

# Expatriate Managers and Firm Performance

Miklós Koren

CEU, MTA KRTK and CEPR

Álmos Telegdy

MNB and MTA KRTK

Thanks: ERC Knowledgeflows

Krisztián Fekete, Olivér Kiss, Szilárd Perédi,

Bálint Szilágyi, András Vereckei, Rita Zágoni, Gergő Závecz

# Motivation

# Motivation

- ▶ Some firms produce vastly more output per worker than others (Syverson, 2011).
  - ▶ technology
  - ▶ organization
  - ▶ unmeasured input quality

## Management improves firm performance

- ▶ Good management practices increase productivity (Bloom and Van Reenen 2010; Bloom et al. 2012; Bloom et al. 2014) and market access (Bloom et al. 2016).
- ▶ CEOs behaving like “leaders” gradually improve firm performance. (Bandiera, Hansen, Prat and Sadun 2018)
- ▶ Large increase in the level and inequality of CEO pay. (Murphy and Zábojník 2004; Gabaix and Landier 2008; Tervio 2008; Frydman and Saks 2010)

## Manager identity matters

- ▶ Managers have persistent effects across firms on investment policy, R&D, advertising, return on assets. (Bertrand and Schoar 2003)
- ▶ Sudden CEO death worsens firm performance. (Bennedsen, Pérez-González and Wolfenzon 2007)
- ▶ Managers having past export experience increase likelihood of exporting (Mion and Opromolla 2014; Mion, Opromolla and Sforza 2016) and importing (Bisztray, Koren and Szeidl 2018).

## Foreign owned firms perform better than domestic firms

- ▶ US: Doms and Jensen (1998)
- ▶ UK: Griffith (1999)
- ▶ Hungary, Romania, Russia, Ukraine: Brown, Earle, Telegdy (2006)
- ▶ Indonesia: Arnold and Javorcik (2009)

# This paper

- ▶ Foreign owners improve firm performance by improving management.
- ▶ Compile new, unique data on which firm is run by expat manager: Hungary, 1992–2016.
- ▶ Research design:
  - ▶ differences-in-differences comparing expat-managed firms to domestic managed firms before and after takeover
  - ▶ controlling for domestic change in management

# Contributions

1. Linked firm-CEO data for the universe of corporations.
2. Compare expat CEOs to local CEOs.
3. Research design around CEO switches.



# Why care?

- ▶ Different modes of global engagement are highly correlated:
  - ▶ foreign investment/ownership
  - ▶ foreign management
  - ▶ foreign trade
- ▶ Which are most important for gains from globalization?
  - ▶ What are the costs of protectionism?

# Outline

# Outline

1. Measurement: finding expat managers
2. Research design: comparing CEO spells
3. Estimates from manager-level event studies

Data

# Data

## Hungarian Manager Database

- ▶ coverage: universe of corporations, 1992–2016
- ▶ CEO: highest officer of corporation as specified in corporate law.
  - ▶ information: name, mother's name, address, tenure at firm
- ▶ 1 million firms, 2 million CEOs, 5 million job spells

## Balance sheet data

- ▶ coverage: universe of double entry firms, 1992–2016
- ▶ information: sales, exports, employment, equipment etc.

# Names

- ▶ We use manager names to infer
  1. CEO change
  2. nationality
  3. gender (not used today)
- ▶ Foreign manager: firm representative with a non-Hungarian first name
  - ▶ e.g. Eva Bauer v Bauer Éva
  - ▶ but: George Soros v Soros György
- ▶ Allow for misspelling, omitted middle name, missing data (jr, dr)

# Sample

- ▶ Exclude:
  - ▶ employing less than 20 people
  - ▶ financial sector
  - ▶ domestic firms with expat CEO (data?)
  - ▶ firms with more than 15 CEOs
- ▶ Left with 18,000 firms
- ▶ Focus on years around CEO switches.

