

Intergenerational Effects of Financial Crises

Evidence from the Panic of 1873

Harsha Dutta

(The Hong Kong University of Science and Technology)

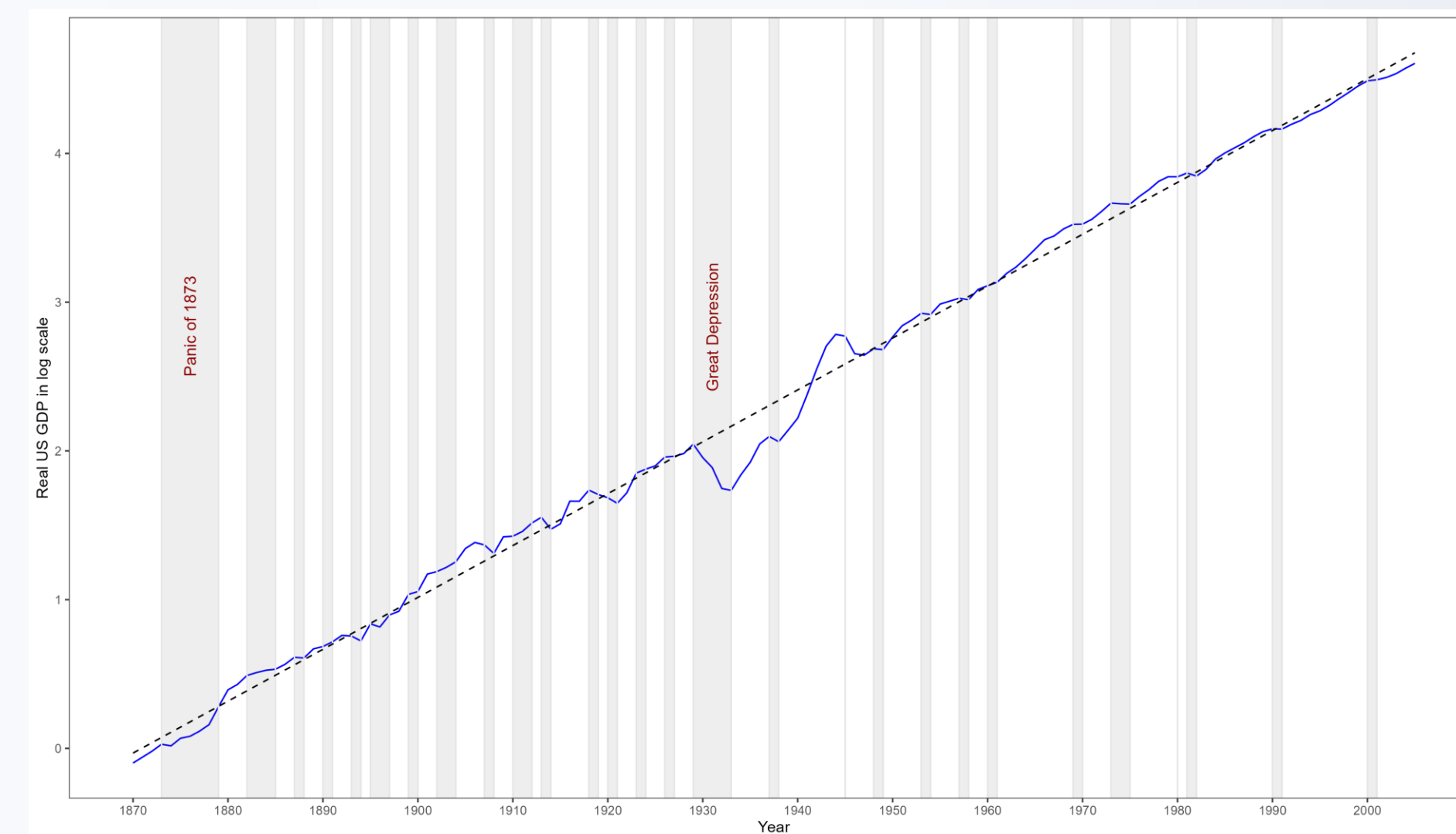
Motivation

Financial Crises and Real Economy

- Financial crises are a recurrent feature of the global economy
 - Frequency ~ 28 years (Reinhart and Rogoff 2009)
 - Short Term Growth Costs ~ 5% lower GDP over 6 years vis trend
- Real Economy recovers with the Financial Sector
 - Unemployment Rate ~ Longest 10 years (Hall and Kudlyak 2022)
 - GDP per Capita ~ 8 Years vis Pre Crisis (Reinhart and Rogoff 2009)

