

Learn, in Order to Practise: The Effect of Political Rotation on Local Comparative Advantage in China

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Motivation

- Knowledge is central to modern growth theory (Jones, 2002, 2022)
 - Its acquisition and diffusion are through practice and experience requiring direct forms of human interaction
 - People flows as a natural vehicle and previous literature has mainly focused on (im)migration (Peri, 2012; Bahar and Rapoport, 2018; Bahar et al., 2022)
- Other than (im)migration, local government leaders may also play a role in the knowledge diffusion process that affects local development, especially in a more centralized economy
 - They are a special group of people who may affect local development strategies of future
 - Their decision-making could be tightly linked with their tacit knowledge, likely accumulated from her/his previous experience
- This paper: How political rotations influence knowledge diffusion in China?

Political Rotation in China

China provides a unique & ideal setting:

- At the local level, a few people with the power to implement policies
 - City party secretaries: the top leaders of prefecture-level cities
 - Large discretion on deciding the development mode of prefectures (Wang et al., 2020)
- A regular rotation of local leaders by upper-level governments:
 - Rotating officials to avoid 'local capture' (Jiang and Mei, 2020)
 - Decisions by provincial leaders and the Central Committee of CPC
 - Usually unexpected by the rotated officials
- The rotation may facilitate diffusion of (industry-specific) knowledge and development experience across regions.
 - Numerous examples since ancient China

Political Rotation in China: Example

- Su Shi (Su Tongpo, 1037-1101) and the promotion of *yang ma* (a farm tool)
 - “*What is your lifetime career? –Huangzhou, Huizhou, and Danzhou.*” (“问汝平生功业，黄州惠州儋州”)



Political Rotation in China: Example

- He Lifeng (何立峰), Current Vice Premier of the State Council
 - City PS in Quanzhou (1998-2000) → City PS in Fuzhou (2000-2005)
→ City PS in Xiamen (2005-2009)
- Quanzhou → Fuzhou
 - Quanzhou: industrial clusters of labor intensive industries (textile and garment, footwear)
 - In Fuzhou, he proposed development ideas to support textile industrial clusters (also reflected in government annual work reports).
- Fuzhou → Xiamen
 - In Xiamen, he promoted the support for industries including electronics and textile, in which industries Fuzhou had comparative advantages.

This Paper

- Contribute to our understanding of the following questions:
 - 1 Does political rotation matter for knowledge diffusion?
 - 2 If so, what are the mechanisms?

Methodology

- Assemble detailed data on
 - City leaders' resumes and biographical profiles
 - Measures of industry-specific export performance of Chinese cities
 - Measures of industrial policy based on a textual analysis of annual government work reports
- Outline a purposefully simple conceptual framework to inform the empirical investigation
 - Local production efficiency is affected by knowledge diffused from other regions (Eaton and Kortum, 2002 + Bottazzi and Peri, 2003)
 - Political rotation improves diffusion efficiency of of industry-specific knowledge
- Carry out the reduced-form test to study the causal impact of political rotation on industry-specific export performance and investigate the mechanism
 - Induce productivity shifts and raise global competitiveness in certain goods
 - Mechanism: industrial policy / social connection

Main Findings

- **Learn:** the coming-in of a new city party secretary is associated with a significant increase in the revealed comparative advantage in industries where her/his previous position location has a better performance
 - A 3.5% annual increase in the comparative advantage of the affected industry (0.06 SD) during the tenure of service
 - Driven by supply-side factors
 - Stronger effect for:
 - the young and high-educated leaders
 - those majoring in engineering, law, and political science
 - sectors with high reliance on contract enforcement
 - developing cities
- **Practise:** the industry-specific productivity increase after the arrival of the new leader is associated with the practice of industrial policies in favor of these products
 - A 2.2% higher probability in implementing policies favoring them

Contribution

- **Worker mobility in productive knowledge diffusion**
 - e.g., Kerr (2018); Bahar and Rapoport (2018); Casabianca et al. (2022); Bahar et al (2022); Miguelez and Temgoua (2020); Bahar et al (2020)
 - **The rotation of political leaders as the new mechanism of knowledge diffusion**
- **Impact of political rotation**
 - e.g., trade (Jiang and Mei, 2020); investment (Shi et al, 2021)
 - **We focus on the composition of exports of exporting cities**
- **Measuring industrial policy**
 - proxies: firm-level tax/subsidy, 5-year plans, or SEZs (e.g., Aghion et al., 2015; Wang, 2013)
 - industrial policy measures based on textual analysis: Juhász et al. (2022)
 - **Deeper analysis into how much the objectives of industrial policy are attributed to sector-specific knowledge carried by local leaders**
- **China's exporting success**
 - trade liberalization (e.g., Yu, 2015); factor mobility (e.g., Tombe and Zhu, 2019; Fan, 2019); place-based policy (e.g., Wang, 2013)
 - **We study political leaders' role in shaping local export compositions**

Conceptual Framework

Conceptual Framework

- A close variant to standard models of trade and knowledge diffusion (Eaton and Kortum, 2002; Bottazzi and Peri, 2003)
- Industry-specific productivity is affected by the productivity of the same industry in other regions in spatial proximity (n denotes the ROW)

$$X_{ni}^j = \frac{\lambda_i^j (w_i d_{ni})^{-\theta}}{\sum_{i'} \lambda_{i'}^j (w_{i'} d_{ni'})^{-\theta}} X_n^j$$

λ_i^j is the industry j -specific technology in region i , depending on knowledge stock ($A_{i'}^j$) in other regions

$$\lambda_i^j = \sum_{i'} e_{ii'}^j A_{i'}^j,$$

$e_{ii'}^j$ measures the knowledge diffusion efficiency

- A leader rotation from i' to i raise knowledge transmission efficiency between i' and i , for industries that are revealed to have CA in i' :
 - $de_{ii'}^{k(i')} > 0$ for industry $k(i')$, where $k(i')$ is an index function denoting the industry where region i' has a RCA.

