

# Career Incentives, Economic Competition, and Public Land Prices

Qing Chang

Department of Political Science  
University of Pittsburgh

IPES 2022

# Introduction

- Land is critical for economic development
  - Housing and urbanization (Rithmire 2015)
  - Distribution of wealth and political preference (Ansell 2014)

# Introduction

- Land is critical for economic development
  - Housing and urbanization (Rithmire 2015)
  - Distribution of wealth and political preference (Ansell 2014)
- How do political incentives affect land prices?

# Introduction

- Land is critical for economic development
  - Housing and urbanization (Rithmire 2015)
  - Distribution of wealth and political preference (Ansell 2014)
- How do political incentives affect land prices?
- Two major theories:
  - Electoral (career) incentives (Walter 2009; Rickard 2012; Rickard 2018; Owen 2019; Jensen, Findley, and Nielson 2020)
  - Economic competition (Li 2006; Jensen, Malesky, et al. 2014)

# Introduction

- Land is critical for economic development
  - Housing and urbanization (Rithmire 2015)
  - Distribution of wealth and political preference (Ansell 2014)
- How do political incentives affect land prices?
- Two major theories:
  - Electoral (career) incentives (Walter 2009; Rickard 2012; Rickard 2018; Owen 2019; Jensen, Findley, and Nielson 2020)
  - Economic competition (Li 2006; Jensen, Malesky, et al. 2014)
- My contribution: disentangle the above two mechanisms by examining the effect of political incentives on (a) industrial and (b) residential land

# Preview Results

- Data:
  - Original data of millions of land transaction in China
  - Combined with six thousand politicians' career records

# Preview Results

- Data:
  - Original data of millions of land transaction in China
  - Combined with six thousand politicians' career records
- Does career incentives influence land prices?
  - Yes: industrial  $-\$16$ , residential  $-\$40$
- Does economic competition affects land prices?
  - Yes: industrial  $-\$29$ , residential  $\$132$

# Theory

# Actors and Strategies

- Two actors: sub-national leaders and their political superiors

# Actors and Strategies

- Two actors: sub-national leaders and their political superiors
- Superiors: in charge of evaluating local leaders by economic performance

# Actors and Strategies

- Two actors: sub-national leaders and their political superiors
- Superiors: in charge of evaluating local leaders by economic performance
- Local leaders:
  - Fulfill development requirements from their superiors
  - Have incentives to be promoted
  - Posses power to decide public land sell

# Hypotheses

- High Career incentive  $\Rightarrow$   $\downarrow$  industrial land price
- High Career incentive  $\Rightarrow$   $\downarrow$  residential land price
- Economic competition  $\Rightarrow$   $\downarrow$  industrial land price
- Economic competition  $\Rightarrow$   $\uparrow$  residential land price

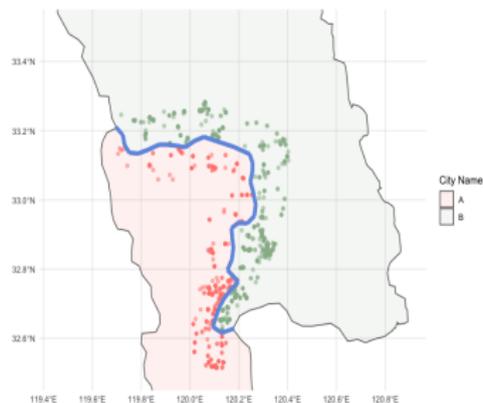
# Empirical Design

# Data

- DV: Land price per  $m^2$  in RMB

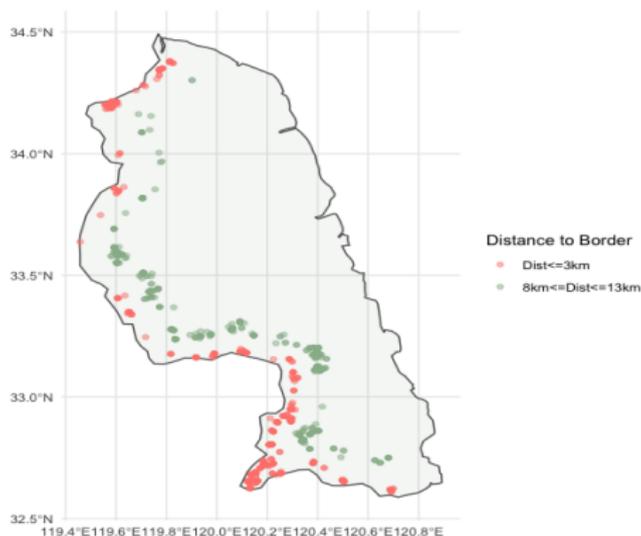
供地结果信息					
Land Transaction Information					
行政区:	江苏省盐城市滨海县	Admin	电子监管号:	3209222022B00407	
项目名称:	滨海恒锦企业管理有限公司 (J-9-1)				
项目位置:	县城景湖路西侧。仁和初中北侧		Location		
面积(m <sup>2</sup> ):	48169.00	Area	土地来源:	现有建设用地	
土地用途:			供地方式:	挂牌出让	
土地使用年限:	70		行业分类:	房地产业	
土地级别:	二级		成交价格(万元):	32514.075	Price
分期支付约定:	支付期号		约定支付日期	约定支付金额	备注
	1		2022-04-30	32514.075	--
土地使用权人:	滨海恒锦企业管理有限公司		Buyer		
约定容积率:	下限:	1	上限:	2.2	约定交地时间: 2024-03-14
约定开工时间:	2025-03-12		约定竣工时间:	2027-03-15	
实际开工时间:	--		实际竣工时间:	--	
批准单位:	滨海县人民政府		合同签订日期:	2022-03-30	Time