## Shape of data

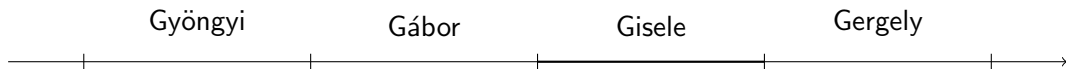
```
firm,manager,from,to  
123456,Gyöngyi,1992-01-01,1996-12-31  
123456,Gábor,1997-01-01,1999-12-31
```



# Data cleaning

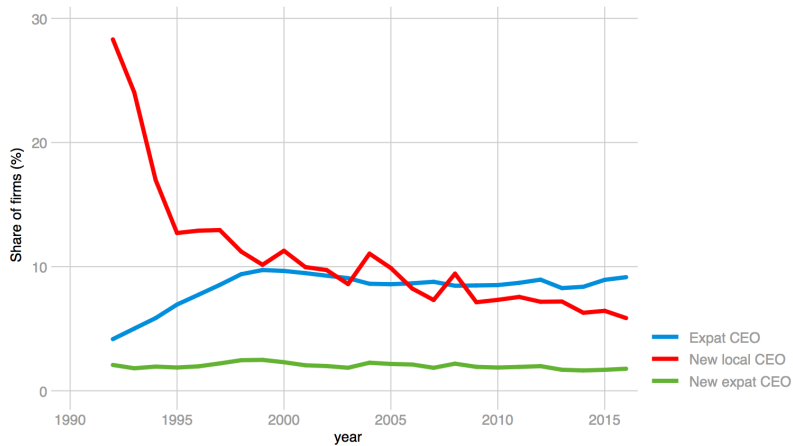
1. Convert names to numerical IDs
  - ▶ normalization
  - ▶ Levenshtein distance of name components
  - ▶ stricter matching across firms (not used today)
  - ▶ more liberal matching within firm
2. Infer Hungarian nationality from name
  - ▶ given name in closed list of admissible Hungarian names
3. Classify everyone else as foreign
  - ▶ remove firms
  - ▶ but: weird typos with limited supporting information
4. Clean up time interval and position description
5. Create annual panel for June 21

