FDI and Firm Productivity: The Role of Financial Constraints

Discussion on Wang, Wang, and Wei (2014)

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In Perspective

- Cost and benefit analysis of FDI to local economy
  - Benefits: Enhanced productivity for FDI firms, Improved financial condition for FDI firms, Spillover effect to other local firms
  - Costs: Stolen market share by FDI firms from local firms, More severe financial constraints for local firms due to borrowing of the FDI firms
- Mixed evidence on the net effect (Aitken and Harrison (1999))
- However, it is usually argued that FDI increases target firm productivity.
- This paper argues that when local firms face more severe financial constraints, it is possible that FDI firms do not even have higher productivity! The opposite might be true!

Main Findings of the Paper

- The target firm's productivity elasticity of FDI has a downward time trend in China
- The target firm's productivity elasticity of FDI is smaller (even be negative) among more financially constrained firms
  - When local firms face severe financial constraints, FDI firms can be less productive than local firms.
- The FDI shares tend to be higher among more financially constrained industry

Overall Comment

- This paper asks a very important economic question, which is also extremely relevant for Chinese policy makers.
    - if the main benefit of FDI comes from relaxed financial constraints for the target firm, domestic policy change can achieve the same goal without much of the negative effect from the FDI
- I try to offer a couple of alternative explanations of their empirical results, and sometimes propose tests to distinguish those stories
- I will bug on some execution details, and try to refine some tests

Comment: Fixed Effect

Table 2: Cross-sectional Regression Results of Year 2000

	Coefficient	std. err.	t-value	95% Conf.	Interval
FDI share	0.168	0.0121	13.86	0.14	0.19
Employment	-0.054	0.0027	-20.34	-0.06	-0.05
Age	-0.185	0.0038	-48.84	-0.19	-0.18
Export ratio	0.001	0.0001	8.28	0.00	0.00
Economic zone	0.033	0.0094	3.52	0.01	0.05
R-squared	0.12	# of Observations		89,905	

Note:
Describe regression here.

Table 3: Panel Regression Results

	Coefficient	std. err.	t-value	95% Conf.	Interval
FDI share	0.0218	0.0071	3.06	0.0078	0.0358
Employment	-0.1030	0.0020	-52.79	-0.1068	-0.0992
Age	0.0990	0.0025	39.21	0.0941	0.1040
Export ratio	0.0000	0.0001	-0.20	-0.0001	0.0001
# of Observations	912,343		# of Groups		313,150

Comment: Endogeneity

- There seems to be large fixed effect, suggesting endogeneity.
  - Maybe FDI are gravitated towards firms with high productivity, i.e., endogeneity
  - Is it possible that this endogeneity problem could become less severe over time, leading to a time trend
- How to fix this?
  - Focus on **changes in productivity**, or at least use it as a robustness check
  - Changes in productivity seems relevant since we want to see how FDI improves the productivity of the target firm
- Due to a spillover effect or just learning, the productivity gap between firms might be smaller in more recent years
- This could results in a decreasing time trend on the productivity elasticity of FDI shares, even for changes in productivity

Comment : Add Time Trend Interaction in Panel Regressions

Table 4: Productivity Elasticity of FDI Share Over Time

Year	Elasticity	t-value	95% Conf. Interval		Cross-year Comparision	χ^2 Statistic
2001	0.215	19.66	0.19	0.24	2002 vs. 2001	9.15^{***}
2002	0.186	17.57	0.17	0.21	2003 vs. 2002	3.85^{**}
2003	0.150	15.34	0.13	0.17	2004 vs. 2003	6.58^{***}
2004	0.115	13.84	0.10	0.13	2005 vs. 2004	7.78^{***}
2005	0.084	10.29	0.07	0.01	2006 vs. 2005	7.33^{***}
2006	0.121	15.80	0.11	0.14	2007 vs. 2006	11.37^{***}
2007	0.076	10.55	0.06	0.09	2001 vs. 2007	18.73^{***}

Comment: Time to Build Effect?

This could be consistent with the notion that FDI improves productivity. Notice that the negative effect among new firms are decreasing, not increasing. Another reason to focus on **changes in productivity**.

Table 5: Results for New Entrants and Incumbents

	New Entrants (Age=0)					Incumbents (Age>0)				
Year	Coefficient	std. err.	t-value	95% Conf.	Interval	Coefficient	std. err.	t-value	95% Conf.	Interval
2000	-0.274	0.123	-2.220	-0.516	-0.032	0.159	0.012	13.040	0.135	0.183
2001	-0.101	0.072	-1.410	-0.241	0.040	0.203	0.011	18.390	0.182	0.225
2002	-0.215	0.088	-2.440	-0.389	-0.042	0.184	0.011	17.330	0.164	0.205
2003	-0.129	0.062	-2.080	-0.250	-0.007	0.144	0.010	14.630	0.125	0.164
2004	-0.033	0.040	-0.820	-0.111	0.046	0.111	0.008	13.150	0.095	0.128
2005	-0.070	0.047	-1.510	-0.162	0.021	0.077	0.008	9.360	0.061	0.093
2006	-0.003	0.045	-0.070	-0.092	0.086	0.114	0.008	14.740	0.099	0.129
2007	-0.041	0.044	-0.930	-0.126	0.045	0.069	0.007	9.540	0.055	0.083

Comment: Time to Build Effect? (Cont'd)

More financially constrained firms have more room for improvement, or the productivity spread is larger among these industries? Need to check

Table 6: The Elasticity of Productivity w.r.t.FDI share for new firms

	Bottom 25%			Top 25%			χ^2
	Coef.	s.e.	No.Obs.	Coef.	s.e.	No. Obs.	
External Fiance	−0·039	(0·045)	4391	−0·184***	(0·044)	4460	5·29**
Inventory ratio	0·008	(0·037)	6922	−0·125***	(0·031)	7459	7·33***
R&D ratio	−0·026	(0·026)	14185	−0·159**	(0·045)	4641	6·32**
Tangibility	−0·091***	(0·040)	4575	−0·028	(0·047)	5905	1·03
Trade Credit	−0·088	(0·070)	1725	−0·128***	(0·042)	5412	0·23
First Principal Component	−0·024	(0·038)	6860	−0·184***	(0·040)	4820	8·46***

Comment : Miscellaneous

- Repeat analysis in Table 6 for all firms, rather than new entrants only, for robustness checks.
  - We just care about the difference across more constrained and less constrained firms
- How about analyzing the productivity of the foreign investing firm, or the productivity gap?
- The measure of productivity is not perfect
- Why focus on productivity only? How about profitability?
- Take negative on trade credit and asset tangibility, so the tables are easier to read.
- Also Fit a time trend instead of focusing on the **absolute** value of the coefficient of FDI on financial constraints.

Summary

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- Very important economic question
- Extremely relevant question for Chinese policy makers today
- In sum, it is a great paper!

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- Revise and Resubmit!!