

# Human Capital Strategies for Big Shocks

## The Case of the Fall of the Ming

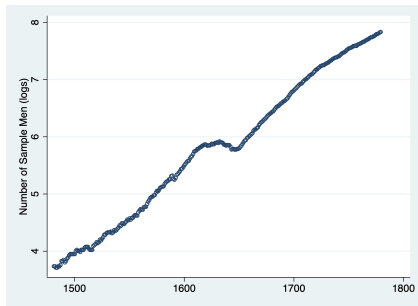
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# Ming-Qing Transition in China & in Sample



36 million deaths, 16% of pop'n



7 Clans, Tongcheng county, Anhui

# Big Shocks: Temporary or Persistent Effects?

- ▶ Work typically compares **regions** with and without shock **using cross-sectional approach**
  - ▶ Including Dell '10, Nunn-Wantchekon '11, Feigenbaum- Lee-Mezzanotti '22
- ▶ We complement regional focus with **longitudinal micro data on 7 linked generations**
  - ▶ Did families hit by shock behave differently in short- & long-run?
- ▶ Intergenerational analysis
  - ▶ Outside intergenerational mobility includes Bleakley-Ferrie '16, Lowes- Nunn- Robinson- Weigel '17, Becker- Grosfeld- Grosjean-Voigtlaender- Zhuravskaya '18, Ager- Boustan- Eriksson '21

# Data: Genealogies – family histories

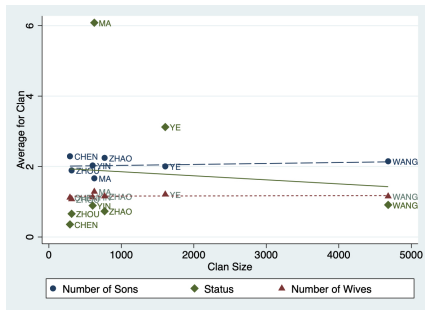
▷ **Goal:** Representative sample

▶ **Calibrate to national data**

- ▶ 70% commoners, 3% high status
- ▶ Limit to 7 genealogies
- ▶ **All males** are recorded, no matter their wealth

▷ Info on: Vitals of men, wives, children; **human capital (HC)**; status; residence, ...

- ▶ HC: Skills for civil service exam 0/1



Exploiting **clan heterogeneity:**

▷ No wealth bias in sample



# Pre-Shock Analysis: No Differential Pre-Trends

	Control N = 54	Treatment N = 436	Difference	p-value
Tests of Equality of Means				
Generation (-1)				
Father Human Capital	0.31	0.32	-0.01	<b>0.93</b>
Generation (-2)				
Grandfather Human Capital	0.46	0.38	0.08	<b>0.23</b>

**Notes:** Figures for first generation (male born 1590-1644).

# Summary Statistics: Intergenerationally Linked Sample

Gen- eration	Male				Female		
	N	Human Capital	Migration	Sons	First Wife	Sons	Dau- ghters
1	1,667	0.259	0.198	3.272	0.104	2.998	1.298
2	1,661	0.264	0.276	3.667	0.092	3.517	1.704
3	1,632	0.200	0.229	3.322	0.071	3.222	1.539
4	1,609	0.145	0.147	3.391	0.049	3.275	1.363
5	1,515	0.106	0.104	2.224	0.096	1.929	0.977
All	8,084	0.196	0.189	3.193	0.083	3.005	1.383

▷ Sample range 1542 to 1886; link rate over 5 generations: 91% (1,515/1,667)

# OLS Specification Stacked over 5 Generations

- ▶ Human capital  $hc_{ic(p)g}$  of individual  $i$  in couple  $c$  of gen  $g$

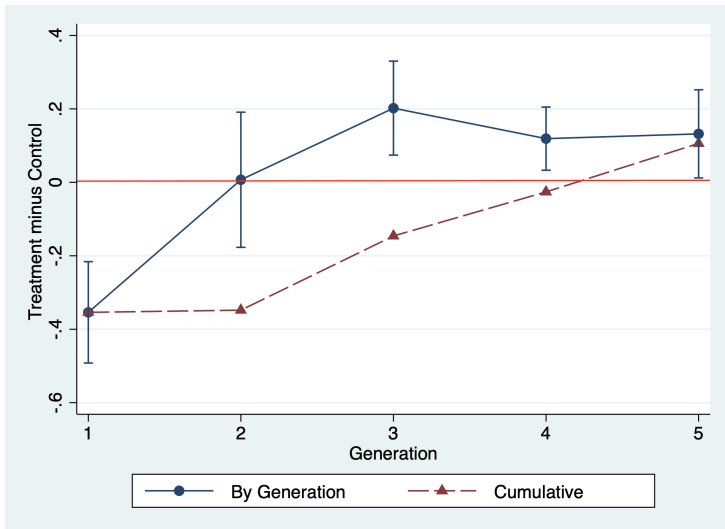
$$hc_{ic(p)g} = \beta_g [I[t = g] \times d_p] + \beta fstat_{c1} + \eta_g + \lambda_y + \theta_m + \omega_f + \varepsilon_{ic(p)g}$$