## CEO succession

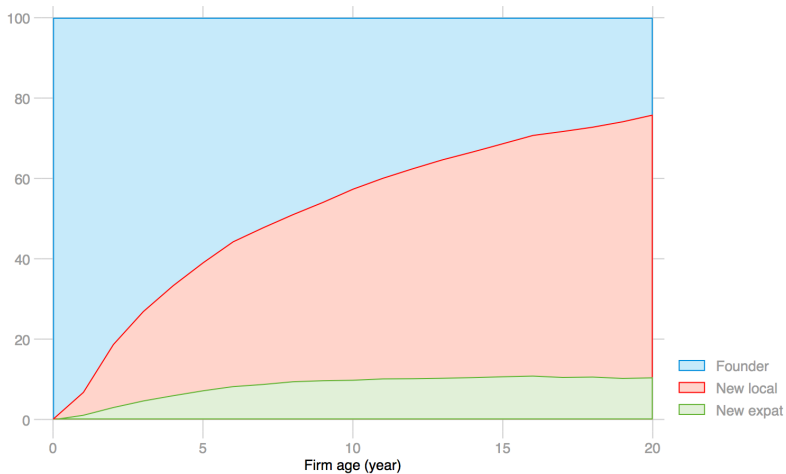


## Descriptives

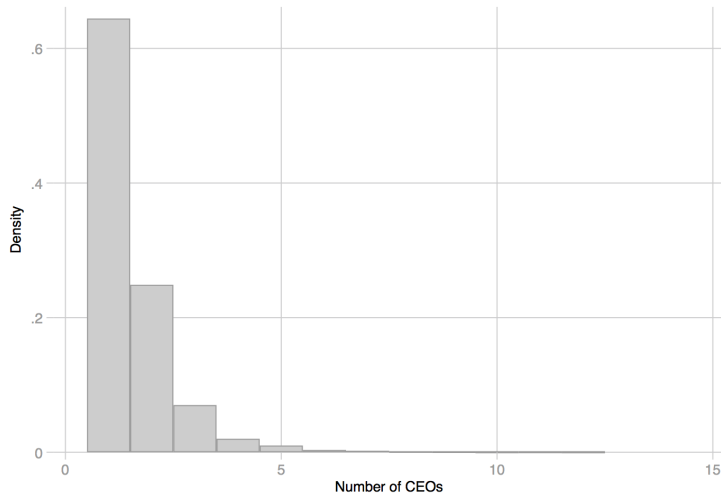
## Local and expat managers over time



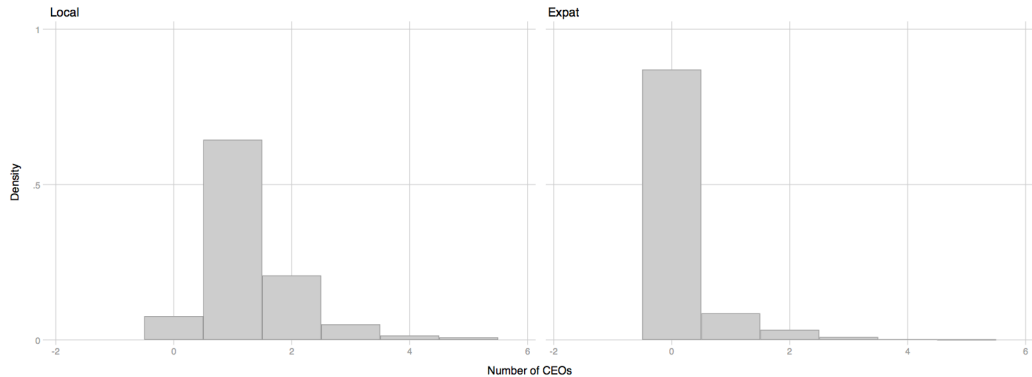
## Founder CEOs are slowly replaced



## Firms sometimes have multiple CEOs

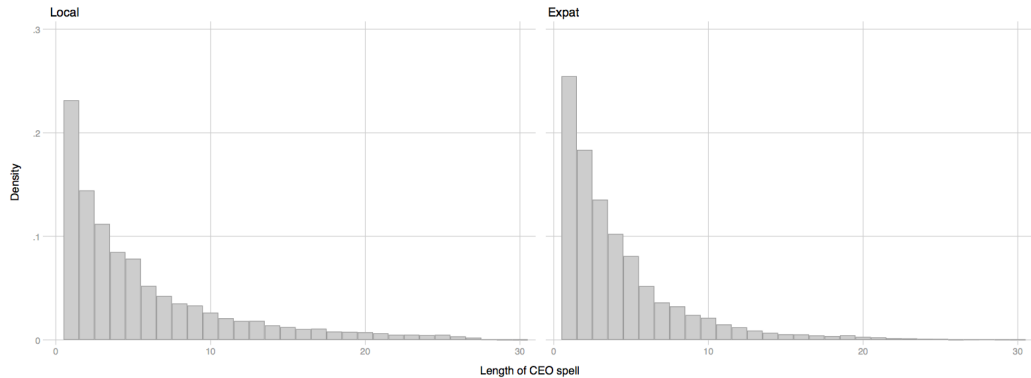


## 80 percent of firms have no expat CEO



Graphs by manager nationality

## Expat CEOs leave somewhat earlier (median 3 v 4 years)



Graphs by manager nationality



## Number of CEO switches

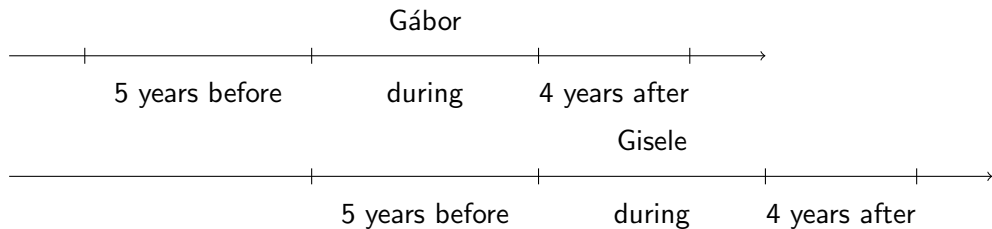
From	To domestic	To expat
domestic	28005	2340
expat	2915	4999

## Research design

## Research design

- ▶ Take each CEO spell at each firm (e.g., Steve Ballmer, Microsoft, 2000–2014)
- ▶ Exclude founders (e.g., Bill Gates, Microsoft, 1975–1999)
- ▶ For each spell, collect firm-level data for three periods:
  - ▶ before (1975–1999)
  - ▶ during (2000–2014)
  - ▶ after (2015–)
- ▶ Comparing these periods, we estimate the impact of a new CEO and whether it is long lasting.

