

Whose Reputation?

Demand Accumulation & (Excessive) Firm Creation

Vittorio Bassi

Jung H. Lee

Alessandra Peter

Tommaso Porzio

Ritwika Sen

Esau Tugume

October 21, 2021

Whose Reputation? Demand Accumulation & (Excessive) Firm Creation

- Manufacturing firms in low income countries are small
 - ▶ Many proposed mechanisms: credit constraints, hiring frictions, technology adoption, ..
 - ▶ All these mechanisms highlight constraints on the **input side**

Whose Reputation? Demand Accumulation & (Excessive) Firm Creation

- Manufacturing firms in low income countries are small
 - ▶ Many proposed mechanisms: credit constraints, hiring frictions, technology adoption, ..
 - ▶ All these mechanisms highlight constraints on the **input side**
- Firms need to build a customer base to **increase demand** and grow
 - ⇒ **In this paper, we study how firms generate demand** (Of course, we are not the first ..)

Whose Reputation? Demand Accumulation & (Excessive) Firm Creation

- Manufacturing firms in low income countries are small
 - ▶ Many proposed mechanisms: credit constraints, hiring frictions, technology adoption, ..
 - ▶ All these mechanisms highlight constraints on the **input side**
- Firms need to build a customer base to **increase demand** and grow
 - ⇒ **In this paper, we study how firms generate demand** (Of course, we are not the first ..)
- We propose **task-bundling** as a key feature of how demand is generated
 - ▶ Evidence: production and demand generation are bundled (\neq IKEA)
 - ▶ Theory: bundling limits firms' ability to build reputation and leads to employees' spin-offs

Mechanism's Overview: Bundling Can Lead to Excessive Firm Creation (Spin-offs)

1. **Task-Bundling:** manufacturing output = good + service (time to completion, quality, ..)
 - ▶ Customization + unobservable quality \Rightarrow identify of employees matters for goods' value
 - ▶ Manufacturing in LIC is **similar to personalized services** (e.g. plumbing, consulting)

\Rightarrow **Limited scope for vertical specialization**

Mechanism's Overview: Bundling Can Lead to Excessive Firm Creation (Spin-offs)

1. **Task-Bundling:** manufacturing output = good + service (time to completion, quality, ..)
 - ▶ Customization + unobservable quality \Rightarrow identify of employees matters for goods' value
 - ▶ Manufacturing in LIC is **similar to personalized services** (e.g. plumbing, consulting)

\Rightarrow **Limited scope for vertical specialization**
2. **Firm growth requires horizontal organizational structure**
 - ▶ Requires rich contractual relationships (e.g. partnerships such as McKinsey)
 - ▶ Specific friction in LIC: **cannot fully contract on demand generation**

\Rightarrow **Limited internal career ladder & excessive firm creation through spinoffs**

Overview of the Project

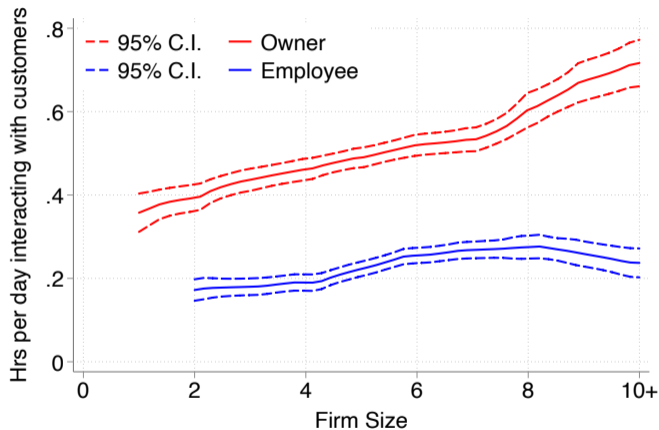
1. Data from **firm survey of Ugandan manufacturing** (Bassi et al '21) + phone follow ups
 - ▶ Show evidence of: i. Task-bundling; ii. Spin-offs
2. Dynamic model of a **firm as a stream of demand**
 - ▶ Formalize the idea that task-bundling + contracting frictions \Rightarrow excessive firm creation
3. Next steps: model + data to **quantify** relevance for firm growth and productivity

Descriptives from our Survey

Fact 1: Owners and Employees Both Generate Customer Demand

- Demand is generated through direct interactions with customers:
80% of customers are walk-ins and there is limited formal marketing

Fact 1: Owners and Employees Both Generate Customer Demand



- Use daily time diaries
- Customers play key role in customer interactions
- In larger firms, most customer interactions done by employees

