(1) Grasp the Large, Let Go of the Small:

The Transformation of the State Sector in China

(2) Crony Capitalism with Chinese Characteristics

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Grasp the Large, Let Go of the Small

- Let Go of the Small
  - Closure and privatization of small SOEs
- Grasp the Large
  - Corporatization of the remaining SOEs
  - Creating new SOEs

Main Findings

- TFP of corporatized and privatized SOEs is converging to that of private firms.
  - The performances are highly unequal between large and small SOEs.
- Labor productivity of SOEs is also converging to that of private firms, while the gap of capital productivity remains unchanged.
  - Model interpretation: falling labor distortions and persistent capital distortions
- Our stories for TFP growth and falling labor distortions
- Welfare implication: Less clear

Data

- Annual Survey of Industries from 1998 through 2007
  - Cover all industrial firms identified as SOE or as private firms with sales above 5 million RMB, which account for above 90% of the total industrial output in China.
  - The survey has 137,716 and 319,183 firms in 1998 and 2007, respectively.

Exit, Incumbent and Entry Firms

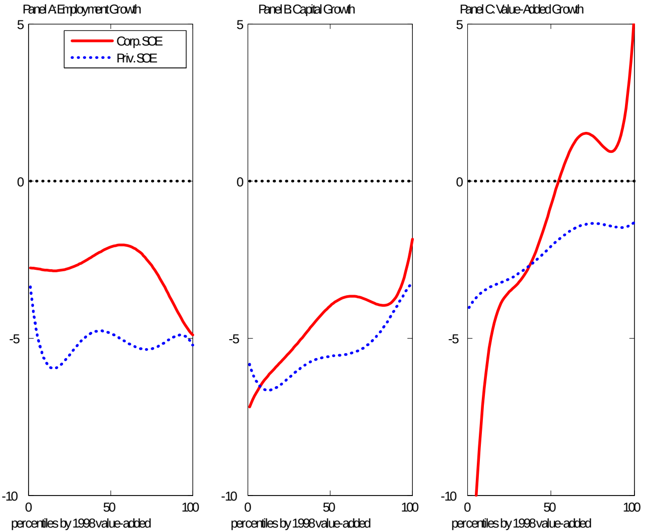
- Exit: Firms dropping out in the survey.

Annual Exit Rates (%)

	SOEs	Private Firms
1991-1995	0.9	11.6
1998-2007	13.2	12.0

- Incumbent: Firms observed in both 1998 and 2007.
  - # Corporatized/Privatized SOEs: 7,556/4,952
  - # Private firms: 28,128
- Entry: birth year $>$ 1998 and observed in 2007
  - New corporatized SOEs: 4,224 (26%)
  - New privatized SOEs: 1,238 (15%)
  - New private firms: 198,204 (68%)

Relative Input and Output Growth of the Incumbent: An Example



Summary

- Exit SOEs: low Y, Y-L and Y-K relative to incumbent SOEs
- Incumbent SOEs:
  - 1998: low Y-L and Y-K relative to incumbent private firms
  - 2007: similar Y-L but low Y-K
- New SOEs: high Y, similar Y-L and low Y-K relative to new private firms

The Model

- A standard model of monopolistic competition with heterogeneous firms (e.g., Hsieh and Klenow, 2009)
- Firms are index by i in industry s, $i \in \{1, 2, \cdots, I_s\}$. Each firm produces differentiated goods by a Cobb-Douglas technology with constant returns to scale:

$$Q_{si} = A_{si} K_{si}^{\alpha_s} L_{si}^{1-\alpha_s}.$$

- Households maximize a CES aggregate of Q_{si},

$$Q_s = \left(\sum_{i}^{I_s} Q_{si}^{1-\eta} \right)^{\frac{1}{1-\eta}}, \quad 1/\eta \geq 0. \tag{1}$$

Equilibrium Conditions

- Denote $Y_{si} \equiv P_{si} Q_{si}$ value-added. Firms' profit maximization implies

