The comparative performance of foreign and domestic manufacturing firms in Vietnam

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Outline

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Part I: Problem Statement, Research Questions, Research Objectives

Problem Statement

Since the expansion of Foreign direct investment (FDI) after the mid-1990s, there has been a vast literature that has analyzed the trading behavior of various investor categories, distinguishing foreign owned firms and domestic owned firms.

- Choe et al. (2005)
- Bernard et al. (2007)
- Globerman et al. (1994)
- Doms and Jensen (1998)
- Kimura and Kiyota (2007)
- Ramstetter (1994), Ramstetter (1999)
- Sjöholm (1999)
- Hallward-Driemeier et al. (2002)
- Konings (2001)
- Xu et al. (2006)

Problem Statement

For Vietnam, only a few studies examine differences in corporate performance between domestic and foreign-owned firms due to the lack of access to firm level data. The most feature works carried out on this issue include:

- Ngoc and Ramstetter (2004), Ngoc and Ramstetter (2009), Ramstetter and Ngoc (2013)
- Nguyen (2008)
- Pomfret (2010)

Why Vietnam?

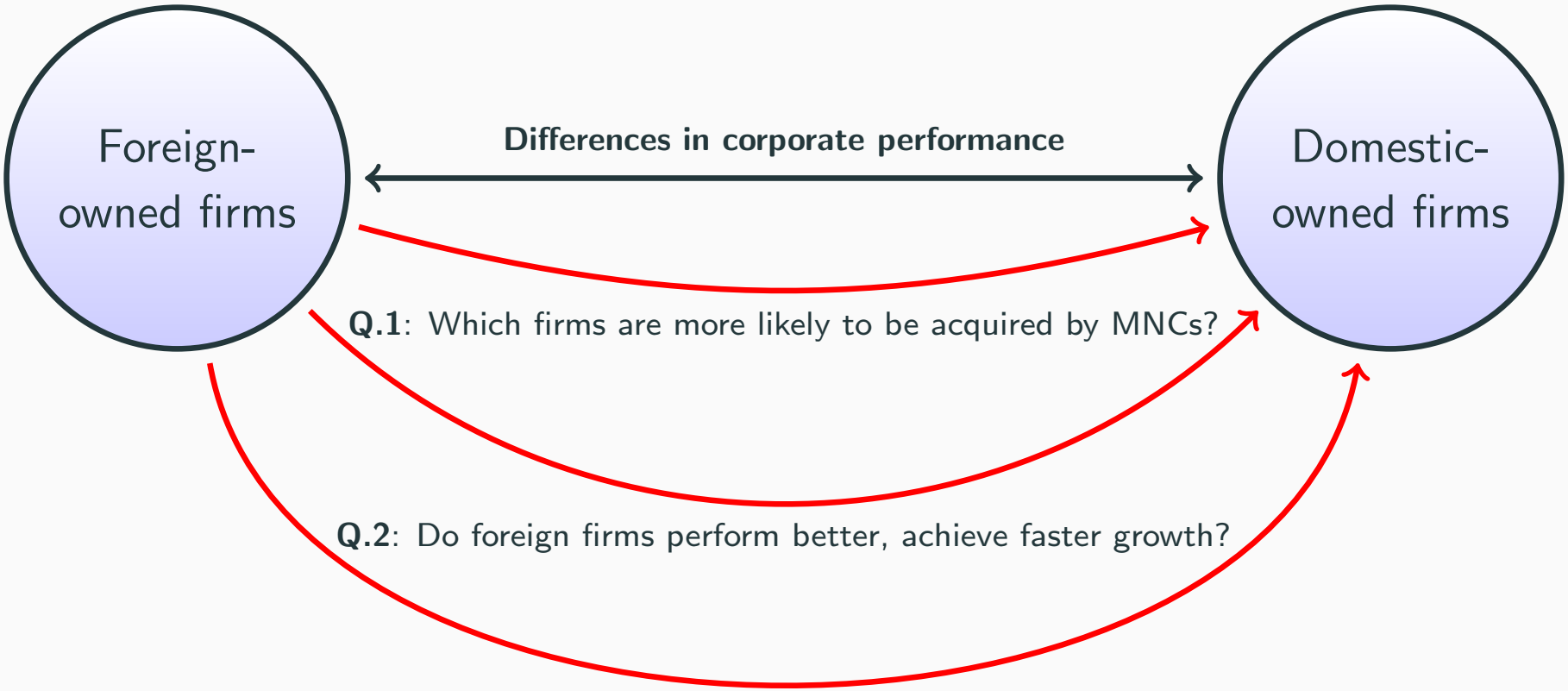
The Vietnamese case study

- FDI flows to this country are quiet high compared to other examined countries. $\Rightarrow$ a typical case to study
- Studies based on large scale firm level dataset are still scarce for this country

Research Questions

- Main questions: why performance gaps between foreign-owned firms and domestic owned firms exist theoretically? Whether foreign ownership explains such gaps empirically?
- Findings often suggested that foreign-owned firms or in other words, multinational corporations (MNCs) tend to perform relatively better than domestic owned firms.
- MNCs are considered as the origin of spillovers that affect the efficiency of non-MNCs through both horizontal and vertical linkages.

