**Complex Systems Seminars**

"Interbank Lending and Credit to the real Economy"

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**Abstract**

The paper investigate  the role of interbank market in both promoting and undermining systemic stability of the banking system. Because banks operate by issuing liquid liabilities, such as chequing accounts and investing the funds in illiquid assets, such as mortgages and business loans, individual banks may not always be able to meet all their liquidity needs from their own reserves and the interbank market is a source from which banks facing liquidity shortages can borrow funds from other, liquid banks. Using  an ABM model which builds on earlier work we use he model to  analyze the implication  of new regulations proposed under the Basel III agreement. The new (Basel III) leverage ratio is defined as a minimum percentage (3%) of the capital measure to the exposure measure. One of the impacts of this new approach is that it considerably widens the definition of what constitutes leverage in the banking system, pushing banks  to either increase their capital or reduce their intermediation activity. While advocates of tougher regulation generally support this tightening, its critics question if obliging banks to reduce their leverage ratio will increase systemic safety more than it reduces the intermediating role of the banking system, which in effect is the engine of growth for the real economy.   The tradeoff between stability and economic performance is explored for different structures of the interbank market. The results of the model provide some support to the concerns raised by critics of new Basel framework by showing that on one side low ceilings on leverage ratios can protect banks from idiosyncratic and  systemic risk, but they do have an anti-competitive effect which hurts borrowers in the real economy, especially in times when the demand for bank credit is high. On the other side, relaxed leverage ceilings can make banks particularly vulnerable to systemic failure in times when demand for bank credit is low. We find that the effects of tightening leverage constraints on the banking sector’s performance can vary in a complex way with the state of the economy, the degree of connectivity of the interbank market and the amount of information available to market participants on bank risks. In particular, our findings suggest that counter-cyclical leverage ratios, as proposed under the new regulatory framework, will increase systemic stability; at the same time, the average level of lending to firms will fall over the business cycle.