State Capacity, Religious Toleration, and Development in Europe, 1000-1850

Noel D. Johnson

Paris 1, November 26, 2018

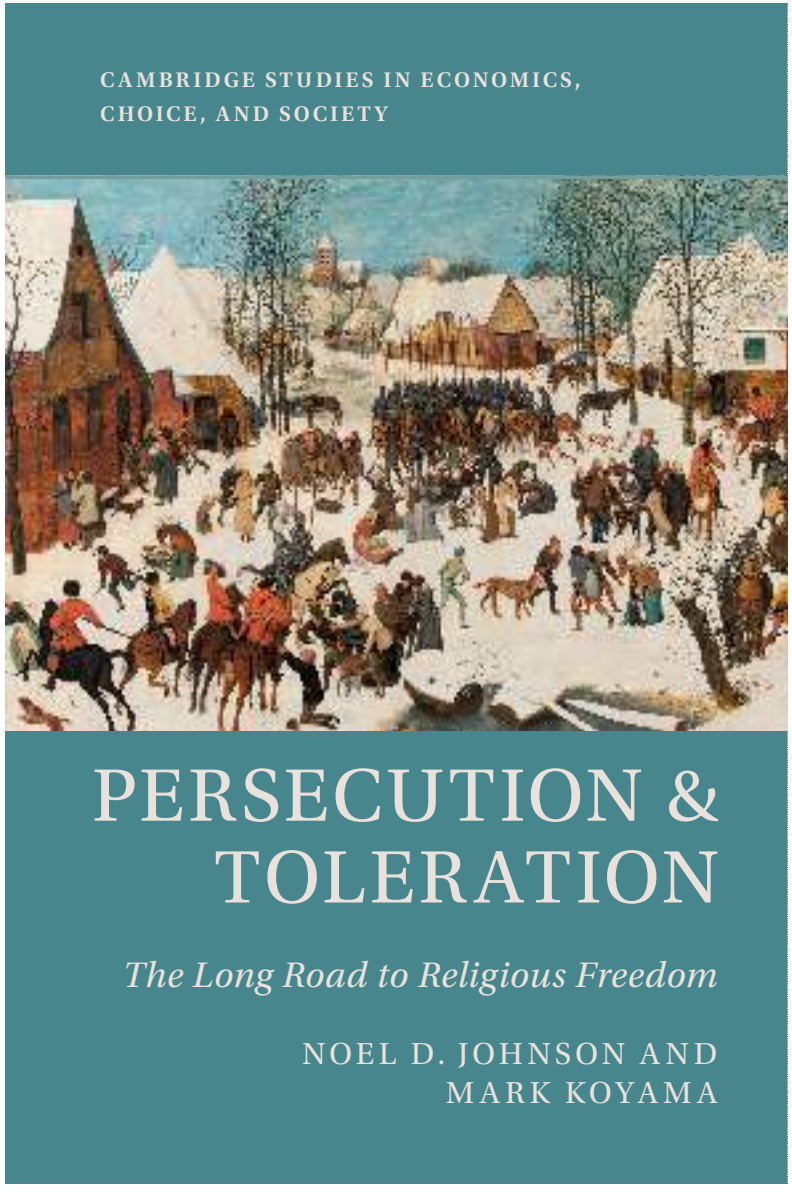
Lecture 1: The Late Medieval Equilibrium: Identity Rules and Their Cost

November 26, 2018

Introduction

Four Questions about Religion and Society

1. Why was religious compulsion so prevalent in premodern societies?
2. When did the notion that religious freedom was desirable emerge?
3. What was responsible for this transformation?
4. What were the economic consequences of this transformation?



Structure

1. Toleration, Persecution, & State Capacity
2. Religion & the State in the Premodern World
3. Why do States Persecute?
4. Jewish Communities, Conditional Toleration, & Rent-Seeking
5. Climatic Shocks and Persecutions
6. The Shock of the Black Death
7. State Building and the Reformation
8. The Inquisition and the Establishment of Religious Homogeneity in Spain
9. From Confessionalization to Toleration and then to Religious Liberty
10. From Persecution to Emancipation.
11. The Persecution of Witchcraft
12. Religious Minorities and Economic Growth
13. The Emergence of Modern States, Religious Freedom, and Modern Economic Growth
14. Applying Our Argument to the Rest of the World
15. Modern States, Liberalism, and Religious Freedom
16. Conclusions

THE *Lateness* OF RELIGIOUS FREEDOM

- England
  - 1778: Catholics allowed to inherit land
  - 1828: Test Acts repealed
  - 1856: Catholics can attend Oxford and Cambridge
  - 1858: Jews allowed to sit in Parliament
- France
  - 1787: Edict of Toleration
  - 1791: Protestantism recognized
  - 1825 : Anti-Sacrilege Act
  - 1905: Separation of the Churches and the State

Why so Late?

Quintus Aurelius Symmachus
(345-402)

- Prominent and influential Roman senator.
- Known as part of the "last pagan generation".
- He authored a compelling plea for religious pluralism:

  "We gaze up at the same stars; the sky covers us all; the same universe encompasses us. Does it matter what practical system we adopt in our search for the Truth? The heart of so great a mystery cannot be reached by following one road only."

- However, pagan worship was made effectively illegal by the Emperor in 391.
- Why did Symmachus's arguments fail to convince and come to be forgotten?

Why so Late?

Michael Servetus (1509-1553) free thinker, notable in the history of medicine for discovering the function of pulmonary circulation. He also denied the Trinity, which made him the enemy of both Catholics and Protestants.

Sebastian Castellio (1515-1563) preacher and theologian; and one of the first Reformed Christian proponents of religious toleration, freedom of conscience and thought.

Ideas or Institutions?

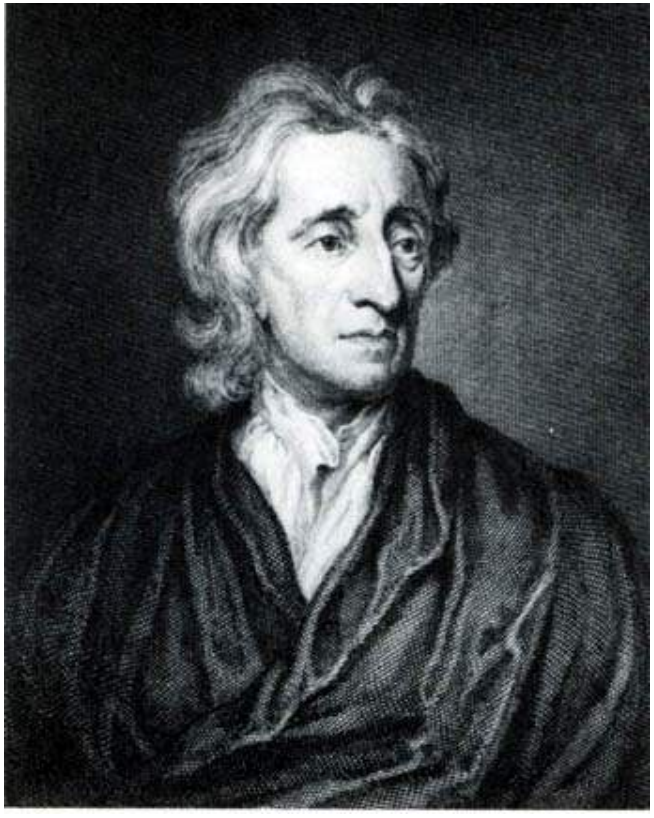
- *The ideas of economists and political philosophers, both when they are right and when they are wrong are more powerful than is commonly understood. Indeed, the world is ruled by little else.*

  –John Maynard Keynes

- *The best things on religious liberty were said in the sixteenth century but not practiced until the nineteenth century.*

  –Roland H. Bainton (1951, 253)

Ideas or Institutions?



Locke (1632-1704) proposed full toleration for Protestants but not for Catholics or Atheists.

Bayle (1647-1706) was an influential advocate of religious freedom. He also argued for excluding Catholics from toleration.

But Why Not . . .

Paulus Vladimir (1370-1435) delivered a treatise at the Council of Constance (1414) arguing that Christian and Pagan nations could co-exist in peace.

Ideas or Institutions?

- Why were argument for religious freedom so unpersuasive for so long?
- Why did Locke and Bayle become heroes of religious freedom, but not Castellio or Symmachus or Vladimir?
- **Answer**: the institutional environmental was incompatible with religious freedom

The Late Medieval Equilibrium

What about institutions? Three Facts About Europe Around 1500'ish

1. Religion was important for legitimizing many forms of social organization
2. Identity rules were pervasive
3. There was low state capacity

Religious Legitimation

Religious Legitimacy mattered at a macro-level

Figure: Coronation of Charlemagne in 800 AD Unknown artist.

Religious Legitimation

Religious Legitimacy mattered at a macro-level

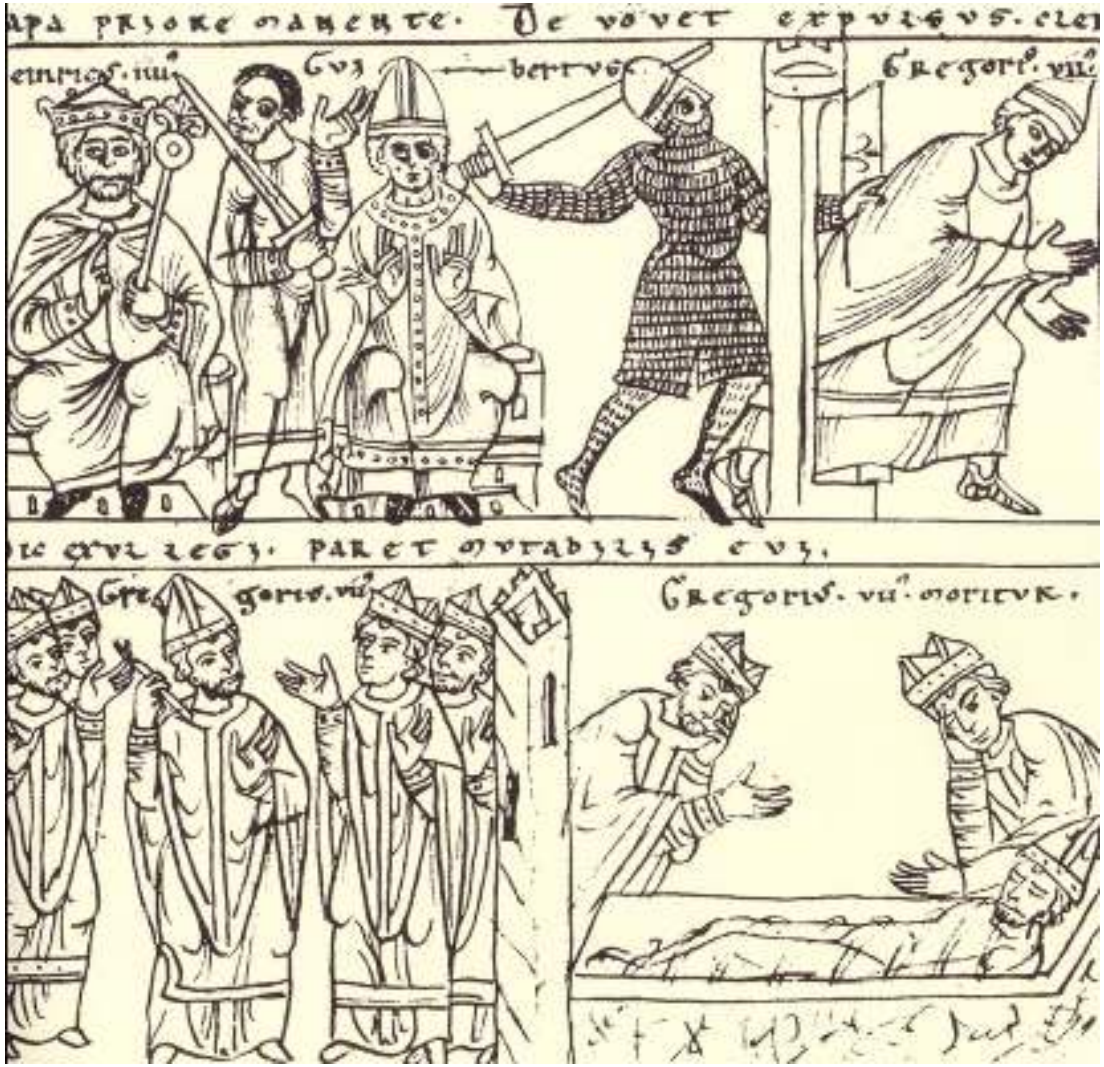


Figure: Henry IV appoints anti-pope Clement III in 1080, Gregory VII flees.