Research Objectives



Part II: Methodology, Data, Findings

Methodology

- Following Kimura and Kiyota (2007), check the **difference in characteristics** between foreign firms and domestic firms both in *static aspects* and in *dynamic aspects*.
- **In static aspects**: various measures of firm performance including total factor productivity (TFP), labor productivity, profits, average wages, capital intensity, etc are considered.
- **In dynamic aspects**: rely on the dynamic model proposed by Roberts and Tybout (1997), Bernard and Jensen (1999). As for empirical analysis:
  - test determinants of foreign ownership as well as the survivability of foreign firms compared to domestic firms by using *probit model with random effects*.
  - the performance gaps between them will be checked by *random-effects model*.

Data

- Annual Survey of Enterprise (ASOE) provided by General Statistics Office (GSO) of Vietnam, 2000-2013
- **Main advantages**
  - Firm coverage: all registered firms operating in every economic sector, including agriculture, manufacturing, construction and services.
  - Information set: firm identification (tax registration number), assets and liabilities, the number of employees (by qualification), sales, wages, capital stock, industry (5-digit), obligations to the government, exports, imports, debts, date of birth...
  - Provide information allowing to identify both the ownership of the firm and the type of trade in which firms are involved

Data

- **Main limitations**
  - Industry classification changed over the period of observation[1]
  - Missing export values: available only in 2000 and 2010-2013
  - Missing information on R&D spending, number of affiliates, working hours...

[1] From 1993 to 2006, we used VSIC 1993. From 2007 up to now, we use VSIC 2007. To achieve the consistency in industry codes for the whole sample period (2000-2013), we convert the industry codes in the old data from 2000 to 2006 to the new classification system (VSIC 2007) by using a concordance table provided by GSO.

Cleanup of the sample

- Only firms with no missing information on sales, labor, capital, age and wages are kept.
- To estimate TFP, we follow Ha and Kiyota (2014) as follows: we assign a single industry code to each firm because, if a firm switches industry, its "reference firm" must also change, as the properties of the reference firm are calculated based on industry averages. For firms that switch industry, the mode of the industry code is used.
- Concerning ROA and ROE, we excluded firms with negative asset and equity; firms with net income higher than average total asset and average total owned equity in database.

Cleanup of the sample

- Keep only firms operating in the manufacturing industries
- Drop Firms with less than 10 employees
- Drop firms with missing values on output, labor, capital, wages
- Drop firms with negative values on output, labor, capital and exports

Representativity of the sample

- To sum up, our sample consists of about **430,000** manufacturing firms over the period **2000-2013**.
- After the cleanup, comparing to the original ones, the remaining size of the global sample is about **194,900** manufacturing firms accounting for **45.30%** in terms of firm numbers, **78%- 83%** in terms of labor, wage, sales and value added.

Description of the sample

Table 1: Firm level summary statistics (1)

Variable	Obs	Mean	Std. Dev.
Global sample (2000-2013)			
Labor (number of workers)	194,905	182.80	720.42
Firm age	194,910	8.52	8.51
Capital intensity (million VND)	194,899	183.18	444.19
Average wage (million VND)	194,899	30.54	24.13
Labor productivity (million VND)	194,900	57.39	105.01
Total factor productivity (lntfp)	194,895	0.45	1.76
Return on asset (ROA, %)	194,900	1.77	9.97
Return on equity (ROE, %)	194,900	-2.54	326.75
Foreign owned dummy	194,910	0.16	0.36
Foreign owned dummy (t+1)	135,125	0.18	0.38
Survive dummy	194,910	0.99	0.11

Source: GSO database

Description of the sample

Table 2: Firm level summary statistics (2)

Variable	Obs	Mean	Std. Dev.
Sub-sample (2007-2011)			
Labor (number of workers)	101,926	176.40	712.09
Firm age	101,929	8.21	8.19
Capital intensity (million VND)	101,923	175.31	395.82
Average wage (million VND)	101,922	31.06	23.02
Labor productivity (million VND)	101,923	58.26	104.42
Total factor productivity (lntfp)	101,922	0.51	1.73
Return on asset (ROA, %)	101,922	1.88	10.01
Return on equity (ROE, %)	101,922	-3.00	388.74
R&D expenditure/sales	89,391	0.03	3.37
Number of affifiates	83,388	0.35	1.60
Foreign owned dummy	101,929	0.16	0.37
Foreign owned dummy (t+1)	80,151	0.19	0.39
Survive dummy	101,929	0.99	0.09

