DISSERTATION PROPOSAL

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"Bank Productivity and Capital Regulation"

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Common notions of bank production assert that balance sheet items, such as deposits or loans, are related to the bank's production of financial services. Large, more productive banks are able to operate, raising deposits and making loans, more efficiently than small, less productive banks. However, raising deposits and making loans can lower a bank's regulatory capital ratio. The result is an inverse relationship between bank productivity and bank capital ratios; and the most efficient banks are the institutions that are constrained by minimum capital requirements. The purpose of my dissertation is to analyze the relationship between bank productivity and capital ratios and the implications of this relationship for bank capital regulation.

In Chapter 1, I look at the relationship between bank size, an indicator of productivity, and regulatory capital ratios in both the cross-section and over time. This shows that large banks tend to have less equity financing and more risk-weighted assets relative to total assets, resulting in lower risk-based capital ratios. I then explore the extent to which this pattern can be explained by looking a differences in bank operational costs and interest rates. In Chapter 2, I build a dynamic model of the bank that can capture the relationship between bank productivity and bank capital ratios. Bank production costs are a function of deposits and risky loans. Banks that operate at lower marginal production costs will be larger, have more debt relative to equity, and have more risky loans relative to safe bonds compared to banks that have higher marginal production costs. This model is then used to evaluate the effect of capital regulation on individual bank behavior. In Chapter 3, I plan to generate a dynamic partial equilibrium IO model of the banking industry with heterogeneous productivity, and match this model to the cross-sectional relationship between bank size and bank capital ratios. This model will be used to look at the impact of capital regulation across the bank size distribution, and how it affects aggregate bank production and interest rates. Additionally, new size dependent capital regulation will be considered.