Conceptual Framework

- **Proposition 1: Political rotation and industry RCA**

An increase in knowledge transmission efficiency $e_{ii'}^{k(i')}$, induced by the rotation of a political leader from region i' to i , leads to higher RCA for the industry $k(i')$ where her/his previous position location has better performance, i.e., $k(i') \in \{k | RCA_i^k > RCA_{i'}^j, \forall j = 1, \dots, J\}$; that is,

$$\frac{\partial RCA_i^{k(i')}}{\partial e_{ii'}^{k(i')}} > 0, \quad \forall i \neq i' \quad (1)$$

- Although not the focus of the current work, it should be noted that political rotation can lead to non-trivial welfare gains, as discussed in the other proposition in the draft.

Empirical Analysis

Data Sources

- **Political official dataset**
 - City-level leaders' information during 1997-2013
 - Biographic and resume information including detailed working experience
 - We focus on city party secretaries (PS)
- **Export data: China Custom Database**
 - Aggregated at the city-industry-HS 8-digit code level during 1998-2013
- **China government work report database**
 - The archive incorporates full text of prefecture-level government work reports since the 1990s
- **Firm-level data**
 - Annual Survey of Industrial Production: all types of firms with revenues greater than five million RMB
 - Firm Administrative Registration Database: the administrative information of the universe of enterprises in China
- **Other city controls: China City Statistical Yearbook / NERI Marketization Index**
- 1997-2013; 326 prefecture-level cities; 1,059 industries (HS 4-digit)

Political Rotation Measure

- Focus on PS (city mayors are studied in robustness)
- Define a **party secretary transfer** variable: $Transfer_{c \rightarrow c,t}$
- The indicator takes one only if t is during a city PS's tenure in city c , and the PS's last position is in city c' , which is different from c .

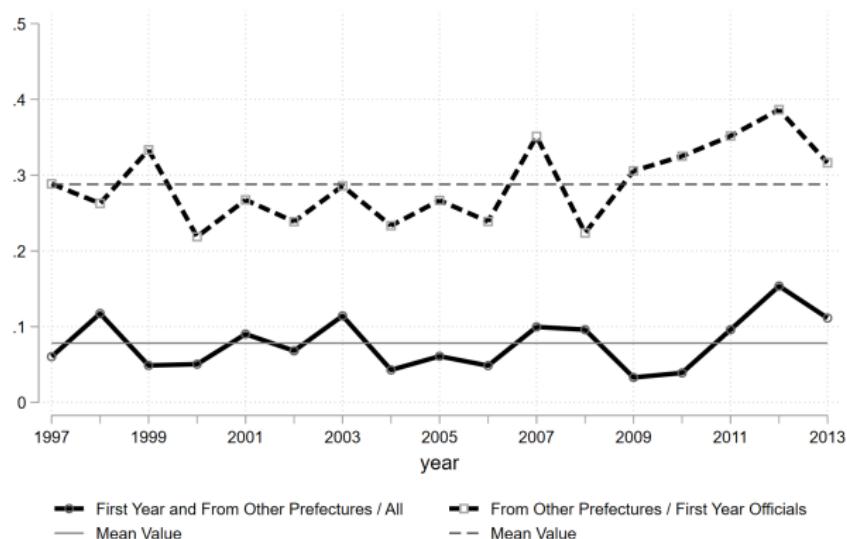
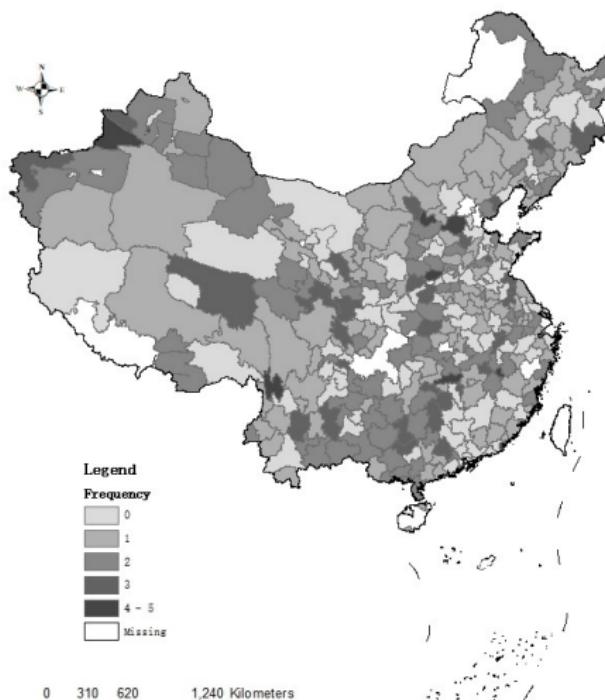


Figure: Share of New Party Secretaries: Time Trend

Political Rotation Measure

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Industry-specific Productivity

- **Assumption:** controlling for everything else, producers reveal better export performance after they have become more productive to compete in global markets
- Revealed Comparative Advantage (Balassa, 1965):

$$RCA_{cjt} \equiv \frac{X_{cjt} / \sum_j X_{cjt}}{\sum_c X_{cjt} / \sum_c \sum_j X_{cjt}},$$

c -cities, j -industries, t -years; city c has comparative advantage in industry j in year t if $RCA_{cjt} > 1$.