Source: GSO database

Foreign versus Vietnamese -owned firms in static approach

Static comparisons in performance between foreign-owned firms and domestic firms show that in comparison with domestic-owned firms, foreign firms:

- larger in terms of labor
- more capital intensive
- pay higher wages
- perform better in terms of value -added productivity and TFP
- have fewer affiliates
- have lower profitability (ROA, ROE)

Dynamic model of foreign ownership

- Show the relation between foreign ownership and different firm characteristics
- Demonstrate how the dynamic corporate performance is driven by foreign ownership
- Consider impacts of this one on firm survival in the Vietnamese market
- In expanded models, introduce further variables that serve as proxies for firm size and technology effects.

Baseline models

Foreign ownership and firms characteristics:
We start from the assumption that firm i located in Vietnam try to maximize its profit. The profit of firm i depends on firm i's characteristics reflected in vector Z_{it} as taking the reduced form:

$$\pi_{it} = f(Z_{it}) \tag{1}$$

Let the foreign-ownership status at period t be FOS_{it}, which takes value 1 if firm i is owned by foreign investors and zero otherwise. In this setting, the profit function of a foreign firm, denoted as $\tilde{\pi}_{it}$, is expressed as follows:

$$\tilde{\pi}_{it} = f(Z_{it}, FOS_{it}) \tag{2}$$

Baseline models

Foreign ownership and firms characteristics:

- According to Baldwin and Krugman (1989), foreign firms must incur a sunk entry cost in order to enter the Vietnamese market for the first time.
- We suppose foreign firms face a sunk cost denoted as C if they were not in the Vietnamese market in the period *t-1*.
- This sunk cost is assumed to be the same across firms and periods. Rewriting (2), we have:

$$\tilde{\pi}_{it} = f(Z_{it}, FOS_{it}) - C(1 - FOS_{it-1}) \tag{3}$$

Then, the dynamic framework of the foreign ownership status is given by:

$$FOS_{it} = \begin{cases} 1 & \text{if} \quad \tilde{\pi}^*_{it} > C(1 - FOS_{it-1}) \\ 0 & \text{otherwise} \end{cases} \tag{4}$$

Baseline models

Foreign ownership and firms characteristics:
We follow Roberts and Tybout (1997), Bernard and Wagner (2001), Kimura and Kiyota (2007) to employ the probit model with random effects of the form:

$$FOS_{it} = \alpha + \beta FOS_{it-1} + \gamma Z_{it-1} + \eta_i + \mu_{it} \tag{5}$$

where

- η_i: firm-specific random effects
- μ_{it}: disturbance term
- Z: measures of profitability (ROA, ROE, TFP) and other characteristics (capital-labor ratio, number of domestic regular workers, average wages...)

Note: We lag all plant characteristics and other exogenous variables by one year to avoid possible simultaneity problems.

Baseline models

Performance gaps between domestic and foreign-owned firms:
We run a simple regression of changes in performance measures, Z_{it}, as follows:

$$\begin{aligned} \Delta Z_{it} &= lnZ_{it} - lnZ_{it-1} \\ &= \alpha + \beta FOS_{it-1} + \gamma Char.s_{it-1} + \varepsilon_{it} \end{aligned} \tag{6}$$

where

- ΔZ_{it}: gaps in the annual average growth rate of the performance between foreign and domestic firms in the same country such as: *lnL_gr*, *lnwpe_gr*, *lnintcap_gr*, *lnalp_gr*, *lntfp_gr*...
- $Char.s_{it-1}$: firms characteristics as those used in the previous equation.

Baseline models

Impacts of foreign ownership on firm survival:

$$\begin{aligned} S_{it} &= \alpha + \beta FOS_{it-1} + \gamma Z_{it-1} + \kappa_i + \varepsilon_{it} \\ &= \alpha + \beta FOS_{it-1} + \gamma_1 lnL_{it-1} + \gamma_2 lnage_{it-1} + \gamma_3 lnwpe_{it-1} + \\ &\quad + \gamma_4 lnintcap_{it-1} + \gamma_5 lntfp_{it-1} + \gamma_6 lnroa_{it-1} + \gamma_7 lnroe_{it-1} + \kappa_i + \varepsilon_{it} \end{aligned} \tag{7}$$

where

- $S_{it} = 1$ if the firm survives from year (t-1) to year t
- FOS_{it-1}: the foreign ownership dummies in year (t-1)
- Z_{it}: vector of corporate characteristics in year (t-1).

