Australian Interbank Network

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Abstract

We analyse the network of transactions on the Australian real-time gross settlement system administered by the Reserve Bank of Australia (RBA) for settling large-value transactions between Australian banks. The data comprises all transactions recorded by the Reserve Bank Information and Transfer System (RITS), including those originating from SWIFT, Austraclear and RBA intra-day repos, covering five consecutive days of the week of 19 February 2007. The distinct feature of the data set is that it includes the source and destination of every transaction (54 banks and RBA). Tracking the counterparties for each transaction yields a rich network structure for the settled transactions. The value of each transaction is also supplied in the data, so that not only the network structure but the cash flows on the network can be examined.

In this study we apply standard network analysis techniques to uncover the properties of the cash flow network. We combine the data for consecutive days and use a matching procedure to discover transactions corresponding to the overnight loans. The imbalance in a bank's exchange settlement funds resulting from the daily flow of transactions is to some extent counteracted by the flow of overnight loans on the network. We examine the relation between the cash and loan flows by comparing the cash and loan networks over several days. Persistent patterns and inefficiencies resulting from cyclic flows of loans offer a new way to study the stability of these complex systems. Our overall objective is to gain insight for future modeling of the dynamics of the cash and loan flows.