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Financial development and income distribution inequality in the euro area

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ABSTRACT

The paper yields new evidence on real income convergence for euro area (EA) countries since the mid-1980s, with a special focus on the effects of the subprime and sovereign debt financial crises. By conditioning the turning point per capita income of the Kuznets curve (KC) to the level of financial development, we find strong evidence in favor of an EA-wide *steady-state financial KC* and of ongoing convergence across EA members toward a common per capita income turning point level. By means of a counterfactual analysis, we also point to worsening economic and income inequality conditions for all the EA countries, only partially ensued from “austerity” policies. Hence, a well-functioning financial system and its smooth development appear to be instrumental not only to economic growth, but also to a more egalitarian income distribution.

1. Introduction

The disruptive effects of the subprime financial crisis and ensuing sovereign debt crisis have raised new interest on the linkage between financial development and income inequality in the euro area (EA), particularly in the light of the 2.5% average increase in income distribution inequality over the period 2008 through 2013 (Bertola, 2013; D’Errico et al., 2015). The response across euro area countries has however been fairly scattered, consistent with the strong national component in their income distribution (see Gianetti, 2002; Bottazzi and Peri, 2003) and the different degree of social protection and redistributive policies implemented. Countries such as Cyprus, Greece and Spain, where the economic recession was deeper, also experienced a higher than average increase in income inequality; similarly Estonia, France and Slovenia. A higher than average increase in income inequality has also been noted for Austria, Germany, Malta and Slovakia, where redistributive policies were possibly less generous (see Baiardi and Morana, 2016).

The above evidence is consistent with some previous time series, pooled dynamic panel data and panel regression within-country analy-

ses, pointing to an inequality *widening* impact of financial deepening in the short-term. The theoretical underpinning of the “inequality widening hypothesis” can be traced back to Lamoreaux (1995) and Haber (2004), where, due to weak financial institutions or missing financial regulation, financial development operates on the intensive margin, improving financial services only for current users, and leads to higher income inequality. It is also consistent with the view that excess financialization is detrimental to growth, i.e. the “too much finance” phenomenon observed during the subprime financial crisis (Arcand et al., 2015), and the potential effects of banking crisis and financial liberalization policies (De Haan and Sturm, 2017; Furceri and Lounghi, 2015). See, for instance, Dabla-Norris et al. (2015) and Denk and Cournède (2015) for recent empirical evidence.

A different view, i.e. the “inequality *narrowing* hypothesis”, has also been put forward in the literature, based on the theoretical contributions of Becker and Tomes (1979), Galor and Zeira (1993), Banerjee and Newman (1993). It is posited that capital market imperfections, such as information and transaction costs, impede effective screening/monitoring of investments and risk sharing, and therefore perpet-

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uate cross-dynasty differences in income, wealth allocation, returns to investment, and inequality. Then, by easing credit constraints, financial development reduces dependence on parental wealth and fosters human and physical capital accumulation, economic growth and income equality. Supporting empirical evidence has been provided by various cross-sectional between-country analyses and panel data studies using multi-year averaging. See for instance [Beck et al. \(2007\)](#), [Naceur and Zhang \(2016\)](#) and [Delis et al. \(2014\)](#) for recent results.

Nonlinear features, such as threshold and asymmetric effects, consistent with an inverted U-shape for the finance-inequality relationship, have also been documented in the literature. The “inverted U-shaped hypothesis”, can be seen as a combination of the income-narrowing and income-widening hypotheses. It might be grounded on recent contributions to the [Kuznets \(1955\)](#) curve literature that explain its inverse-U shape through the adoption of new technologies and the consequential shift from an unsophisticated to a modern financial system ([Greenwood and Jovanovich, 1990](#); [Barro, 2000](#); [Aghion and Howitt, 1997](#)). Hence, when financial markets are underdeveloped, financial development works on the intensive margin, benefits the rich and leads to higher income inequality. However, once a critical threshold is passed, further financial deepening works on the extensive margin, largely benefits the poor and leads to a more egalitarian income distribution. See [Nikoloski \(2013\)](#) and [Baiardi and Morana \(2016\)](#) for recent results. [Baiardi and Morana \(2016\)](#) indeed document a financial Kuznets curve (FKC) for the euro area, i.e. a long-term, inverse U-shaped linkage between income inequality and economic development, where financial deepening contributes to a more even distribution of income by lowering the turning point per capita income level. This implies that a country with more developed financial markets reaches the turning point of the [Kuznets \(1955\)](#) curve at a relatively lower income level than a country with a less developed financial system, consistent with a direct linkage between financial deepening and economic growth, and with the view that a threshold level has to be passed before financial development leads to a reduction in inequality.