Definition of variables

- Foreign-owned dummy (foreign): foreign ownership dummy takes value one if the firm is considered as foreign-owned firm and zero otherwise.
- Survival dummy (survive): survival firm dummy takes value one if the length of firm life is at least 2 years.
- Labor (lnL): number of workers at the end of each year
- Firm Age (lnage): the number of years that a firm survives from the first entry year to the year reported
- Wage per employee (lnwpe): total wages and other income over the number of employees
- Capital intensity (lnintcap): real capital stock over the number of employees.

Definition of variables

- Total factor productivity (lntfp): computed following a non-parametric approach.
- Average labor productivity (lnalp): real value added over the number of employees
- Return on asset (lnroa): the ratio of annual net income to average total assets
- Return on equity (lnroe): the ratio of net income to stockholders' equity
- Affiliates (lnaffi): Number of domestic affiliates
- R&D/Sales (lnrds): Ratio of R&D spending to Sales

Model with size and technology effects

Foreign ownership and firms characteristics:

$$\begin{aligned} FOS_{it} = \alpha + \beta FOS_{it-1} + \gamma_1 lnL_{it-1} + \gamma_2 lnage_{it-1} + \gamma_3 lnwpe_{it-1} + \\ + \gamma_4 lnintcap_{it-1} + \gamma_5 lntfp_{it-1} + \gamma_6 lnroa_{it-1} + \\ + \gamma_7 lnroe_{it-1} + \gamma_8 lnaffi_{it-1} + \gamma_9 lnrds_{it-1} + \eta_i + \mu_{it} \end{aligned} \tag{8}$$

Performance gaps between domestic and foreign-owned firms:

$$\begin{aligned} \Delta Z_{it} = \alpha + \beta FOS_{it-1} + + \gamma_1 lnL_{it-1} + \gamma_2 lnage_{it-1} + \gamma_3 lnwpe_{it-1} + \\ + \gamma_4 lnintcap_{it-1} + \gamma_5 lntfp_{it-1} + \gamma_6 lnroa_{it-1} + \\ + \gamma_7 lnroe_{it-1} + \gamma_8 lnaffi_{it-1} + \gamma_9 lnrds_{it-1} + \varepsilon_{it} \end{aligned} \tag{9}$$

Impacts of foreign ownership on firm survival:

$$\begin{aligned} S_{it} = \alpha + \beta FOS_{it-1} + \gamma_1 lnL_{it-1} + \gamma_2 lnage_{it-1} + \gamma_3 lnwpe_{it-1} + \\ + \gamma_4 lnintcap_{it-1} + \gamma_5 lntfp_{it-1} + \gamma_6 lnroa_{it-1} + \\ + \gamma_7 lnroe_{it-1} + \gamma_8 lnaffi_{it-1} + \gamma_9 lnrds_{it-1} + \kappa_i + \varepsilon_{it} \end{aligned} \tag{10}$$

Estimation results

Table 3: Regression Result of baseline model : Determinants of Foreign Ownership (1)

Independent variables (year t)	Dependent variable: Foreign ownership dummy (year t+1)			
foreign (foreign owned dummy)	**5.196*** **	**5.212*** **	**4.622*** **	**4.654*** **
	(0.0673)	(0.0643)	(0.0444)	(0.0418)
lnL (number of workers)	-0.218***	-0.182***	-0.200***	-0.187***
	(0.0540)	(0.0515)	(0.0486)	(0.0463)
lnage (firm age)	-0.241***	-0.253***	-0.240***	-0.253***
	(0.0292)	(0.0277)	(0.0267)	(0.0260)
lnwpe (W/L, millions VND, 2010 prices)	0.0992*	0.0354	0.107**	0.0618
	(0.0520)	(0.0496)	(0.0456)	(0.0443)
lnintcap (K/L, millions VND, 2010 prices)	0.146***	0.105***	0.157***	0.104***
	(0.0249)	(0.0236)	(0.0213)	(0.0200)
lntfp (total factor productivity)	0.355***	0.358***	0.349***	0.372***
	(0.0513)	(0.0498)	(0.0473)	(0.0461)
lnroa (Return on assets, %)	0.0858**	0.0894**	0.119***	0.114***
	(0.0360)	(0.0347)	(0.0329)	(0.0311)
lnroe (Return on equity, %)	-0.0853**	-0.0956***	-0.116***	-0.123***
	(0.0348)	(0.0338)	(0.0309)	(0.0295)
Constant	3.165***	2.788***	3.107***	2.644***
	(0.397)	(0.371)	(0.342)	(0.324)
Observations	102,459	102,459	102,459	102,459
Number of id	32,257	32,257	32,257	32,257
Industry dummy	Yes	No	Yes	No
Year dummy	Yes	Yes	No	No
Log-Likelihood	-1771	-1861	-2468	-2585

