Macroprudential Policies and Inequality in Europe

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Extended Abstract

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1. Research question

The sustainability of economic unions like the European Union (EU) or currency unions like the euro area depends on similar economic growth paths, non-excessive debt levels and dispersions in income distributions across countries. Financial crises pose a threat in that respect, as they tend to result in deep and prolonged recessions. The re-regulation of the financial system over the last decade intends to decrease systemic vulnerability and thus prevent negative effects of financial crises on the real sector and individuals. To reach the objective of a more stable financial system, a key element is the introduction of macroprudential policies. An increasing range of studies looks at the first order effects of macroprudential regulation on banking system stability or lending sensitivities. They find that credit and house price growth both decline in the wake of tighter regulation (e.g., Aiyar et al. 2014, Akinci and Olmstead-Rumsey 2018, Cerutti et al. 2017, Danisewicz et al. 2017). However, there exists little evidence on indirect spillover effects on the distribution of individual incomes.

In this paper, we aim to fill this gap and ask whether macroprudential policies, intended to stabilize the financial system, affect individuals' income situation heterogeneously along the income distribution and thus have implications for income inequality in Europe. The analysis is based on EU-SILC microdata and covers households and individuals across all countries in the European Union (excluding Germany and Luxembourg) for the period from 2010 to 2018. From a policy perspective, it is important to gain a more comprehensive view

of the usefulness of such prudential instruments. We hypothesize that tighter macroprudential regulation increases banks' stability but at the same time provides incentives for banks to lend only to a very narrow set of less-risky borrowers, thus constraining consumption and investment for others (see also evidence provided by Epure et al. 2018). Also, Eickmeier et al. (2018) find for the US that tighter capital regulation – by affecting high-earning households in particular – relates negatively to inequality. Preliminary results of our study suggest that, contrary to our hypothesis, stricter financial regulation benefits the poor and hurts the rich in terms of income growth.

2. Empirical setting

Similar to the approach by Amberg et al. (2022), who focus on the role of monetary policy shocks in Sweden and income inequality, we ask whether the introduction and stance of macroprudential regulation targeting the banking sector affects households' or individuals' net (post-tax) income growth depending on their rank in the income distribution. Our estimation strategy looks as follows:

$$\frac{Y_{i,t} - Y_{i,t-1}}{Y_{i,t-1}} = \sum_{g=1}^{10} \mathbb{1}_{icg} \left[\alpha_{cg} + \beta_g D_{c,t} + \gamma_g Z_{c,t-1}\right] + \varepsilon_{it}$$

where the dependent variable, $\frac{Y_{i,t}-Y_{i,t-1}}{Y_{i,t-1}}$, is the growth rate in household or individual *i*'s post-tax income (or one of its subcomponents, such as rental income). $\mathbb{1}_{icg}$ is an indicator function being one if household/individual *i* belongs to an ex ante defined income group *g* in country *c*. We group households/individuals according to their first observed income. α_{cg} is an income group-specific intercept for each country to account for differences in income distributions and economic development across countries. $D_{c,t}$ is a binary variable for EU directives introducing new macroprudential regulation in country *c* a time *t*, which is equal to zero before its introduction and one afterwards. We are interested in the coefficient β_g, which informs about the change in income growth for income group *g* following the regulatory change. We further control for developments at the country level by including macroeconomic, banking sector and public sector variables lagged by one year and included in $Z_{c,t-1}$. Standard errors are two-way clustered at the household/individual and country-year level. This way, we take within-household/individual correlation across time as well as within-year correlation of the explanatory variables across

households/individuals into account. We sequentially add household/individual and year fixed effects to the model.

3. Data

We base our analysis on all EU countries (excluding Germany and Luxembourg due to data availability) and the period 2010-2018. From the set of longitudinal EU-SILC user databases, we gather information on households and individuals' income situation, which then serve as the dependent variable in our regressions. Compared to related studies, using EU-SILC microdata has the great advantage that we can analyze developments across EU countries jointly rather than focusing on one single country. We collect from each longitudinal database that rotational group which reports a full four-year history and merge them to obtain the necessary panel data for our analysis. To verify the validity of the constructed sample, we calculate aggregate inequality measures and compare them to time series obtained from Eurostat, the OECD and the World Bank.

We complement the dataset with further EU-SILC micro level information to control for age, education, occupation and gender. We further add country-level data obtained from sources like the European Central Bank to control for economic developments and the financial cycle. Our explanatory variables include the introduction of macroprudential regulation as well as the tightness of a country's financial sector regulation. We draw on newly collected information on the introduction of the directives underlying the European Banking Union, such as the Capital Requirements Directive IV (Koetter et al. 2022), as well as macroprudential indices provided by Cerutti et al. (2017).

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