Religious Legitimation

Religious Legitimacy mattered at a macro-level

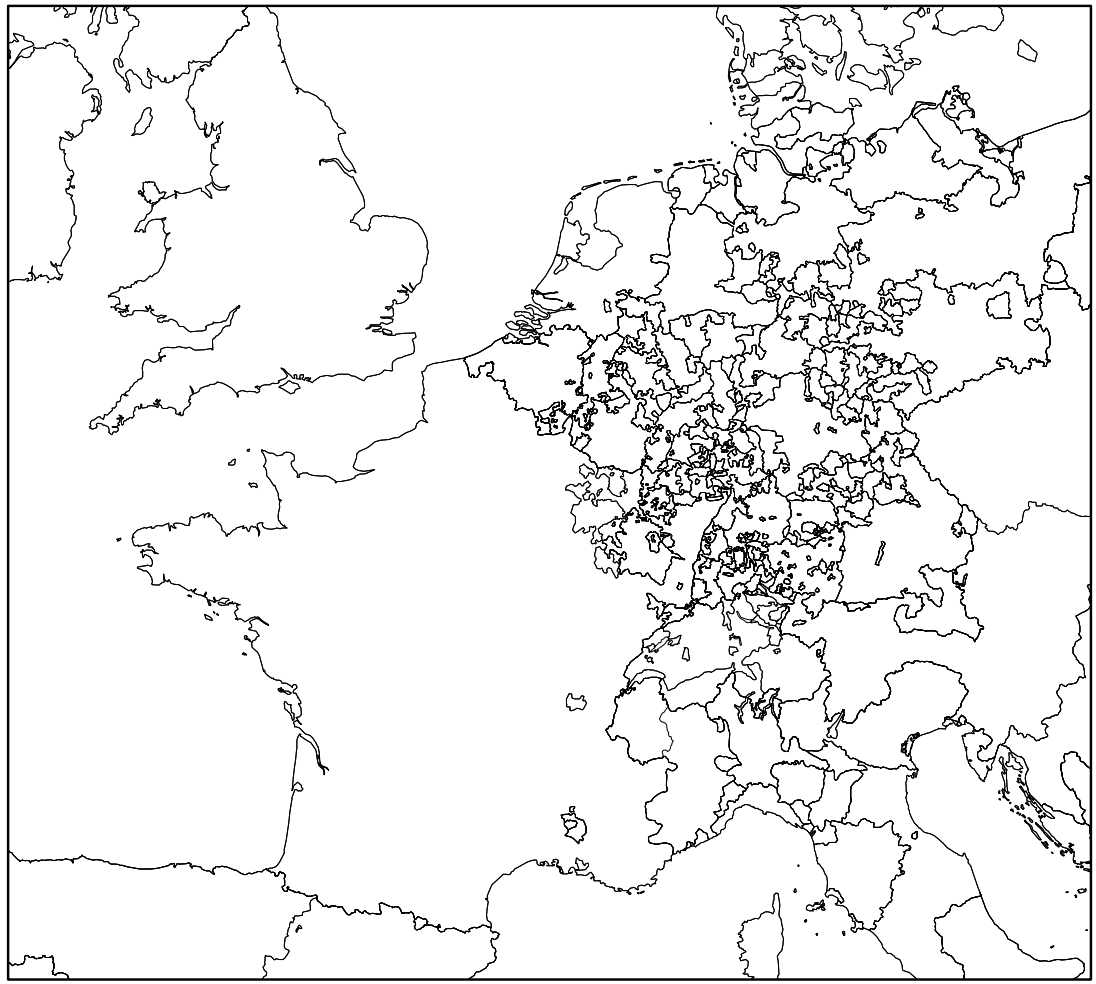


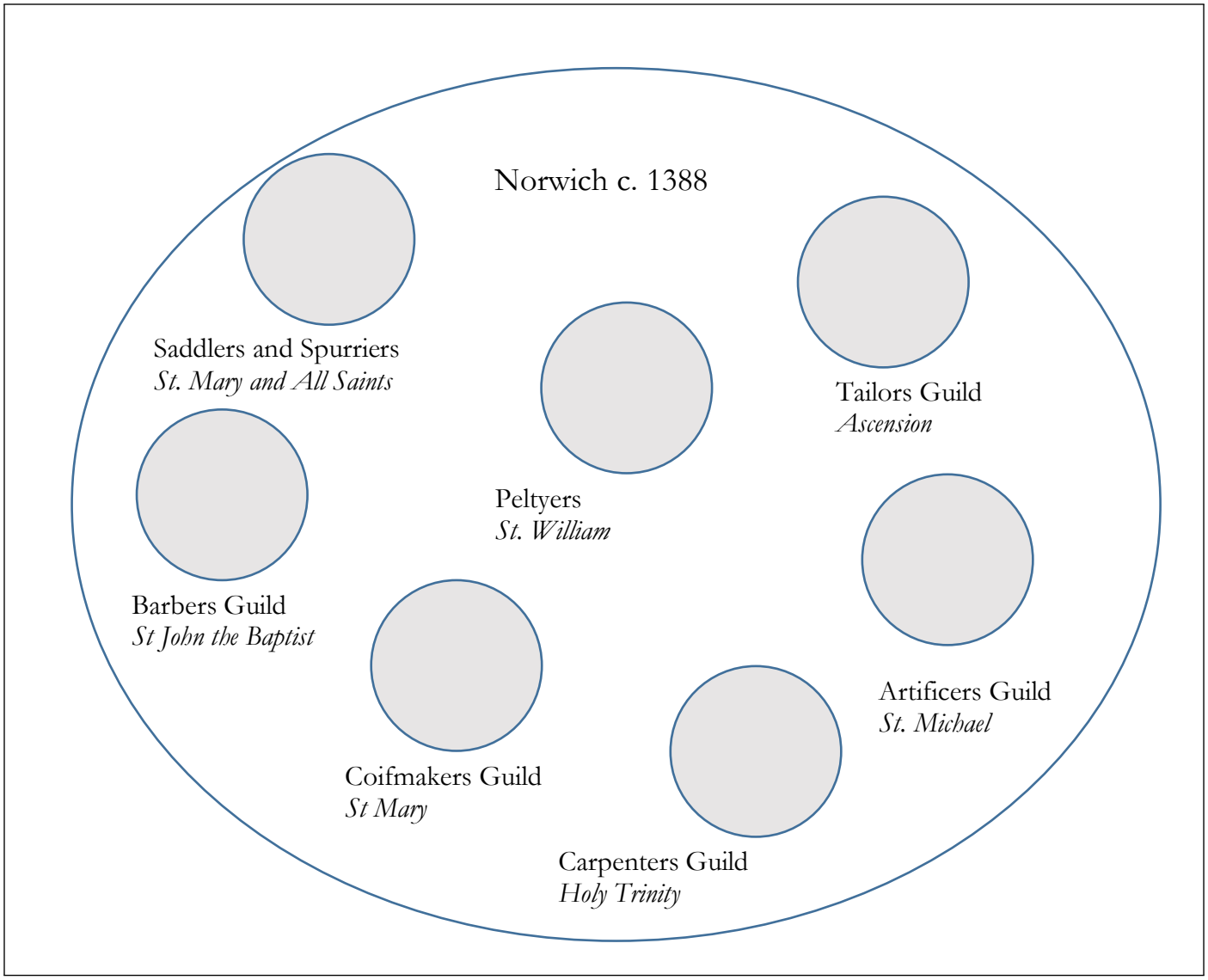
Figure: Holy Roman Empire c.a. 1600.

Religious Legitimation

- There were no recognizable states in much of medieval Europe. The term 'state' only acquired modern usage in the 16th century.
- Political authority was overlapping.
- Kings were kings of peoples rather than of territory: *Rex Anglorum* (King of the English) rather than *Rex Anglie* (King of England)
- The legal system was fragmentary.
- Many 'state-like' functions were outsourced to local lords or the Church.
  - The Church provided welfare.
  - Guilds provided regulation (i.e. enforce quality standards, regulated labor markets)
  - Independent cities or feudal lords provided defense and law and order.

Religious Legitimation

Religious Legitimacy also mattered at the microlevel.



Religious Legitimation and Identity Rules

> *The Tailors of Norwich charged one-half pound of wax to anyone refusing the office of alderman, paid eight pence to the sexton and the keepers and lighters of candles during the religious services, paid four pence to the clerk who organized the annual meetings . . . (T. Smith 1870: 36).*

- Richardson and McBride (2009) describe how craft guilds combined material and religious rewards and sanctions to enforce cooperation.
- Religious sanctions depended on members of the guild having a common religious identity. Thus, these were *identity rules*.
- Outsiders (Jews, heretics, aliens i.e. non-residents of the city, women) were excluded.
- Religious freedom was unthinkable even though outright persecutions of either heretics or violence against non-Christian minorities was not necessarily the norm.

Identity Rules

- The best documented and longest lasting minority community in medieval and early modern Europe were Jews.
- The position of the Church towards the Jews was based on Augustine of Hippo (d. 430) who argued that they should be protected but kept in an inferior position.
- This was because the Jews were expected to convert only at the Second Coming. Until that time their status should be inferior to that of Christians because they rejected Christ.

Identity Rules

llustration showing Jews receiving a charter of privileges from Emperor Henry VII in 1312. *Source*: Codex Baldvini; Koblenz, Municipal Archives.

Low State Capacity

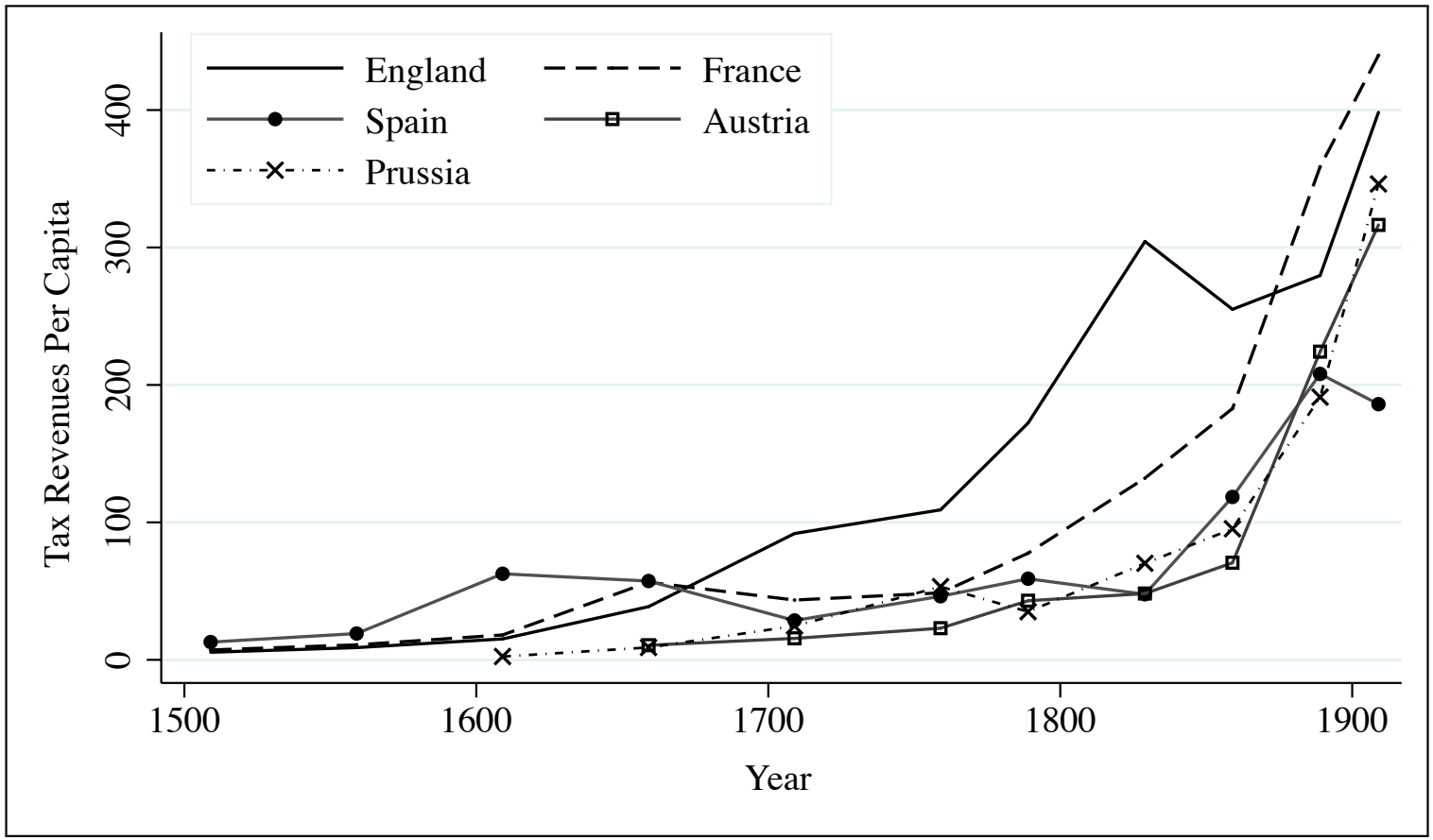


Figure: Tax revenues in relation to unskilled wages for Austria, the Dutch Republic, England, France, Prussia, and Spain between 1500 and 1800. Source: (Karaman and Pamuk, 2013).

