

Propagation of Quantitative Easing in Who-to-whom Networks

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We look into the propagation of quantitative shocks, like government debt issuance or central banking's quantitative easing. For this purpose we are using flow of funds matrices (who-to-whom) borrowed from the network theory. We work with the concept of network (eigenvector) centrality that provides the interconnectedness scores on the basis of the matrix representation of the network; and the Perron eigenvector, which is the principal vector of Perron eigen value.

This paper also examines the theoretical role of central banks as possible “provider of leverage” in a context of deleveraging across the board in an economy. Our main contribution is to formalise the hypothetical role of the central bank operations as “net-asset invariant” insofar - as these entail simultaneous provisions of assets and liabilities, based on balance sheet approach. In this respect, we show that the impact of central banks in the overall leverage differs from that of the general government sector, whose leverage effect usually transits only via the provision of liabilities (to finance deficits) without a corresponding provision of assets. We also illustrate the provision of leverage by central banks in advanced economies (by focusing on the euro area, the UK and the US) since the start of the financial and economic crisis in 2007-2008, and compare it with the provision of leverage by the general government sector. This exercise sheds some light on the differences in the “leverage mix” followed by monetary and fiscal authorities in several countries.