**Treatment 0/1** var  $d_p$ ,  $p$ : descendant of pair  $p$  in first gen

- ▶  $fstat_{c1}$ : first gen couple's husband's **father's status**
- ▶ Clan fixed effects
  - ▶  $\theta_m$  : male (7 clans)
  - ▶  $\omega_f$  : female (120; clans of **in-marrying women**)
- ▶  $\eta_g$ : generation fixed effects,  $\lambda_y$  : birth year fixed effects
- ▶ **Two-way clustering** on first generation-pair and generation



# Human Capital Response: Loss, Followed by Advantage



## Mechanism: Increased Preference for Human Capital

- ▶ Shock meant that **people lost land, house, and property**
  - ▶ 75% of arable land destroyed in single year (Beattie '79)
    - ▶ Land becomes arable again with time – **memory may linger**
- ▶ **Norms shift** more from land- **to human capital-based wealth**
  - ▶ Affects disproportionately those w/ first-hand experience of destruction
- ▶ **Change in norms passed down** from one generation to the next

# Hypothesis: Increased Preference for HC $\Leftrightarrow$ More Intergenerational Benefit from Father & Grandfather

- **Intergenerational relation** in human capital:

$$hc_{ic(p)g} = \alpha + \omega_1 hc_{ic(p)g-1} + \omega_2 hc_{ic(p)g-2} + X\psi + \varepsilon_{ic(p)g}$$

	Control		Treated	
Father HC	-0.033 (0.143)	-0.154 (0.215)	0.258** (0.033)	0.223** (0.033)
Grandfather HC		0.184+ (0.103)		0.081** (0.028)
Generations	3, 4, 5	4, 5	3, 4, 5	4, 5
N	411	247	4,236	2,751

► And: Difference between T/C doesn't exist before the shock

# Treated Descendants Also Exhibit More Upward Mobility & Less Downward Mobility

Panel A: **Control** Descendants

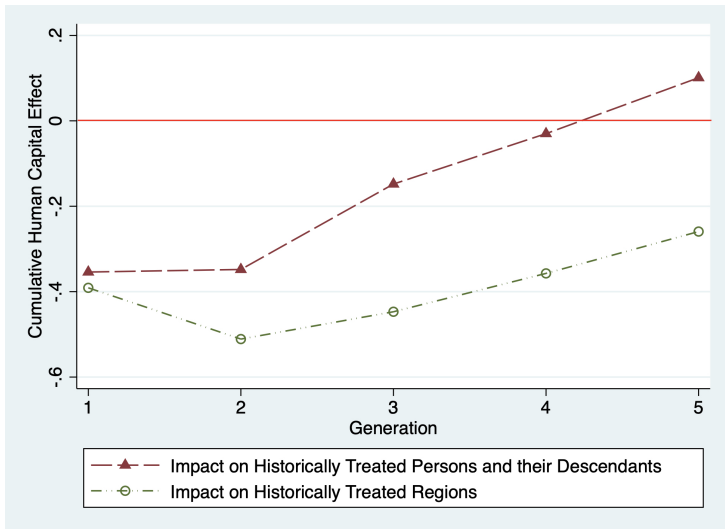
		Father	
		No HC	HC
Son	No HC	96.6%	<b>75.3%</b>
	HC	<b>3.4%</b>	24.7%
		100%	100%

Panel B: **Treated** Descendants

		Father	
		No HC	HC
Son	No HC	92.5%	<b>51.9%</b>
	HC	<b>7.5%</b>	48.1%
		100%	100%

▷ Transition matrices for generations 3, 4, and 5

# Treatment of People vs Treatment of Regions



# Summary

- ▶ **Persistent effects** from big shock **using** longitudinal individual **data over centuries**
  - ▶ Long-run can be different from faded version of short-run
- ▶ **Human capital reversal**: Fall of Ming first causes heavy loss, then advantage in human capital acquisition
- ▶ Mechanism: Families switch from land- to human capital-based wealth
  - ▶ Change in human capital norms **transmitted from generation to generation**
    - ▶ Evidence from inter-generational analysis
- ▶ What would economic history look like if we **combined** the **regional** perspective with the **people** perspective?