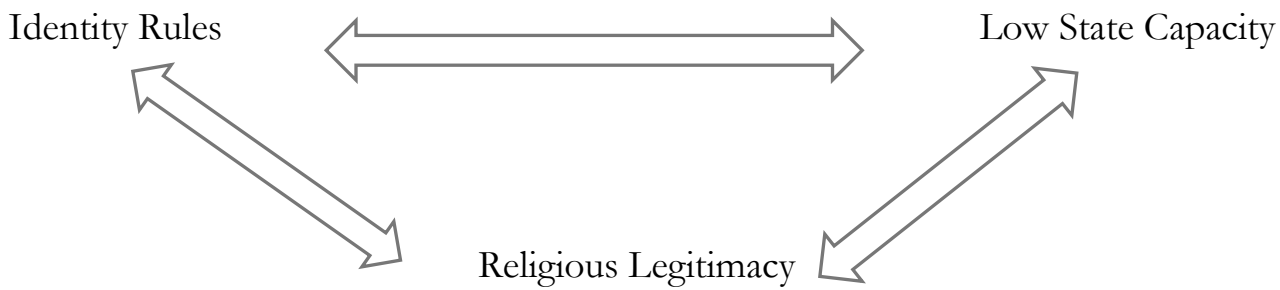
The Birth of Religious Freedom

Argument of our book

- We characterize the premodern world as one of **conditional toleration**.
- Conditional toleration reflected an institutional equilibrium based on:
  1. Reliance on religion for political legitimacy
  2. Identity Rules
  3. Low State Capacity
- This conditional toleration equilibrium was disrupted and dismantled in Europe after 1500 due to two trends.
  1. Military Revolution—war more expensive, so states invest in fiscal and admin. capacity
  2. Religious legitimation less effective after Reformation and as state expanded they encountered heterogeneity
- Argument is not that high capacity states always respect religious liberty, but rather that it is unlikely that low capacity states will do so. State building and the adoption of institutions which respect religious liberty and **general rules** were often self-reinforcing in Europe.

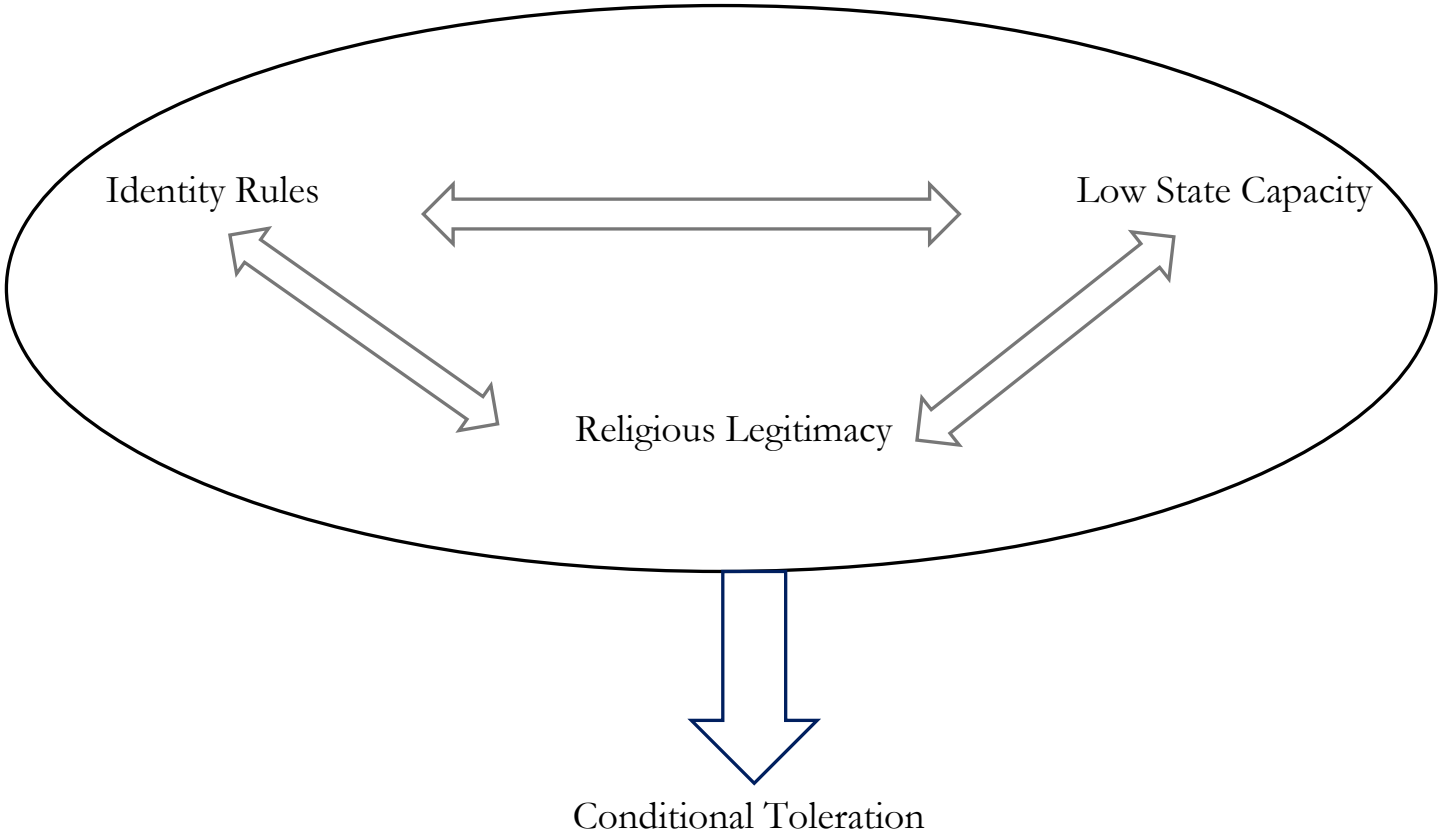
Theoretical Framework

Identity rules, low state capacity, and reliance on religious legitimacy reinforced each other



Theoretical Framework

This equilibrium generated conditional toleration



Relationship to the Literature

- Rise of Europe (Moykr, 1990; Mokyr, 2016; McCloskey, 2010, 2016; Acemoglu and Robinson, 2012). Current debate over significance of ideas, culture or institutions in the rise of the west.

  Argue that the change in political equilibria driven by military revolution, Reformation, and rise of state capacity

- History of Ideas (Jordan, 1932; Lecler, 1960; Israel, 2001; Zagorin, 2003). Focuses on seminal contributions of Bayle, Locke, Voltaire but also less celebrated figures like Sebastian Castellio.

  The social processes we describe complemented the popularization of these ideas

- Classical Liberalism (Kukathas, 2003; Levy, 2015). Does pluralism safeguard overall liberty or can it result in oppression by intermediary bodies?

  In the early modern period, emergence of the state undermined conditional toleration equilibrium setting the stage for liberalism. In other contexts, powerful states have reduced religious freedom (both in the period we discuss and more recently).

Two Papers on the Cost of the Conditional Toleration Equilibrium

- Anderson, R. W., Johnson, N. D., and Koyama, M. (2017). Jewish persecutions and weather shocks: 1100–1800. *The Economic Journal*, 127(602):924–958

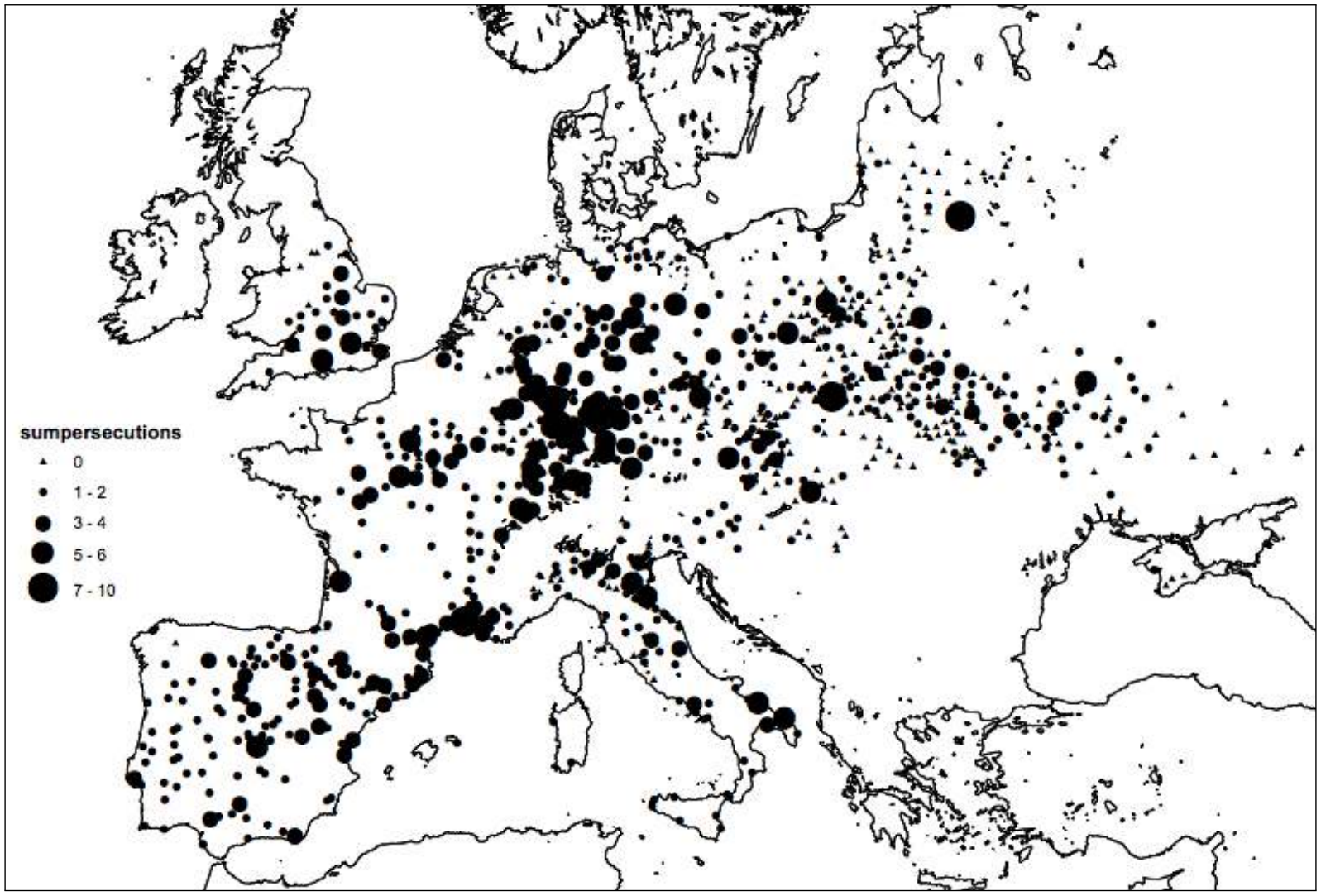
- Jedwab, R., Johnson, N. D., and Koyama, M. (2017). Negative shocks and mass persecutions: Evidence from the Black Death. *Working Paper*

  - Why the focus on Jewish communities?

  - The fragility of the conditional toleration equilibrium

  - The social and economic costs of conditional toleration equilibrium

Temperature Shocks and Jewish Persecution



Symbols are a Jewish city. Circles are Jewish cities with at least one persecution. Larger circles indicate more persecutions. Triangles are Jewish cities with no persecutions. Source: *Encyclopedia Judaica* (2007).

The Rent-Seeking Equilibrium

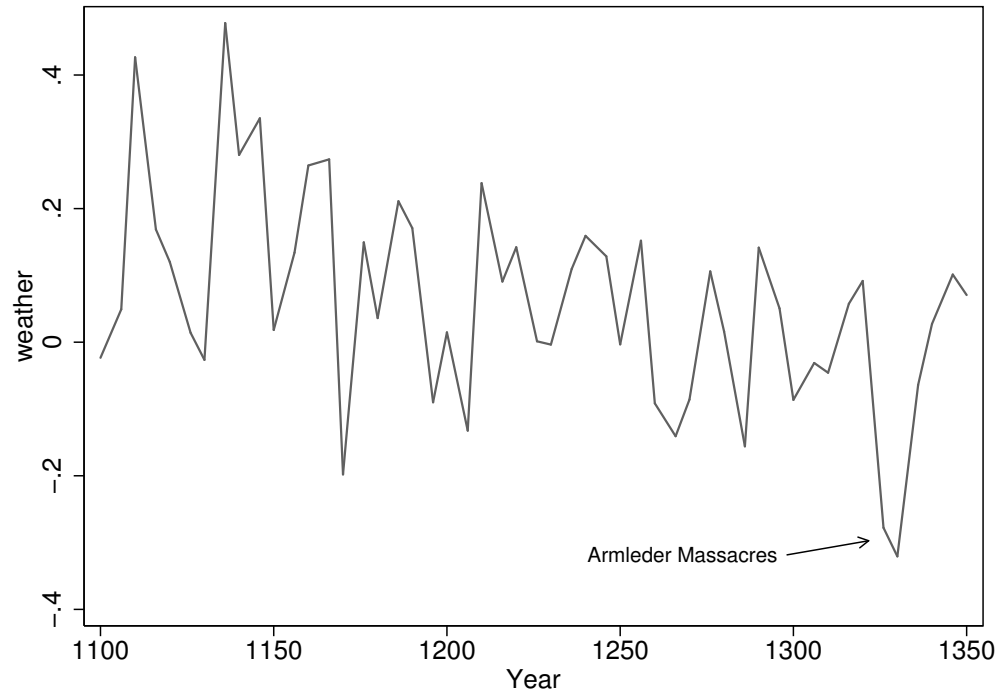
- Jewish communities were important sources of revenues for rulers who promised Jews protection in exchange for tax payments.
- Usury prohibition and the policies of secular rulers encouraged Jewish specialization in moneylending which generated monopoly rents that could be easily extracted (see Koyama (2010)).
- However, this rent-seeking equilibrium was unpopular with both elites and peasants.
- It broke down during political/economic crises. Jewish communities were either expropriated by the ruler himself or by rioting nobles or peasants.
- In this chapter we establish a causal relationship between supply shocks (temp shocks) and Jewish persecution. Consistent with the fragility of the conditional toleration equilibrium.