Fact 2: Limited Vertical Specialization also on Other Tasks

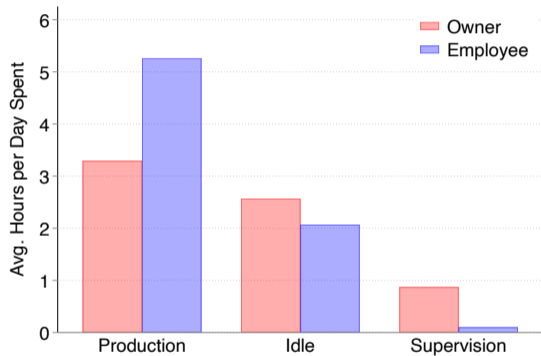


Figure 1: All firms

Fact 2: Limited Vertical Specialization also on Other Tasks

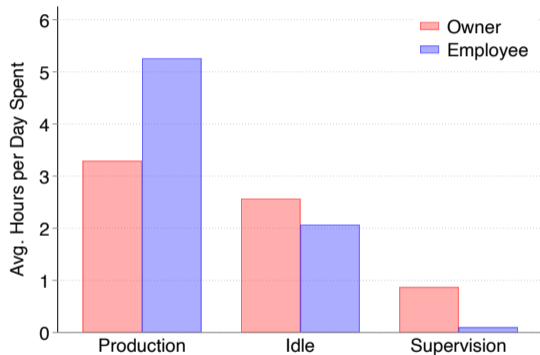


Figure 1: All firms

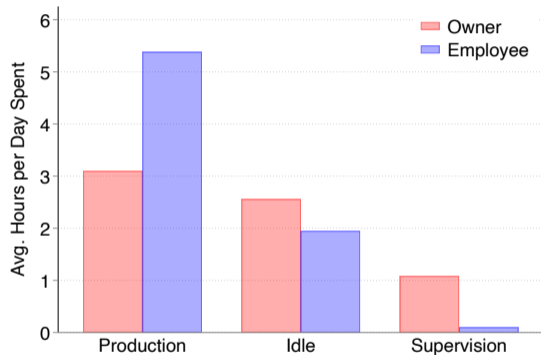


Figure 2: Firm size ≥ 5

Fact 2: Limited Vertical Specialization also on Other Tasks

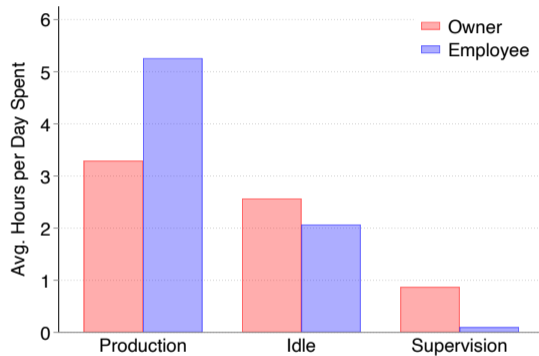


Figure 1: All firms

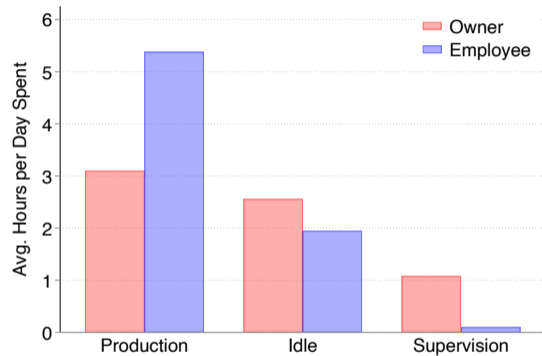


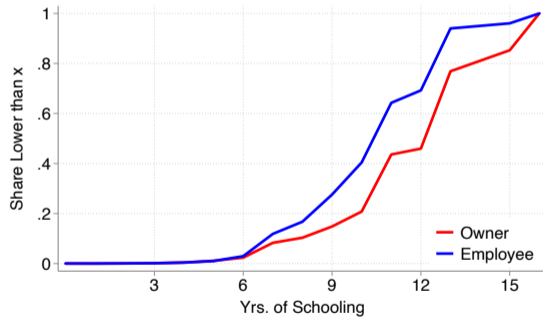
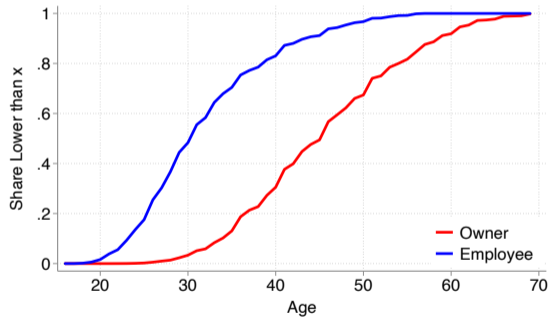
Figure 2: Firm size ≥ 5

- **Fact 1 + 2: Task bundling even in relatively larger firms**

Fact 3: Most Firms are Created through Spin-offs

- 83% of owners worked as employees before \Rightarrow Spin-offs decisions guide firm creation
- Age (reputation) rather than education (skill) is the key determinant of firm creation

Fact 3: Most Firms are Created through Spin-offs



Model

Model

Firm Problem
(w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Dynamic Choices

Model

Firm Problem
(w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x

N_x Employees i

Dynamic Choices

Firm Problem
(w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$

Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

Firm Problem (w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$

Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

Model

Firm Problem (w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

$$d_{x,t} = f(m_{x,t}, z_x)$$

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$

Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

Firm Problem (w/i period)

Demand Generation (Search)

Output

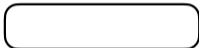
Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

$$d_{x,t} = f(m_{x,t}, z_x) (1 + (1 - \theta) N_x)$$

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

Firm Problem (w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

$$d_{x,t} = f(m_{x,t}, z_x) (1 + (1 - \theta) N_x)$$

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$

$$d_{i,t} = f(m_{i,t}, z_x^\lambda z_i^{1-\lambda}) \theta$$

Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

Firm Problem (w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

$$d_{x,t} = f(m_{x,t}, z_x) (1 + (1 - \theta) N_x)$$

θ : Task Bundling

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$

$$d_{i,t} = f(m_{i,t}, z_x^\lambda z_i^{1-\lambda}) \theta$$

Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

Model

Firm Problem (w/i period)

Demand Generation (Search)

Output

Profits

Surplus Sharing

Owner x
 $(z_x, m_{x,t})$

$$d_{x,t} = f(m_{x,t}, z_x) (1 + (1 - \theta) N_x)$$

θ : Task Bundling

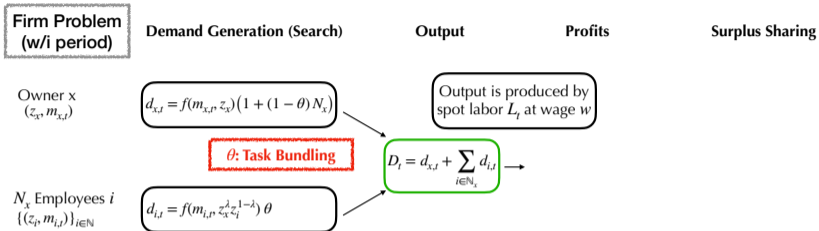
$$D_t = d_{x,t} + \sum_{i \in N_x} d_{i,t}$$