- Transition of RCA:

	Range of $RCA(t)$		
	0	(0, 1]	(1, inf)
Share in the sample	76.8	15.0	8.2

Range of $RCA(t - 1)$:

0	92.1	5.2	2.7
(0, 1]	22.2	63.1	14.7
(1, inf)	21.8	30.8	47.4

Industry-specific Productivity

- To ensure RCA truly reflects supply-side factors, we decompose RCA into the contribution of various micromechanisms, based on CES preference structure (Redding and Weinstein, 2017; Hausmann and Xu, 2019)

$$\ln RCA_{cjt} \approx \underbrace{\ln (RCA_{cjt}^P)}_{\text{Average prices}} + \underbrace{\ln (RCA_{cjt}^{\varphi^S})}_{\text{Average quality}} + \underbrace{\ln (RCA_{cjt}^S)}_{\text{Variety differentiation}} + \underbrace{\ln (RCA_{cjt}^N)}_{\text{Variety}}$$

Supply-side factors

$$+ \underbrace{\ln (RCA_{cjt}^{\varphi^D})}_{\text{Average Taste}} + \underbrace{\ln [RCA_{cjt} (S, w, L)]}_{\text{Average Market Size}} + \ln \left[\frac{N_{cjt}^M / N_{jt}^{EM}}{N_{ct}^{MG} / N_t^{EMG}} \right],$$

Demand-side factors

Market Entry

Identification

Empirical Specification (e.g., Bahar and Rapoport, 2018):

$$Y_{cjt} = \beta \sum_{c'} Transfer_{c' \rightarrow c, t} \times \mathbf{1} \{ RCA_{c'j, T(ct)} > 1 \} + \mu_{ct} + \lambda_{jt} + \delta_{cj} + \eta_{rst} + \delta_{cj} \times t + \varepsilon_{cjt},$$

- c -cities, j -industries (HS 4-digit), t -years, s -sectors (HS 2-digit), r -provinces
- Y_{cjt} : RCA and other exporting outcomes
 - to address zeros: $\sinh^{-1}(RCA) = \ln(RCA + \sqrt{1 + RCA^2})$ and alternatives
- PS Transfer Shock / $Transfer_{c' \rightarrow c, t} \times \mathbf{1} \{ RCA_{c'j, T(ct)} > 1 \}$
 - $Transfer_{c' \rightarrow c, t} = 1$ if t is during the PS's tenure in city c whose last term was in city c'
 - $RCA_{c'j, T(ct)}$: the RCA of industry j in city c' just before the PS moved to city c
 - $T(ct)$: the time of leaving the previous position for the PS who is in office in the city c and year t
- Fixed effects: city-year, industry-year, city-industry, corroborated with province-sector-year, and city-industry linear trends.
- Standard errors are clustered at the city level.

Results

Dep var:	(1) $\ln RCA_{cjt}$	Micro Mechanism		
		(2) Supply-side	(3) Demand-side	(4) Ability of market entrance
PS Transfer Shock	0.035*** (0.005)	0.013*** (0.003)	0.005 (0.008)	0.025*** (0.005)
Outcome mean	0.221	0.236	0.314	0.301
Observations	5,326,714	5,319,764	5,044,969	5,326,714
Adjusted R-squared	0.402	0.425	0.311	0.430

- Political rotation is associated with significant improvement in industry-specific export performance
 - an annual 3.5 percentage point increase in the RCA (0.06 SD)

Results

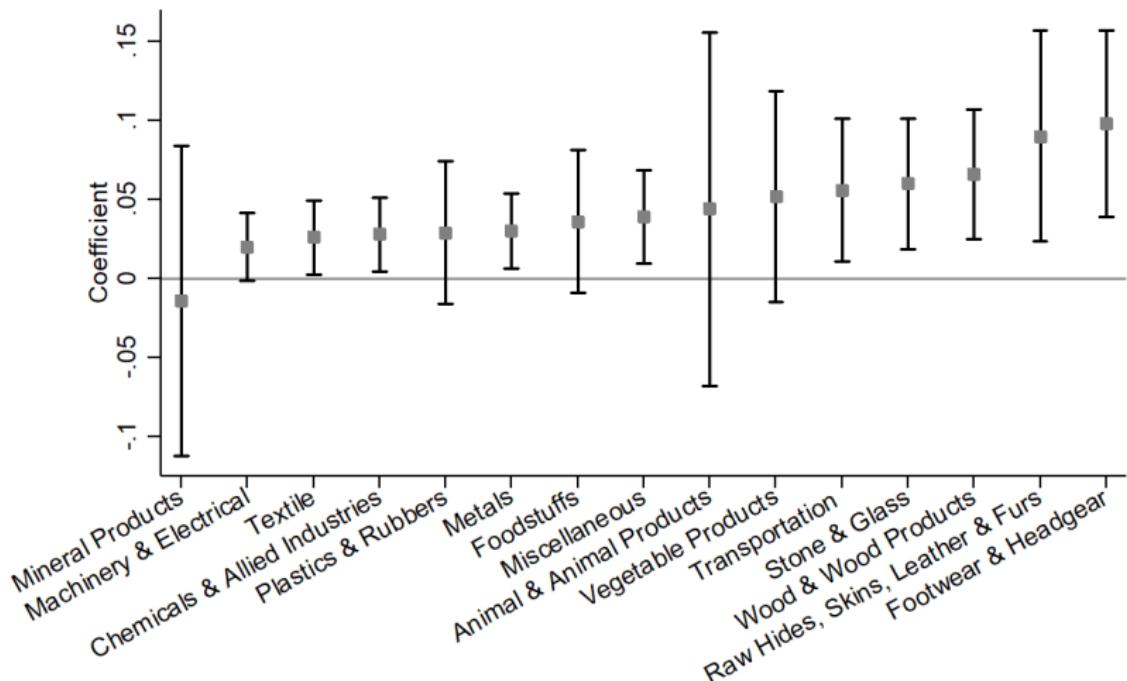
Dep var:	Supply-side factors			
	(5) Variety	(6) Differentiation	(7) Marginal costs	(8) Quality
PS Transfer Shock	0.010*** (0.002)	0.010*** (0.002)	0.009*** (0.002)	0.012*** (0.003)
Outcome mean	0.247	0.247	0.256	0.262
Observations	5,326,714	5,326,714	5,320,599	5,321,175
Adjusted R-squared	0.612	0.609	0.582	0.453

