

Investment climate and performance: Evidence from Indian manufacturing firms

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MOTIVATION

- The Indian Prime Minister launched a wide national initiative called “Make In India” on September 2014 to unlock the potential of the manufacturing sector.
- According to him, one option is to improve the soundness of the investment climate (IC): access to finance, human capital, infrastructures etc.

QUESTIONS AND CONTRIBUTIONS

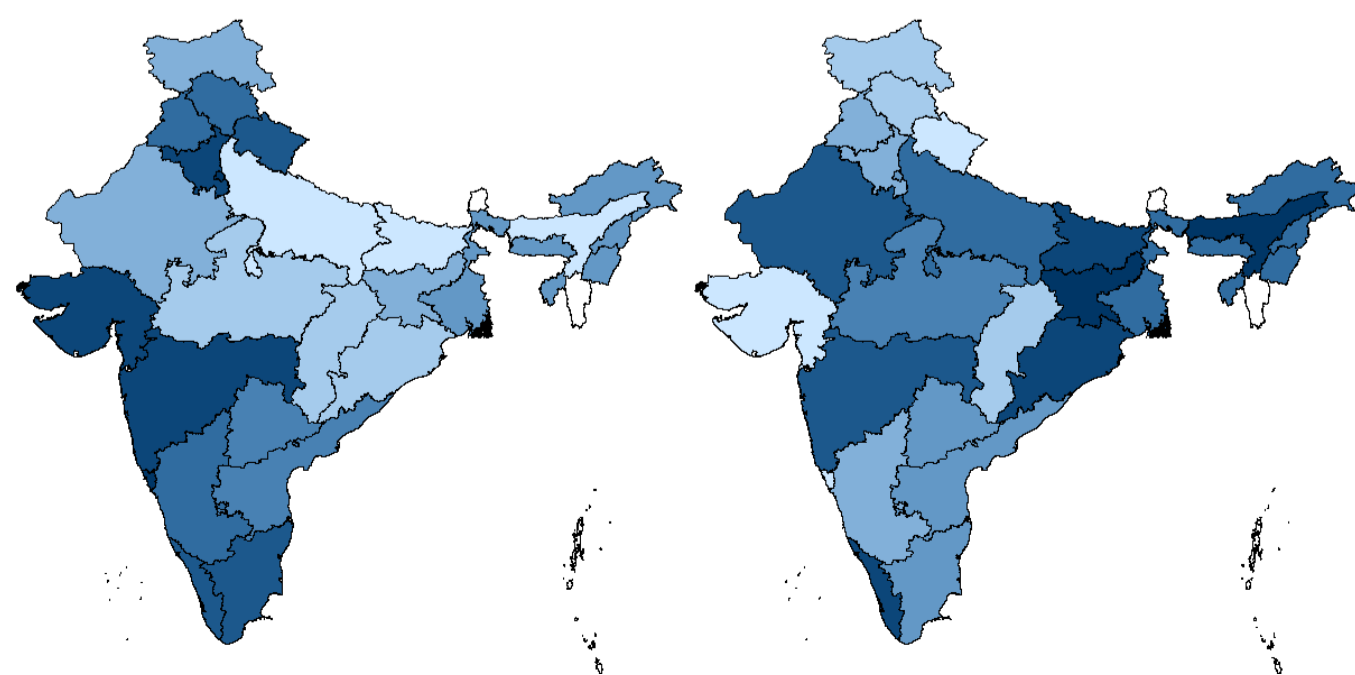
Does investment climate matter? In particular, through which channel(s) may such large-scale policies foster Indian manufacturing firms’ performance?

- First attempt to link, simultaneously, investment climate, productivity, product innovation and exports.
- Distinction between the effect of the macroeconomic environment (exogenous) and that of the firm-specific environment (endogenous).

DATA

- Cross-sectional firm-level data from the World Bank Enterprise Survey conducted in 2013-2014.
- Cross-sectional state-wise data from Census India, Indian ministries and Reserve Bank of India.

Figure 1: State-wise GDP per capita (log) in 2014 (left) and variance of the firm-level investment climate composite indicator (FIC) within Indian states (right). In both maps, the darker the area, the higher the variable.



DESCRIPTIVE STATISTICS

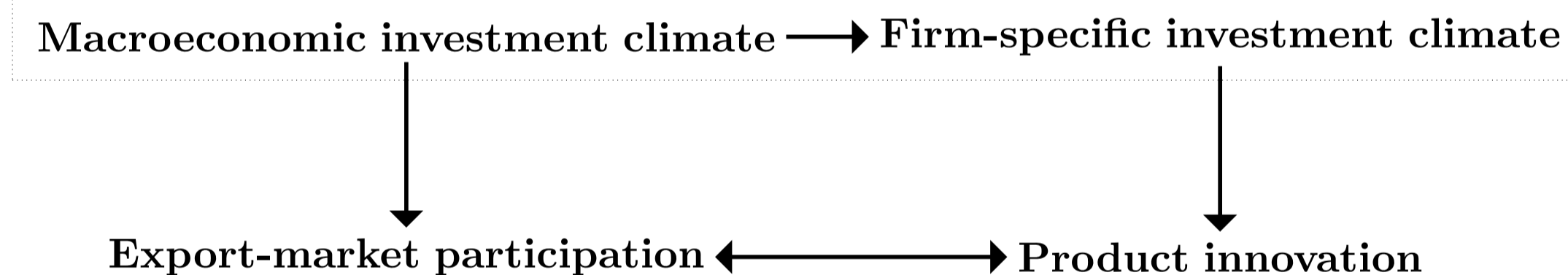
- Positive correlation between investment climate and firm performance (Table 1).
- Innovating and exporting firms are bigger and more productive.
- 50% of firms innovate, 20% of firms export and 75% of exporters innovate.
- 30% of firm-level investment climate (FIC) disparities are inter-state.
- Positive (negative) correlation between the average (dispersion of the) firm-level investment climate and the state-level investment climate (Figure 1).