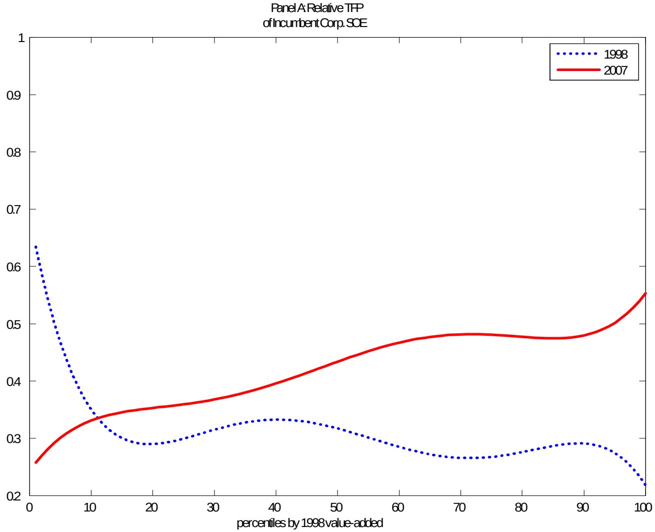
$$
\begin{aligned}
MRPL_{si} &= (1-\alpha_s)(1-\eta)\frac{Y_{si}}{L_{si}} = \left(1+\tau_{si}^{L}\right) w_s, \\
MRPK_{si} &= \alpha_s(1-\eta)\frac{Y_{si}}{K_{si}} = \left(1+\tau_{si}^{K}\right)(r+\delta_s).
\end{aligned}
$$

Relative TFP of Exit, Incumbent and New SOEs

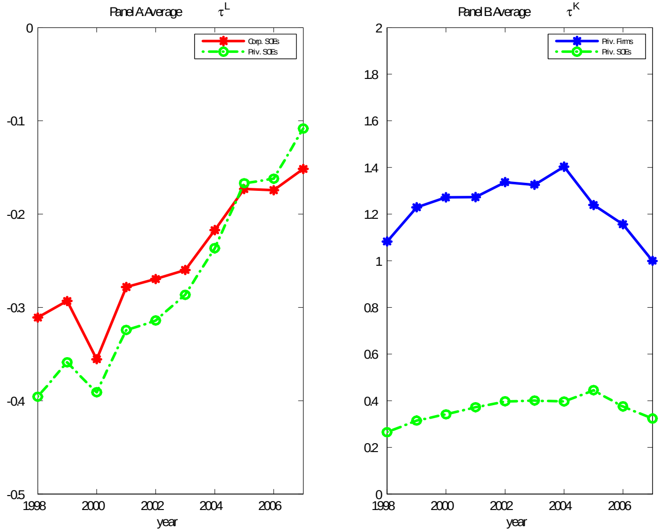
Relative TFP

	1998	2007
Exit SOEs	0.26	-
Inc. Corp. SOEs	0.49	0.63
New Corp. SOEs	-	1.04

Relative TFP of Incumbent Corp. SOEs



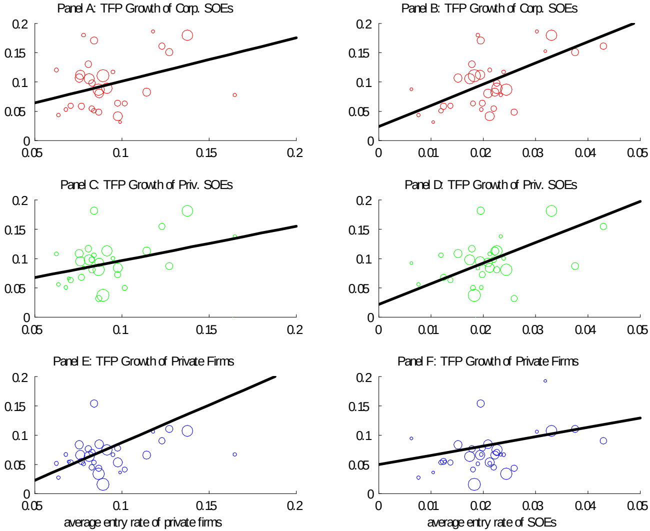
Labor and Capital Distortions for Incumbent Firms



