

# Basel Accord and Financial Intermediation: The Impact of Policy

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This paper studies loan activity in a context where banks have to follow Basel Accord type rules and need to find financing with the households. We use a dynamic general equilibrium model with heterogeneous agents, endogenous occupational choice, consumption/savings decisions and asset accumulation. Compared to extant literature, we do not assume a fixed share of agents with easy access to credit and we allow some of them, in endogenous proportion, to face bankruptcy. The distribution of assets (bank deposits, bank equity, loan collateral) is endogenous and varies through the cycle. The variation in this asset distribution, and in its allocation between risky bank equity and riskless deposits, plays a crucial role in the funding of bank loans.

Households are entrepreneurs (if a bank loan application was successful) or workers (if not). Entrepreneurs use the loan and their assets for risky projects, whose return distribution is subject to aggregate shocks and may imply bankruptcy. Workers earn labor income and save up collateral to become eligible for project loans and to protect themselves to the idiosyncratic risks of unemployment and retirement by investing in bank equity and bank deposits. Competitive banks are subject to Basle Accord like capital requirements. During downturns, which we represent as a lower distribution of project returns, they face higher losses from loans and thus tighten credit. In addition, workers tend to switch from equity, which becomes more risky in downturns, to deposits, thus constraining banks' ability to provide loans (capital requirement binds).

We study several policies that could counter such adverse conditions on the credit market. We consider two classes of policies: monetary policy (through changes in the risk free interest rate) and cyclical capital requirements.

In our model economy, we find that active monetary policy is effective only if it acts as soon as dark clouds are on the horizon. Acting only after the economy has been hit by lower entrepreneurial returns for several periods is vain because it does not affect the expectations of market participants and thus does not generate sufficient reallocation of savings between risky equity and risk-less deposits. However, we find that active monetary policies do not make a credit crunch disappear, they just increase credit in all situations. Essentially, reallocation of loanable funds (savings) in the model is gradual. For a policy to induce a significant movement in a composition of savings between risky equity and riskless deposits, it needs to be expected. We also discover that monetary policy is not symmetric, that is, a procyclical policy has a negligible impact, even if active in the sense described above. This asymmetry is a consequence of a skewness in the endogenous distribution of savings in the model economy.

Cyclical capital requirements are more promising in preventing a credit crunch, but not in the way our first intuition would indicate. Relaxing requirements during a credit crunch worsens it, as households reduce the share of their savings held as bank equity. The negative effect on loans of this “flight to safety” more than offsets the direct positive effect of laxer capital requirements. Consequently, a countercyclical capital requirement is effective in reducing a credit crunch, as such a policy increases the confidence of households, inducing them to hold onto their bank equity. This policy is not unlike what is expected from Basle Accord II rules, but with an impact that the literature has not discussed so far.

Note that this paper also makes a methodological contribution in that it solves a heterogeneous agents economy with aggregate shocks without resorting to linearization of decision rules or parametrization of the distribution à la Krusell-Smith. In fact the non-linearities in the model economy and the resulting importance of the shape of the distribution make these approaches impossible.

Status of the paper: We have attached a write-up of the paper as it currently stands. This is a very rich model and we do not yet understand all of its results. We are thus still working on this. Solving the experimental economies takes a lot of time (both for computers and humans), yet we hope to add a few other experiments, in particular with the injection of capital directly in the banks.