Finance Constraints and Firm Transition in the Informal Sector: Evidence from Indian Manufacturing

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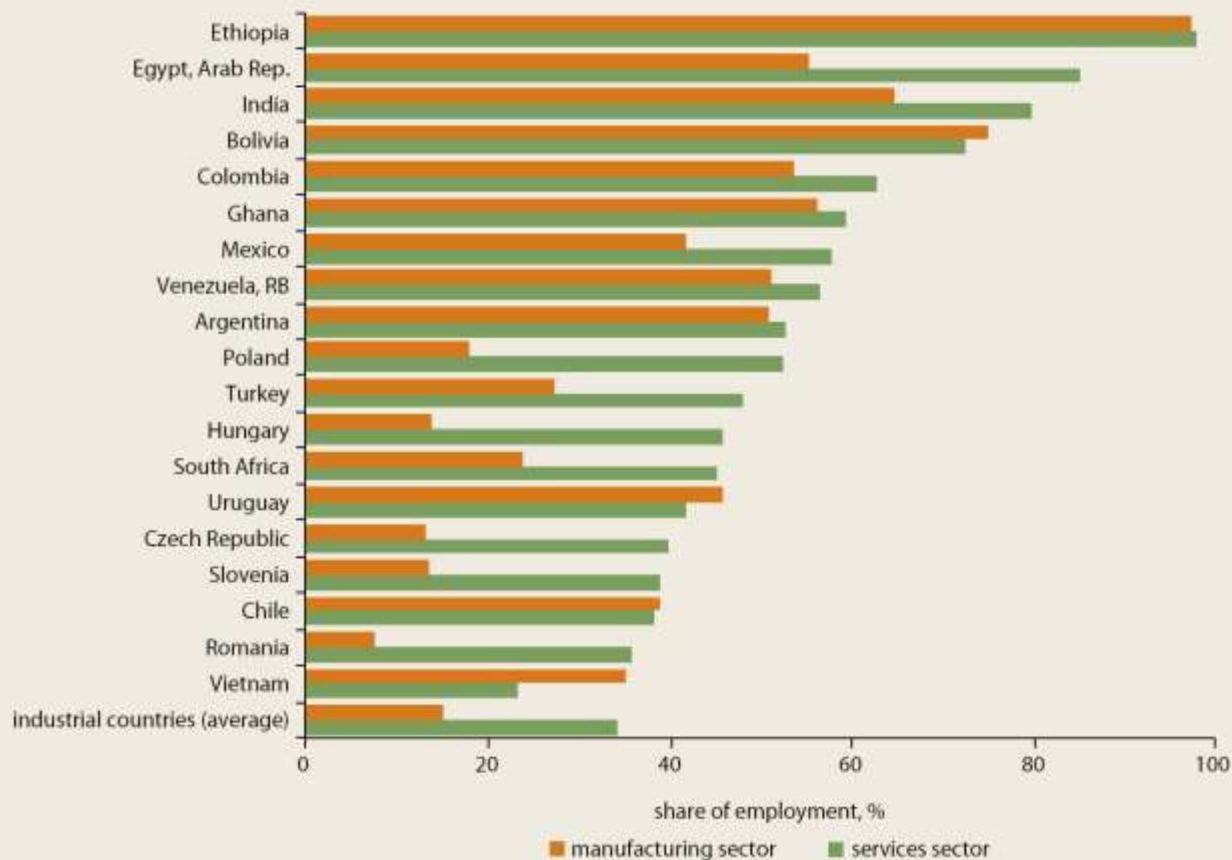
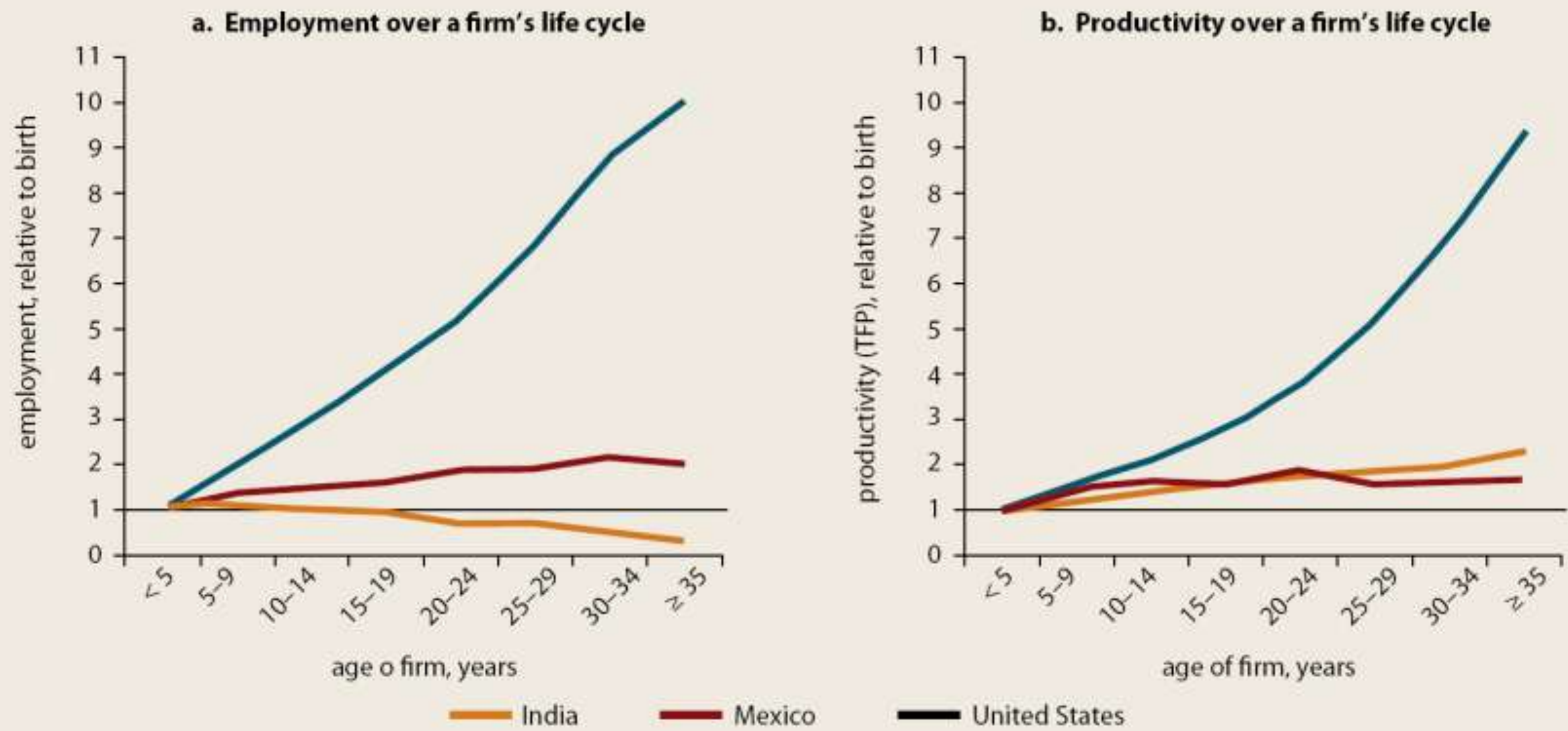
BACKGROUND AND MOTIVATION

