Financial Intermediation and Macroeconomic Fluctuations
Fabian Valencia

Economists have devoted a great deal of attention to modeling the macroeconomic implications of cyclical variation of borrowers’ creditworthiness, yet the literature has largely neglected the task of modeling the behavior of the bank. This omission in the literature is particularly unfortunate given the strong empirical evidence in support of the role of banks’ financial structure in lending decisions and their importance for macroeconomic stability. Therefore my thesis proposes a framework to study the dynamic interaction between banks’ financial conditions, their lending decisions and the aggregate economy. This framework is being extended to investigate a current policy issue regarding Basel II and finally the empirical implications of the model will be explored in U.S. banking data.

1. Banks’ Financial Structure and Business Cycles (job market paper)

This paper proposes a framework in which variations in the financial condition of banks can generate credit crunches with persistent aggregate consequences. The bank is modeled as a firm in a dynamic framework with imperfect capital markets. In the model, the bank targets an optimal financial structure defined as the ratio of net cash position to the size of outstanding loans. This cash position works as a cushion against unexpected declines in loan revenues. In the model, credit crunches can arise with persistent effects on output, even in the case of a small and transitory i.i.d. shock. In the case of a permanent increase in productivity, lending increases gradually rather than instantly—as in a frictionless model—until the new target is reached. Finally, the bank’s response to shocks is not symmetric.

2. Basel II and Business Cycles (in progress)

This paper adapts the model developed in the first chapter to investigate the cyclical implications of Basel II. The model is solved first under the assumption that bank capital requirements are not affected by the cyclical variation in borrowers’ default risk (Basel I) and the results are then compared to those obtained under the assumption that capital requirements vary with the probability of default of borrowers (Basel II). Preliminary results suggest that both regulatory frameworks produce similar outcomes during “normal times”. However, when the bank faces financial distress and it is affected by a negative shock, Basel II generates a relatively worse credit crunch.

3. Testing of Empirical Implications of Banks’ Targeting Behavior (in progress)

Existing empirical work investigating the role of banks’ financial structure on lending decisions has usually assumed a linear and non-heterogeneous response of banks to shocks to their financial structure (Kashyap and Stein (2000) and others). Although it has also been common to informally discuss the possibility of banks targeting different, time-varying levels of their capital structure, it has never been directly incorporated in the regressions. The consequence is the omission of an endogenous variable. This paper will reconsider some of the econometric specifications that previous studies have used in testing the role of banks’ capital structure on lending. In particular, using U.S. Banking data from the Call Reports, this study will explicitly take into account the qualitative implications about bank behavior derived from the theoretical model developed in chapter 1. The focus will be on solvency with the key modification that banks respond not to the level of solvency but to the gap between solvency and their bank-specific target. The paper will also examine whether the response of lending to shocks is non-linear and asymmetric as suggested by the theoretical model.