Jewish Persecutions and Weather Shocks.

- Data on 821 city-level expulsions and 545 pogroms from 936 European cities between 1100 and 1799 collected from the 26-volume Encyclopedia Judaica (2007).
- Information on when Jews were accepted back into cities and countries (re-admittances).
- Highly disaggregated weather data extracted from Guiot and Corona (2010) (interpolated to a city level).
- Price data from 98 wheat markets between 1100 and 1799 that show that negative temperature shocks adversely affected food supply (↑ prices).

City-Level Persecutions

Tomb of Arnold von Uissigheim in parish church of St. Laurentius in Uissigheim. Knight turned highway robber who instigated an 'economically motivated social uprising' that turned against the Jews (Levenson, 2012, 188) destroying more than 100 Jewish communities (Rubin, 2004, 55-57).



Temperature Deviations (Five-Year Averages) in Kitzingen 1100-1350. The Armleder pogroms (1336-1338) followed a period of extremely cold weather in Alsace and Franconia.

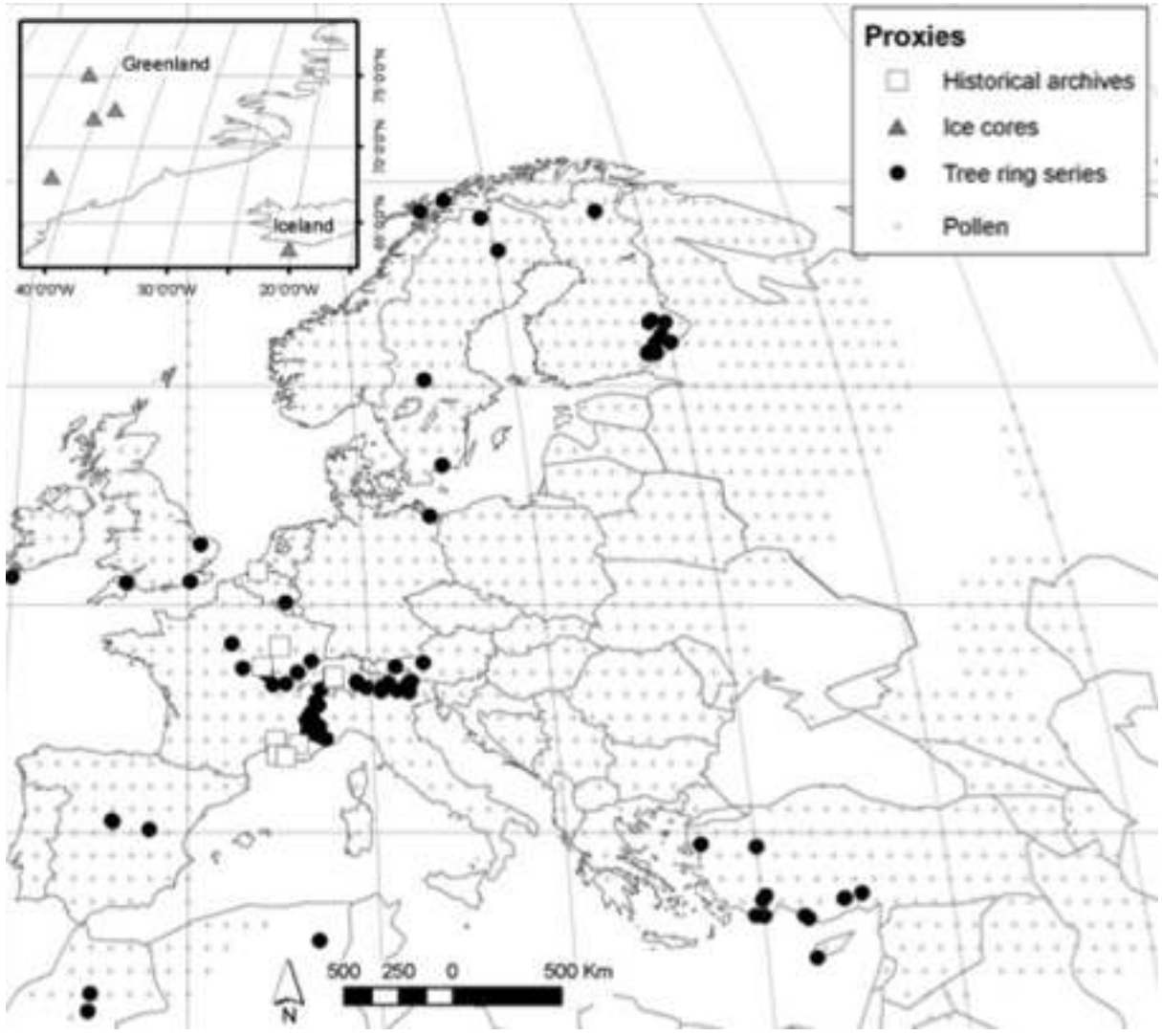
DATA: TEMPERATURES

From Guiot and Corona (2010)

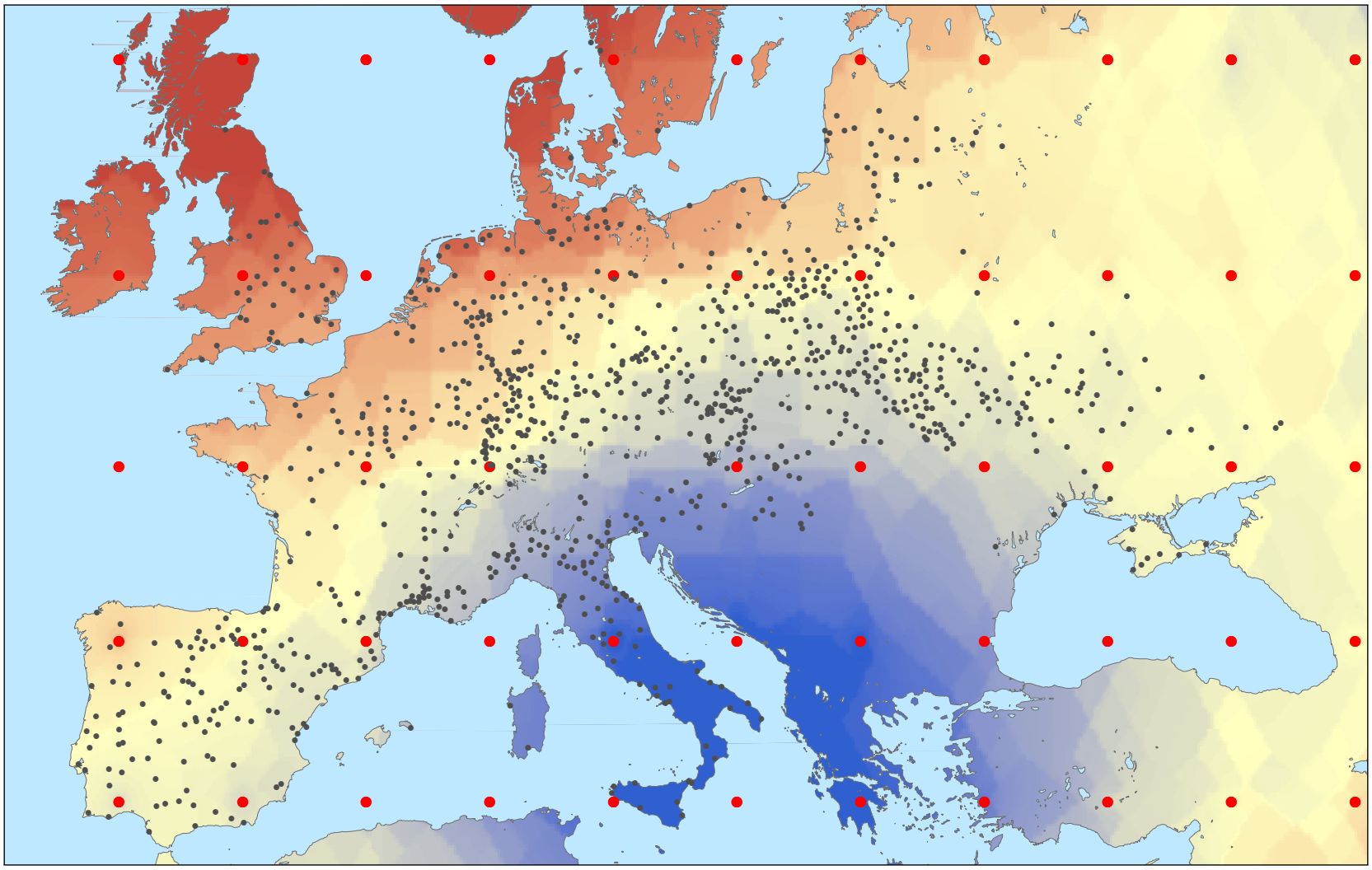
1. 95 tree ring series;
2. 16 indexed climatic series based on historical documents;
3. ice-core isotopic series
4. pollen-based series.

- Average growing season temperature (April to September)
- Expressed as anomalies relative to 1961–1990 average.
- Yearly temperature deviations reconstructed using proxies, calibrated using actual measured data from 1750 onwards.
- Cold periods in reconstructed data consistent with know 'forcing' events such as volcanic eruptions and periods of low solar activity (sunspots). Also consistent with glacial records.

Data: Temperatures



Data: Temperatures



Smoothed temperature deviation map for 1100. Red is above average, blue is below average. Grey dots are cities that had Jewish populations.

ECONOMETRICS: SPECIFICATION

Baseline regression equation:

$$y_{it} = \sum_{c=13th}^{18th} \beta_c T_{i,t-1} \cdot I_c + \eta_i + \mu_t + X_{it}^{'}\Omega + \varepsilon_{it}$$

where $y_{it} = 1$ if an Expulsion or Pogrom in city i during period t;

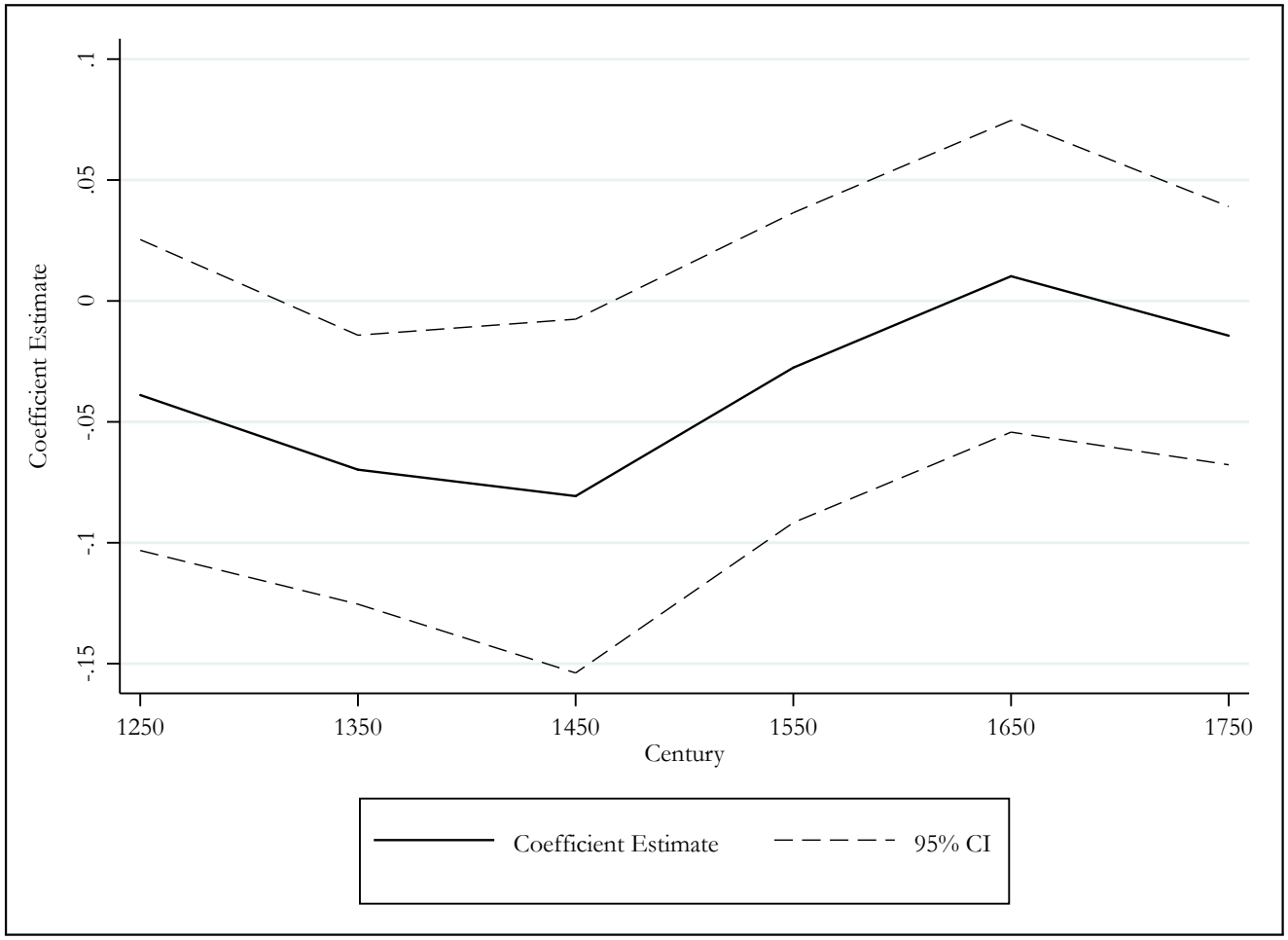
c indexes the century;