Table 1: Cross-correlation table between investment climate and performance.

	1	2	3	4
1. Prod. innov.	1			
2. Labor prod. (log)	0.24	1		
3. Exp. stat.	0.22	0.16	1	
4. FIC	0.24	0.19	0.13	1
5. GDP _{capita} (log)	0.04	0.01	0.11	0.11

KEY FINDINGS

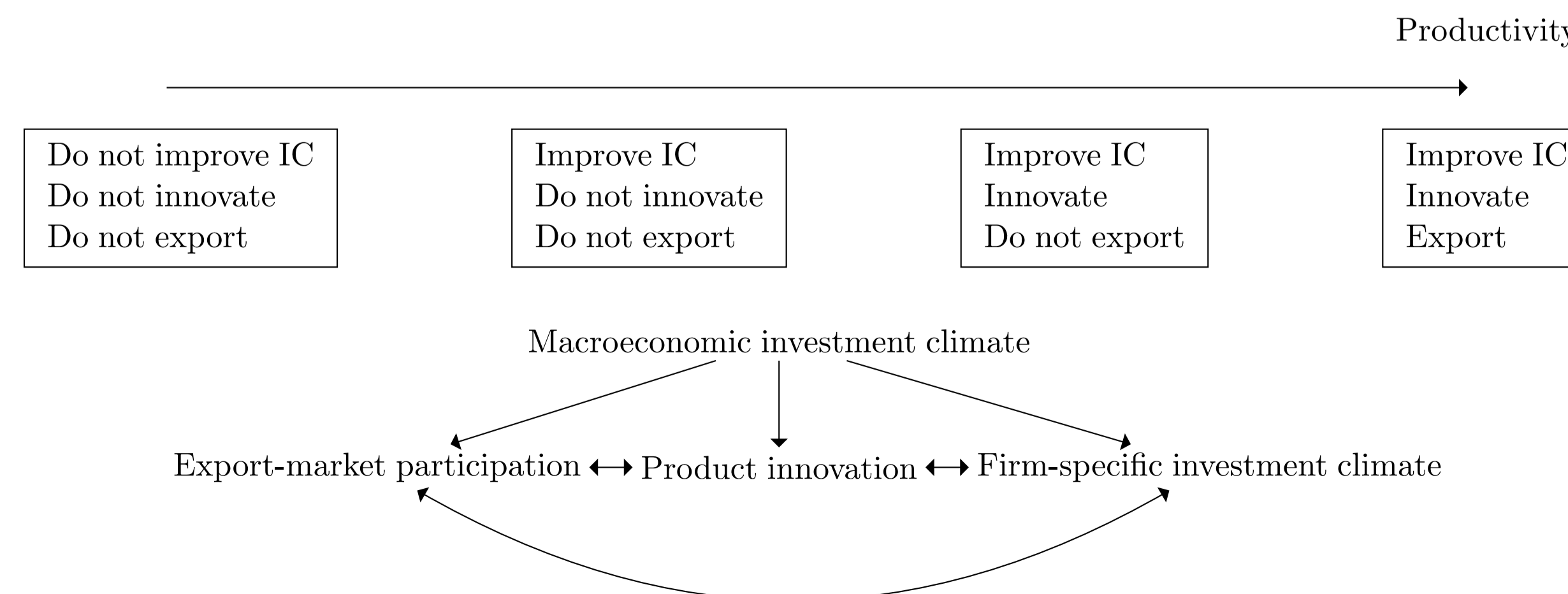
Figure 2: Effect of investment climate on product innovation and exports (econometric results).



A MODEL

Basing on Melitz (2003) and Bustos (2011), I develop a model consistent with these observations. Firms are heterogeneous in terms of productivity and can innovate, export and improve their investment climate.

Figure 3: Theoretical predictions: firm sorting and interactions between investment climate, product innovation and exports.



ECONOMETRIC ANALYSIS

Focus on product innovation and exports:

Table 2: Baseline results with 2SLS.

	Prod. innov.	Exp. stat.
FIC (instr.)	0.168 (0.0430)	0.0174 (0.0220)
Prod. innov. (instr.)	.	0.362 (0.134)
Exp. stat. (instr.)	0.349 (0.189)	.
FE _{state}	Yes	Yes
Corr(FE _{state} , log(GDP _{capita}))	-0.01	0.19
Constant and controls	Yes	Yes
Heterosk.-robust SEs	Yes	Yes
Hausmann, Hansen and KP	OK	OK

POLICY IMPLICATION AND FURTHER RESEARCH

- Large-scale policies such as “Make In India” are likely to boost firm performance both directly and indirectly through multiple channels (Figure 2).
- What kind of measures directly targeted at firms would be the most effective?

REFERENCES

- Bustos, P. (2011). Trade liberalization, exports, and technology upgrading: Evidence on the impact of MERCOSUR on Argentinian firms. *American Economic Review*, 101(1):304–40.
- Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*, 71(6):1695–1725.