N_x Employees i
 $\{(z_i, m_{i,t})\}_{i \in N}$

$$d_{i,t} = f(m_{i,t}, z_x^\lambda z_i^{1-\lambda}) \theta$$

Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

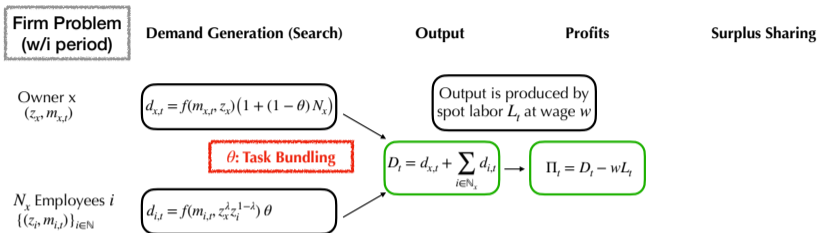
Dynamic Choices



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

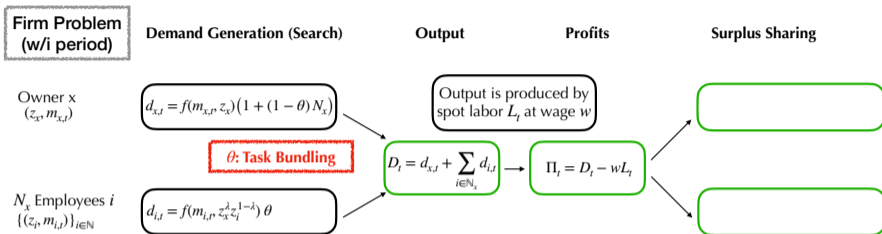
Model



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

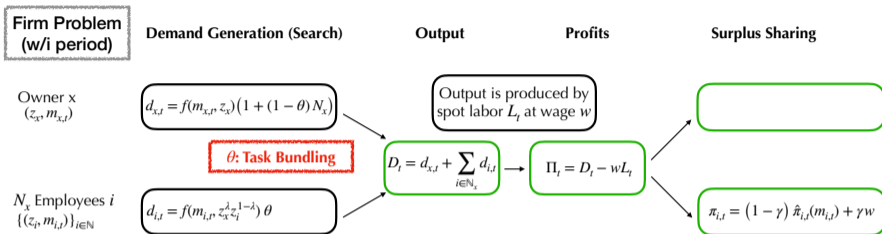
Model



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation;

Dynamic Choices

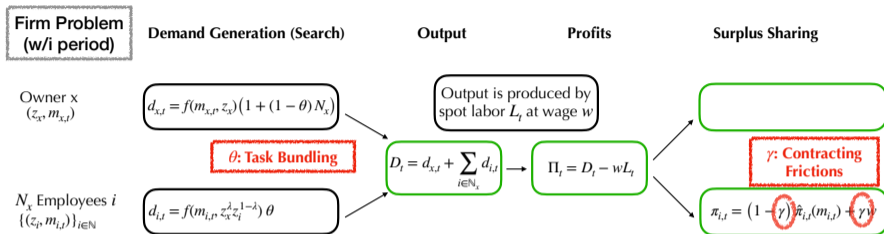
Model



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

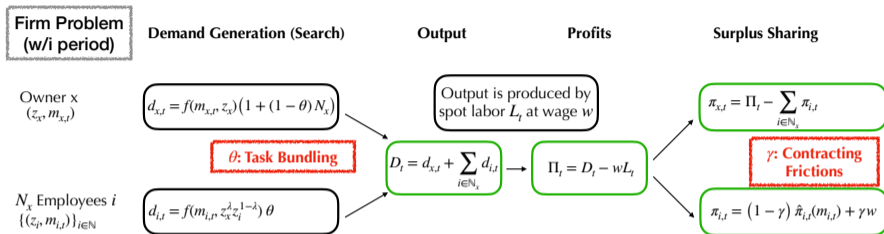
Model



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

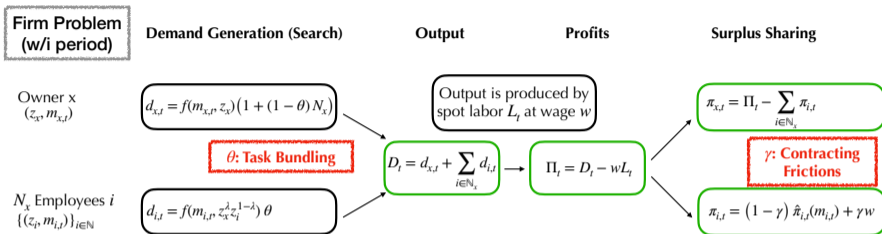
Model



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

Model

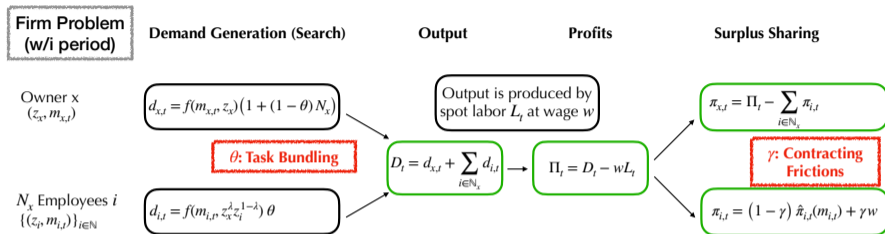


Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

New cohort
 $z \sim F(\cdot)$
 $m_0 = \underline{m}$

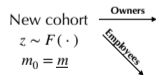
Model



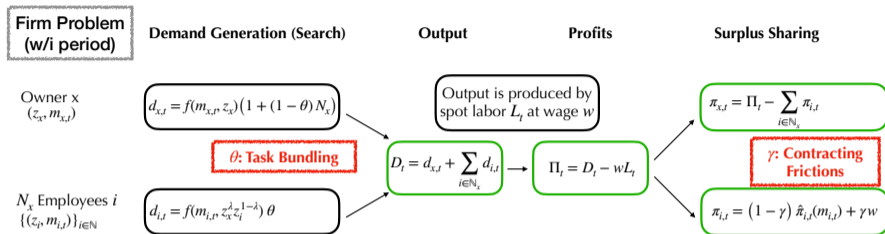
Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