# Identify Career Incentive



- Land characteristics should be the same
- Only difference is career incentives in A and B
- Prices change across city borders  $\Rightarrow$  career incentives

# Identify Economic Competition



- Land close to borders subject to intense competition effect
- Land far from borders subject to less competition effect
- Prices change within cities  $\Rightarrow$  competition effect

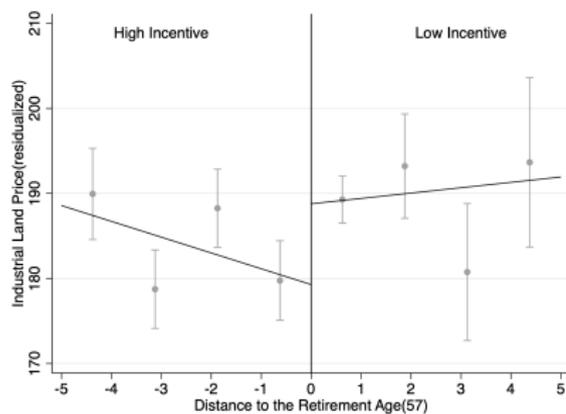
Comparing two types of local leaders:

- Still eligible for promotion (high career incentives)
- Just not eligible (low career incentives)
- By age cutoff 57

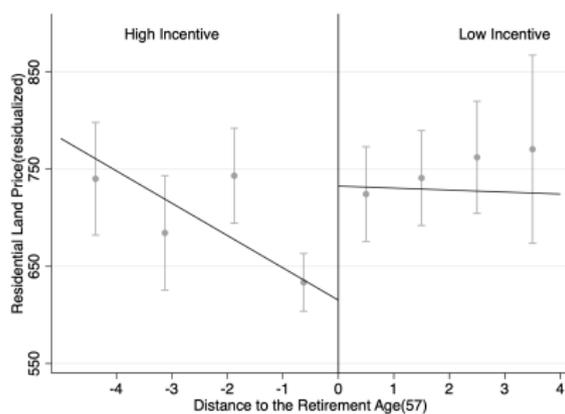
# Results

# Reduced Form of Career Incentive Effect

## Industrial Land



## Residential Land



# Career Incentive Effect

Table: Career Incentive on Land Prices (RMB per  $m^2$ )

	Industrial Land			Residential Land		
	(1)	(2)	(3)	(1)	(2)	(3)
Second Stage: $Dist \leq 2km$						
Incentive Effect	-175.133*** (54.591)	-159.801*** (46.678)	-137.511*** (44.098)	-395.779*** (140.034)	-349.622*** (130.483)	-328.046** (130.616)
First Stage:						
Age Dummy	0.109*** (0.018)	0.111*** (0.018)	0.112*** (0.018)	0.401*** (0.062)	0.403*** (0.062)	0.403*** (0.062)
First-stage F-statistic	21.03	21.68	21.57	29.34	27.63	28.27
Observations	19784	19718	19689	20848	20805	20795
Control Function	Linear	Linear	Linear	Linear	Linear	Linear
Border pair FE	YES	YES	YES	YES	YES	YES
Quarter FE	YES	YES	YES	YES	YES	YES
Land Controls	NO	YES	YES	NO	YES	YES
Economic Controls	NO	NO	YES	NO	NO	YES

Note:

<sup>1</sup> F statistic is the excluded instrument.

<sup>2</sup> Standard errors clustered by 2.5 square kilometer grid cell, \* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ .

# Competition Effect

Table: Competition Effect on Land Price (RMB per  $m^2$ )

	Industrial Land			Residential Land		
	(1)	(2)	(3)	(1)	(2)	(3)
Second Stage: $Dist \leq 2km, 7km \leq Dist \leq 12km$						
Competition Effect	-346.469*** (76.237)	-197.213*** (42.588)	-204.641*** (43.131)	847.306*** (262.009)	918.298*** (266.332)	924.909*** (263.636)
First Stage:						
Age Dummy	0.054*** (0.014)	0.056*** (0.014)	0.057*** (0.014)	0.139*** (0.024)	0.140*** (0.024)	0.140*** (0.024)
First-stage F-statistic	33.16	42.41	43.79	15.23	15.07	15.06
Observations	60781	60332	60229	85406	85331	85245
Control Function	Linear	Linear	Linear	Linear	Linear	Linear
Border pair FE	YES	YES	YES	YES	YES	YES
Quarter FE	YES	YES	YES	YES	YES	YES
Land Controls	NO	YES	YES	NO	YES	YES
Economic Controls	NO	NO	YES	NO	NO	YES

Note:

<sup>1</sup> F statistic is the excluded instrument.

<sup>2</sup> Standard errors clustered by 2.5 square kilometer grid cell, \* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ .

# Conclusion

- Career incentive and economic competition have different effects on land prices.
- Also apply to other policy domains, such as tax competition.
- Consequences of land price manipulation.
  - Housing, rural-urban inequality
  - Subsidies and international competition

# Thank You

Qing Chang  
qic47@pitt.edu  
[qingcchang.com](http://qingcchang.com)

# Appendix

# First Stage

Figure: Promotion Probability Around Age 57