- The majority of firms in developing countries are informal household enterprises, where are very small firms which exclusively employ workers from within the household itself.
- These firms tend to be the least productive among all firms in the manufacturing sector and the individuals that own, manage and work in these enterprises comprise a large proportion of the urban working poor in developing countries.
- For many informal household enterprises, the transition to larger enterprises in the informal sector could be a route out of poverty, as well as providing employment for a large proportion of unskilled workers in urban and semi-urban areas. Yet few family firms make this transition to larger enterprises in the informal sector.

Micro enterprises as a source of employment (WDR 2013)



WEAK FIRM GROWTH IN INDIA



WHAT EXPLAINS THE LACK OF TRANSITION?

- Much of the literature on informal firms in developing countries has focused on the transition of these firms to the formal sector.
- Much less attention to transition of firms *within* the informal sector from being pure household enterprises to larger enterprises which combine both family and non-family workers.
- In this paper, we focus on the role of credit constraints.

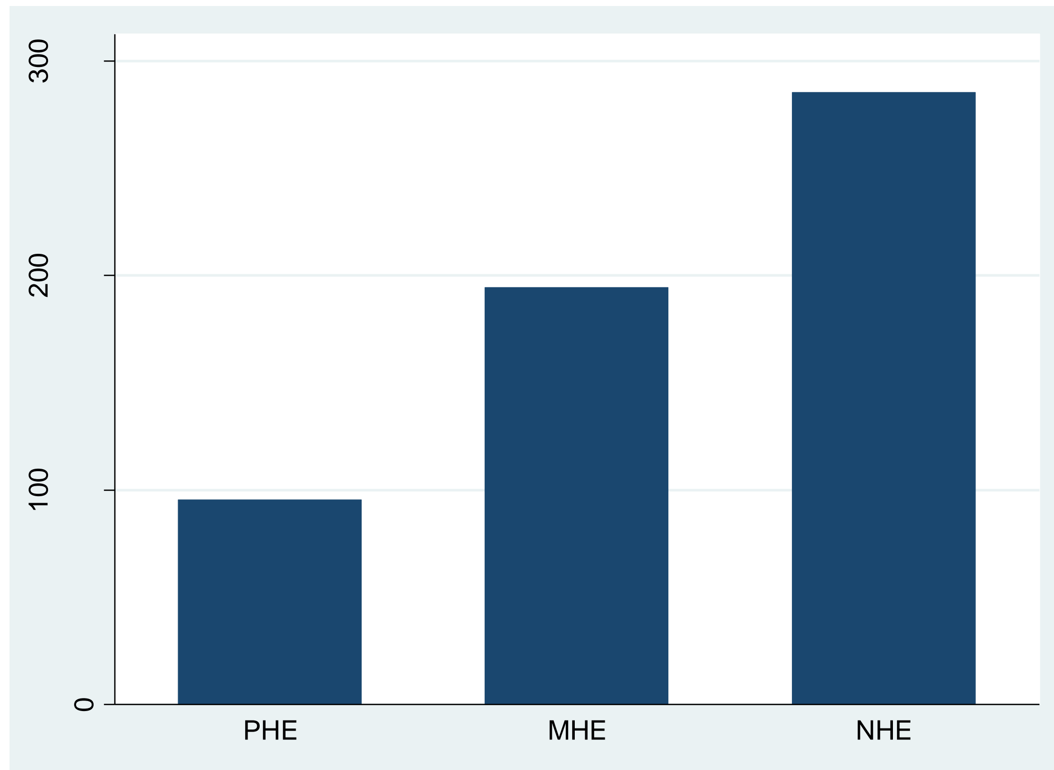
CREDIT CONSTRAINTS

- While finance constraints on investment and firm growth have been found to be present for small firms, both in developed and developing countries, we would expect that finance constraints would be particularly important for firms in the informal sector.
- Information problems are more likely to be present for informal firms which do not have credit histories and adequate collateral to offer to lenders, especially banks and co-operative societies.

OUR OBJECTIVE

- We focus on three types of firms in the informal sector: pure household enterprises (PHE), to slightly larger enterprises which use both family and non-family labour, which we call mixed household enterprises (MHE), to larger enterprises which employ mostly non-family labour, which we call non-household enterprises (NHE).
- **HOW IMPORTANT ARE CREDIT CONSTRAINTS IN THE LIKELIHOOD THAT PHES CAN BECOME MHES AND MHES BECOME NHES?**
- We use a firm-level data-set drawn from the nationally representative surveys of the informal manufacturing sector for the years 2000-01, 2005-06 and 2010-11 that includes information on the presence of finance constraints self-reported by firms. We supplement our analysis with panel data of 364 districts from 1995-2010.

THE FIRST BIG TRANSITION



PHEs, MHEs and NHEs

RELATED LITERATURE

- Strong empirical evidence that shows a positive relationship between increased access to finance and firm growth (Rajan and Zingales, 1998; Demirgüç-Kunt and Maksimovic, 1998), with small firms are financially more constrained than large firms.
- Beck et al. (2005) show that financing constraints reduce firm growth by 6 percentage points, on average, for large firms but by 10 percentage points in the case of small firms.
- Banerjee and Duflo (2004) analyze detailed loan information on 253 Indian SMEs' before and after they became eligible for a directed subsidized lending program and find that the additional credit resulted in a proportional increase in sales reflecting its impact on growth.
- However, all these papers study the role of finance constraints on small firm growth in the formal sector.