Occupational choice at birth

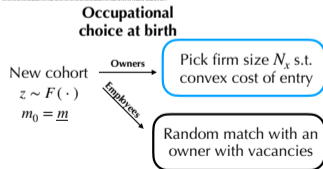


Model

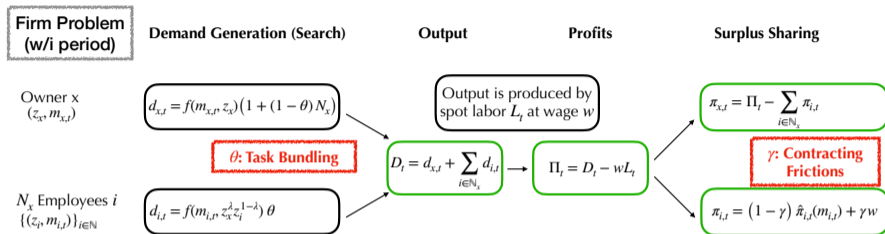


Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

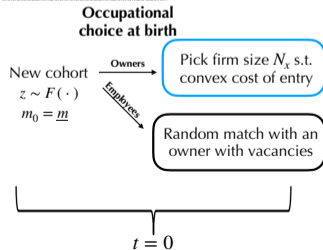


Model

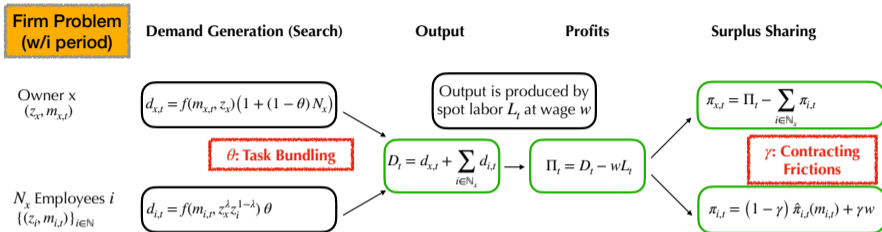


Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

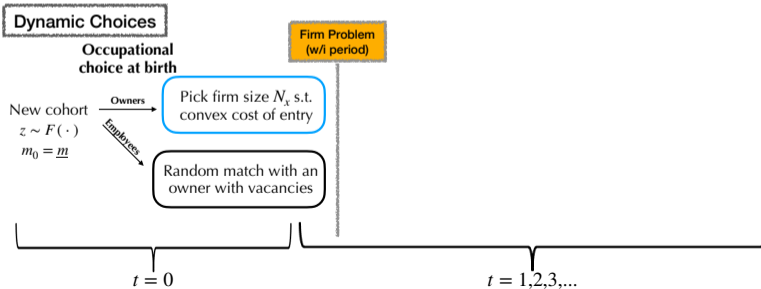
Dynamic Choices



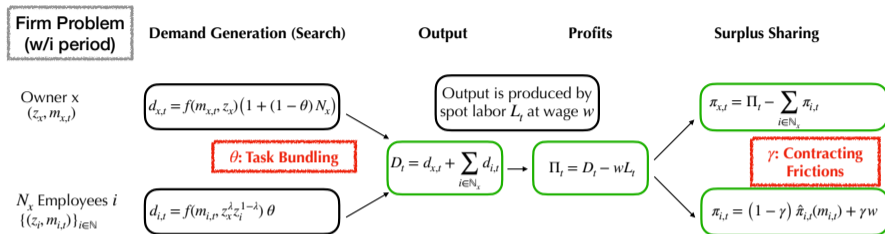
Model



Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

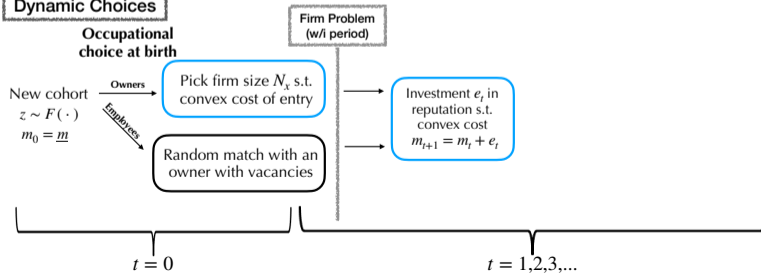


Model

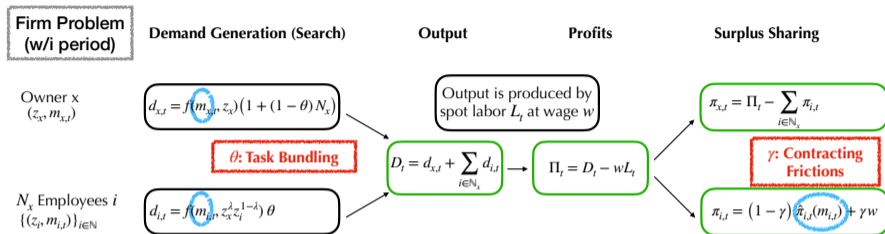


Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

Dynamic Choices