In the light of the above evidence, the paper further assesses the linkage between financial deepening and inequality for euro area countries since the mid-1980s, with particular reference to the impact of the sub-prime mortgage and sovereign debt crises. Consistent with its long-run perspective, a financial Kuznets curve for the euro area is estimated by means of cross-sectional methods, in order to exploit between-countries differences in income inequality, as within-country inequality varies only slowly over time ([Li et al., 1998](#)). Rather than using conventional OLS or GMM estimation, a novel Frequentist model averaging approach (MAS; [Morana, 2015](#)) is implemented. Within this framework, complementary information provided by different financial development and income inequality indicators is jointly exploited, to obtain estimates which are consistent and robust to specification choices. By relying on more degrees of freedom than conventional OLS or GMM, MAS also allows for relatively more efficient estimation.

The original contributions of the study also concern the empirical assessment of the impact of the recent financial crises on income inequality dynamics for the euro area. The latter assessment is particularly relevant, given the scant and conflicting empirical evidence on the effects of financial crises on income inequality available in the literature (see [De Haan and Sturm, 2017](#)). By means of a counterfactual analysis, we find higher inequality than would have otherwise occurred in a non-crisis scenario, not only for the countries that were most severely hit by the sovereign debt crisis, but also for core EA countries (Austria, Belgium, Finland, France, Germany and Luxemburg). The finding clearly points to a genuine linkage between financial instability and inequality, since the raise in income inequality appears to be widespread and not confined to the countries that had to implement austerity packages. Consistent with previous evidence of [Arcand et al. \(2015\)](#), we also detect a “too much finance” effect during the recent crises, pointing to inequality falling as financial deepening increases up to a threshold value of 90–100 GDP points, and then rising as financial development

progresses beyond the threshold; coherently, the countries that were most affected by the sovereign debt crisis also show the highest figures for both variables.

The rest of the paper is as follows. Section 2 review the relevant literature; Section 3 introduces the FKC and deals with specification and estimation issues; Sections 4 and 5 present the data and empirical results. The empirical properties of the estimated FKCs and convergence issues are then discussed in Section 6, while the impact of the recent financial crises on income distribution is assessed in Section 7. Lastly, conclusions and policy recommendations are reported in Section 8. Additional details are contained in the online [Appendix](#).

2. Literature review

The linkage between financial development, economic growth and income inequality has been widely investigated in the literature, and three main theories have been put forward, i.e. the inequality-widening hypothesis, the inequality-narrowing hypothesis, and the inverted U-shape hypothesis.

The “inequality widening hypothesis” can be traced back to [Lamoreaux \(1995\)](#) and [Haber \(2004\)](#), where, due to weak financial institutions or missing financial regulation, financial development operates on the intensive margin and improves the provision of financial services only for those who are already using them, rather than channeling resources to new users. Under these conditions, primarily the rich and the politically connected benefit from financial development, putting upward pressure on income inequality. The latter scenario is likely to occur during the transition from a traditional sector with simple technology to a modern sector with advanced technology ([Clarke et al., 2006](#)). If income inequality is higher in the modern than in the traditional sector, and if the transition to the modern sector requires access to finance, financial development, by fostering the transition to the modern sector, also rises income inequality. Financial liberalization policies might also lead to higher income inequality. For instance, [Cragg and Epelbaum \(1996\)](#) posit that opening the capital account might lead to higher wages inequality by increasing the demand of skilled over non-skilled workers. [Harrison \(2002\)](#) posits that capital account opening might lead to an increase in the profit-wage ratio and to a decrease in the wage share.

On the other hand, the inequality narrowing hypothesis can be related to the work of [Becker and Tomes \(1979\)](#), [Galor and Zeira \(1993\)](#), [Banerjee and Newman \(1993\)](#), where capital market imperfections, such as information and transaction costs, impede effective screening and monitoring of investments and risk sharing. In [Becker and Tomes \(1979\)](#) and [Galor and Zeira \(1993\)](#) imperfect credit markets constrain the access to schooling and capital accumulation for children from less well-off families. Then, by perpetuating cross-dynasty differences in human capital accumulation, credit market imperfections also perpetuate cross-dynasty differences in income and wealth allocation. Due to minimum investment requirements or fixed costs associated with profitable investment, in [Banerjee and Newman \(1993\)](#) only the rich can afford to be entrepreneurs and obtain high returns from their investment; poor people choose instead to work for the entrepreneurs and earn a salary. Hence, the initial distribution of wealth influences the possibility of becoming entrepreneurs and credit constraints perpetuate cross-dynasty returns to investment and income inequality. By easing credit constraints, financial development then reduces dependence on parental wealth and fosters human and physical capital accumulation, economic growth and income equality. More recent contributions, such as [Galor and Moav \(2004\)](#), let the finance-inequality nexus to evolve with the level of economic development. Hence, at early stages of development inequality boosts growth, as, due to credit market imperfections, only the rich -individuals with higher propensity to save- have access to financial resources. This favors the accumulation of physical over human capital, coherent with its higher relative rate of return. However, credit constraints become detrimental to growth at

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