Proceedings of the 2022 Winter Simulation Conference
B. Feng, G. Pedrielli, Y. Peng, S. Shashaani, E. Song, C.G. Corlu, L.H. Lee, E.P. Chew, T. Roeder, and P. Lendermann, eds.

DOES FINANCIAL QUANTITATIVE EASING HELP ALLEVIATE THE ECONOMIC DISPARITY?: RESULTS OF AGENT-BASED SIMULATION MODELS

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ABSTRACT

I verified the effect of financial quantitative easing on economic inequality from two agent-based simulation models. First, I examined the effect of housing finance on wealth inequality by the Korean housing market model. Second, I analyzed the effect of corporate finance on income inequality in the Korean macroeconomic model. I confirmed that quantitative easing of finance exacerbate inequality in the both models. Also, it implies that adequate financial regulation can mitigate the adverse effects of finance.

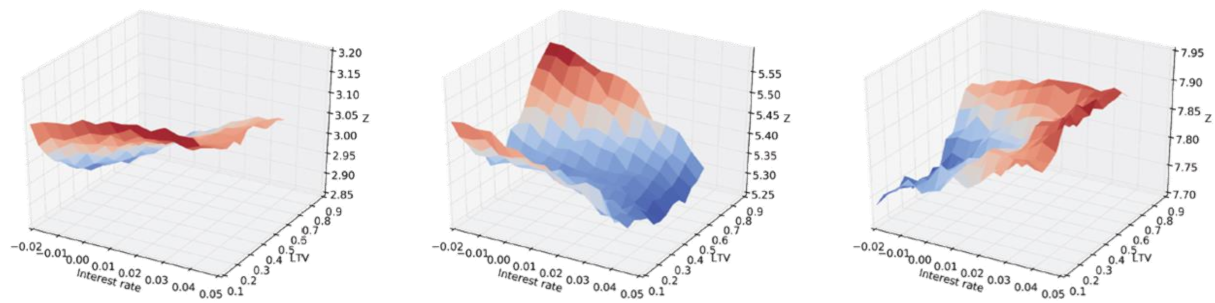
1 INTRODUCTION

In this paper, I briefly introduce my dissertation studies that confirmed the effect of financial quantitative easing on economic inequality. Since the great recession, doubts have emerged that finance is not always good for the economy. Several studies empirically showed that excessive financial development undermine economic growth and exacerbate economic stability and inequality (Arcand et al. 2015; Sahay et al. 2015; Park and Shin 2017). In line with these studies, I checked the effect of financial quantitative easing on wealth and income inequality through agent-based simulation models (ABM).

My dissertation consists of two main parts. The first part examines the impact of quantitative easing of housing finance on household wealth inequality. I replicated the Korean housing market using agent-based modeling. I adopted households' living conditions and Gini coefficients for the wealth inequality indicator. The second part examines the effect of quantitative easing of corporate finance on income inequality. I reproduced the macroeconomic situation of Korea based on the "Keynes meeting Schumpeter" (K+S) model framework (Dosi et al. 2010; 2013). Because of the homogeneous household assumptions of the K+S model, direct calculation of income inequality in the model is not possible. Instead, I inferred income inequality from the labor share of GDP, which is known to be highly correlated with income inequality.

2 HOUSING MARKET ABM RESEARCH

Using the proposed housing market ABM model, I reviewed how changes in the quantity and cost of housing finance affect the housing situation of households and wealth inequality. Figure 1 depicts the changes in household's living housing quality according to the Loan-to-Value (LTV) regulation and interest rate levels. This result implies that the benefits obtained from housing finance differ according to the income level of households. In the case of high-income households, the living house quality increases as finance is quantitatively relaxed. On the other hand, the living condition of low-income households is rather improved when finance is quantitatively tightened. For low-income households, the reduction in affordability due to the rise in housing prices has a major effect rather than the benefits from quantitative easing. I also verified that this disparity of benefits leads to wealth inequality.



(a) Income quintile 1 (low-income) (b) Income quintile 3 (middle-income) (c) Income quintile 5 (high-income)

Figure 1: Living house quality by household income quintile.

3 MACRO-ECONOMIC ABM RESEARCH

Similarly, using the proposed macroeconomic model, we reviewed how changes in the quantity and cost of corporate finance affect the labor share of GDP. Figure 2 compares the debt amounts of individual firms according to the level of Debt to Sales Ratio (DSR) regulation. When the DSR regulation is tight, most firms receive a relatively even amount of corporate finance. On the other hand, when the DSR regulation is loose, some firms with lower market shares fail to receive corporate finance. This implies that financial institutions' innate preference for blue-chip companies leads to differences in financial benefits in a deregulated conditions. Furthermore, I verified that this benefit gap deepens market concentration and leads to a lower labor share.

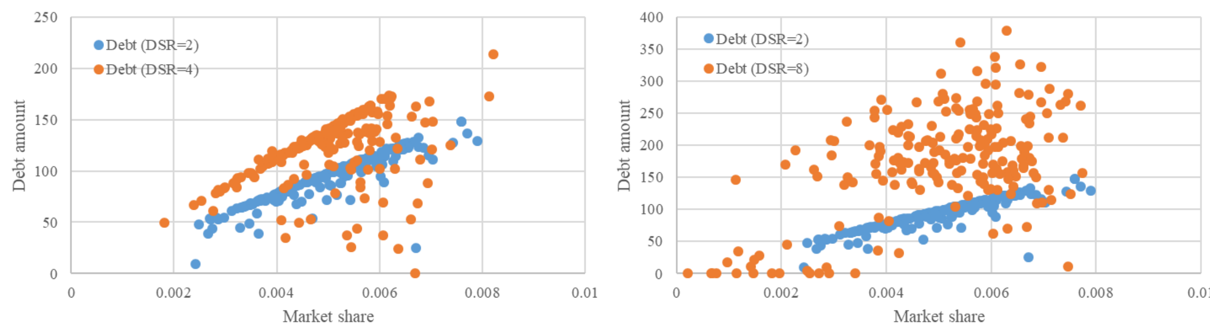


Figure 2: Comparison of individual firm's debt amount between the DSR scenarios

4 CONCLUSION

In summary, my dissertation demonstrated that financial quantitative easing is one possible channel that deepens economic inequality. Financial institutions' innate preference for blue-chip firms and high-income households is the underlying reason for this channel. Lastly, it gives policy implications that adequate financial regulation can alleviate economic inequality by evenly distributing financial benefits.

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