η_i is a full vector of city fixed effects;

μ_i is a full vector of period dummies;

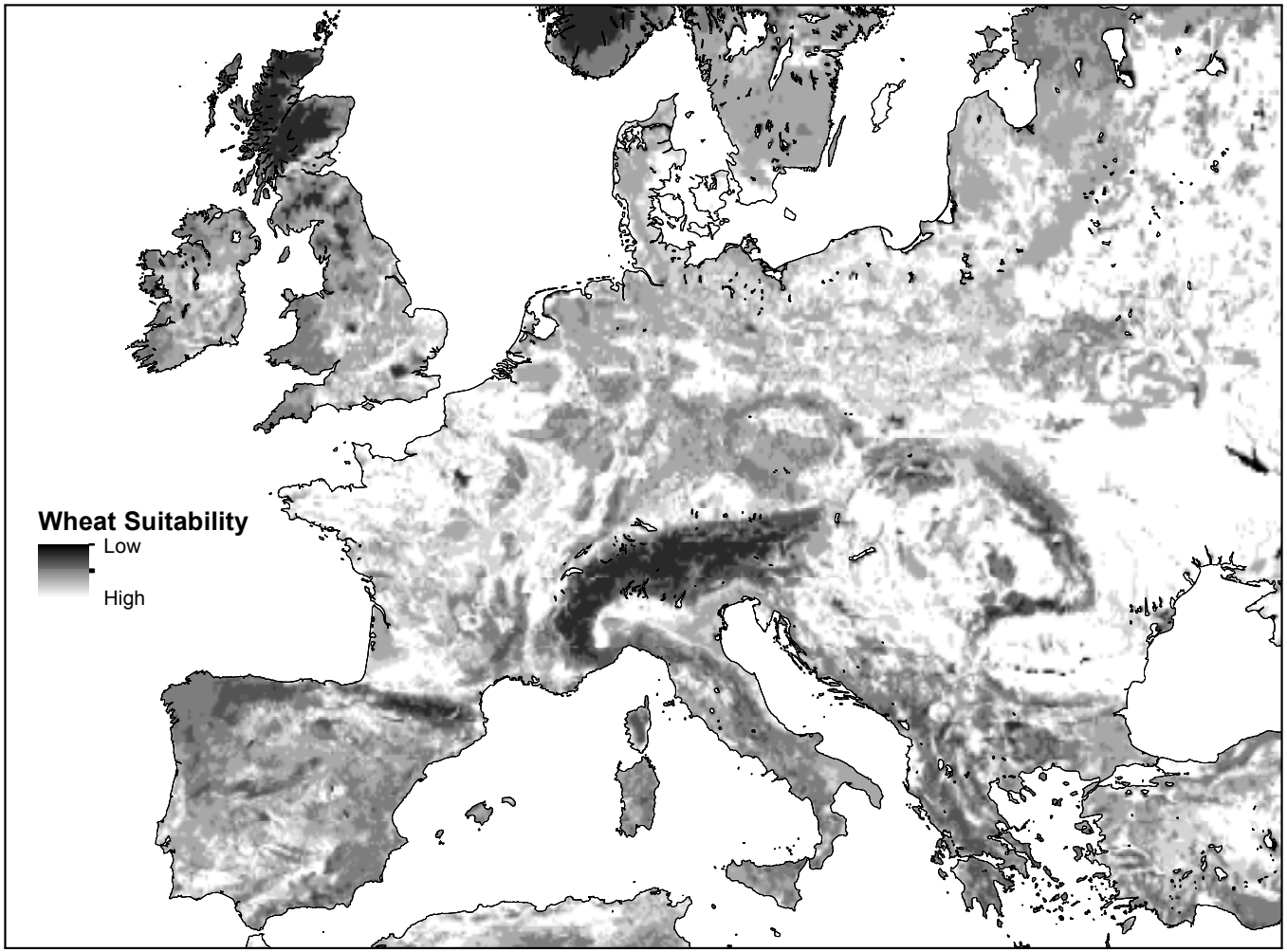
X is a vector of time varying controls

Diff-in-Diff Effects of Temp on Persecution Probability



Baseline persecution probability is about 2%. SD in temperature variation is about 1/3.

Mechanisms: Wheat Suitability



Source: Fischer et al. (2002).

Diff-in-Diff Effect of Temp Shock as Soil Suit Decreases

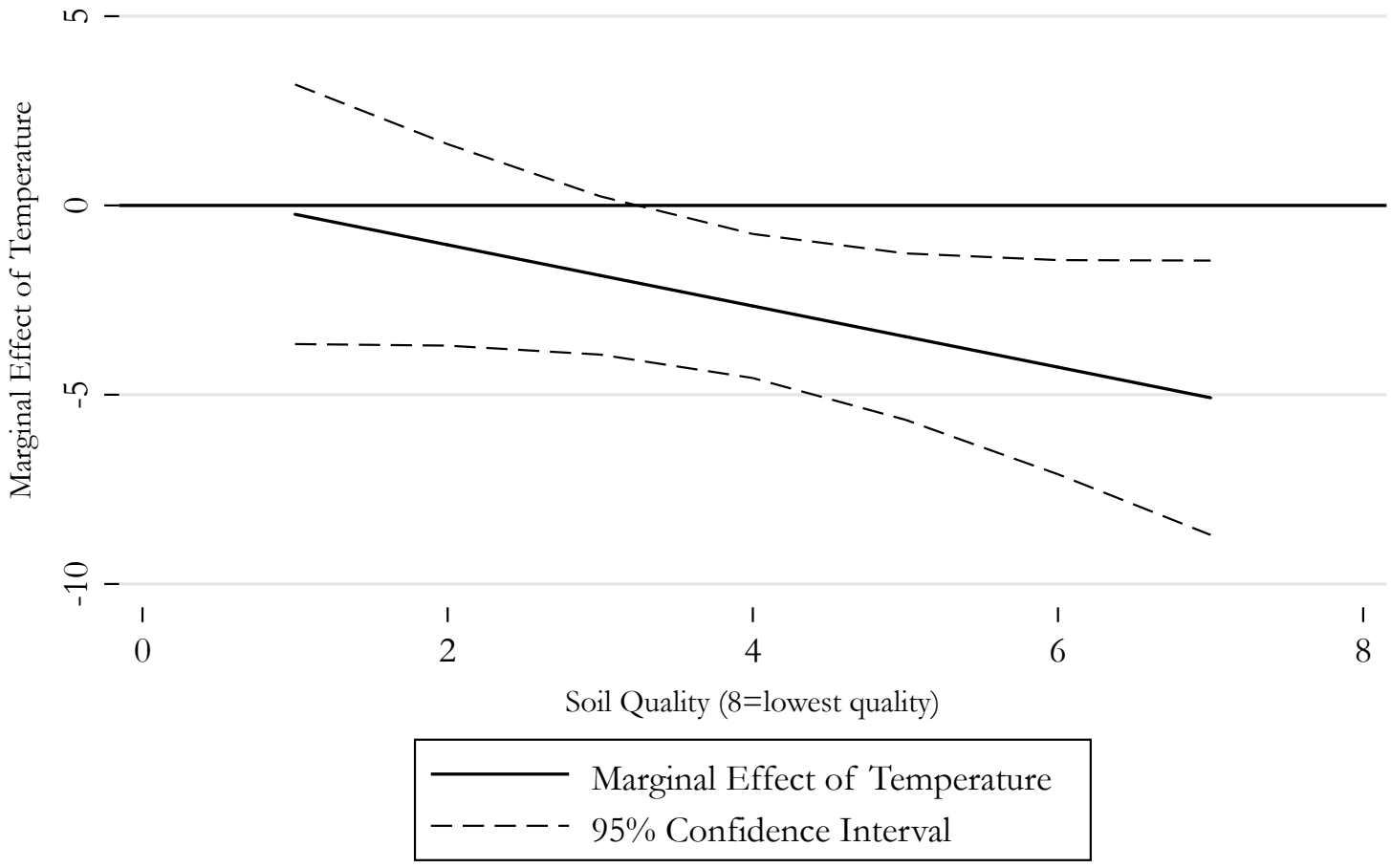


Figure: Temperature and Persecutions as Cereal Suitability Declines.

Mechanisms: State Capacity

- Were temperature driven persecutions more likely in cities associated with weak polities?
- We employ disaggregated data from the State Antiquity Index of Bockstette et al. (2002).
- Every modern day country, in each fifty year period, is assigned three numbers:
  1. Government above tribal level (0 or 1)?
  2. Government local, foreign, or in between (1, .50, or .75)?
  3. How much of modern country territory ruled by historical polity?
- Scores multiplied by each other and then by fifty. Autonomous nation = 50, tribal level gov't = 0.
- We create dummy variable for each city equal to one if that region has a score less than average for sample and zero otherwise.

Diff-in-Diff Effect of Temp Shock as State Antiquity Decreases

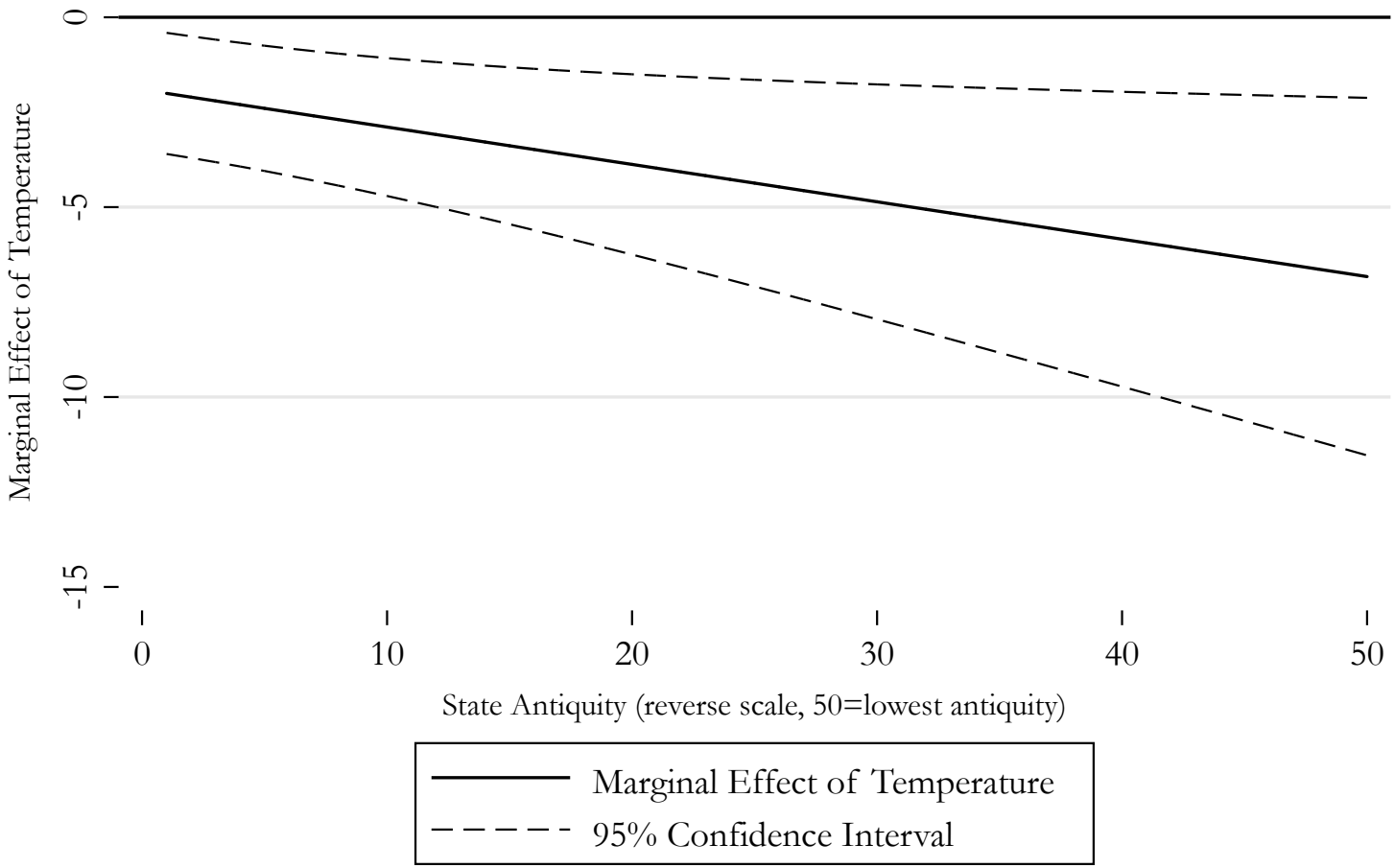
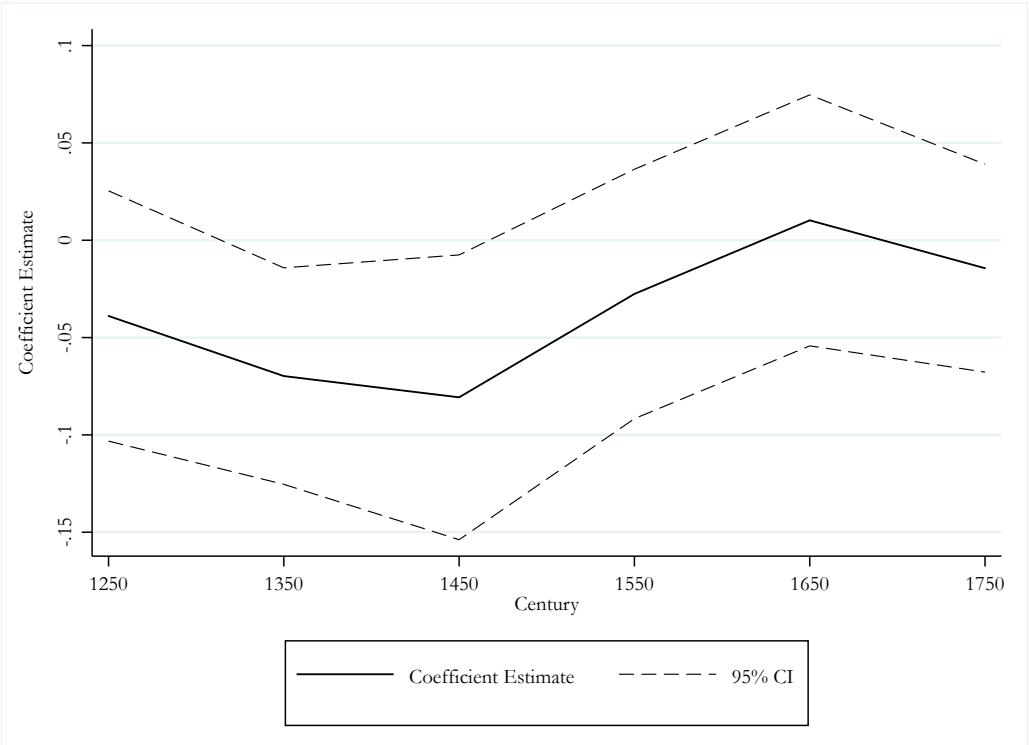