- Political rotation is associated with significant improvement in industry-specific export performance
 - an annual 3.5 percentage point increase in the RCA (0.06 SD)
- Mainly driven by supply-side factors and the ability of market entrance
 - a fall in production costs, a rise in goods quality, and an expansion and differentiation in goods varieties

Robustness

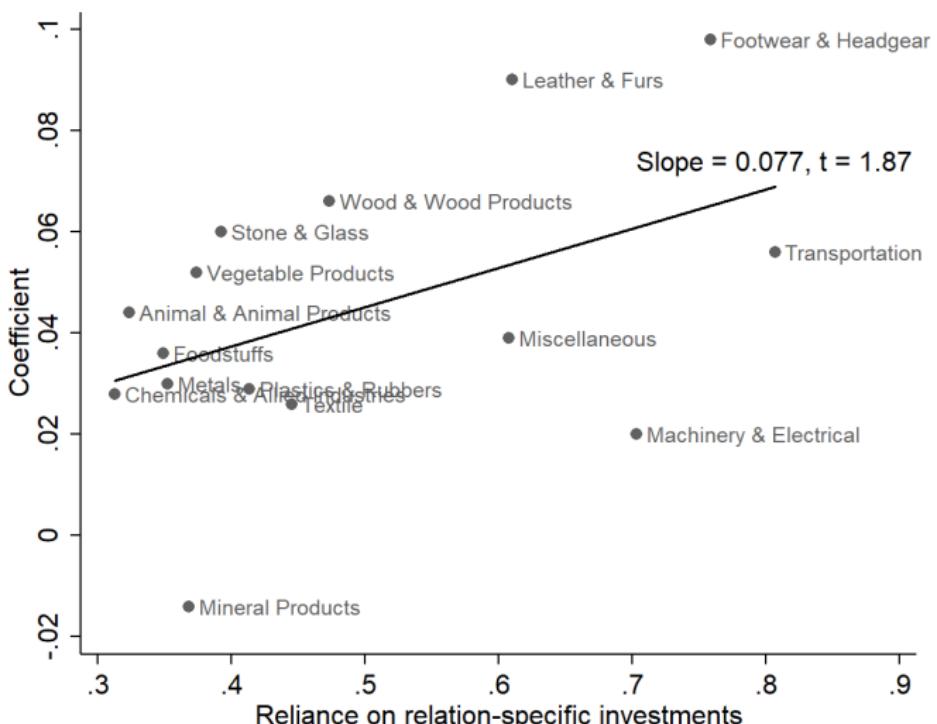
- Not driven by influential sample periods or cities ▶ sample
- Not driven by pre-trend ▶ all pre-trend
 - First year of new term and RCA existing trend
 - Checks suggested by Borusyak et al. (2022)
 - Other outcome variables
- Corroborated by randomization-based tests ▶ randomization
- Controlling for detailed fixed effects based on official characteristics ▶ official FE
- Consistent with other export performance measures ▶ exporting performances
- Measuring RCA using only ordinary export data
- Robustness to other checks:
 - Dependent variables:
 - Alternative RCA criteria ▶ RCA criteria
 - Alternative functional form to address zeros ▶ other form
 - Similar pattern if studying the rotation of prefectoral mayors ▶ mayor

Results: Heterogeneous Impact across Sectors



Results: Heterogeneous Impact across Sectors

- Learning effect is positively correlated with sectoral contract intensity (Nunn, 2007)



Results: Heterogeneous Impact across Regions

- Stronger for less developed regions

Dep var: $\ln RCA_{cjt}$	(1)	(2)	(3)	(4)	(5)	(6)
PS Transfer Shock	0.044*** (0.005)	0.035*** (0.005)	0.046*** (0.006)	0.048*** (0.006)	0.041*** (0.006)	0.036*** (0.005)
× Distance to coastline	0.019*** (0.003)					
× Distance to province capital		0.007** (0.003)				
× Product market score			-0.022*** (0.007)			
× Factor market score				-0.023*** (0.005)		
× Log population					-0.046*** (0.007)	
× Log GDP per capita						-0.009* (0.005)
Prefecture-industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Prefecture-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Province-sector-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Prefecture-industry trends	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,305,966	5,326,714	5,310,074	5,310,074	5,190,296	5,190,296
Adjusted R-squared	0.402	0.402	0.402	0.402	0.402	0.402

Results: Heterogeneous Impact across Regions

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Results: Heterogeneous Impact across Officials

- Stronger for those who are young / better-educated / majoring in engineering & political science & law