Resilience of US GDP

Real GDP catches up with the long run trend (1870 – 2000)



Source: Macrofinance and Resilience (2024 AFA Presidential Address)

Research Question

Do Households Exhibit Long-Run Recovery Patterns?

Financial crises and Households

- Labor Demand Shocks and Wealth Shocks
- Recovery Dynamics and Distributive Consequences?

Empirical Challenges

- Identification:** Compare Similar Households with Different Exposures To Crisis
 - Panic of 1873 (Historical Laboratory)
 - Significant Disruption to Railroad Network
- Measurement:** Observe Households over long run
 - Construct Family Trees: 4 Gen and 120 years

This Paper: Long Run Effects of Financial Crises on Households

Historical Context

Panic of 1873 – The First “Great Depression”

Timeline of Events

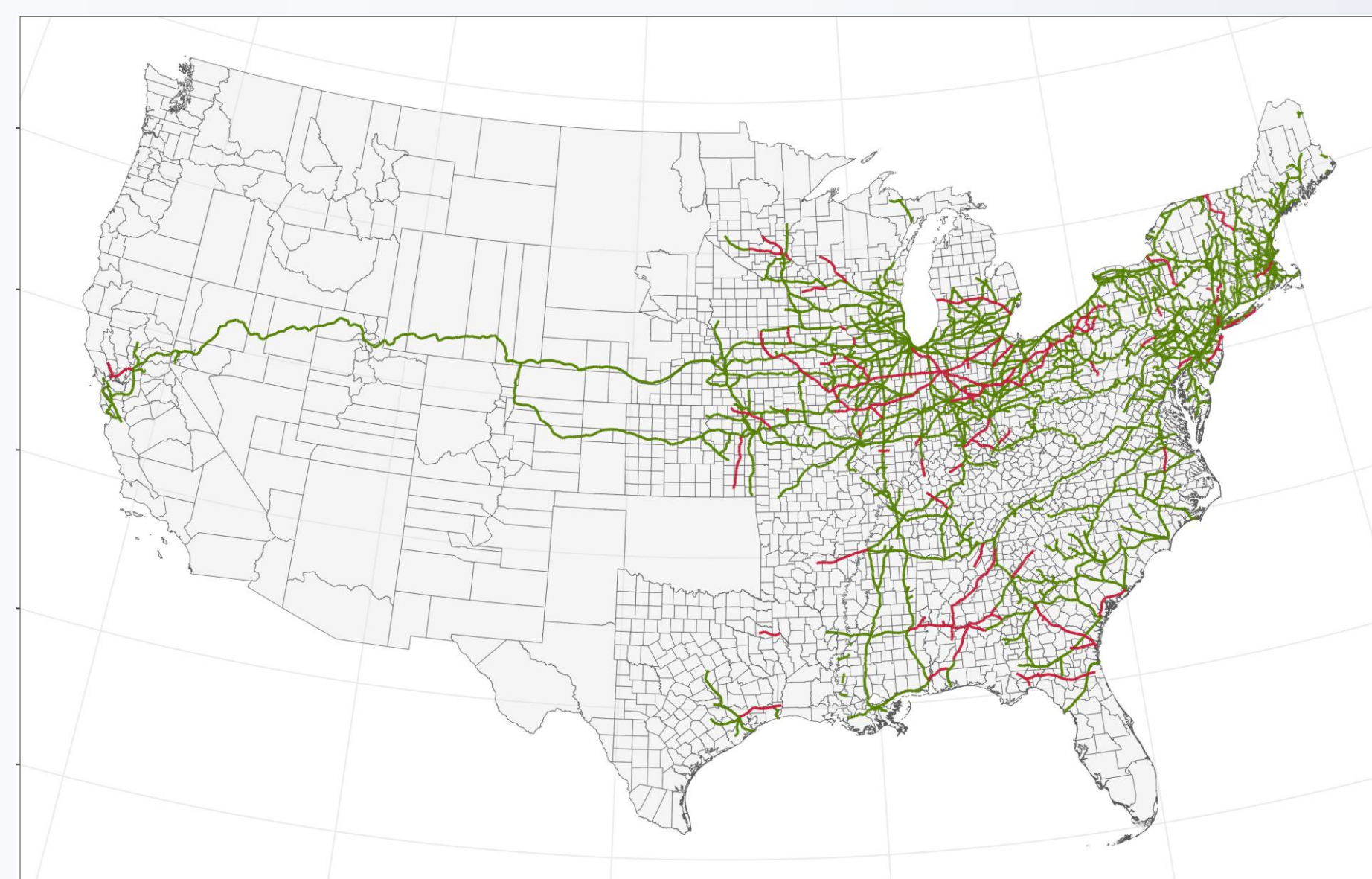
- Post Civil War: Boom in Railroad Construction
 - Significant external financing from Europe
- May 1873: Vienna Stock Exchange Crash
 - Viennese Banks Fail → Contraction in Lending
 - Capital Flight from US → Financial Tightening
- September 1873: Failure of Jay Cooke & Co
 - Banking Panic in US → Financial Tightening