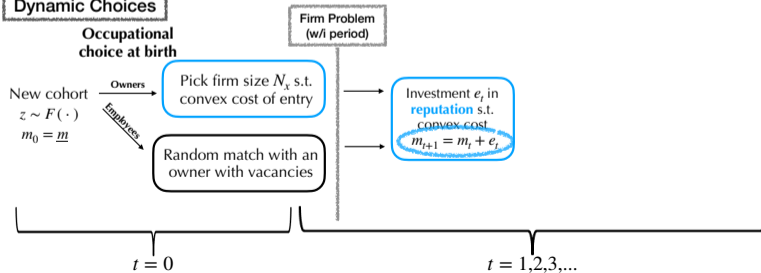


Model

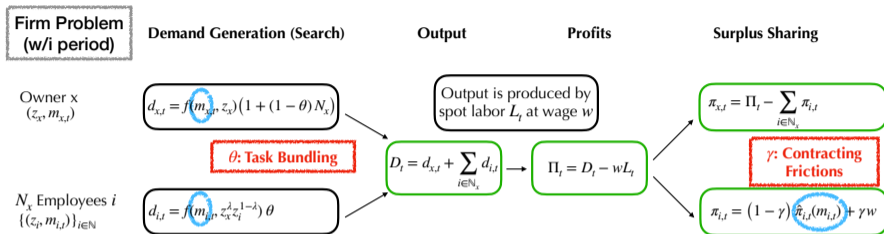


Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;

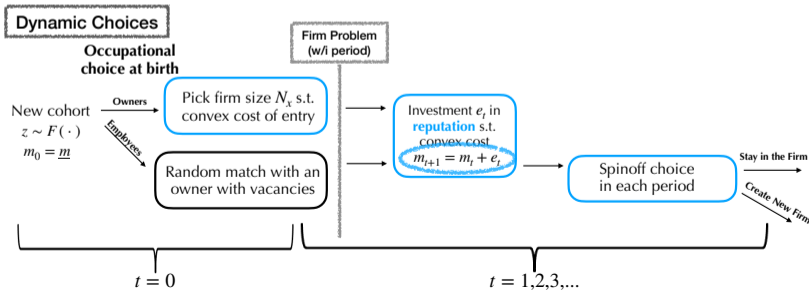
Dynamic Choices



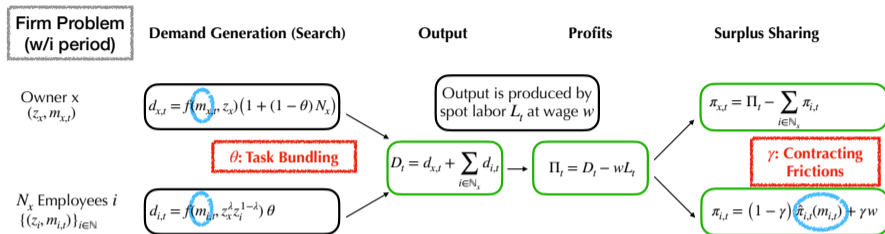
Model



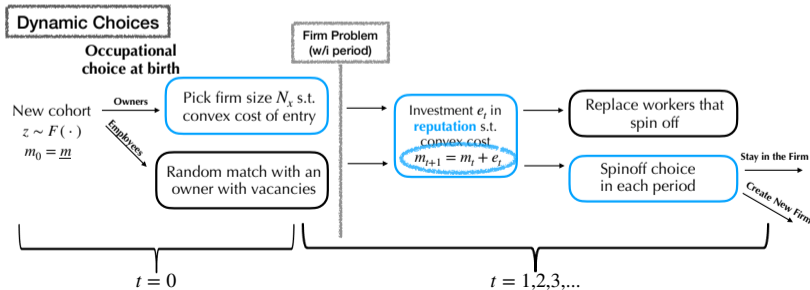
Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;



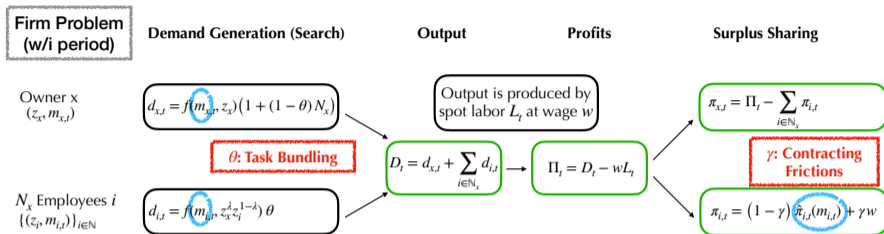
Model



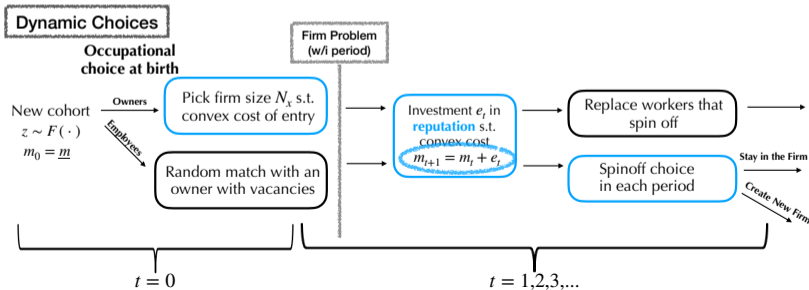
Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;



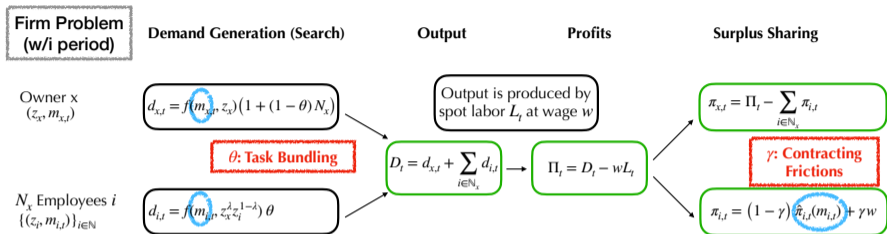
Model



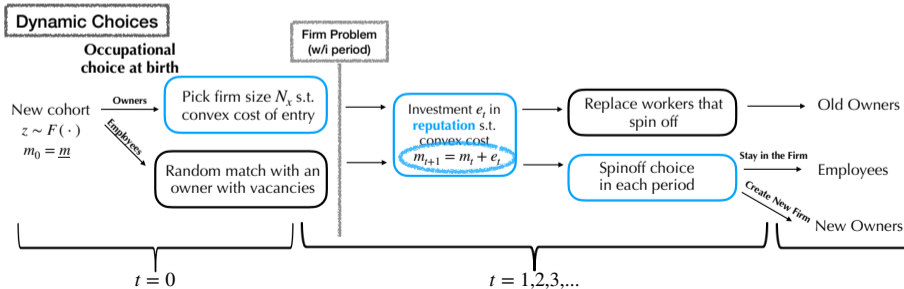
Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;