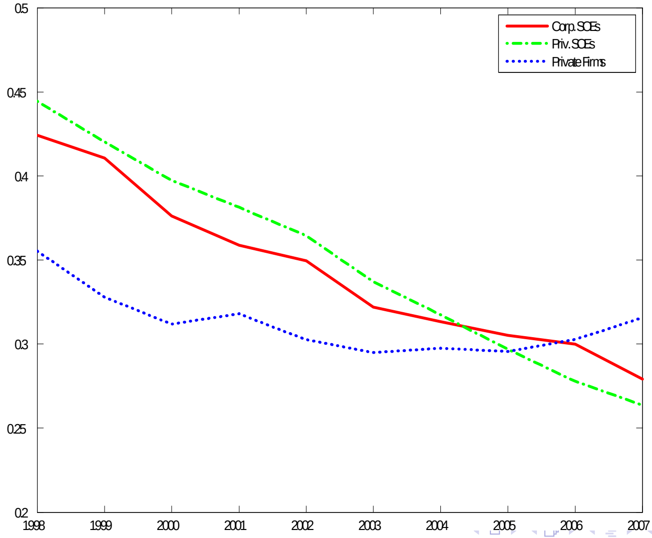
Our Story

- Crony capitalism, China style: An efficiency-based selection mechanism
- Fostering competition: State ownership $\neq$ state monopoly
  - Most industrial ministries were dismantled in the late 1990s.
  - Entry of private firms.
- Dumping redundant workers in the state sector
  - Isomophic to labor productivity growth
  - Evidence: The convergence of labor income share between SOEs and private firms

TFP Growth, Entry and Concentration



Evidence: Labor Income Shares in the 1998-2007 Balanced Panel



Would TFP Growth of a Firm Reduce Aggregate Output?

- Exogenous interest rate: $dY_s/dA_{si} > 0$ if and only if

$$\frac{Y_s/L_s}{Y_{si}/L_{si}} < \frac{1-\alpha_s(1-\eta)}{(1-\alpha_s)(1-\eta)}.$$

- Endogenous interest rate: $dY_s/dA_{si} > 0$ if and only if

$$(1-\alpha_s)(1-\eta)\frac{Y_s/L_s}{Y_{si}/L_{si}} + \alpha_s(1-\eta)\frac{Y_s/K_s}{Y_{si}/K_{si}} < 1.$$

Welfare Gains

	Open Economy	Closed Economy
Let Go of the Small	1.8 (4.7)	0.1
Grasp the Large	7.7 (19.9)	-3.7
Entry	5.8 (6.3)	0.8
Overall	13.4	-1.9

China's Institution: Puzzles

- A reviving state sector + an expanding private sector
- A heavily regulated economy + a business-friendly environment for certain types of firms
- A highly distorted economy + fast growth
- ...

Business Frictions

- Revenue net of business frictions: $(1 - T_i)\, Y_i$, where

$$T_i = T - e_i,$$

  - T is the "general" business frictions;
  - $e_i \in \{0, T\}$ captures the effort made by the government to ease the business frictions.

- The profit: $\pi_i = (1 - T_i)\, Y_i - wL_i - (r + \delta)\, K_i$.
  - Abstract from factor market distortions

- T is bad as it reduces capital returns
  - Long-run capital stock in closed economy
  - Capital flows in open economy

A Simple Model of Crony Capitalism

- Crony Capitalism
  - The political leader is a shareholder of the connected firms.
  - He has the incentive of reducing T_i for "his" firms.
- Denote M the set of the connected firms. The leader chooses to

$$\max_{\{e_i\}} \delta \sum_{i \in M} \pi_i .$$

$\Rightarrow$

$$T_i = \begin{cases} 0 & i \in M \\ T & \text{otherwise} \end{cases} .$$

Welfare Implications

- Welfare-improving:
  - Reducing business frictions
- Welfare-reducing:
  - Distortions;
  - An exclusive group;
  - Very limited memership
  - ...

Crony Capitalism with Chinese Characteristics: Part I

- M is endogenous.
    - Reducing T_i is costly: $e_i > 0$ requires the leader to spend ϕ units of time.
- The selection is based on

$$\max_{\{M\}} \delta \sum_{i \in M} \pi_i + v\left(1 - \phi m\right), \quad v' > 0, \quad v'' < 0,$$

    - m is the number of the connected firms.

Basic Result

- The efficiency-based selection machanism:

$$T_i = \begin{cases} 0 & A_i > A^* \\ T & \text{otherwise} \end{cases} .$$

- More positive welfare implications.

- Implications for SOEs
  - The old regime: $\delta = 0$ and $T_i = T$ for all SOEs.
  - The new regime: $\delta > 0$ and $T_i = 0$ for the most productive SOEs

- Evidence: "Grasp the Large, Let Go of the Small"

Crony Capitalism with Chinese Characteristics: Part II

- Open to new firms
  - The leader can also be a shareholder of new firms.
  - Reducing T_i would be more costly for new firms.
- (Old) SOEs vs. (new) private firms
  - Denote ϕ_s and ϕ_p the units of time to be spent for the connected SOEs and private firms, respectively.
  - $\phi_s < \phi_p$.

