes while also resulting in smaller government deficits. ■

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About the authors

Antonio F. Amores is an economic analyst and modeller that leads the Analysis of Consumption Taxation at the Fiscal Policy Analysis unit of the Joint Research Centre of the European Commission. Previously, he researched Corporate Taxation, Productivity, Digital Economy, Supply-Use and Input-Output Tables estimation and analysis. He holds a European PhD in Economics from Pablo de Olavide University where he is also Associate Professor with more than a decade of experience in Quantitative Methods for Economics. He has been research fellow at Tilburg University and the Andalusian Statistical Office, and advisor at the Economic and Trade Affairs Office of the Embassy of Spain at Chile.

Henrique S. Basso is an Economist at the Research Division of the Bank of Spain. His research focuses on macroeconomics and finance. He has worked on the analysis of monetary and fiscal policies, the interactions between financial intermediation and macroeconomic outcomes and the impact of demographic changes, among other topics. He holds a B.A. from State University of Campinas - Sao Paulo and a Ph.D. from Birkbeck, University of London.

Johannes Simeon Bischl worked as a research analyst at the European Central Bank's Fiscal Policies Division. He obtained bachelor's and master's degrees in Economics from the Ludwig Maximilian University of Munich, where he worked on issues of inequality and optimal redistribution. Simeon's research interests lie at the intersection of public finance, macroeconomics and political economy, with a methodological focus on applying techniques from the fields of machine learning and causal inference.

Paola De Agostini is an experienced Economic Analyst and modeler at the Joint Research Centre (JRC) of the European Commission. Her research interests lie in the fields of policy evaluation using microsimulation methods, redistributive effects of tax-benefit policies and poverty. Other research areas that she is interested in are consumer spending choices, health consequences of policy choices, environmental and economic planning, healthcare financial systems, forecasting and spatial micro-simulation models. She previously worked as senior economist at the Joseph Rowntree Foundation (JRF) in the UK where she led JRF's economic modelling and econometric analysis and at the Institute for Social and Economic Research (ISER) at the University of Essex. She has been consultant of the Scottish Government and of the Scottish Parliament Information Centre (SPICe). Paola holds a PhD in Applied Social and Economic Research and an MSc in Applied Economics and Data Analysis from the University of Essex (UK).

Silvia De Poli is an Economic Analyst with a background in statistics. She worked at the Fiscal Policy Analysis unit of the Joint Research Centre (JRC) of the European Commission. Before joining the JRC, Silvia worked as research fellow at the Research Institute for the Evaluation of Public Policies in Trento (Italy). Her research interests are public policy evaluation, labour market policies, fiscal policies and their impact on in terms of inequality. She is currently a PhD candidate at the University Complutense of Madrid and holds a M.Sc. in Economic, Financial and Business Statistics from the University of Padova.

Emanuele Dicarolo works as an economist for the Public Finance division at the DG (Directorate General) for Economics and Statistics at the Bank of Italy. His research covers topics of social security, microsimulation, tax and benefit systems, and immigration. He holds a PhD in economics at the University of Zurich.

Maria Flevotomou works as an economist at the Economic Analysis and Research Department of the Bank of Greece in the field of public finance. Prior to this she worked as an economist at the UK Department for Work and Pensions. Maria holds a PhD in economics from the Athens University of Economics and Business and an M. Phil. in Economics from the University of Oxford. Her research interests include the analysis of fiscal policy, tax and welfare reform, pension system reform and distributional impact assessment.

Maximilian Freier currently is Secretary of the European Central Bank's Monetary Policy Committee. He has held several positions as an economist in the ECB's Directorates General Economics, Monetary Policy as well as International and European Relations. Maximilian obtained a PhD from the London School of Economics and Political Science and master's level degrees in both Economics and in Political Science from the Ludwig Maximilian University of Munich. Maximilian has broad research interests in fiscal and monetary policy, European integration and governance, comparative political economy as well as applied machine-learning techniques.

Sofia Maier works at the Fiscal Policy Analysis unit of the Joint Research Centre (JRC) of the European Commission. She works in the development of the EU tax-benefit micro simulator EUROMOD and carries out research and policy analysis in fiscal policies, green transition, the distribution of income and gender inequality. Before joining the JRC in 2019, Sofia worked as a consultant for the United Nations Development Program (UNDP) on time-use, poverty and gender inequality and for the Presidency of Uruguay on microsimulations, fiscal policies and income distribution. Sofia has a PhD in Applied Economics from the University of Antwerp and a MSc degree in Economics and Business from the University of Rotterdam.

Esteban García-Miralles is a Senior Economist in the Public Sector and Fiscal Policy Unit at the DG Economics and Statistics of the Bank of Spain. His research interests are in public finance and labour economics, with a focus on taxation and retirement. His work has been published in academic journals such as *American Economic Journal: Economic Policy* and the *Journal of Public Economics*. He was a Postdoctoral Fellow at the Institute for Fiscal Studies (UK). Esteban holds a PhD in Economics from the University of Copenhagen.

Myroslav Pidkuyko is a Senior Economist in the Microeconomic Analysis Unit at the DG Economics and Statistics of the Bank of Spain. His research interests are in macroeconomics and household finance, with a focus on housing policies, inequality and public finance. His works has been published in academic journals such as *Journal of Monetary Economics* and the *Review of Economic Dynamics*. Myroslav holds a PhD in Economics from the University of Manchester (UK).

Mattia Ricci is an economic analyst at the Fiscal Policy Analysis unit of the Joint Research Centre of the European Commission. His research interests include public finance, optimal taxation, inequality and interactions between micro and macroeconomic modelling. His works have been published in academic journals such as the *Journal of Economic Dynamic and Control*, *Energy Policy* and *International Tax and Public Finance*. Mattia holds a PhD in Economics from the University of Glasgow.

Sara Riscado is an economist of the Public Finance and Structural Studies Unit of Banco de Portugal Economics and Research Department. Her research interests cover topics in public finance, taxation, inequality and fairness, labour economics, and interactions between micro and macroeconomic modelling. Her work has been published in academic journals such as the *Journal of European Social Policy*, *Energy Economics* and *Fiscal Studies*, as well as in Banco de Portugal and European Commission publications. Sara holds a PhD in Economics from the European University Institute, in Florence.

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SUERF Secretariat
c/o OeNB
Otto-Wagner-Platz 3
A-1090 Vienna, Austria
Phone: +43-1-40420-7206
www.suerf.org • suerf@oenb.at