Random-effect probit model is in use. Robust standard errors are in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

Estimation results

Table 4: Regression Result of expanded model : Determinants of Foreign Ownership (2)

Independent variables (year t)	Dependent variable: Foreign ownership dummy (year t+1)			
foreign (foreign owned dummy)	**5.140*** **	**5.153*** **	**4.672*** **	**4.697*** **
	(0.0762)	(0.0715)	(0.0639)	(0.0613)
lnL (number of workers)	-0.294***	-0.263***	-0.341***	-0.329***
	(0.0703)	(0.0672)	(0.0630)	(0.0596)
lnage (firm age)	-0.176***	-0.185***	-0.173***	-0.182***
	(0.0388)	(0.0378)	(0.0365)	(0.0364)
lnwpe (W/L, millions VND, 2010 prices)	-0.0489	-0.0876	-0.0236	-0.0517
	(0.0643)	(0.0614)	(0.0572)	(0.0543)
lnintcap (K/L, millions VND, 2010 prices)	0.0971***	0.0597**	0.0653**	0.0229
	(0.0302)	(0.0289)	(0.0259)	(0.0247)
lntfp (total factor productivity)	0.439***	0.449***	0.505***	0.531***
	(0.0689)	(0.0673)	(0.0629)	(0.0613)
lnroa (return on asset, %)	0.000313	-0.000801	-0.00136	-0.00534
	(0.0440)	(0.0432)	(0.0389)	(0.0383)
lnroe (return on equity, %)	-0.0242	-0.0316	-0.0371	-0.0449
	(0.0432)	(0.0427)	(0.0380)	(0.0377)
lnaffi (number of domestic affiliates)	-0.0349**	-0.0458***	-0.0452***	-0.0605***
	(0.0139)	(0.0139)	(0.0140)	(0.0145)
lnrds (R&D/Sales, %)	-0.0382*	-0.0435*	-0.215***	-0.224***
	(0.0227)	(0.0222)	(0.0252)	(0.0242)
Constant	2.903***	2.688***	3.274***	2.992***
	(0.502)	(0.481)	(0.431)	(0.406)
Observations	62,572	62,572	62,572	62,572
Number of id	23,630	23,630	23,630	23,630
Industry dummy	Yes	No	Yes	No
Year dummy	Yes	Yes	No	No
Log-Likelihood	-1156	-1201	-1526	-1584

Random-effect probit model is in use. Robust standard errors are in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Estimation results

Table 5: Regression Result of baseline model: Effects of Foreign ownership on Dynamic corporate performance (1)

Independent variables (year t)	Dependent variables: growth of variables from year (t) to year (t+1)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	lnL_gr	lnwpe_gr	lnintcap_gr	lnalp_gr	lntfp_gr	lnroa_gr	lnroe_gr
foreign (foreign owned dummy)	**0.283*** **	**0.157*** **	**0.406*** **	**0.246*** **	**0.534*** **	**0.923*** **	**0.839*** **
	(0.0104)	(0.00685)	(0.0143)	(0.0106)	(0.0145)	(0.0229)	(0.0236)
lnL (number of workers)	-0.396***	-0.101***	-0.144***	0.697***	0.316***	-0.154***	-0.142***
	(0.00845)	(0.00624)	(0.0121)	(0.00924)	(0.0122)	(0.0183)	(0.0190)
lnage (firm age)	0.0443***	-0.0791***	0.0147***	-0.0793***	-0.0556***	0.0968***	0.0880***
	(0.00341)	(0.00249)	(0.00506)	(0.00328)	(0.00477)	(0.00852)	(0.00900)
lnwpe (W/L, millions VND, 2010 prices)	0.0360***	-0.868***	-0.161***	-0.0763***	-0.0366***	-0.118***	-0.0997***
	(0.00751)	(0.00618)	(0.0103)	(0.00804)	(0.0108)	(0.0161)	(0.0167)
lnintcap (K/L, millions VND, 2010 prices)	0.0634***	0.00676***	-0.684***	0.0478***	0.112***	-0.0573***	-0.0715***
	(0.00278)	(0.00202)	(0.00517)	(0.00274)	(0.00385)	(0.00672)	(0.00722)
lntfp (total factor productivity)	0.0288***	0.171***	0.240***	-0.611***	-0.597***	0.258***	0.303***
	(0.00782)	(0.00597)	(0.0115)	(0.00897)	(0.0118)	(0.0174)	(0.0181)
lnroa (return on asset, %)	-0.00947**	-0.0333***	-0.0577***	-0.0345***	-0.0482***	-0.619***	-0.0241**
	(0.00456)	(0.00312)	(0.00649)	(0.00421)	(0.00614)	(0.0103)	(0.0112)
lnroe (return on equity, %)	0.0151***	0.0288***	0.0392***	0.0331***	0.0521***	-0.249***	-0.886***
	(0.00430)	(0.00289)	(0.00610)	(0.00396)	(0.00577)	(0.00981)	(0.0109)
Constant	0.564***	2.846***	3.317***	-2.810***	-2.368***	0.974***	1.196***
	(0.0572)	(0.0436)	(0.0837)	(0.0610)	(0.0829)	(0.126)	(0.131)
Observations	144,008	144,002	144,005	144,001	144,002	115,348	115,243
Number of id	49,257	49,256	49,255	49,257	49,255	40,117	40,072
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-sq overall	0.130	0.301	0.231	0.206	0.167	0.321	0.343