Dep var: $\ln RCA_{cjt}$	(1)	(2)	(3)	(4)	(5)	(6)
PS Transfer Shock	0.028*** (0.007)	0.024*** (0.007)	0.024*** (0.007)	0.029*** (0.006)	0.036*** (0.005)	0.035*** (0.007)
× Age 50 or Younger	0.019*** (0.007)					
× College Education		0.017** (0.009)				
× Major: Economics			0.003 (0.013)			
× Major: Engineering				0.021* (0.011)		
× Major: Pol. Sci. & Law					0.034* (0.018)	
× Major: Others					0.015 (0.010)	
× Connection (Colleague)					0.011 (0.007)	
× Connection (Fellow-townsman)						-0.046 (0.033)
× Connection (Alumni)						0.005 (0.018)

Results: Heterogeneous Impact across Officials

- Stronger for those who are young / better-educated / majoring in engineering & political science & law

Dep var: $\ln RCA_{ejt}$	(1)	(2)	(3)	(4)	(5)	(6)
PS Transfer Shock	0.028*** (0.007)	0.024*** (0.007)	0.024*** (0.007)	0.029*** (0.006)	0.036*** (0.005)	0.035*** (0.007)
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\times Connection (Alumni)						0.005 (0.018)

Results: Heterogeneous Impact across Officials

- Stronger for those who are young / better-educated / majoring in engineering & political science & law
- Not related to being connected to provincial officials at the upper level

Dep var: $\ln RCA_{cjt}$	(1)	(2)	(3)	(4)	(5)	(6)
PS Transfer Shock	0.028*** (0.007)	0.024*** (0.007)	0.024*** (0.007)	0.029*** (0.006)	0.036*** (0.005)	0.035*** (0.007)
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Mechanisms

Mechanism

- **Industrial policies:** industries with rising RCA may have benefited from supportive policies, likely driven by new party secretaries
- **Investment flows led by the political networks:** investment flows generated by the moving social connections between political leaders and investors could also generate the observed change in RCA

Mechanism

- **Industrial policies**: industries with rising RCA may have benefited from supportive policies, likely driven by new party secretaries
- **Investment flows led by the political networks**: investment flows generated by the moving social connections between political leaders and investors could also generate the observed change in RCA

Summary

- Industrial policies are important
- Other mechanisms play less of a role

Mechanism: Industrial Policy

- Based on prefecture-level Annual Government Work Report
 - tracks and collects Chinese-language descriptions of new government policy announcements and work plans for all Chinese cities from 1997 to 2017
- Construction methods:
 - ① Focus on the part related to “making plans for the future” ► structure
 - ② Distinguish supportive from unsupportive tones and construct the measure reflecting the intent to promote certain industries based on the supportive phrases ► discourage
 - ③ With the machine-learning algorithm (the TF-IDF algorithm), we segment words and then extract high-frequency keywords related to specific industries
 - ④ Manually map these keywords to 2-digit CIC codes and generate the variable $IndPol_{ckt}$, (=1 if sector k is supported by the work report of city c in year t)

Mechanism: Industrial Policy

- Example: Shijiazhuang, 2014

（二）深入实施工业强市战略，加快推进工业转型升级。工业是立市之基、强市之本。必须坚定不移地走新型工业化道路，进一步加大对产业升级、技术升级和产品升级的支持力度，加快构建现代工业体系，全面提高工业经济运行质量和效益。

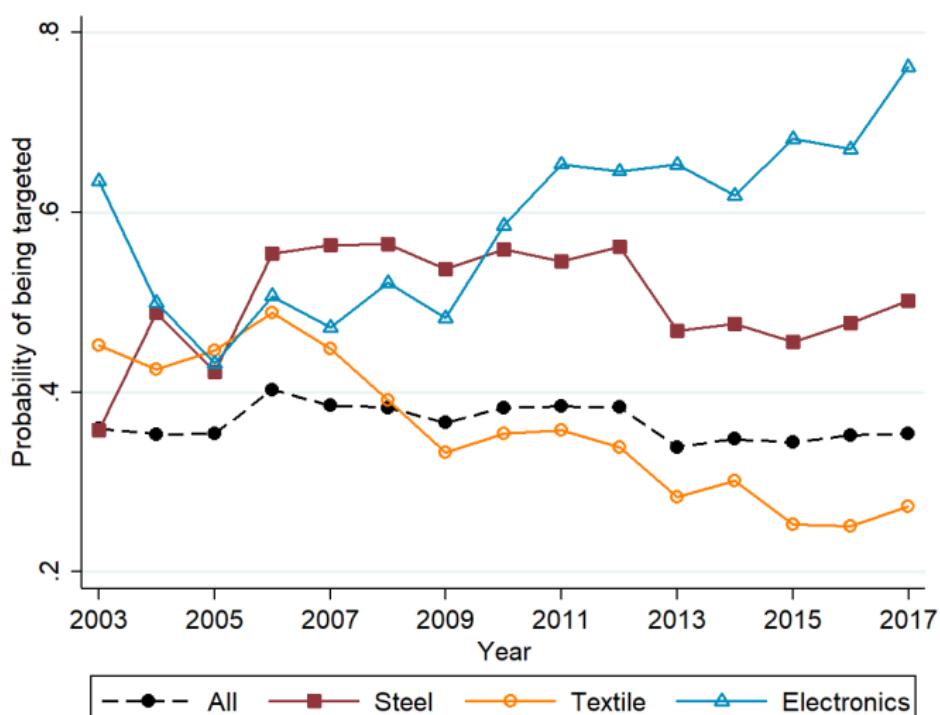
set up strategic emerging industry development fund to focus on supporting