Model

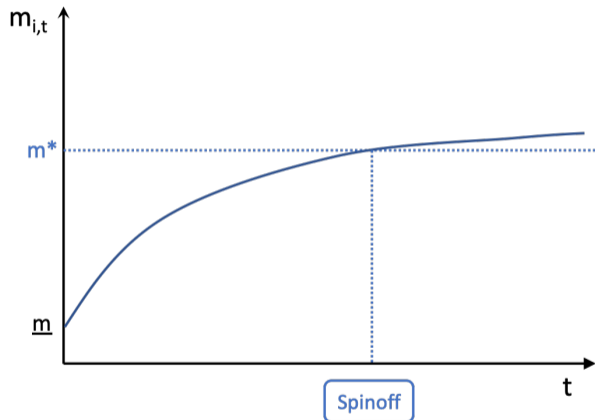


Notation: z_i : exogenous ability; $m_{i,t}$: endogenous reputation; $\hat{\pi}_{i,t}(m_{i,t})$: outside option; w : wage for spot labor;



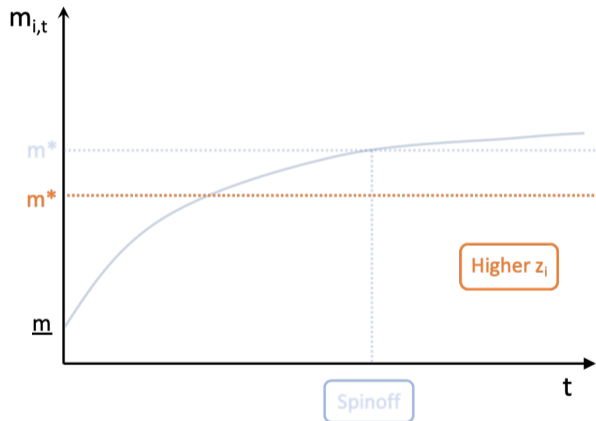
Model Characterization

Ability, reputation, and firm creation



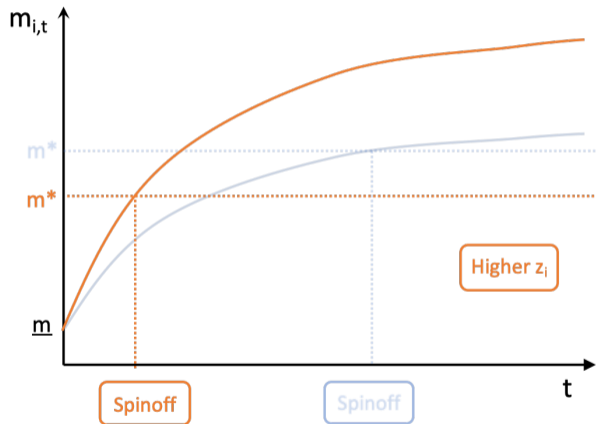
- Life-cycle of an individual
- Start as employee, accumulate m
- Eventually, spinoff is optimal
 - ▶ value is increasing in m ($\gamma > 0$)

Ability, reputation, and firm creation



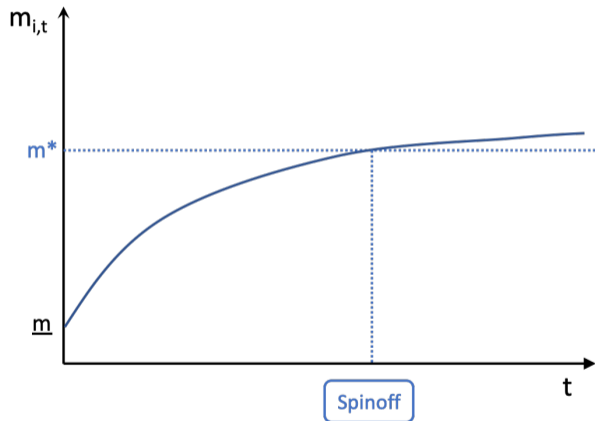
- Life-cycle of an individual
- Start as employee, accumulate m
- Eventually, spinoff is optimal
 - ▶ value is increasing in m ($\gamma > 0$)
- Higher z_i
 - ▶ more incentive to spin off

Ability, reputation, and firm creation

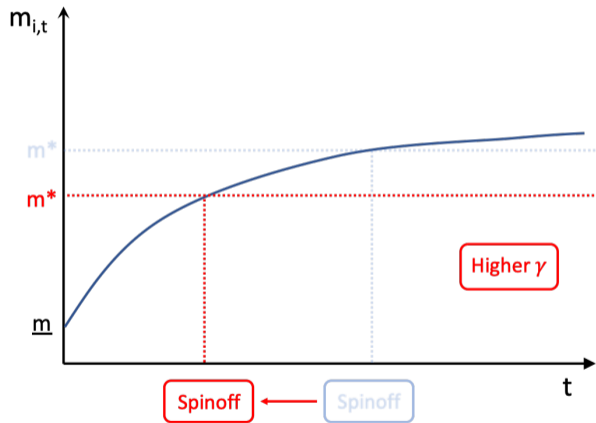


- Life-cycle of an individual
- Start as employee, accumulate m
- Eventually, spinoff is optimal
 - ▶ value is increasing in m ($\gamma > 0$)
- Higher z_i
 - ▶ more incentive to spin off
 - ▶ and accumulates m faster

