Mechanisms to Mitigate Information Asymmetry: Creditor Rights, Collateral, Information Sharing and Debt Maturity

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The presence of asymmetric information about the borrowers in a lending market can lead to inefficient outcomes. The problems associated with information asymmetry can take the following two forms. First, the existence of ex-ante private information with the borrowers may lead to adverse selection in which the higher interest rates might attract bad quality borrowers increasing the expected interest rate of the lenders and hence pushing the good quality borrowers out of the market. Second, the existence of moral hazard may lead borrowers who receive credit to prefer high risk projects to low risk projects. In their seminal paper, Stiglitz and Weiss (1981) show that both the above problems associated with information asymmetry may lead to higher interest rates and credit rationing by lending institutions. They also propose for the first time, that in such a situation *collateral* may serve as a mechanism mitigating information asymmetry thus solving the credit rationing problem. In this thesis, which has been divided into three different essays, we examine more such mechanisms that mitigate credit information asymmetry namely: *creditor rights and collateral, credit information sharing, and debt maturity.*

In the first essay, we examine the role of creditor rights and collateral protection in the mitigation of information asymmetry. Creditor rights theory suggests different responses to changes in these rights for relatively financially constrained and unconstrained borrowers. Collateral theory provides moral hazard and adverse selection motivations differing between relatively informationally opaque and transparent borrowers. We test both sets of predictions by studying effects of changes in creditor rights and collateral protection between unlisted and listed firms, where unlisted indicates both greater financial constraints and informational opacity. We employ a quasi-natural experiment, the 2002 SARFAESI Act in India. Using 22,533 firms over

eight years, we find important differences in results between unlisted and listed firms indicating the role of creditor rights and collateral protection in mitigation of information asymmetry. We show that creditor rights and collateral primarily mitigate adverse selection problems for unlisted firms while they mitigate moral hazard problems for listed firms.

In the second essay, we contribute to the information sharing literature using a quasi-natural experiment for identification – the 2005 Credit Information Companies Regulation Act (CICRA) in India. We analyze the impact of the Act on access to credit, cost of credit and debt structure of 39,882 firms from 1997-2013. We specifically focus on small firms and firms which are not affiliated to a business group (non-group firms) and find differential results. We find that better information environment leads to higher access to debt and lower cost of credit in aggregate and even more so for small firms and non-group firms. The Act also lead to lower reliance of firms on secured debt. Small firms and non-group firms could obtain longer maturity debt post the Act. This essay shows an important role of credit information sharing in mitigation of information asymmetry specifically for small and non-group firms.

In the third essay, we build a theoretical model that shows the joint role of debt maturity and collateral as signaling devices to resolve adverse selection problem. We find that multiple sets of separating equilibria can exist when collateral and maturity are both used as signaling devices. Debt maturity and collateral act both as substitutes and complements in different separating equilibria. The conditions under which this happens have been shown in the model. The essay also shows the effect of the extent of information asymmetry, strength of creditor rights, observable firm quality, default probabilities, and transaction costs on signaling space.

Overall, this thesis attempts to examine the nuances of different mechanisms to mitigate information asymmetry using different contexts and methodologies. The first two essays examine the role of creditor rights, collateral, and credit information sharing using two quasi natural experiments and DID methodology while the third essay examines the joint role of debt maturity and collateral using a theoretical model.