大力发展战略性新兴产业。坚持“无中生有”，以大项目为牵引、大企业为龙头、科技创新为支撑，整合设立战略性新兴产业资金，重点支持生物制药、电子信息、高端装备制造、新能源汽车等战略性新兴产业，努力扩大规模、打造亮点。加快建设高新技术开发区、经济技术开发区、正定新能源汽车产业园等六大战略性新兴产业园区，鼓励到园区投资重大新兴产业项目。集中培育在全省乃至全国有重大影响的企业，重点支持石药集团、欣意电缆、中电科导航等 11 家工业企业尽快成为全市重大支撑企业，引领产业整体升级，举旗当帅。对进入省“百家”企业范围的企业给予重点扶持，促其尽快做大做强。加快推进格力电器、旭新光电、中航通用飞机等 43 个大项目建设。全市战略性新兴产业增加值增长 22% 以上，占规模以上工业增加值的比重达到 20% 以上。

bio-pharmaceuticals, electronic information, high-end equipment manufacturing, new energy vehicles

Mechanism: Industrial Policy

- Evolution of industrial policy measures for some typical industries in China



Mechanism: Industrial Policy

Dep var:	Current year: $IndPol_{ckt}$			$IndPol_{ckt-1}$	$IndPol_{ckt-2}$	$IndPol_{ckt-3}$
	(1)	(2)	(3)	(4)	(5)	(6)
PS Transfer Shock	0.028** (0.012)	0.018** (0.009)	0.022** (0.010)	-0.009 (0.015)	-0.016 (0.017)	-0.009 (0.017)
Outcome mean	0.374	0.374	0.374	0.378	0.377	0.375
Industry-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Prefecture-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Prefecture-industry FE	-	Yes	Yes	Yes	Yes	Yes
Province-industry-year FE	-	-	Yes	Yes	Yes	Yes
Observations	77,500	77,500	77,500	62,248	55,034	48,298
Adjusted R-squared	0.432	0.655	0.693	0.711	0.721	0.728

The industry-specific productivity increase after the arrival of the new leader is associated with the practice of industrial policies in favor of these products

▶ pretrend

- A 2.2% higher probability in implementing policies favoring them

Mechanism: Social Network

- Moving social connections between political leaders and firms might drive investment flows that induce RCA changes (Shi et al., 2021).
 - in real-estate and financial sectors
- We examine possible rises and declines of (manufacturing) sector-specific investments in the destination and origin city, respectively.
 - the number of newly registered firms; total paid-in capital
- Specifications:
 - Destination city: the same as before
 - Origin city:

$$Y_{c'jt} = \gamma \text{ Transfer}_{c' \rightarrow, t} \times 1 \{RCA_{c'jT} > 1\} + \mu_{c't} + \lambda_{jt} + \delta_{c'j} + \eta_{rjt} + \epsilon_{c'jt},$$

Mechanism: Social Network

- It appears unlikely that investment flows driven by social connections of political leaders play a large role.

Dep var:	# New firms	Paid-in capital	# New firms	Paid-in capital
	(1)	(2)	(3)	(4)
PS Transfer Shock	0.017 (0.011)	0.048 (0.047)		
Out-rotation			0.020 (0.022)	0.063 (0.095)
Outcome mean	1.537	1.878	1.559	1.860
Sector-year FE	Yes	Yes	Yes	Yes
Prefecture-year FE	Yes	Yes	Yes	Yes
Prefecture-sector FE	Yes	Yes	Yes	Yes
Province-sector-year FE	Yes	Yes	Yes	Yes
Observations	155,176	155,176	30,352	30,352
Adjusted R-squared	0.888	0.605	0.882	0.569

Conclusion

- We highlight a lesser-known mechanism for inter-regional knowledge diffusion — **the rotation of political leaders**
 - the political rotation of government officials, serving as **intra-national drivers of productive knowledge**, can shape the comparative advantage of regions in China, a relationship that has not been documented in the literature
 - the effect is mainly driven by **supply-side factors** of RCA
- **Industrial policies** are important ways of applying knowledge into practice for political officials.
- Encouraging practical implications for appointing local government leaders in countries with centralized political systems
 - enough dynamism and initiative to get those who are **better educated** and **with specific technocratic specialization** to the decision-making table is needed.
 - key instruments to growing productivity and reducing regional inequality

Pre-trend Tests

- PS Transfer and pre-trend in exports

<i>Panel A. Placebo Test Using Pre-existing RCA</i>				
Dep var: $\ln RCA$	(1) $Y(t-1)$	(2) $Y(t-2)$	(3) $\Delta Y(t-1)$	
First Year PS Transfer Shock	-0.003 (0.005)	0.001 (0.004)	-0.005 (0.006)	
Observations	5,008,793	4,697,911	4,626,099	
Adjusted R-squared	0.398	0.412	-0.106	

Pre-trend Tests

- Following Borusyak et al. (2022), we estimate the following equation using untreated observations.

$$Y_{cjt} = \sum_{\tau=-6}^{-2} \beta^\tau 1\{yeardiff = \tau\}_{cjt} + \mu_{ct} + \lambda_{jt} + \delta_{cj} + \eta_{rst} + \delta_{cj} \times t + \varepsilon_{cjt},$$

