Costly Information, Finance and Firm Investment: New Directions of Research of Empirical Methodology

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It is well established in the macro-finance literature that finance is a crucial factor in the growth process via capital formation. Hence in the discussion of the factors that inhibit firm level investment, finance deserves its attention in its own right. The theoretical literature emphasizes the role of asymmetric information in an imperfect capital market – moral hazard and adverse selection and the consequent informational cost leading often to constraint on the availability of finance. The present paper is a survey of this literature and provides new research methodology to tackle some criticisms of the existing literature. There are two principal approaches in the empirical literature in analyzing the problem of firm investment in an imperfect capital market. Firstly, reduced form regression, using Tobin's Q, defined as the stock market valuation of firms vis-à-vis its replacement cost (capital stock at historical prices adjusted for inflation and depreciation) and is a sufficient statistic. Second approach is structural model estimation, using the Euler equation. However, both the approaches are subject to several criticisms. A very important one among them is that one cannot identify the degree of finance constraint faced by individual firms. The regression equations can tell the story of the average firm in the sample or of a subset of firms – large or small, old or new. The proposed methodology is drawn from stochastic frontier analysis and generally employed in estimating efficient production or cost frontier. Here finance constraint is modeled as a one sided deviation from the unconstrained investment frontier. An additional advantage of this methodology is that the method does not classify firms into groups of high or low cost of information a priori. Once the efficient frontier is estimated it can be used to identify the nature of finance constraint of each individual firm in every year.

Key words: Credit market imperfection, Asymmetric information, Stochastic Frontier Analysis, Endogenous sample selection.