DOCTOR OF PHILOSOPHY

# ESSAYS ON FINANCING FRICTIONS AND DEMAND FOR EXTERNAL FINANCE

By
NABENDU PAUL

भारतीय प्रबंध संस्थान बेंगलूर
INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

2020

**DOCTOR OF PHILOSOPHY**

# ESSAYS ON FINANCING FRICTIONS AND DEMAND FOR EXTERNAL FINANCE

**By**
**NABENDU PAUL**
**A Dissertation submitted in Partial Fulfilment of the Requirements for the Doctor of Philosophy in Management of the**

**INDIAN INSTITUTE OF MANAGEMENT BANGALORE**
**2020**

**Prof. Haritha Saranga**
Chairperson
Doctor of Philosophy Programme

**Prof. Jayadev M.**
Chairperson
Dissertation Advisory Committee

**Members of the Dissertation Advisory Committee**

| | |
|---|---|
| 1. Prof. Jayadev M. | Chairperson |
| 2. Prof. Chetan Subramanian | Member |
| 3. Prof. Abhinav Anand | Member |

**ESSAYS ON FINANCING FRICTIONS AND DEMAND FOR EXTERNAL FINANCE**

**ACKNOWLEDGEMENT**

The dissertation titled “ESSAYS ON FINANCING FRICTIONS AND DEMAND FOR EXTERNAL FINANCE” is done under the grace of the Almighty and the guidance of my Dissertation Advisory Committee: Jayadev M, Professor, Finance & Accounting Area (Chair of the Dissertation Advisory Committee); Chetan Subramanian, Professor, Economics & Social Sciences Area (Member of the Dissertation Advisory Committee) and Abhinav Anand, Assistant Professor, Finance & Accounting Area (Member of the Dissertation Advisory Committee). Their immense and invaluable guidance, constant supervision and inspiring encouragement have helped me to bring the dissertation to its current shape. I express my sincere gratitude and thank them immensely for their invaluable guidance.

I also express my sincere gratitude to all the faculty members, the fellow students, the library staff, the staff of the PhD. Programme Office and all the other associated, directly or indirectly, for their cordial support for the successful completion of the dissertation.

I would specially thank my family members, friends and well-wishers for their continuous moral support and guidance without whose co-operation and motivation, this dissertation would have not been completed.

**NABENDU PAUL**
**Doctoral Student**
**Finance & Accounting Area**
**IIM Bangalore.**

**Abstract**

**ESSAYS ON FINANCING FRICTIONS AND DEMAND FOR EXTERNAL FINANCE**

By
Nabendu Paul
DOCTOR OF PHILOSOPHY IN MANAGEMENT in Finance and Accounting Area
Indian Institute of Management, Bangalore

In this dissertation, we look at three broad aspects for the Indian firms. First, we analyse the financing behaviour of the financially constrained and unconstrained non-financial firms in the Indian context. We find that, given the profitability, the financially constrained firms show more complementarity behaviour as compared to the unconstrained firms. Second, we analyse how SARFAESI Act affects the demand of debt financing for Indian non-financial firms. Results suggest that as loan recovery became more easy, demand for debt increased. But this increase in demand did not lead to investment but led to precautionary savings. Third, we document what factors drive the choice of debt for the Indian firms. Apart from these three studies related to the Indian firms, the dissertation also looks how the country-specific factors (governance/institutional factors, financial market development factors and macroeconomic factors) affect the demand of firm's debt financing through a cross-country study.

In the first essay, we analyse the interplay between the available internal funds and the demand for external finance, for firms in India, which face financing frictions (or credit market frictions). While increase in creditor rights protection affects the supply side of external finance, the essay looks at the demand side of such external finance, particularly, in the presence of financing frictions. This essay intends to augment the work of Almeida & Campello (2010) in India (an emerging market) employing various measures to segregate firms which face high and low financing frictions. Results suggest that there is a more positive (more complementarity) relationship between the internal funds and demand for external finance for financially constrained firms, as compared to the financially unconstrained firms. In our opinion, the findings have key impact on issues like development of bond and equity markets in India, rethinking loan strategies by banks and the regulatory measures to be taken by regulators.

In the second essay, we augment the work of Vig (2013), Thapa et al. (2020), Almeida & Campello (2007) and Almeida & Campello (2010) by answering three questions. First, we analyse the impact of the increase in creditor rights policy on the demand for debt (total, secured, unsecured) financing for Indian firms, particularly for the firms which face higher credit market frictions. Second, on scrutinizing whether this increase in creditor rights lead to higher demand for debt financing, whether such an increase lead to greater investment on capital expenditure for these Indian firms. Third, we analyse whether the effect noticed is intended or unintended. If unintended, we investigate what could be the cause and explanation of such an outcome. We consider the SARFAESI Act of 2002 (The Securitization And Reconstruction of Financial Assets And Enforcement of Security Interest Act, 2002) in India as an exogenous shock leading to increase in creditor rights. Results suggest that financially constrained firms showed an increase in total debt, secured debt and unsecured debt post SARFAESI Act, as compared to the financially unconstrained firms. However, this availability of credit does not lead to capital investment. We corroborate through special tests (seemingly unrelated regressions) that constrained firms hoard this available credit in form of liquid assets, instead of focusing on capital

investment.

In the third essay, we attempt to augment the work of Boubaker et al. (2018), Meneghetti (2012), Rauh & Sufi (2010) and Valta (2012) by answering two important questions. First, we analyse how various firm-specific and industry-specific factors affect the decision of the firm for their choice of different types of debt. While most of the literature on choice of debt concentrates on bank (private) versus capital market (public) debt, our current work goes beyond only these two choices of debt and we examine almost eight distinct types (or choices) of debt. We take help of various methodologies ranging from ordinary least squares regressions, multinomial logit model, ordinary probit/logit/tobit models and analysis through propensity score matching (PSM) approach to address the issue of choice of debt. Second, we extend the literature for the Indian setting, to analyse how market competition drives this choice of debt.

In the fourth essay, we analyse the debt financing-internal funds sensitivity for seven countries. Focusing on both the emerging economies (India, China, Malaysia, South Korea) and the advanced economies (the US, the UK and Japan), we first examine the various factors (firm-specific factors, the industry-specific factors and the country-specific factors) that affect debt financing for firms in each country. Second, we focus on the country-specific factors (governance/institutional factors, financial market development factors and macroeconomic factors) to contrast between the emerging and the advanced economies on the firm's debt financing-internal funds sensitivity. Country-wise analysis suggest that market-to-book, firm size and existing leverage affect more or less all the countries, whereas internal funds, receivables and liquidity affect only some of the countries. Improved governance leads to a more negative (less complementarity) debt financing-internal funds sensitivity for India and China. Analysis for the emerging and the advanced economies suggest that while governance factor leads to more debt financing for the emerging economies (but not for advanced economies), the debt financing-internal funds sensitivity seems to be more negative for the advanced economies compared to that of the emerging economies.