Nearly a quarter of all railroads with bonds defaulted

- Diminished service along operational routes

Historical Context

Digitized Railroad Routes from Poor’s Manual of Railroads (1872)



Disrupted Railroads → ↑ Trade Costs → ↓ Local Economic Shocks

Historical Context

Features of Experiment

- Railroads were sensitive to financial sector
 - Capital Intensive → Reliance on External Financing
 - Dependence on financial sector (Rajan and Zingales 1998)
- Railroads had significant economic impact
 - Land Value ~ 60% (Donaldson and Hornbeck 2016)
 - Productivity ~ 20% (Hornbeck and Rotemberg 2024)
- Rail lines were fixed in space and formed a network
 - Network design allows tracing localized shocks across different regions

Railroads in 1870s were systemically important and sensitive to financial sector conditions
The financial crisis disrupted Railroad Network resulting in varying localized impact

Empirical Framework

Approximating Local Economic Shocks

- Disruptions to any segment of Rail Network affects the entire system
- Construct Market Access to capture “Market Potential” of a county (Donaldson and Hornbeck 2016)

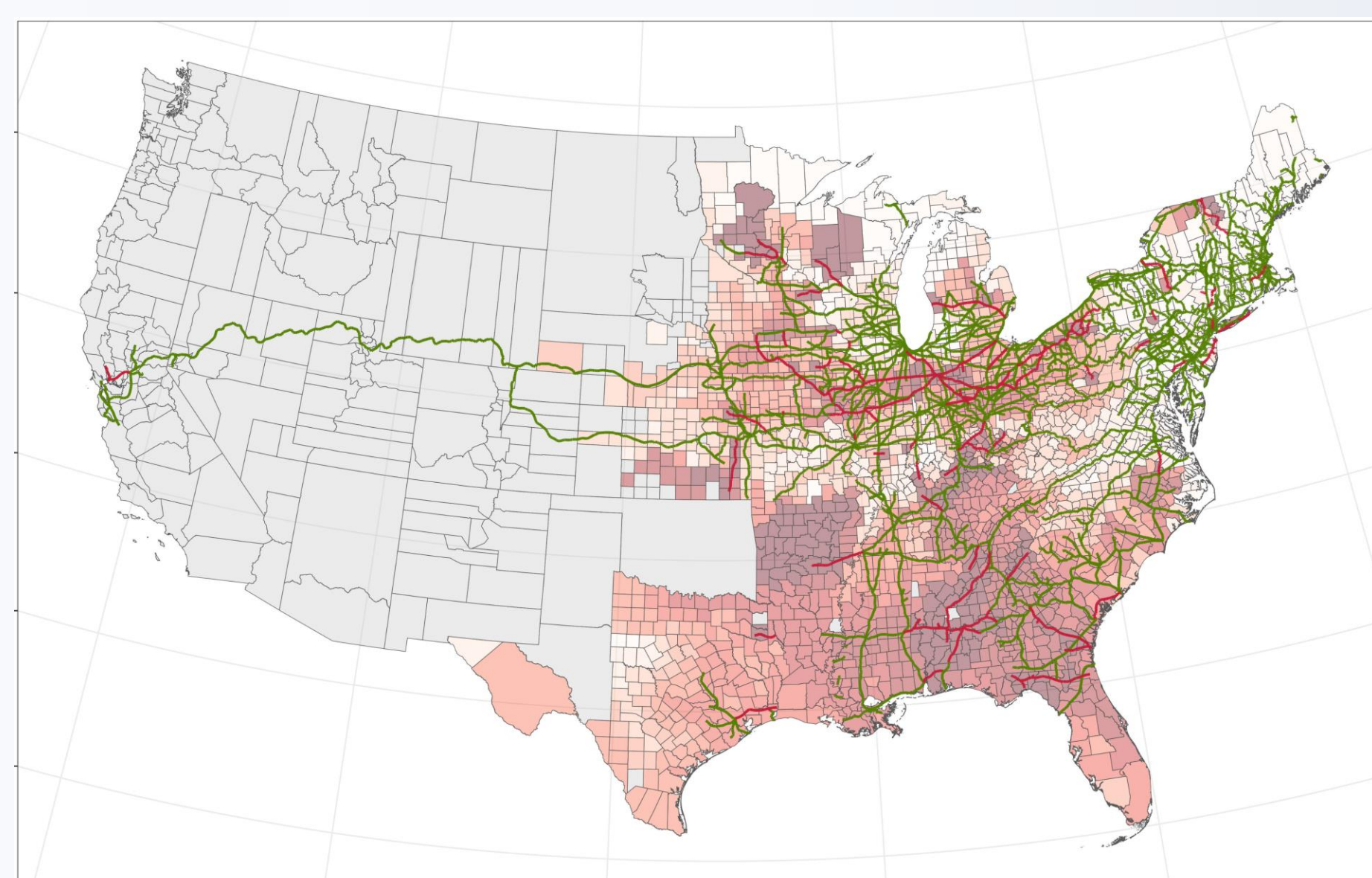
$$MA_o \approx \sum_{o \neq d} \tau_{od}^{-\theta} N_d$$

Approximate Local Economic Shocks with $\Delta \log(\text{Market Access})$

- Market Access for each county under two scenarios
 - Pre Crisis – Undisrupted Transportation Network
 - Post Crisis – Disrupted Transportation Network (w/o Defaulted Railroads)