FINANCIAL POLICIES IN INDIA

- 1969-1991: Social control of banking: Priority sector lending requirements (mandated lending to small firms, agriculturalists)
- From 1977 to 1991, strictly enforced branch licensing policy where the RBI restricted banks from opening branches in urban and metropolitan areas. Instead, the thrust of branch expansion was mostly to the 'under-banked' districts in rural and semi-urban areas.
- In 1991, financial liberalisation: relaxation of branch licensing policies by the RBI, with banks now allowed to close down loss-making rural and semi-urban branches as well as open branches in regions where there were already a large presence of bank branches.
- Burgess and Pande (2005) show that while from 1977 to 1990, there was a rapid expansion of bank branches in financial underdeveloped states (leading to a fall in rural poverty), but that there was a reversal in the regional dispersion of commercial banks since 1990, especially in rural under-banked areas.
- But priority sector lending requirements still in effect.

METHODOLOGY

- We use ordered probit models, with PHE=1, MHE=2, NHE=3.
- The key explanatory variable is access to finance.
- We use a direct measure to capture the firm's finance constraint
- Whether the firm faced any constraint on its borrowing in the last year; self-reported.
- Takes the value 1 if the firm faces a constraint and 0 if it does not face a constraint

Firm Specific Controls

Whether the firm is located in rural or urban areas

Whether the firm has registered under any act/authority(e.g. Shops and Establishments, Municipal Corporation/Panchayat, VAT/Sales Tax, Provident Fund, Employees State Insurance Corporation Acts)
Whether the firm received any assistance from the government towards training and marketing
Whether the firm is expanding in the past three years (self-reported)
Whether the firm has access to electricity
Whether the firm is working under contract for another firm.
Whether the firm maintains any account (book-keeping)

District Specific Controls

Level of urbanisation in the district as measured by the share of urban population in total population

Proportion of individuals educated at primary and secondary levels

Proportion of SC/ST (backward caste/tribe) population in total population (to capture social backwardness)

Data

Surveys on the unorganized manufacturing sector by the NSSO

Unit level data for three years, 2000-01, 2005-06, and 2010-11

Our pooled dataset has 294,736 firms, across 22 industries, 364 districts, 15 major Indian states and three years

