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Financial deepening and economic growth

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Abstract

The core of Shapley-Shubik games and general equilibrium models with a Venn diagram is applied for a theory on the role of real finance in economic growth among advanced economies. Then the dynamic computable general equilibrium (DCGE) models for Germany, France, the UK, Japan and the USA are constructed to assess the validity of the over-financing hypothesis that has reappeared after the financial crisis of 2008. Actual financial deepening ratios observed in the nonconsolidated balance sheet of the OECD exceeded by factors of 3.5, 2.4, 5.1, 11.6 and 4.8 than the optimal financial deepening ratios implied by DCGE models, respectively, in these countries because of excessive leveraging and bubbles up to 19 times of GDP which were responsible for this great recession. Containing such massive fluctuations for macroeconomic stability and growth in these economies are not possible in conventional fiscal and monetary policy models and require a DCGE analysis like this along with adoption of separating equilibrium strategy in line of Miller-Stiglitz-Roth

mechanisms to avoid problem of asymmetric information in the process of financial intermediation so that the gaps between actual and optimal ratios of financial deepening remain as small as possible.

Keywords:

financial deepening

growth

JEL Classification:

F41

O11

O33

O41

Notes

¹ Debreu and Scarf ([1963](#)) had proven the equivalence of a competitive equilibrium to the core of the game for economies with and without production by contradiction when preferences are nonsatiable, strictly convex and continuous. Scarf ([1967](#)) theorem states that a balanced person game has a nonempty core. Financial markets open each time, bid-offer process sets the prices of assets and exchange takes place in the core. This process continues forever. Thus, the competitive equilibrium is equivalent to the allocation at the core, 'An exchange economy with convex preferences always gives rise to a balanced person game and such will always have a nonempty core (Scarf, [1967](#)).'

² ∵

³ Bhattacharai ([2014](#)) numerically shows how financial crises of 2008 could be explained due to the shocks to these real sides of the financial system with standard dynamics contained in simple cash in advance in Sargent (1987) and money in utility theories Sidrauski ([1967](#)) in small prototype models.

⁴ Detailed solutions of these models are skipped here for space reasons and can be available upon request.

⁵ I appreciate helpful comments of an anonymous referee, Charles Nolan and participants of the EEFS-Berlin conference in June 2013 on the earlier version of this

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