Macroprudential policy and household wealth inequality

Jean-François Carpantier, Javier Olivera, Philippe Van Kerm

Aix-Marseille University, CERGAM, France
Luxembourg Institute of Socio-Economic Research (LISER), Luxembourg
University of Luxembourg, Luxembourg
Department of Economics, Pontificia Universidad Catolica del Peru, Peru

Abstract

Macroprudential policies, such as caps on loan-to-value (LTV) ratios, have become part of the policy paradigm in emerging markets and advanced countries alike. Given that housing is the most important asset in household portfolios, relaxing or tightening access to mortgages may affect the distribution of household wealth in the country. In a stylised model we show that the final level of wealth inequality depends on the size of the LTV ratio, housing prices, credit cost and the strength of a bequest motive, and therefore it is not possible to predict an unequivocal effect of LTV ratios on wealth inequality. These trade-offs are illustrated with estimations of “Gini Recentered Influence Function” regressions on household survey data from 12 Euro-zone countries that participated in the first wave of the Household Finance and Consumption Survey. The results show that, among the households with active mortgages, high LTV ratios at the time of acquisition are related to high contributions to wealth inequality today, while house price increases are negatively related to inequality contributions. A proxy for the strength of bequest motives tends to be negatively related with wealth inequality, but credit cost does not show a significant link to the distribution of wealth.

1. Introduction

Macroprudential policies, such as caps on loan-to-value (LTV), loan-to-income (LTI), debt-service-to-income (DSTI) ratios, limits on credit growth and other balance sheets restrictions, have become part of the policy paradigm in emerging markets and advanced countries alike. National authorities with explicit macroprudential mandate have been established in most EU countries under the auspices of the European Systemic Risk Board (ESRB) in the last 3 years and the Capital Requirements Directive 2013/36/EU now gives to the macroprudential authorities a new set of policy instruments to address financial stability risks more effectively.

According to the Annual Report 2015 of the ESRB, published in July 2016, more than 130 new macroprudential measures were taken in the EU in the course of 2015. As Claudio Borio presciently suggested in 2009, paraphrasing Milton Friedman, “we are all macroprudentialists now”.

* Corresponding author at: Luxembourg Institute of Socio-Economic Research (LISER), Luxembourg.
E-mail addresses: jean-francois.carpantier@univ-amu.fr (J.-F. Carpantier), javier.olivera@liser.lu (J. Olivera), philippe.vankerm@liser.lu (P. Van Kerm).
The empirical literature on the effectiveness of the newly activated macroprudential tools is growing and mainly assesses whether, and how much, bank credit and house prices respond to the activation of the macroprudential policies. See among others Cerutti et al. (2017) for a comprehensive panel analysis of 119 countries over 2000–2013, Tressel and Zhang (2016) for a Euro area perspective, Claessens et al. (2013) for a 48 countries panel analysis based on bank-level data or Gross and Poblacion Garcia (2016) for an analysis based on EU household survey data.

Despite these efforts, much remains to be studied. As pointed out by Tressel and Zhang (2016) and Claessens (2014) little is known empirically about their effectiveness in mitigating systemic risks, about their channel of transmission and about the tools’ costs. Most empirical studies to date have focused on the potential benefits of macroprudential policies, while their potential costs have received less attention (exceptions include Behn et al. (2016) and Arregui et al. (2013), which examine output losses resulting from banks’ responses to higher capital requirements).

The objective of this paper is to bridge the literature on macroprudential policy and the literature on wealth inequality. Stiglitz (2015) has already noted that increases in the wealth-to-income ratio and in inequality are related to the increase in rents and in the value of land, and to the financial system. He specifically shows that “a lowering of collateral requirements or of banks’ capital adequacy requirements does not result in an increase in the overall efficiency of the economy, but leads to more inequality.” In the same vein, Galbraith (2012) argues that the rise in U.S. inequality is mainly driven by financial and macroeconomic policy choices. More specifically, our paper examines the connection between macroprudential policy and wealth inequality, both theoretically and empirically. It also brings specific inequality tools in the wider toolkit of the empirical literature on macroprudential policy effectiveness.

Looking at the impact of macroprudential policies on inequality matters, and is not disconnected of policy makers’ concerns. Macroprudential policies are widely known to have redistributive effects. Policy makers illustrate this concern when they modulate LTVs caps, as is the case in Ireland where the central bank has imposed a 90% cap for first-time-buyers of properties up to EUR220,000 and of 80% otherwise. By documenting the impact of macroprudential policies on inequality, our paper is also designed to provide some indirect guidance on inequality-mitigating devices such as the one implemented in Ireland.

We first present a model able to highlight the main trade-offs and links between credit market, housing market and household wealth inequality in the society. We specifically show the links between LTV ratios, house prices, cost of financing and bequest motives. We then explore the effects of LTV ratios on ‘within generations’ inequality by means of simulations. We show that LTV ratios have a non-monotonic effect on wealth inequality, that the intensity of inter-generational transfers is key in determining the relationship between LTV policies and wealth inequality and that a higher cost of credit associated to loose LTV policies can reduce wealth inequality.

We then implement the so-called “Gini recentered influence function” (Gini-RIF) regressions (see Firpo et al., 2009; Choe and Van Kerm, 2014) to assess the relationship of LTV ratios and other covariates on net wealth inequality. The empirical work relies on the Eurosystem Household Finance and Consumption Survey (HFCS) dataset, which is a harmonized household survey initiated and coordinated by the European Central Bank. The survey includes a large set of core questions inquiring about assets, debt, income, bequests and demographics of the household.

The main contributions of this paper are the following. First, we provide a unique assessment of the impact of macroprudential policies (limited in this paper to the specific LTV tool) on inequality. Second, this paper is one of the few exploring household-level dataset to assess macroprudential policies (the only other one we know is Ampudia et al. (2014) who specifically assess the impact of macroprudential policies on the loss given default (LGD) of households). Third, we bring some analytical tools utilized in the empirical literature of income distribution to study some macroprudential policy variables and their (unintended) effects on wealth inequality.

The rest of the paper is structured as follows. Section 2 reviews the literature on macroprudential policy effectiveness and its side effects. Section 3 presents the model and the simulations designed to illustrate the links between LTV ratios and inequality. Section 4 presents the Household Finance and Consumption Survey data, outlines the econometric approach and interprets the results. Section 5 concludes and discusses potential extensions.

2. Review of literature

The literature on the effectiveness of macroprudential tools is growing fast. The most comprehensive analysis so far is by Cerutti et al. (2017) for a panel analysis of 119 countries over 2000–2013. Their main finding is that the activation of macroprudential policies is generally associated with lower growth in credit and that this relationship is weaker in financially more developed and open economies. They also find that the effectiveness of macroprudential policies depends on the financial cycle, and that they work less well in busts (also see McDonald, 2015).

Other key empirical references include Kuttner and Shim (2013) who perform panel regressions over 57 countries and three decades and find that housing credit growth is significantly affected by changes in the maximum debt-service-to-income ratio, the maximum LTV ratio and limits on exposure to the housing sector. Vandenbussche et al. (2012) study Central, Eastern and South-Eastern Europe, known to have used a rich set of prudential instruments over the last decades. Their evidence suggests that the most effective measures were changes in the minimum capital adequacy ratio and non-standard liquidity measures (marginal reserve requirements on foreign funding, marginal reserve requirements linked to credit growth). Using data from 49 countries, Lim et al. (2011) evaluate the effectiveness of macroprudential instruments in reduc-
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