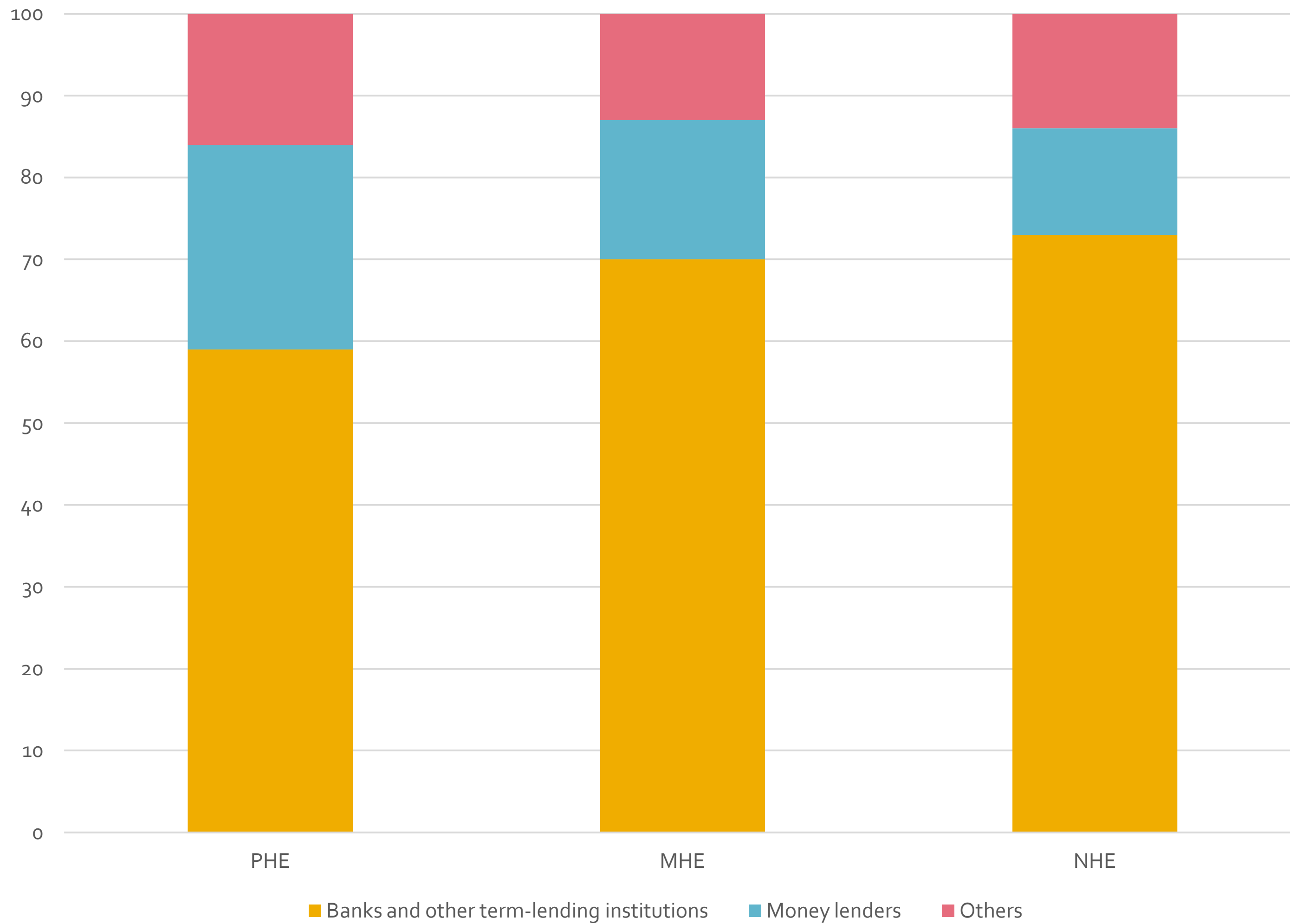
District level data for four years, 1994-95, 2000-01, 2005-06 and 2010-11

Panel Data for 364 districts

Data on district level control variables are obtained from the 2001 Census.

District level finance variables are drawn from Basic Statistical Returns of Scheduled Commercial Banks in India, RBI

SOURCES OF EXTERNAL FUNDS



RESULTS

- Significant negative effect of finance constraints on the likelihood of firm being PHE, MHE or NHE.
- Results hold with firm and district controls, and industry and year fixed effects.
- 2 per cent higher likelihood that firm is PHE, 1.3 per cent lower for firm being MHE and 0.6 per cent lower of chance of firm being NHE.

ENDOGENEITY CONCERNS

Reverse Causality can work both ways – NHEs need external finance to purchase machines and hire workers; larger firms more likely to receive loans.

As instruments, we choose variables that capture the Supply Side of Financial Intermediation.

The likelihood that a bank or co-operative will place a branch in the district: Whether there is a national highway or a broad gauge line passing through the district, the proportion of towns/villages in the district that has institutions of higher education.

INSTRUMENTAL VARIABLE RESULTS

- Instruments pass standard tests, first stage results show significant negative effects of presence of major transport link and colleges on likelihood of finance constraints.
- Large and negative effect of finance constraints on likelihood of firm being NHEs and MHEs, relative to PHEs.

ROBUSTNESS TESTS

- Problems with self-reported data on finance constraints.
- We experiment with alternate measures of financial constraints.
- We use districts as units of analysis, and panel data; financial development measured at district level (bank density, lending, etc.).
- Financial devp exerts a strong positive effect on proportion of firms that are MHEs and NHEs.
- We also use split samples; quartiles by capital intensity , and find that finance constraints bite more in more capital intensive industries.

POLICY IMPLICATIONS

- Large productivity gains in moving from family to non-family firms in the informal sector suggest we need to understand better how this transition works.
- Strong evidence that finance constraints play an important role in firm transition from PHEs, to MHEs, then to NHEs.
- Our results may imply that with the weakening of the branch licensing policy, difficulty of access to finance from institutional sources could be an important constraint on informal firm growth.
- Need for a counter-vailing set of policy measures that provide incentives for alternate financial intermediaries (coops, regional rural banks) to lend to PHEs and MHEs in as well as a greater emphasis on micro-finance initiatives.