Empirical Framework

Approximating Local Economic Shocks



Spatial Distribution of Local Economic Shocks

Empirical Framework

Data: Family Tree – Intergenerational Linkages

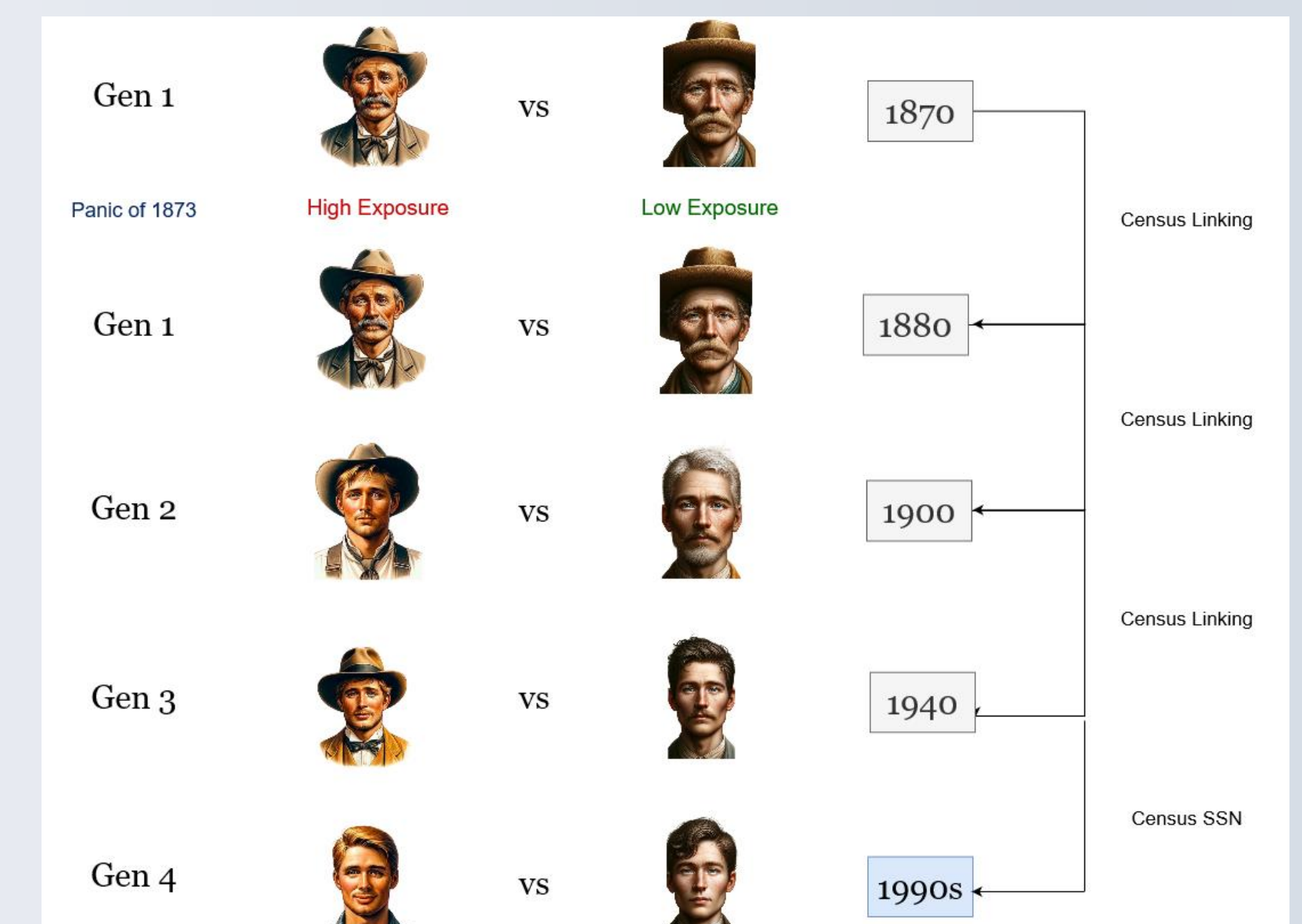


Illustration of Timelines and Within-Gen Comparisons

Linked census records from 1870 to 2000 allow comparison of households with different crisis exposure.
Economic disparities have persisted for four generations, especially among the poorest third.

Empirical Framework

Estimation Specification

Data: Individual-level data from US Full Count Census

Specification:

$$y_i = \sum_p \beta_p \text{Shock}_C \times 1(\text{Wealth Bucket})_p + \lambda_g + \gamma_s + \phi' X_i + \epsilon_i$$

β_p - Coefficient of Interest

- $1(\text{Wealth Bucket})_p$: 0th - 35th; 35th - 70th; 70th - 100th percentiles
- γ_s : Gen-1 – State of Residence fixed effects
- λ_g : Gen-1 – Socio-Economic Group fixed effect

Findings

Baseline Estimates

Persistent Socioeconomic Gaps ~ 120 years & 4 Gen
(Particularly for the Bottom Tercile of Wealth Distribution)

Gen 2 (1900) - 16% ↓ Literacy, 8% ↓ Home Ownership

Gen 3 (1940) - 6% ↓ Literacy, 5% ↓ Home Ownership

Gen 4 (2000) - 6% ↓ Wages, 9% ↓ Home Value

Ancestors (1850 and 1860) – No Differences in Outcomes

Findings

Mechanism

- Loss of Parental Resources
 - Parent (Gen 1) work in occupation with lower skill
- Migration
 - Parent (Gen 1) migrates towards more rural locations
- Assortative Matching
 - Gen 2 marry spouses that are less literate
 - Gen 2's father in laws work in lower skilled occupation

This poster provides a concise overview of the ongoing research.

For questions, comments, or to discuss this work further, please scan the QR code to contact me via email

Thanks for your interest and welcome your feedback!