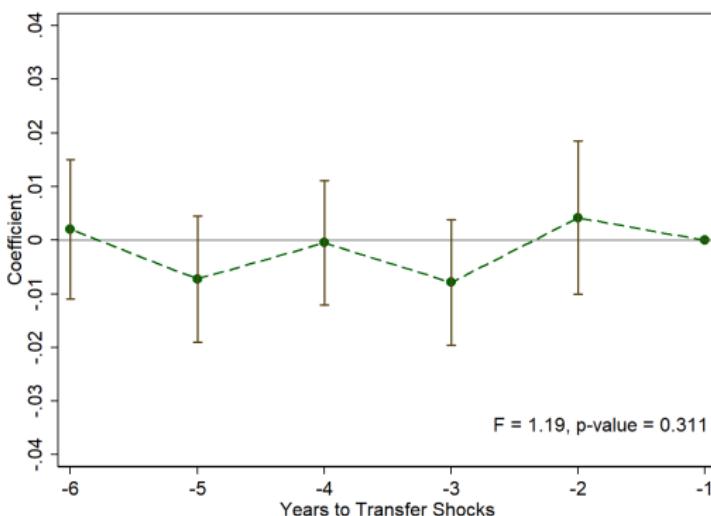
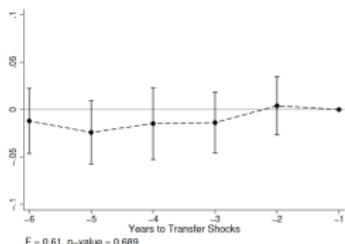


Figure: Test for Pre-trends before Party Secretary Transfers

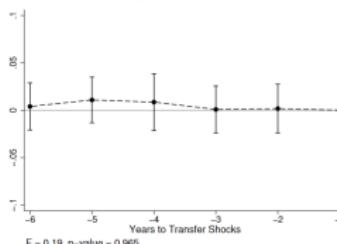
Pre-trend Tests

- Other outcomes:

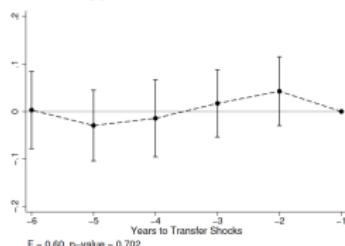
(a) RCA



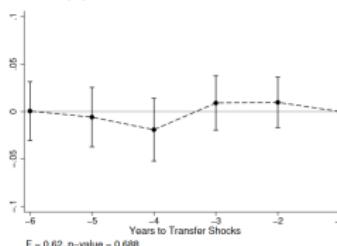
(b) Supply-side RCA



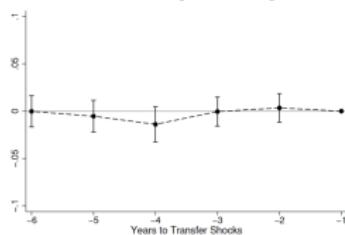
(c) Demand-side RCA



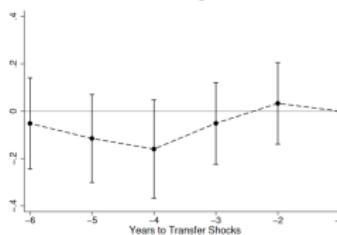
(d) Number of "customers"



(e) Indicator for positive exports



(f) Total exports

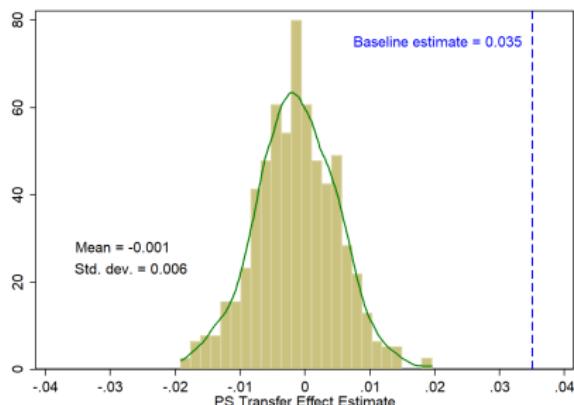


Randomization-based Tests

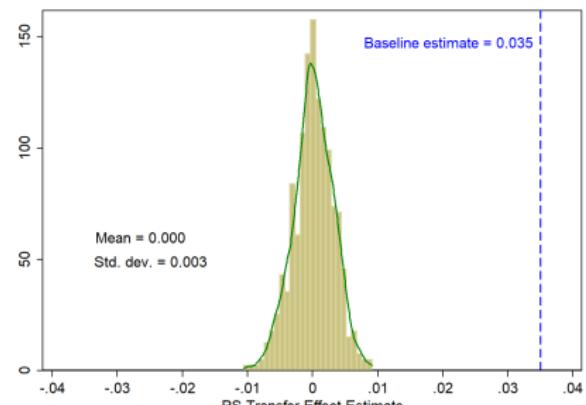
- Randomly assign treatment status for 500 times in two ways:

Figure: Randomization-based Tests

(a) Randomize Last-term Cities



(b) Randomize Industries with $RCA > 1$



▶ go back to robustness check

Detailed Fixed Effects Based on Official Characteristics

Panel B. Detailed Fixed Effects Based on Official Characteristics

Dep var: ln <i>RCA</i>	(1)
PS Transfer Shock	0.033*** (0.005)
Cell-industry-year FE	Yes
Observations	4,601,800
Adjusted R-squared	0.402

▶ go back to robustness check

Alternative Outcome Variables: Exporting Performances

Dep var:	(1) Indicator for exporting	(2) Export value	(3) # Exporting firms	(4) # Destination	(5) # Products
PS Transfer Shock	0.010*** (0.002)	0.178*** (0.026)	0.051*** (0.005)	0.045*** (0.005)	0.019*** (0.003)
Outcome mean	0.257	3.184	0.520	0.559	0.364
Observations	5,868,978	5,868,978	5,868,978	5,868,978	5,868,978
Adjusted R ²	0.655	0.740	0.860	0.855	0.801