Figure: Temperature and Persecutions as State Antiquity Declines.

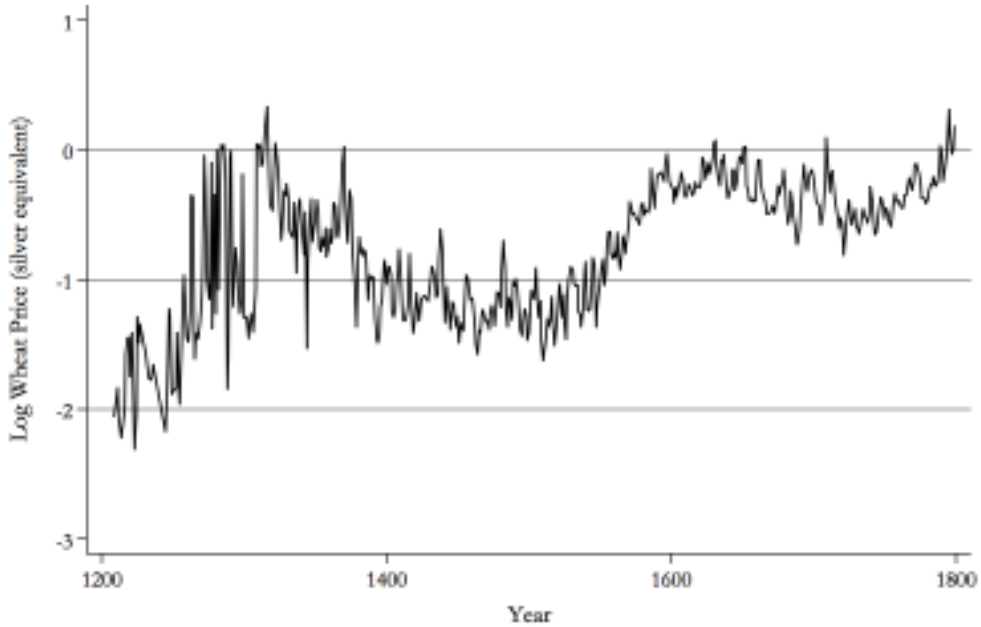
WHY DID THE RELATIONSHIP WEAKEN BY 1600?

- The Reformation? **Possibly.**
- The Enlightenment? **Too late.**
- Fewer temperature shocks? **No.**
- More integrated markets? **Yes.**
- More powerful states capable of protecting minorities and less reliant on Jewish moneylending? **Yes.**

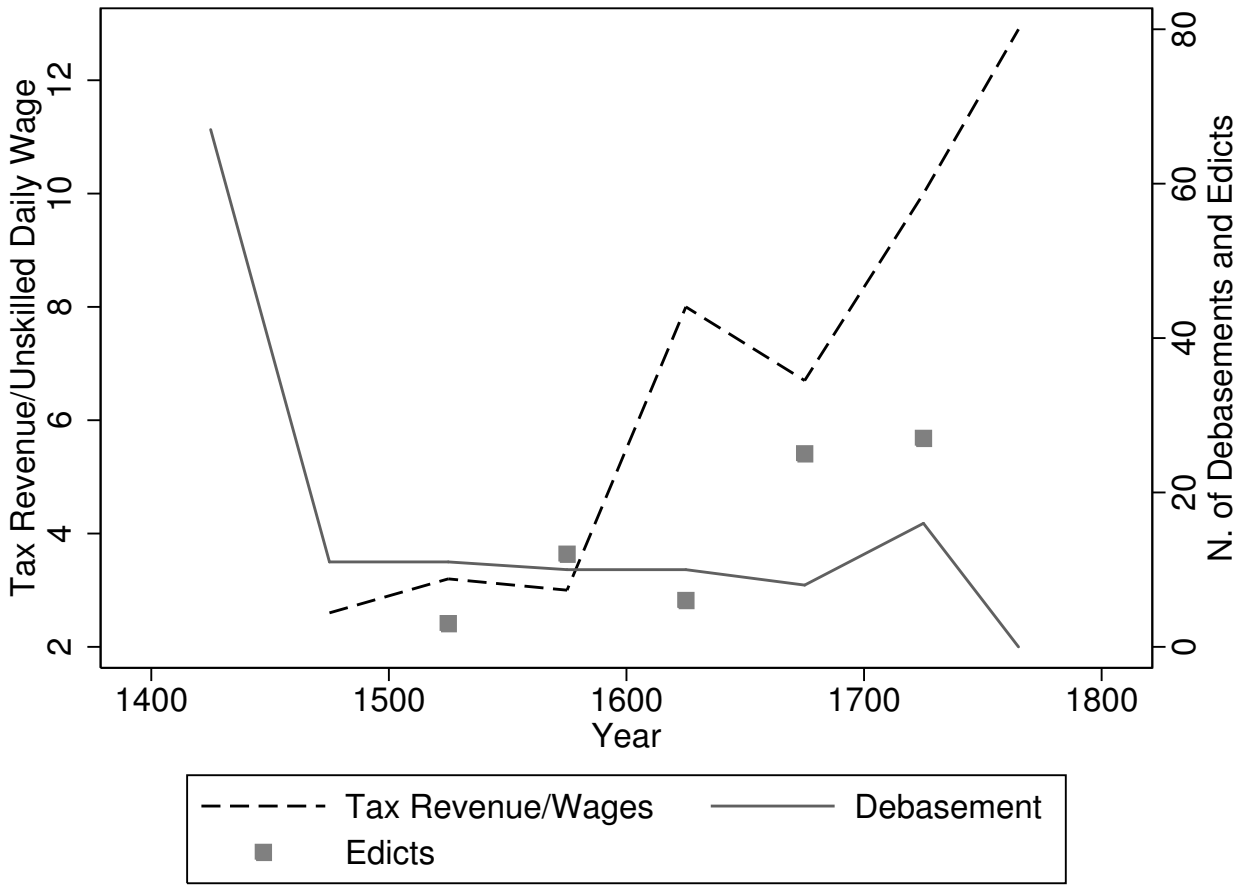


Interpretation: More Integrated Markets?

- On average, a one degree centigrade decrease in temperature increased wheat prices by about 9%.
- But this effect was much bigger before 1600 than after 1600.
- Before 1600 a one degree centigrade decrease in average temperature is associated with a 24% increase in grain prices