## Manager-level event study



## Estimating equation

$T_{im} \subset [1992, 2016]$ : tenure of CEO  $m$  at firm  $i$

$I()$ : indicator function

$X_m$ : expat dummy

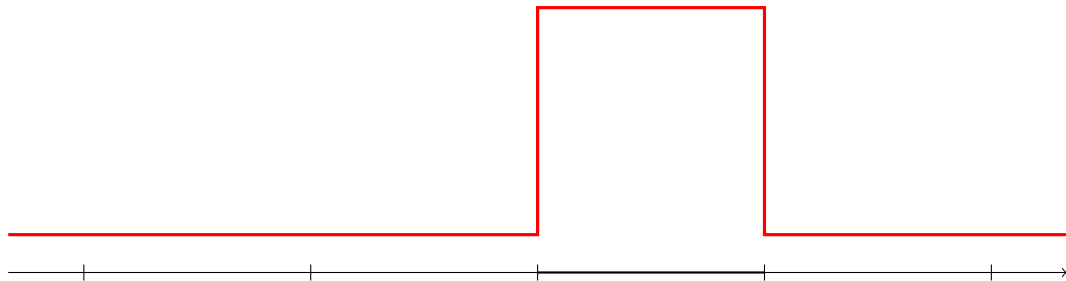
$$\begin{aligned} Y_{imt} = & \beta_1 I(t \in T_{im}) + \beta_2 I(t > T_{im}) \\ & + \gamma_1 X_m I(t \in T_{im}) + \gamma_2 X_m I(t > T_{im}) \\ & + f(\text{age}_{it}) + \mu_{im} + \nu_{st} + \varepsilon_{imt} \end{aligned}$$

## Mechanism

## Three potential benefits

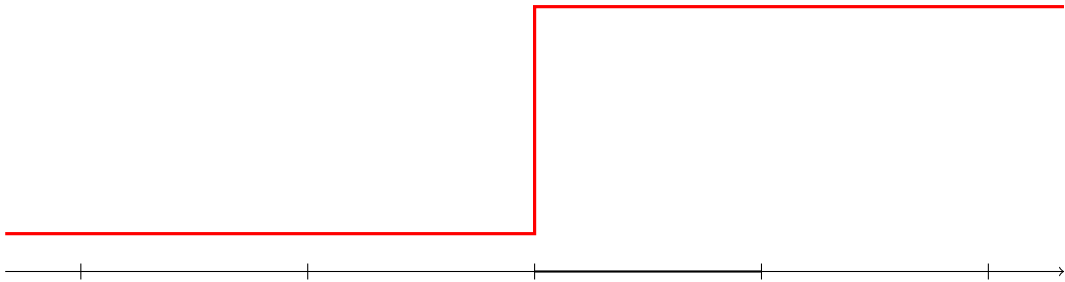
1. Better firm-specific skills and loyalty
2. Better general management skills
3. Reorganization

## Specific skills

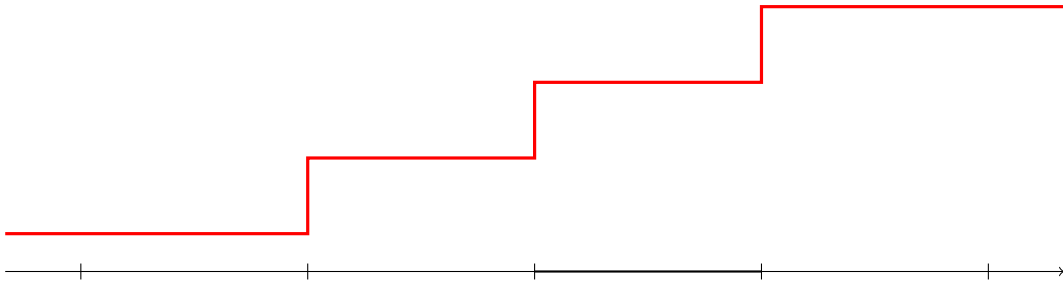




## Transferable skills



# Reorganization



## Identification concerns

- ▶ Reverse causality: Expats come to firms with good prospects.
  - ▶ no plausible IV with strong first stage (source countries, EU accession, bilingual schools)
- ▶ Omitted variables: Expats are just a signal of strong owner attention.

## Estimates

## Foreign firms are better in every respect (OLS estimates)

	(1) lnL	(2) lnKL	(3) lnQL	(4) exporter
Foreign owner (dummy)	0.401*** (0.021)	0.602*** (0.032)	0.664*** (0.023)	0.350*** (0.007)
Expat manager (dummy)	0.016 (0.025)	0.073* (0.041)	-0.076*** (0.028)	0.050*** (0.008)
$R^2$	0.069	0.166	0.235	0.190
Number of observations	368,493	368,493	368,493	368,493

Notes: All specifications control for industry-year fixed effects and firm age. Standard errors, clustered by firm, are reported in parantheses. Coefficients significantly different from zero at 1, 5 and 10 percent are marked by \*\*\*, \*\* and \*, respectively.