Random-effect model is in use. Estimated coefficients indicate the gaps of growth rate between foreign and domestic firms. Robust standard errors are in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

Estimation results

Table 6: Regression Result of expanded model: Effects of Foreign ownership on Dynamic corporate performance (2)

Independent variables (year t)	Dependent variables: growth of variables from year (t) to year (t+1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	L_gr	w_gr	intcap_gr	alp_gr	tfp_gr	roa_gr	roe_gr	affi_gr	rds_gr
foreign (foreign owned dummy)	**0.158*** **	**0.146*** **	**0.289*** **	**0.240*** **	**0.409*** **	**0.837*** **	**0.754*** **	**-0.106*** **	**-0.0696*** **
	(0.00996)	(0.00809)	(0.0152)	(0.0123)	(0.0152)	(0.0276)	(0.0289)	(0.0122)	(0.0164)
lnL (number of workers)	-0.266***	-0.117***	-0.126***	0.630***	0.379***	-0.115***	-0.0646**	-0.00690	0.0512***
	(0.00984)	(0.00844)	(0.0154)	(0.0124)	(0.0155)	(0.0249)	(0.0262)	(0.0143)	(0.0132)
lnage (firm age)	0.00492	-0.0632***	0.0269***	-0.0769***	-0.0853***	0.0374***	0.0162	0.0240***	0.0315***
	(0.00386)	(0.00320)	(0.00651)	(0.00428)	(0.00569)	(0.0113)	(0.0120)	(0.00492)	(0.00635)
lnwpe (W/L, millions VND, 2010 prices)	0.0606***	-0.839***	-0.159***	-0.101***	-0.0349**	-0.0900***	-0.0566**	0.00433	0.0133
	(0.00882)	(0.00858)	(0.0126)	(0.0109)	(0.0137)	(0.0216)	(0.0225)	(0.0130)	(0.0123)
lnintcap (K/L, millions VND, 2010 prices)	0.0620***	0.000647	-0.588***	0.0489***	0.113***	-0.0229**	-0.0310***	0.00637	0.0103**
	(0.00334)	(0.00267)	(0.00746)	(0.00364)	(0.00488)	(0.00933)	(0.0101)	(0.00434)	(0.00405)
lntfp (total factor productivity)	0.0365***	0.196***	0.222***	-0.533***	-0.511***	0.243***	0.254***	0.0327**	0.00289
	(0.00912)	(0.00815)	(0.0146)	(0.0121)	(0.0151)	(0.0239)	(0.0251)	(0.0138)	(0.0128)
lnroa (return on asset, %)	0.00887*	-0.0183***	-0.0428***	-0.00538	0.00411	-0.532***	-0.0218	-0.0233***	-0.00965
	(0.00500)	(0.00379)	(0.00779)	(0.00510)	(0.00703)	(0.0140)	(0.0155)	(0.00702)	(0.00705)
lnroe (return on equity, %)	-0.00451	0.0194***	0.0326***	0.0136***	0.00939	-0.249***	-0.799***	0.0173**	0.00224
	(0.00495)	(0.00366)	(0.00742)	(0.00491)	(0.00688)	(0.0138)	(0.0157)	(0.00689)	(0.00698)
lnaffi (number of domestic affiliates)	0.00586***	0.0117***	0.00585**	0.0107***	0.0160***	-0.0167***	-0.0104**	-0.178***	0.0165***
	(0.00165)	(0.00128)	(0.00258)	(0.00174)	(0.00242)	(0.00426)	(0.00462)	(0.00338)	(0.00269)
lnrds (R&D/Sales, %)	0.00260	0.00808***	0.00850**	0.00641**	0.00868**	-0.0294***	-0.0238***	0.00259	-0.945***
	(0.00281)	(0.00232)	(0.00333)	(0.00278)	(0.00391)	(0.00665)	(0.00688)	(0.00505)	(0.0111)
Constant	0.515***	3.324***	3.491***	-1.831***	-1.397***	0.221	0.419**	-0.721***	-4.528***
	(0.0667)	(0.0606)	(0.108)	(0.0835)	(0.106)	(0.174)	(0.183)	(0.101)	(0.100)
Observations	71,296	71,295	71,296	71,294	71,294	59,052	59,013	68,643	48,290
Number of id	27,777	27,776	27,776	27,777	27,777	23,506	23,496	26,654	21,924
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-sq overall	0.0772	0.267	0.197	0.149	0.0747	0.228	0.236	0.110	0.507