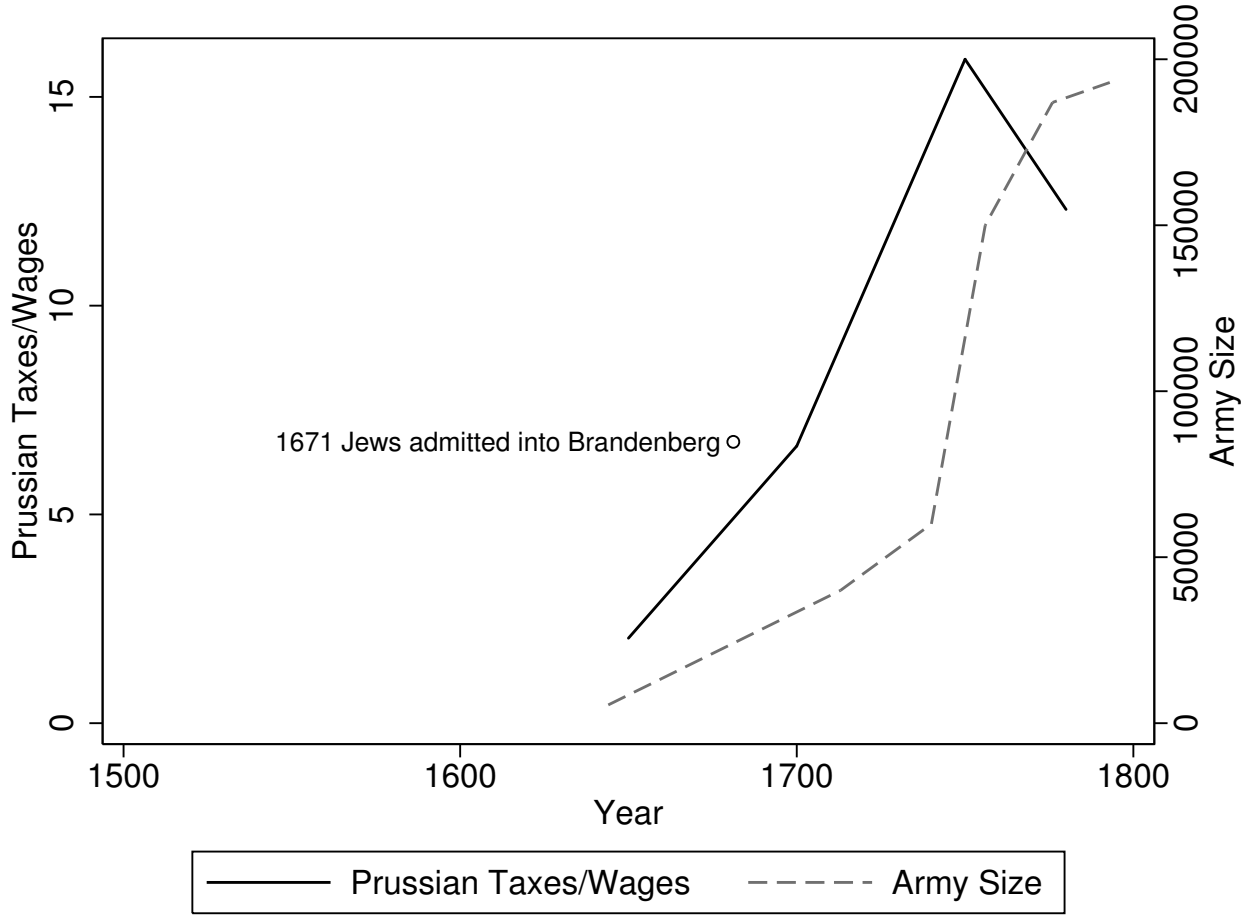


Interpretation: Stronger States?: France



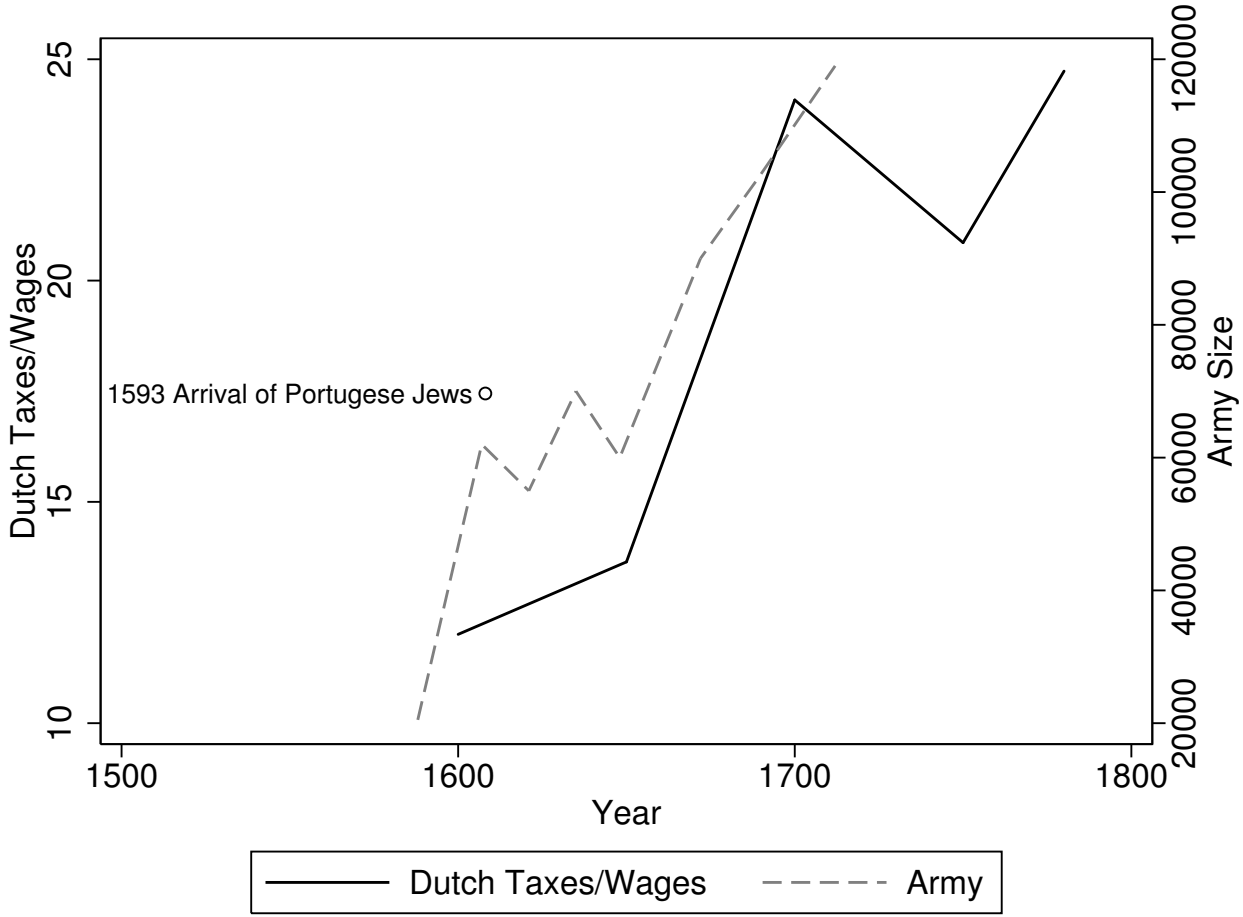
Tax Revenues, Royal Edicts, and Debasements in France

Interpretation: Stronger States?: Prussia



Tax Revenues and Army Size in Prussia

INTERPRETATION: STRONGER STATES?: DUTCH REPUBLIC



Tax Revenues and Army Size in the Dutch Republic

Summary of the Book

- We trace how institutions structured incentives surrounding religious toleration in Western Europe during the medieval and early-modern periods.

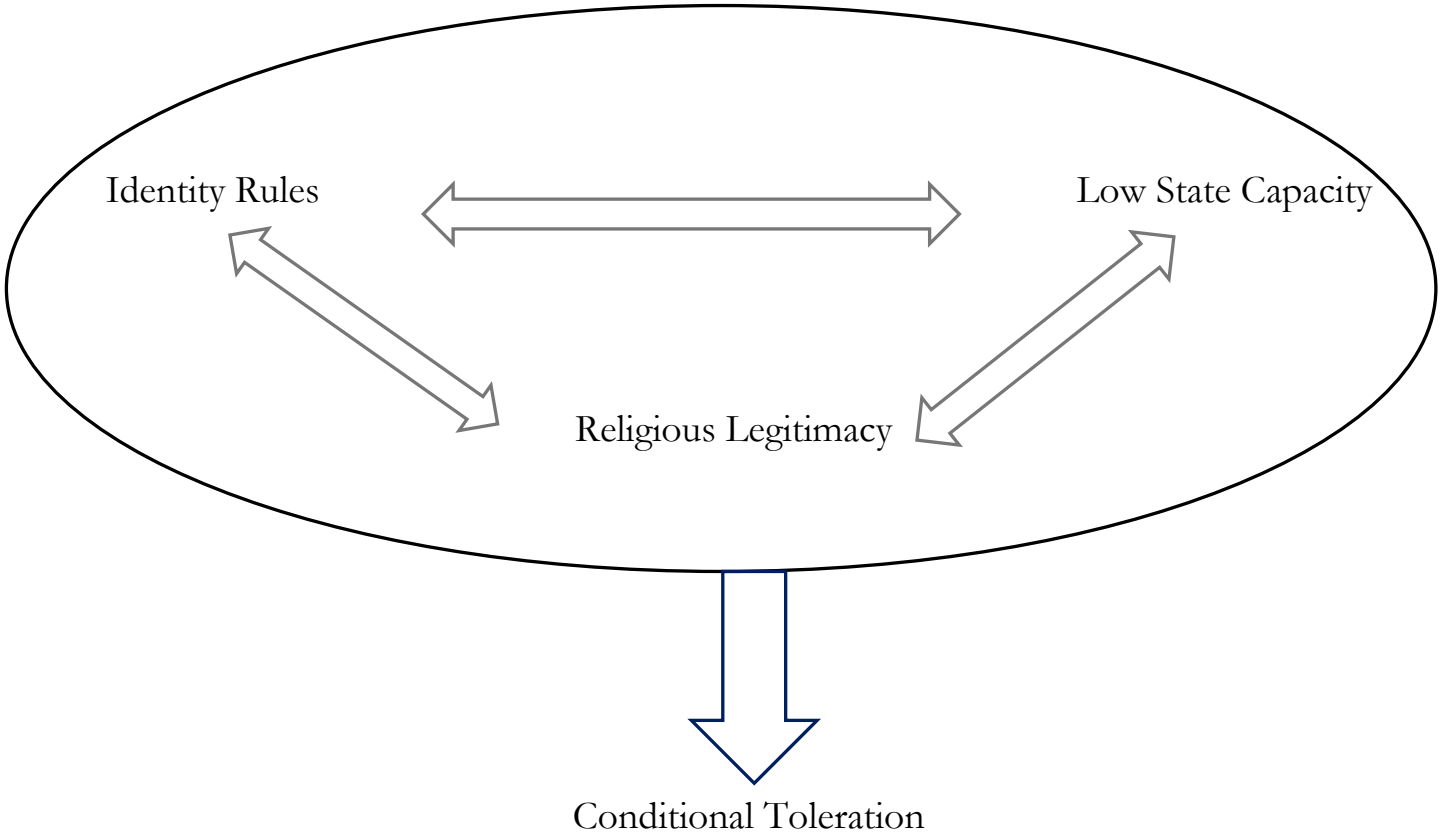
- Three phases:
  - Conditional Toleration (pre-1500)
  - Breakdown of Conditional Toleration (states build capacity and the Reformation)
  - Generalized Tolerance (religious liberty)

- More generally, the move from conditional toleration towards religious liberty was also the move from identity rules to general rules—and this was vital for economic development.

- There is nothing in our story suggesting this process was ineluctable. Some states went the other way as they attempted to build capacity (e.g. Spain in 1492). However, the process of state building was an important, perhaps necessary, part of the path towards religious freedom in the West.

Theoretical Framework

This equilibrium generated conditional toleration



Two Papers on the Cost of the Conditional Toleration Equilibrium

- Anderson, R. W., Johnson, N. D., and Koyama, M. (2017). Jewish persecutions and weather shocks: 1100–1800. *The Economic Journal*, 127(602):924–958

- Jedwab, R., Johnson, N. D., and Koyama, M. (2017). Negative shocks and mass persecutions: Evidence from the Black Death. *Working Paper*

  - Why the focus on Jewish communities?

  - The fragility of the conditional toleration equilibrium

  - The social and economic costs of conditional toleration equilibrium

The Black Death and Jewish Persecution

BLACK DEATH (1347-1352) AS A PROBE TO TEST THE FRAGILITY OF CONDITIONAL TOLERATION

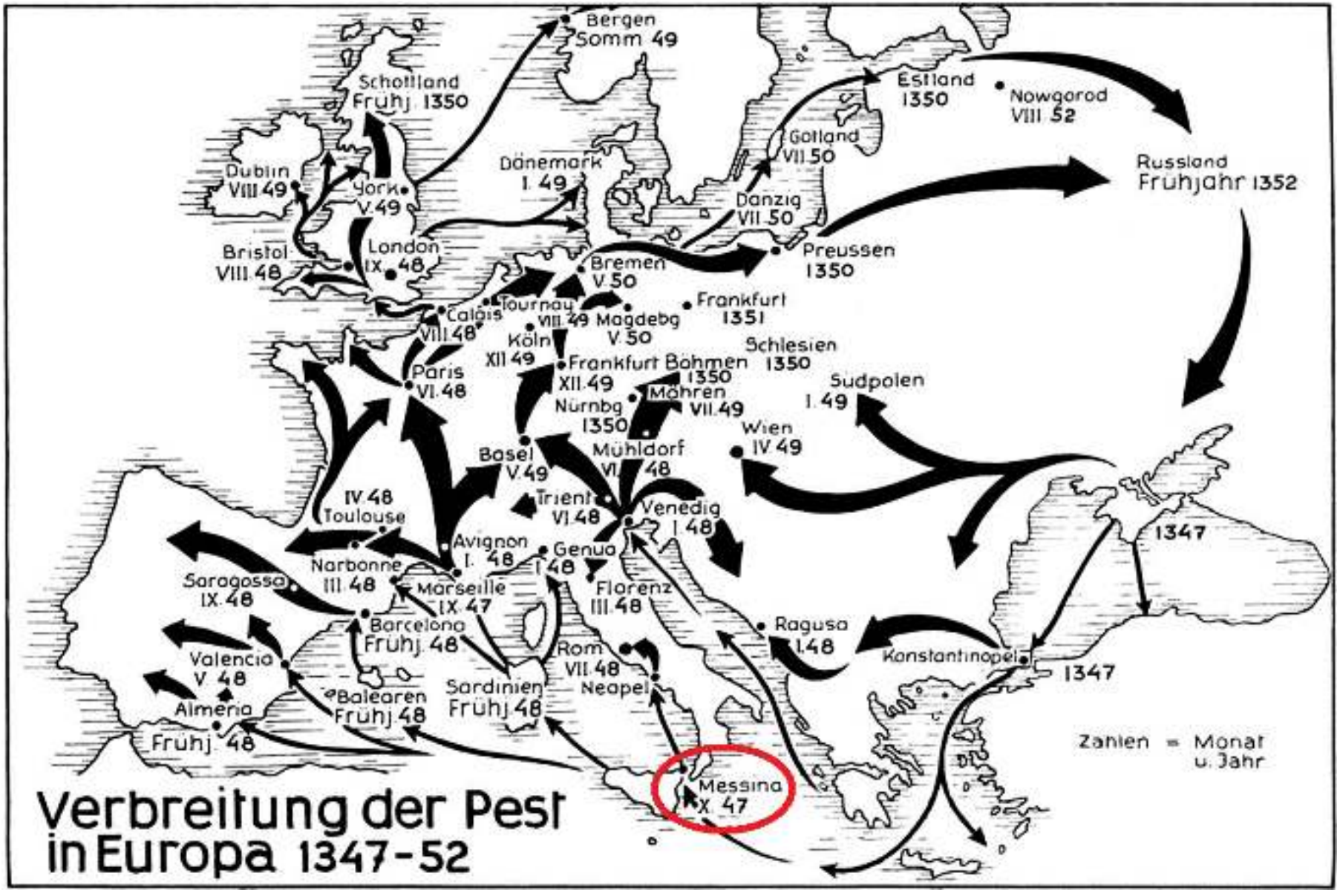
- Under what circumstances are minorities vulnerable to violence and persecution?
- We study the pogroms that took place during the **Black Death** (1347-1352). Killed $\approx$ 40% of Europe's population.
- Novel data set on Black Death mortality and Jewish persecutions for 124 cities.
- Were cities with high mortality rates more likely to persecute Jews? **No.**
- If high mortality, higher "economic value" of having Jews in the town? **Yes.**

THEORETICAL FRAMEWORK: SUMMARY

- Location consisting of a majority group, or **ingroup**, and a minority group, or **outgroup**.
- **Shock:** (i) People lose relatives. (ii) The economy collapses.
- Two mechanisms at work when mortality rate increases:
  1. **Scapegoating:** Members of the ingroup compensate severe utility loss by blaming and plundering the outgroup (which cannot defend itself) $\rightarrow$ **persecution**.
  2. **Inter-group complementarities:** the presence of the outgroup increases income for the ingroup, especially if the local economy is severely disrupted $\rightarrow$ **protection**.