Contracting frictions and firm creation

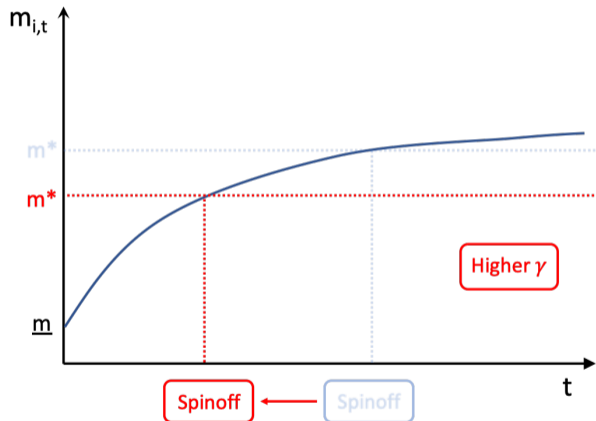


Contracting frictions and firm creation



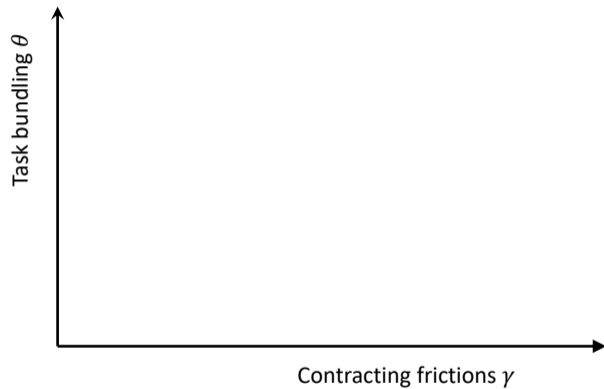
- With higher contracting frictions
 - ▶ less compensation for m_i
 - ▶ more incentive to spin off

Contracting frictions and firm creation

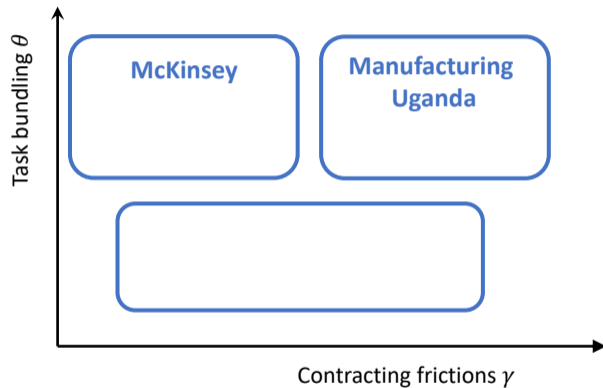


- With higher contracting frictions
 - ▶ less compensation for m_i
 - ▶ more incentive to spin off
- Selection: average z_i lower

Taxonomy: Contracting frictions, bundling, and industry structure

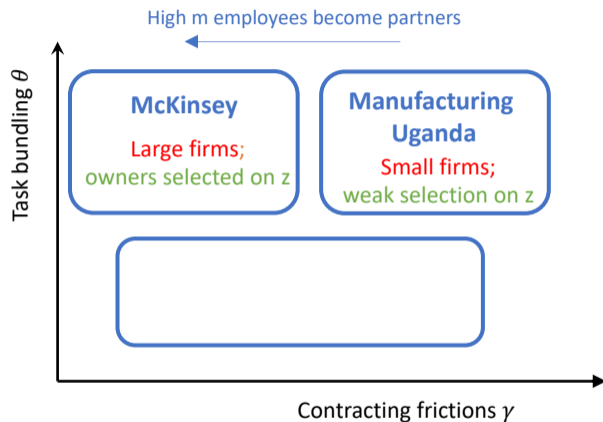


Taxonomy: Contracting frictions, bundling, and industry structure



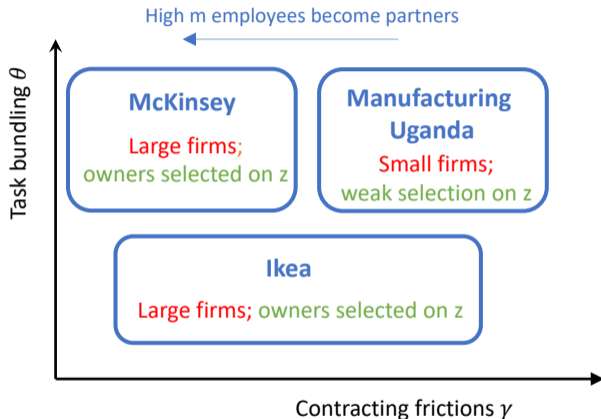
- Comparing to McKinsey
 - ▶ lower γ (in rich countries)
 - ▶ best employees retained

Taxonomy: Contracting frictions, bundling, and industry structure



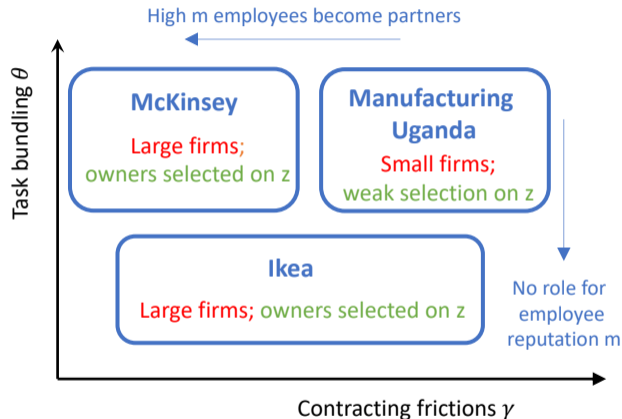
- Comparing to McKinsey
 - ▶ lower γ (in rich countries)
 - ▶ best employees retained