Random-effect model is in use. Estimated coefficients indicate the gaps of growth rate between foreign and domestic firms. Robust standard errors are in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Estimation results

Table 7: Regression Result of baseline model: Effects of Foreign ownership on Firm survival (1)

Independent variables (year t)	Dep. var: firm survival dum. (year t+1)	
foreign (foreign owned dummy)	**0.291*** **	**0.394*** **
	(0.0626)	(0.0779)
lnL (number of workers)	0.0659	0.0643
	(0.0422)	(0.0563)
lnage (firm age)	0.365***	0.456***
	(0.0231)	(0.0276)
lnwpe (W/L, millions VND, 2010 prices)	-0.177***	0.0295
	(0.0461)	(0.0512)
lnintcap (K/L, millions VND, 2010 prices)	-0.0312**	-0.0266
	(0.0138)	(0.0169)
lntfp (total factor productivity)	0.0526	0.0490
	(0.0416)	(0.0540)
lnroa (return on asset, %)	0.121***	0.0156
	(0.0224)	(0.0292)
lnroe (return on equity, %)	-0.0808***	0.00736
	(0.0206)	(0.0271)
Constant	-2.747***	-1.262***
	(0.364)	(0.392)
Observations	144,011	144,011
Number of id	49,257	49,257
Industry dummy	No	Yes
Year dummy	No	Yes
Log-Likelihood	-8014	-7234

Random-effect probit model is in use. Robust standard errors are in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