## Foreign takeover is associated with higher capital intensity, productivity and exporting (firm FE estimates)

	(1) lnL	(2) lnKL	(3) lnQL	(4) exporter
Foreign owner (dummy)	-0.031 (0.029)	0.142*** (0.037)	0.080*** (0.021)	0.030*** (0.011)
Expat manager (dummy)	-0.039*** (0.012)	0.021 (0.014)	0.015 (0.009)	0.010*** (0.004)
$R^2$	0.107	0.184	0.285	0.047
Number of observations	368,493	368,493	368,493	368,493

Notes: All specifications control for industry-year and firm fixed effects as well as firm age. Standard errors, clustered by firm, are reported in parantheses. Coefficients significantly different from zero at 1, 5 and 10 percent are marked by \*\*\*, \*\* and \*, respectively.

## Foreign takeover is associated with higher productivity (firm FE estimates on acquisition sample only)

	(1) lnL	(2) lnKL	(3) lnQL	(4) exporter
Foreign owner (dummy)	-0.004 (0.037)	0.009 (0.046)	0.062** (0.026)	0.010 (0.012)
Expat manager (dummy)	-0.002 (0.035)	0.004 (0.039)	0.123*** (0.024)	0.032*** (0.010)
$R^2$	0.101	0.210	0.283	0.050
Number of observations	288,264	288,264	288,264	288,264

Notes: All specifications control for industry-year and firm fixed effects. Standard errors, clustered by firm, are reported in parantheses. Coefficients significantly different from zero at 1, 5 and 10 percent are marked by \*\*\*, \*\* and \*, respectively.

## Selection: Better, more global firms receive expat CEOs

	(1) Selection	(2) Persistence	(3) Local	(4) Expat
Foreign owner (dummy)	0.484*** (0.007)	0.347*** (0.008)	0.350*** (0.008)	
Previous manager expat (dummy)		0.264*** (0.011)		
Exporting firm (dummy)	0.031*** (0.005)	0.022*** (0.005)	0.024*** (0.004)	0.019 (0.018)
Employment (log)	0.007*** (0.002)	0.005*** (0.002)	0.002 (0.002)	0.011** (0.006)
Capital per worker (log)	0.004*** (0.002)	0.003** (0.001)	0.003*** (0.001)	0.000 (0.005)
Revenue per worker (log)	0.006*** (0.002)	0.004* (0.002)	-0.000 (0.002)	0.016*** (0.006)
$R^2$	0.404	0.445	0.314	0.036
Number of observations	31,482	31,482	24,556	6,926



## Manager-level estimates on acquisitions sample

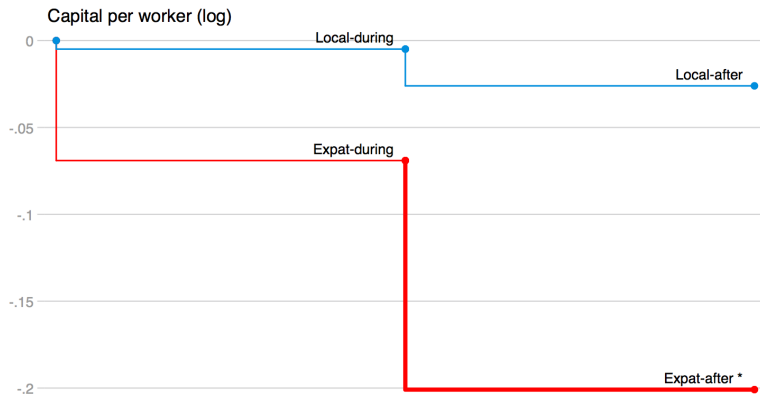
	(1) lnL	(2) lnKL	(3) lnQL	(4) exporter
Foreign owner (dummy)	0.038 (0.038)	0.018 (0.049)	0.072*** (0.027)	0.022* (0.013)
During manager tenure (dummy)	-0.048*** (0.011)	-0.001 (0.013)	0.036*** (0.008)	-0.007** (0.004)
After manager tenure (dummy)	-0.209*** (0.020)	-0.018 (0.023)	0.065*** (0.014)	-0.025*** (0.006)
During expat manager (dummy)	-0.006 (0.043)	-0.083 (0.052)	0.145*** (0.029)	0.035*** (0.013)
After expat manager (dummy)	0.079 (0.055)	-0.189*** (0.068)	0.210*** (0.038)	0.039** (0.018)
$R^2$	0.102	0.173	0.232	0.048
Number of observations	354,772	354,772	354,772	354,772

Notes: All specifications control for industry-year, firm age and manager spell fixed effects.