Taxonomy: Contracting frictions, bundling, and industry structure



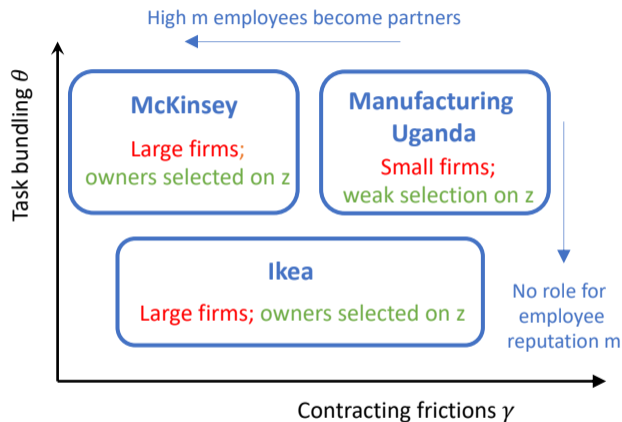
- Comparing to McKinsey
 - ▶ lower γ (in rich countries)
 - ▶ best employees retained
- Comparing to Ikea
 - ▶ lower θ
 - ▶ demand not appropriable

Taxonomy: Contracting frictions, bundling, and industry structure



- Comparing to McKinsey
 - ▶ lower γ (in rich countries)
 - ▶ best employees retained
- Comparing to Ikea
 - ▶ lower θ
 - ▶ demand not appropriable

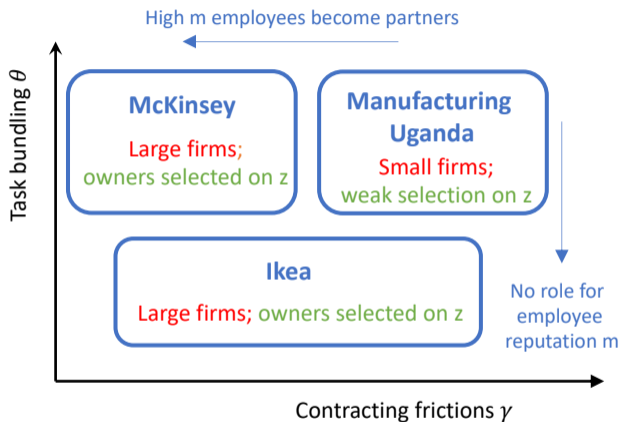
Taxonomy: Contracting frictions, bundling, and industry structure



- Comparing to McKinsey
 - ▶ lower γ (in rich countries)
 - ▶ best employees retained
- Comparing to Ikea
 - ▶ lower θ
 - ▶ demand not appropriable

Task bundling together with **contracting frictions** \Rightarrow excessive firm creation.

Taxonomy: Contracting frictions, bundling, and industry structure



- Comparing to McKinsey
 - ▶ lower γ (in rich countries)
 - ▶ best employees retained
- Comparing to Ikea
 - ▶ lower θ
 - ▶ demand not appropriable

- **Next Steps:** collect data to estimate model + quantify our mechanism

Bringing the Model to the Data

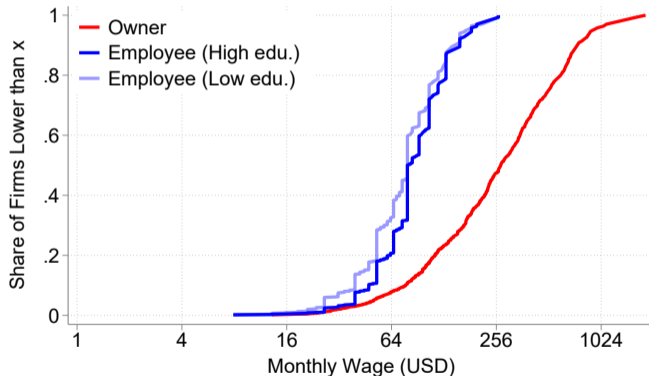
- Focus on two key model predictions
 - ▶ High skilled employees should separate sooner
 - ▶ Owner-Employee difference in earnings informative of contracting friction γ
- Use survey data to shed light on these relationships
 - ▶ Study spin-offs between baseline and follow-up
 - ▶ Compare income of owners and employees

Higher Skilled Employees Separate

	Employee Started a Firm		
	(1) Baseline	(2) Skills Controls	(3) Firm FE
Age	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)
Years of Schooling	0.007*** (0.002)	0.007*** (0.002)	0.005** (0.003)
Tenure at the Firm (Yrs)	0.001 (0.001)	0.000 (0.001)	0.005** (0.002)
Vocational Training (0/1)	-0.011 (0.013)	-0.013 (0.013)	-0.016 (0.022)
Observations	1,809	1,809	1,809
Skills Controls	No	Yes	Yes
Subcounty and Sector FE	Yes	Yes	No
Firm FE	No	No	Yes
Standard Errors	Cluster Firm	Cluster Firm	Robust

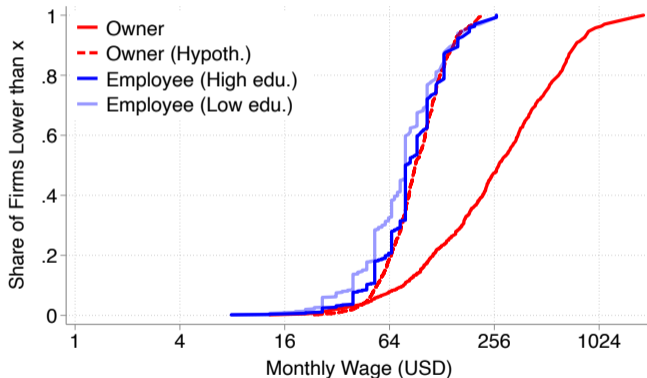
- Among leavers between follow-ups, 27% left to start own firm
- Both education and tenure matter for spin-offs

Large Returns from Being an Owner will Discipline Contracting Frictions



- Owners make substantially more than employees

Large Returns from Being an Owner will Discipline Contracting Frictions



- Not explained by differences in Xs
- Difference in earnings informative of contracting frictions