SOEs vs. Private Firms

- The selection is thus based on

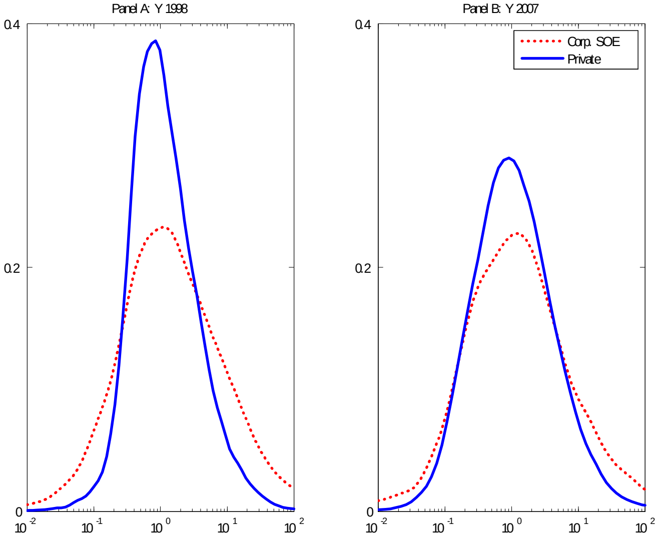
$$\max_{\{M_s, M_p\}} \delta \sum_{i \in M_s \cup M_p} \pi_i + v \left(1 - \phi_s m_s - \phi_p m_p\right),$$

  - m_s and m_p are the number of the selected SOEs and private firms, respectively.

- The threshold for private firms, A_p^* is higher than that for SOEs, A_s^*.

- Evidence
  - Favorable policies for the most productive private firms
  - Distortions between SOEs and private firms
  - Increasingly dispersed size distribution of incumbent private firms

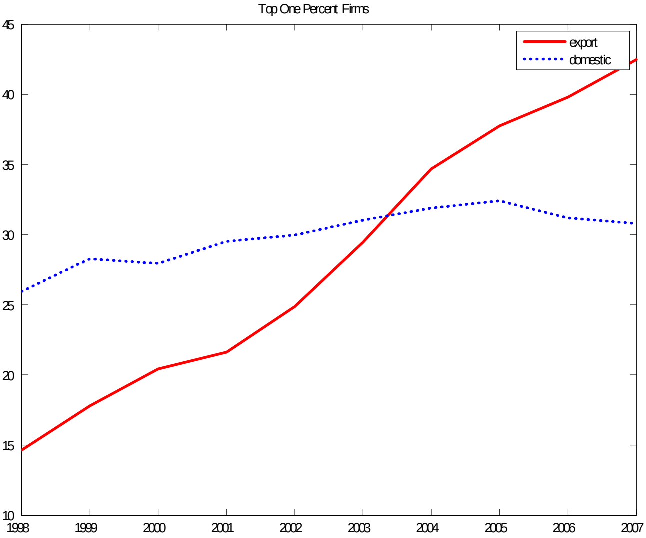
Size Distributions of Incumbent Firms



Crony Capitalism with Chinese Characteristics: Part III

- Decentralized authoritarianism
  - Many empowered leaders in local governments and state-owned conglomerates
  - A lot more connected firms with $T_i = 0$ than a regime with one single leader
- "Local" crony capitalism: Domestic trade frictions
- Evidence
  - Fast-growing concentration rate of exports
  - Flat concentration rate of domestic sales

Evidence: Export vs. Domestic Sales of the Top 1% Firms



Extensions

- Taxation
  - Zero and positive taxes for the connected and other firms, respectively
- Factor market distortions
  - Land and capital prices
- Growth
  - Capital accumulation and innovation

Implications on Growth: I

- The returns to capital would be higher for the marginal firms in the crony capitalism relative to those in the first-best.
- Faster growth in the crony capitalism

Implications on Growth: II

- Suppose that the leader has imperfect knowledge on TFP of new firms.

$$\log \hat{A}_i = \log A_i + \log \varepsilon_i .$$

  - $\hat{A}_i$ is the TFP perceived by the leader;
  - ε_i stands for noisy information.

- Growth would slow down when entry plays a bigger role in the aggregate TFP growth.

Conclusion

- The transformation of the state sector over 1998-2007
  - Reduces the gap of TFP and labor productivity between SOEs and private firms.
  - Welfare gains are sensitive to model specifications.
- The institutional foundation for the transformation and, more generally, China's growth
  - Crony capitalism with (i) selection; (ii) limited openness; (iii) localization
  - Reduce business frictions but create distortions
  - Worse than the first-best but probably better than nothing taking place
- The future of China's growth?