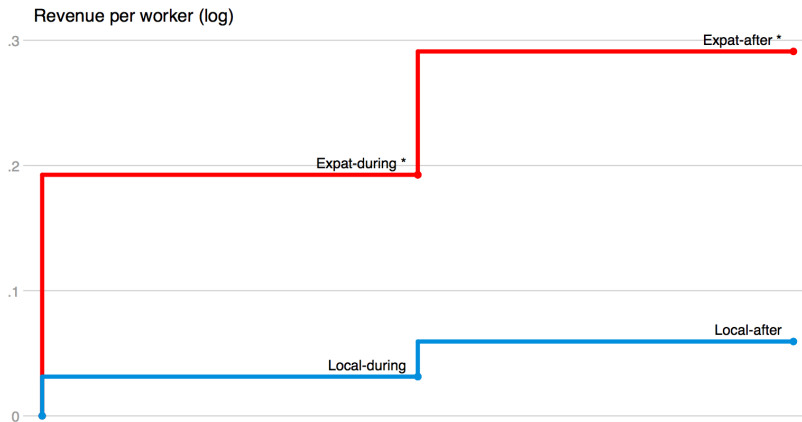
## Local and expat managers reduce employment by same amount



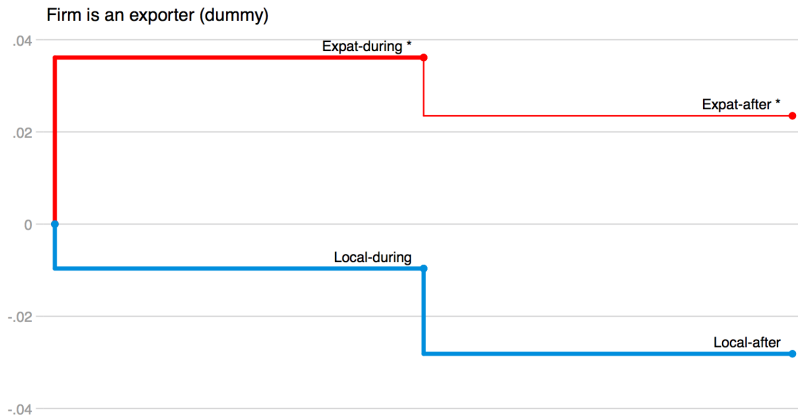
# Capital intensity drops after first expat manager leaves