▶ go back to robustness check

Alternative RCA Criteria

Panel C. Different Cutoffs for the Last-position RCA

Dep var: $\ln RCA$	(1)	(2)	(3)
$\sum_{c'} Transfer_{c' \rightarrow c,t} \times 1 \{RCA_{c'jt} > 0.5\}$	0.029*** (0.004)		
$\sum_{c'} Transfer_{c' \rightarrow c,t} \times 1 \{RCA_{c'jt} > 2\}$		0.041*** (0.006)	
$\sum_{c'} Transfer_{c' \rightarrow c,t} \times 1 \{RCA_{c'jt} > 5\}$			0.048*** (0.008)
Observations	5,326,714	5,326,714	5,326,714
Adjusted R-squared	0.402	0.402	0.402

▶ go back to robustness check

Rotation of Prefectural Mayors

Panel D. Effects of Mayor Transfer Shocks

Dep var: $\ln RCA$	(1)	(2)	(3)
Mayor Transfer Shock	0.019*** (0.003)	0.009*** (0.003)	0.015*** (0.004)
Prefecture-sector-year FE	-	Yes	Yes
Prefecture-industry trends	-	-	Yes
Observations	5,326,714	5,326,714	5,326,714
Adjusted R-squared	0.402	0.402	0.402

▶ go back to robustness check

Alternative Functional Form for Outcome Variable

Dep var:	(6) <i>RCA</i>	(7) $\ln(1 + RCA)$	(8) $\ln(RCA)$	(9) $1\{RCA > 1\}$	(10) $1\{RCA > 2\}$	(11) $1\{RCA > 5\}$
PS Transfer Shock	0.113*** (0.019)	0.028*** (0.004)	0.064*** (0.015)	0.013*** (0.002)	0.011*** (0.002)	0.007*** (0.001)
Outcome mean	0.539	0.177	-0.084	0.087	0.054	0.027
Observations	5,326,714	5,326,714	1,467,311	5,326,714	5,326,714	5,326,714
Adjusted R ²	0.336	0.403	0.475	0.322	0.281	0.269

▶ go back to robustness check

Alternative Sample Period

Dep var: $\ln RCA_{cjt}$	<i>Panel A. Alternative time periods</i>		
	(1) 97-01	(2) 02-07	(3) 08-13
PS Transfer Shock	0.030*** (0.015)	0.034*** (0.011)	0.047*** (0.008)
Outcome mean	0.164	0.207	0.283
Observations	1,600,895	1,859,233	1,855,514
Adjusted R-squared	0.695	0.602	0.310

▶ go back to robustness check

The Exclusion of Influential Cities

Panel B. Excluding special groups of cities

(4) Provincial capitals (5) Sub-provincial cities (6) Coastal cities

PS Transfer Shock	(4) Provincial capitals	(5) Sub-provincial cities	(6) Coastal cities
	0.038*** (0.005)	0.037*** (0.005)	0.038*** (0.006)
Outcome mean	0.200	0.204	0.198
Observations	4,850,771	5,079,964	4,576,159
Adjusted R-squared	0.386	0.388	0.384

▶ go back to robustness check

Structure of Government Work Report

(a) Summarizing the Work of Last Year

一、2013 年主要工作回顾

Review of Main Work in 2013

刚刚过去的一年，我们在省委、省政府和市委的正确领导下，紧紧围绕转型升级、跨越赶超、建设幸福石家庄的总目标，着力稳增长、调结构、抓改革、惠民生，较好地完成了市十三届人大一次会议确定的目标任务。

(b) Arranging the Work Plan of This Year

二、2014 年主要工作任务

Main Tasks in 2014

今年是贯彻落实党的十八届三中全会精神、全面深化改革的第一年，是加快建设大省省会、实现跨越赶超、绿色崛起的重要一年，是完成“十二五”规划目标、率先全面建成小康社会的关键一年。做好今年工作意义重大，挑战与机遇并存。从面临挑战看，国际经济仍将延续缓慢复苏态势，不确定因素依然很多；我国经济发展进入由速度规模型向质量效益型转变时期，经济增长内生动力不足，下行压力依然较大；我市正处于转型发展的攻坚时期，面临着调整

(c) Strengthening the Government's Self-improvement

Strengthen the government's self-improvement

改革发展的繁重任务，对政府工作提出了新的更高要求。必须加快转变政府职能，努力创新管理方式，以更加饱满的热情、更加务实的举措，提振精气神，汇聚正能量，加快建设人民满意的服务型政府。

An Example of Limited or Prohibited Industries

Limit or prohibit

生态环境治理取得初步成效。大气污染防治攻坚行动全面展开，关停热电一厂和西柏坡钢铁等 3 家钢铁企业的 6 座高炉，拆除市区分散燃煤锅炉 274 台，对陶瓷、钙镁、水泥、化肥、焦化等行业实行限产停产。全市削减燃煤 310 万吨；

城郊 3.4 万农户改烧型煤，取缔关停洗煤厂、储煤场 1244 家；水泥企业脱硝工程全部完成，7 台火电机组完成脱硝，市区及周边 14 台燃煤火电机组、17 台燃煤锅炉完成烟尘治理。对 592 个在建工地实施扬尘治理，主城区渣土车实行密闭运输；集中爆破拆除西北区域 18 家水泥企业，削减水泥产能 940 万吨；购置天然气公交车 450 辆，淘汰黄标车 9.8 万辆；油气回收任务提前一年完成；气象分析和预报预警工作进一步加强，构建起覆盖全市域的空气自动监测网络体系，主城区细颗粒物 (PM2.5) 平均浓度较上半年下降 8.7%，成功列入“国家节能减排财政政策示范城市”。洨河综合整治取得决定性成果，水质稳定达标。大力开展植树绿化和环省会经济林建设，共造林 60 万亩，全市森林覆盖率达到 34%。

ceramics, calcium magnesium, cement, fertilizer, coking and other industries

Pre-trend of Industrial Policies