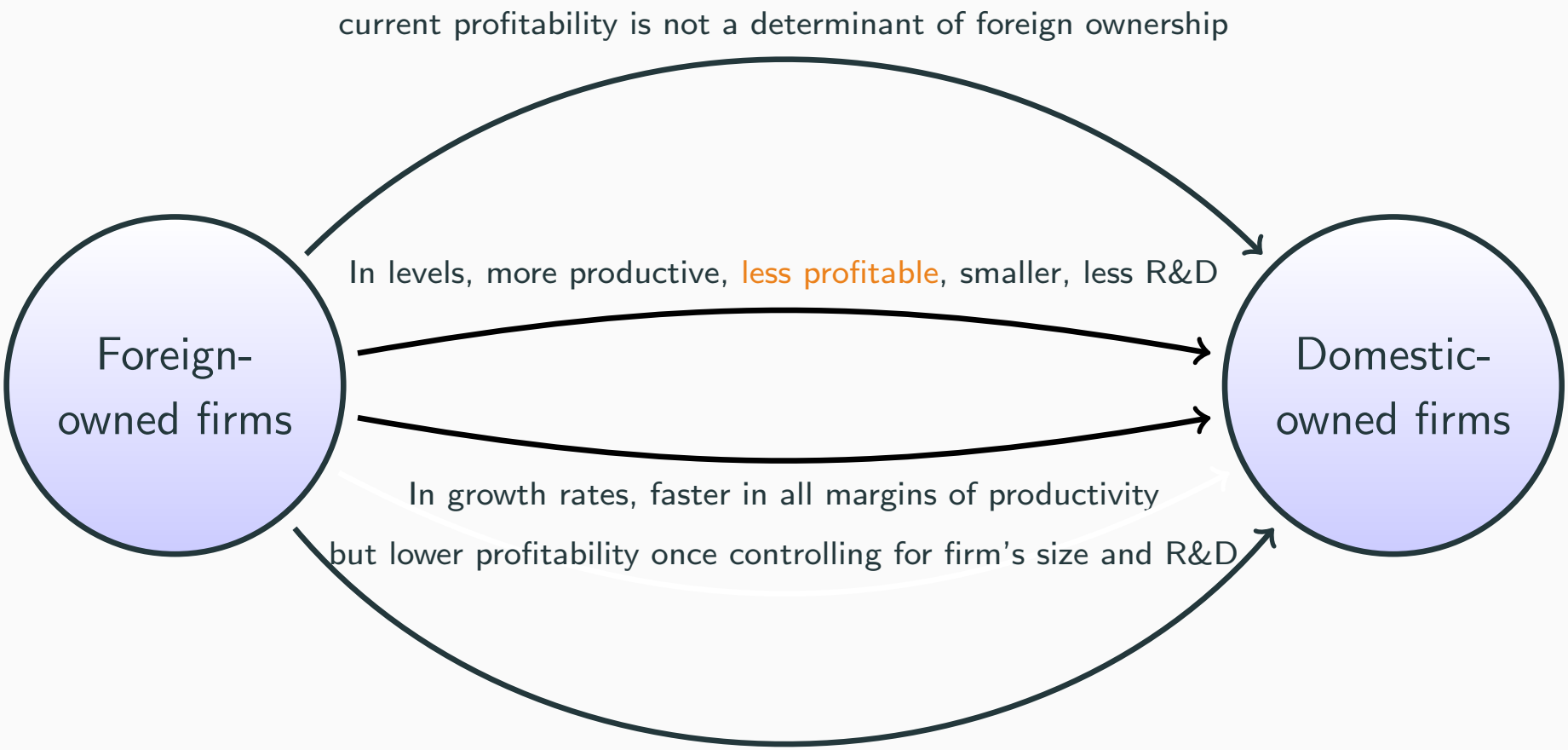
Estimation results

Table 8: Regression Result of expanded model: Effects of Foreign ownership on Firm survival (2)

Independent variables (year t)	Dep. var.: firm survival dum. (year t+1)	
foreign (foreign owned dummy)	**0.365*** **	**0.371*** **
	(0.135)	(0.139)
lnL (number of workers)	0.160**	0.172**
	(0.0778)	(0.0821)
lnage (firm age)	0.0632**	0.0567*
	(0.0299)	(0.0311)
lnwpe (W/L, millions VND, 2010 prices)	0.0286	0.0341
	(0.0716)	(0.0754)
lnintcap (K/L, millions VND, 2010 prices)	0.0750***	0.0525**
	(0.0209)	(0.0224)
lntfp (total factor productivity)	-0.0404	-0.0383
	(0.0732)	(0.0777)
lnroa (return on asset, %)	0.0385	0.0276
	(0.0390)	(0.0418)
lnroe (return on equity, %)	0.00473	0.0134
	(0.0380)	(0.0398)
lnaffi (number of domestic affiliates)	-0.00969	-0.0189
	(0.0122)	(0.0126)
lnrds (R&D/Sales, %)	-0.0130	0.0116
	(0.0266)	(0.0281)
Constant	-1.490***	-1.560***
	(0.536)	(0.560)
Observations	71,299	71,299
Number of id	27,778	27,778
Industry dummy	No	Yes
Year dummy	No	Yes
Log-Likelihood	-1526	-1491

Random-effect probit model is in use. Robust standard errors are in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Findings



the low profitability of foreign firms due to the transfer mis-pricing and the sunk cost

Part III: Contributions, Recommendations, Extensions

Contributions

- Its developing country context.
- Take advantage of the availability of a large-scale firm-level dataset on Vietnamese manufacturing firms covering about 430,000 firms conducted from 2000 to 2013 to investigate further the issue
- The first paper to comprehensively compare the performance of foreign and domestic-owned firms in Vietnam both in static and dynamic approaches using micro panel data.

Implications

Results suggest that Vietnamese officials must take notice of two major concerns that are transfer mispricing of MNCs and sunk costs:

- Concerning sunk costs, the government should improve transparency of regulation information especially in the tax system, land, and administrative procedures to ensure that all economic actors have the same chance to access necessary information, therefore reducing corruptions and sunk costs.
- Concerning the transfer mis-pricing, harmonize Vietnam's tax policies with international competitors in order to reduce profit shifting; ensure a predictable tax schedule in the future, so that they are accordingly able to estimate their future burden.

Extensions

- We would like to develop our research by focusing on the determinants of the ownership entry mode choices and their effects on the corporate performance.
- Basically, entry-mode theory assumes that firms will select the mode that provides the best return on investment.
- At the meantime, transaction cost theory maintains that the costs of finding, negotiating and monitoring the actions of potential partners influence entry mode choice.
- Therefore, modes selected based on the transaction cost model provide firms with the most efficient structure.
- The most noticeable studies in this field are Hill et al. (1990), Woodcock et al. (1994), Brouthers (2002)...

Conclusion

All in all, our work shows that, even if **FDI** represents an important source of growth for **developing countries**, more disaggregated analyses are still needed to understand how those inflows impact a domestic economy through firm dynamics phenomena.

Thank you for your attention!

Q&A

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