## Expat managers improve revenue per worker by 15–25 percent

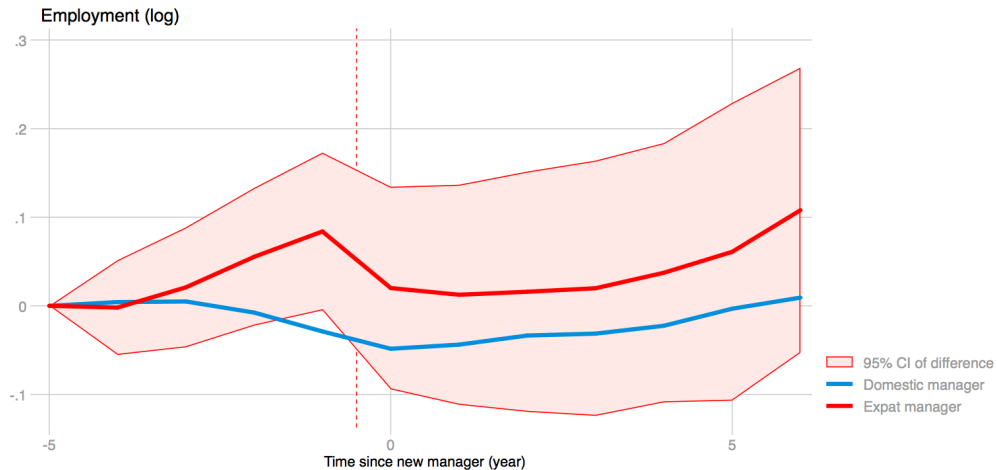


## Expat managers increase probability of exporting by 3pp

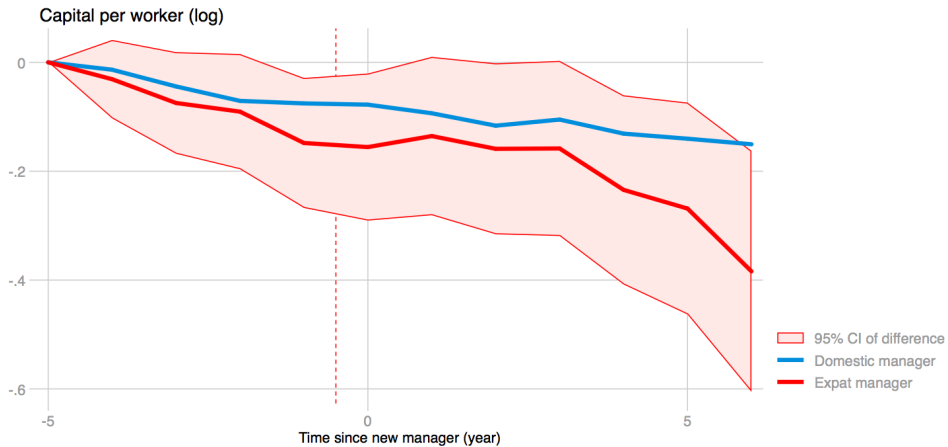


## Event studies

# Expatriate managers come to somewhat faster growing firms



# No significant changes in capital per worker

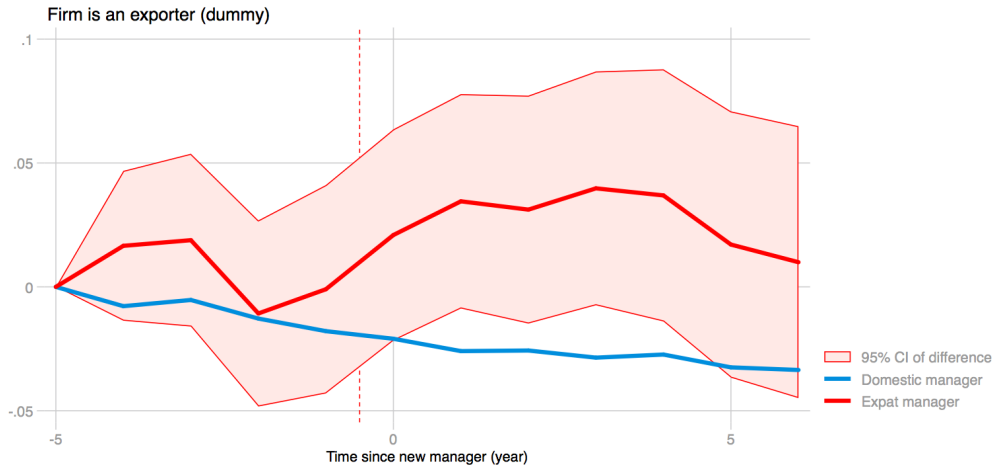




# Expat managers have persistent effect on revenue per worker



# Expat managers have temporary effect on likelihood of exporting



Estimates from manager switches

## Estimating equation

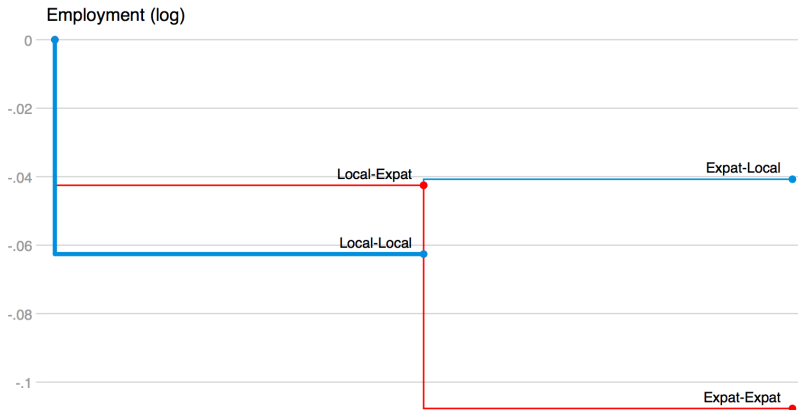
$X_m$ : manager  $m$  is expat

$X_{m-1}$ : previous manager is expat

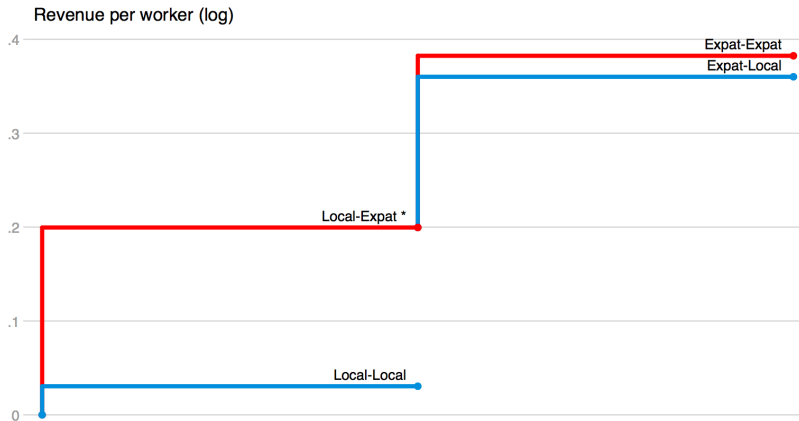
omit  $t > T_{im}$  years

$$Y_{imt} = \sum_{j=0,1} \sum_{k=0,1} \beta_{jk} I(X_{m-1} = j) I(X_m = k) I(t \in T_{im}) \\ + f(\text{age}_{it}) + \mu_{im} + \nu_{st} + \varepsilon_{imt}$$

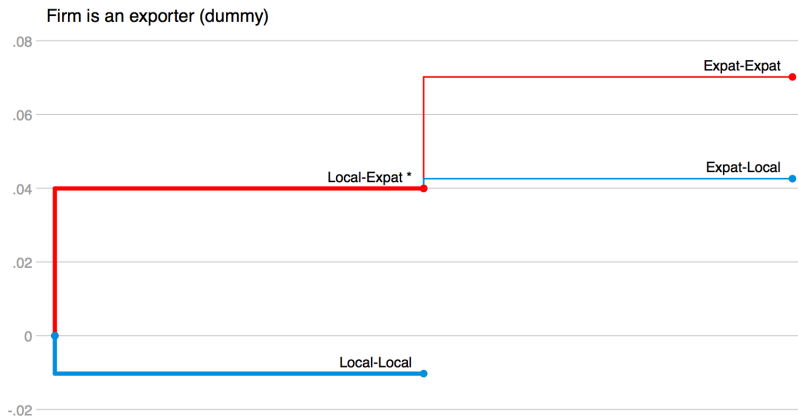
# All reorganization results in loss of employment



# Productivity effect of expats remains after they leave



# Exporting effect of expats remains after they leave



## Expats help start exporting, but have limited effect on continuation

	(1) Start	(2) Continue	(3) Domestic	(4) Global
Foreign owner (dummy)	0.033** (0.017)	-0.013 (0.016)	0.019 (0.018)	
During manager tenure (dummy)	0.029*** (0.004)	-0.069*** (0.005)	0.011** (0.004)	-0.012 (0.019)
