

Economics Seminar, Indian Statistical Institute, New Delhi.

SPEAKER: Amaresh K Tiwari, University of Maastricht

TITLE: Financial Constraints, Capital Structure and Innovation: An Empirical Investigation

TIME: 11:30-1:00 PM

DAY & DATE: Friday, 9th April 2010

PLACE: Seminar Room 2

Abstract:

Using a panel data of three waves, within a parametric framework, we investigate the effect of financial constraint on R&D investment and study the determinants of financial constraints. We also investigate the factors that influence or provide incentives for a firm to take up R&D activity. Our findings can be summarized as follows. First, financial constraints adversely affect a firm's R&D intensity as measured by ratio of R&D expenditure to capital asset. Second, firms that are highly leveraged are more likely to be financially constrained, and that highly leveraged firms are less likely to be innovators. Third, the propensity to innovate with respect to leverage is lower when a firm is not financially constrained as compared to a firm that is. Fourth, the propensity to innovate with respect to leverage, conditional on no financial constraint is almost constant, while the propensity to innovate with respect to leverage conditional on being financially constrained, varies over the distribution of firm characteristic such as age, size, and leverage. Fifth, the decision to innovate, the financial constraints faced, and the choice of capital structure are endogenously determined. Sixth, the R&D intensity of firms with different characteristics, conditional on being financially constrained and conditional on not being unconstrained, are different. Seventh, the sensitivity of R&D investment to cash flows is higher for financially constrained firms. The econometric exercise entails using a three step procedure, where expected a posteriori (EAP) values of time invariant individual effects obtained from the first stage reduced form are used as substitutes for the time invariant individual effects that are to be controlled for in the structural equations of the second and third stage. The paper provides the theoretical underpinnings for such a procedure.

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