After manager tenure (dummy)	0.030*** (0.006)	-0.104*** (0.009)	0.005 (0.007)	-0.026 (0.030)
During expat manager (dummy)	0.109*** (0.029)	0.065*** (0.014)	0.141*** (0.034)	0.031 (0.022)
After expat manager (dummy)	0.115*** (0.041)	0.087*** (0.019)	0.131*** (0.047)	0.067** (0.033)
$R^2$	0.043	0.068	0.052	0.035
Number of observations	250,474	204,875	128,152	7,485

Notes: All specifications control for industry-year fixed effects and firm age. Standard errors,



## Interpretation

# Interpretation

## Three alternative explanations

### 1. Firm-specific skills

- ▶ no substantial heterogeneity with initial firm characteristics other than exporting

### 2. General skills

- ▶ labor productivity improvement has persistent effect

### 3. Reorganization

- ▶ effects of domestic change in management much smaller

# Costs

Why does not every firm hire a foreign manager?

1. Wages are higher
2. Search costs are higher
3. Match is less than perfect

## Conclusions

# Conclusions

- ▶ Firms with expat managers improve output per worker and enter export markets.
- ▶ Patterns are consistent with a transferable skill interpretation:
  - ▶ persistent reorganization
  - ▶ technology transfer

## Next steps

- ▶ Improve identification with matching.
- ▶ Explore complementarities of expat managers.
- ▶ Explore management team and succession in expat firms.
- ▶ Link to World Management Survey: how do management practices of expats differ?