     Extension: Complementarities effect not internalized by the populace, but internalized by **local rulers**.

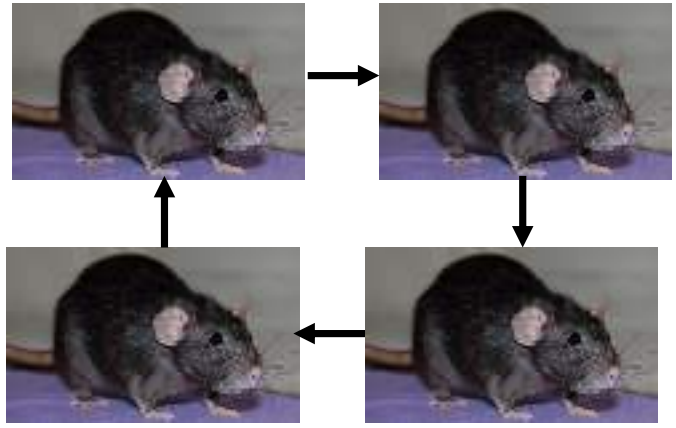
European outbreak in 1347-52. Port of entry: Messina (Oct 1347)



Disease contagion process of the Black Death.

Black rats infected with *Yersinia Pestis* traveling on boats and carts from Asia

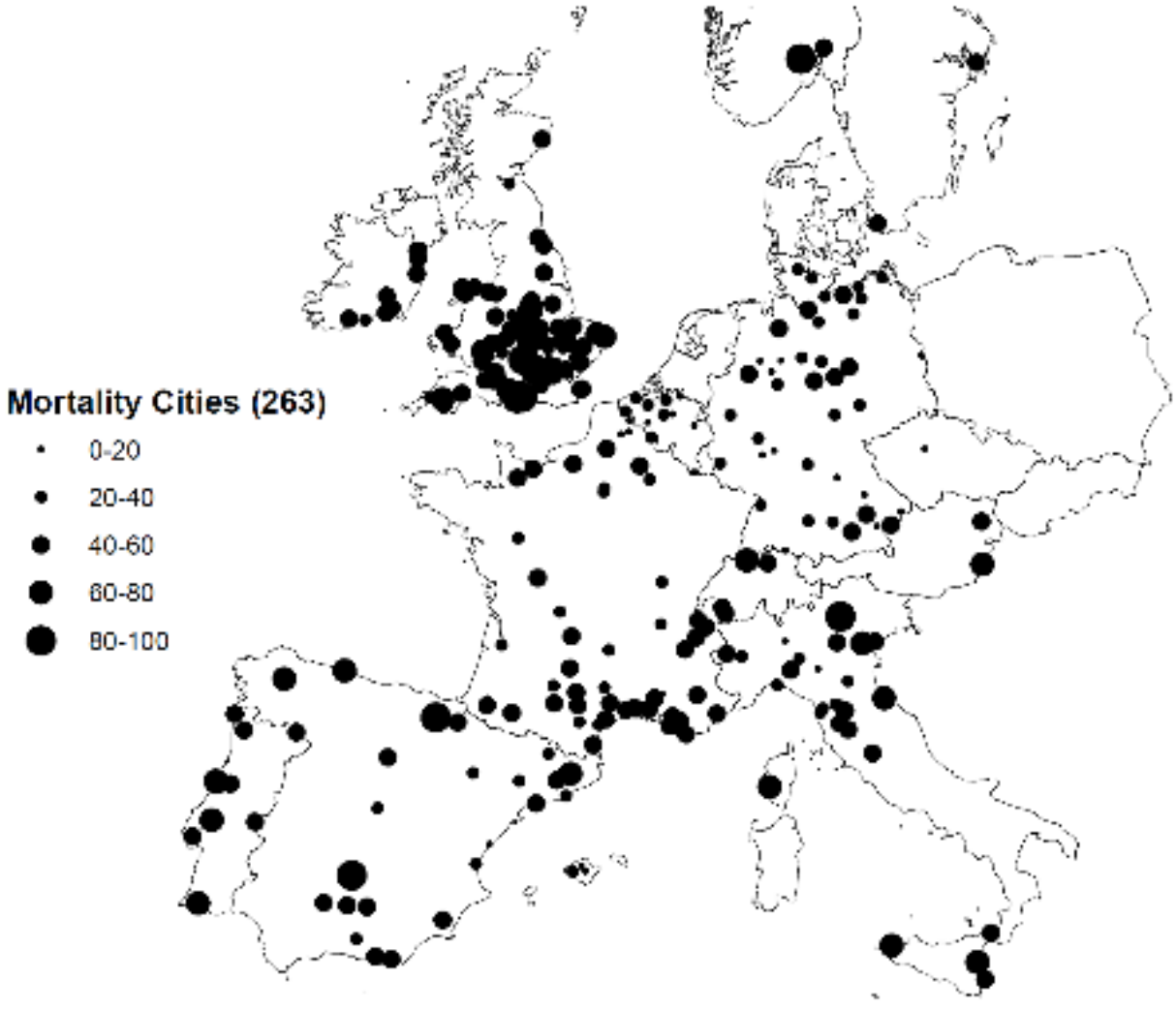
They infect European rats that in turn infect other European rats.



Humans infect other humans (**pneumonic plague**) and rats.

Fleas drink rat's blood. Bite humans once rats die (**bubonic plague**).

Figure 1: Black Death Mortality Rates (%) in 1347-1353



Historians argue that the Black Death was locally "exogenous": (i) **bubonic** (rats/fleas) more than pneumonic (humans), (ii) more virulent initially, but **randomness** in spread (rats/fleas boarded some ships/carts, and not others).

124 towns of our main sample (≈ 43% of Europe's urban pop.).

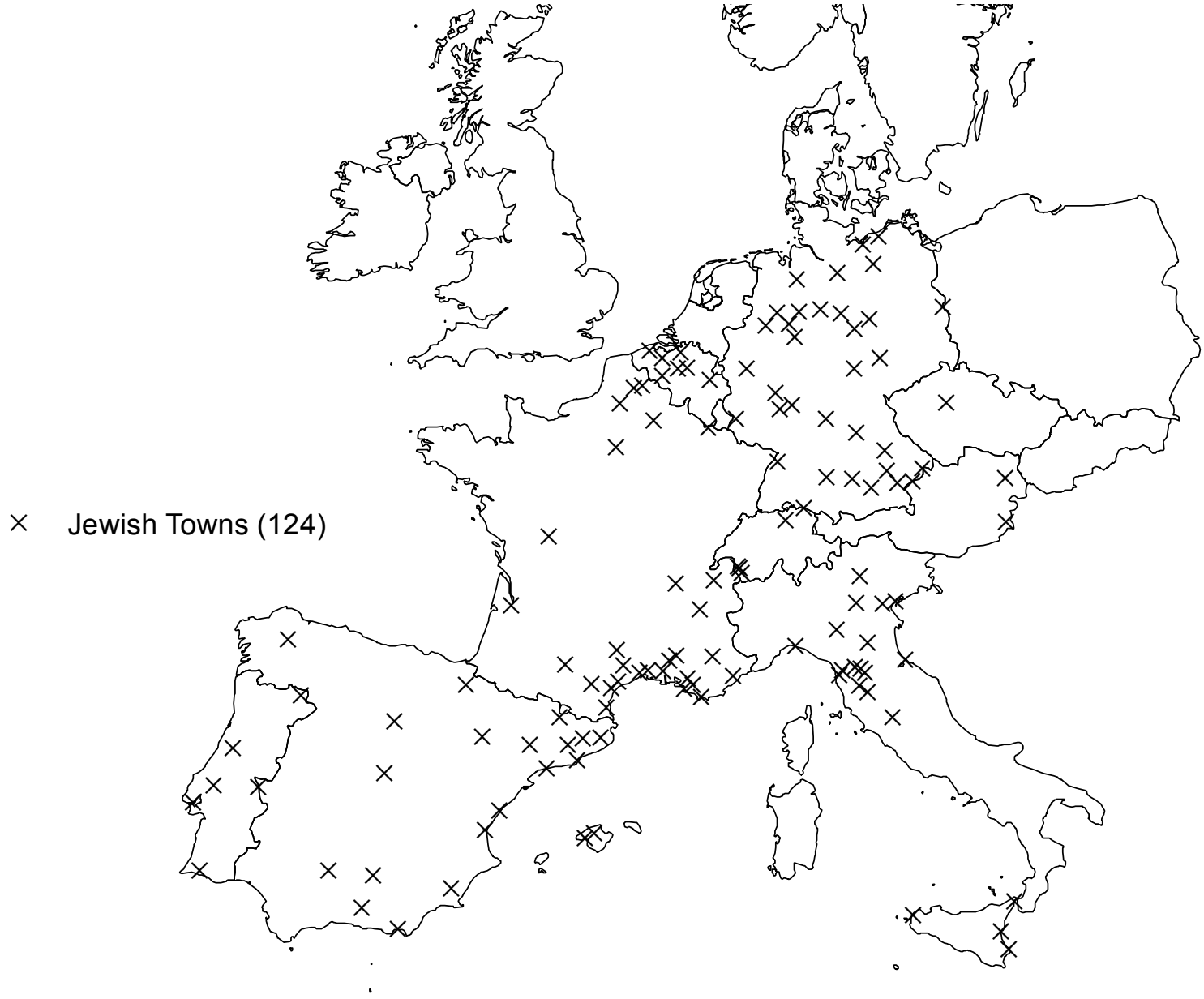
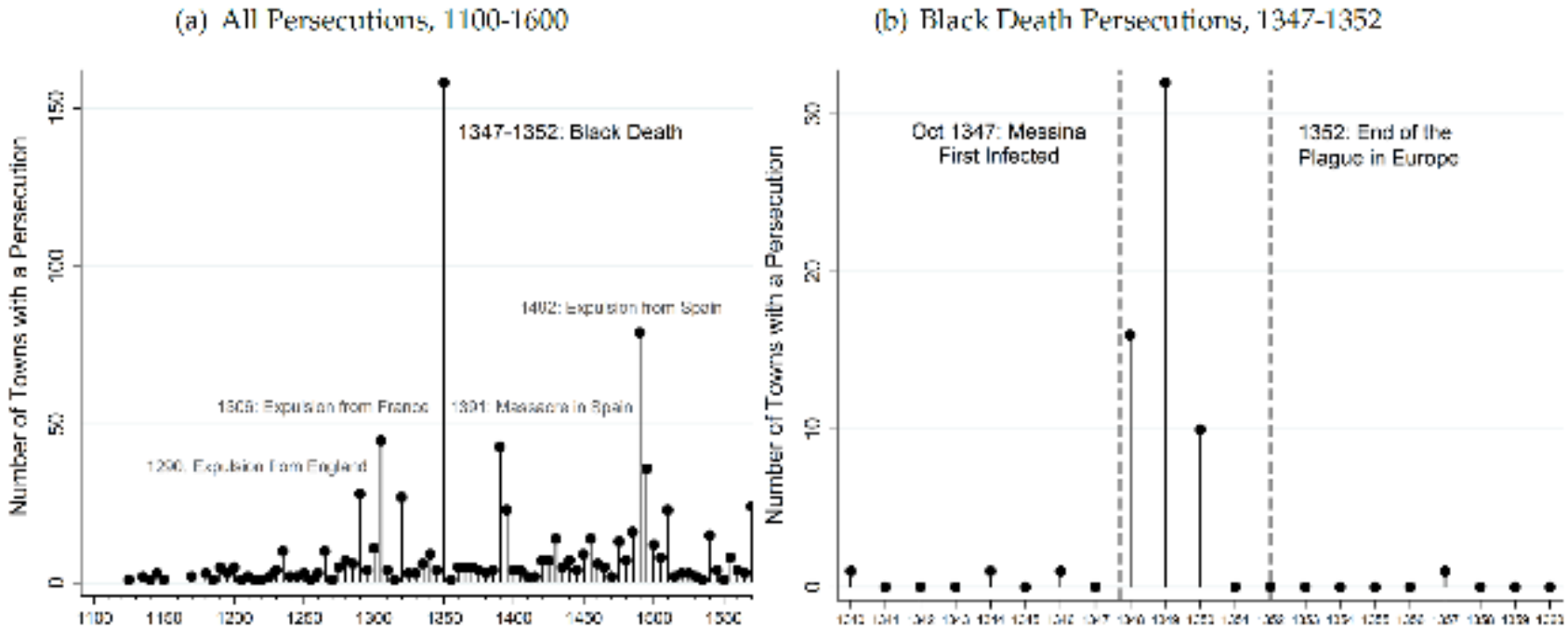
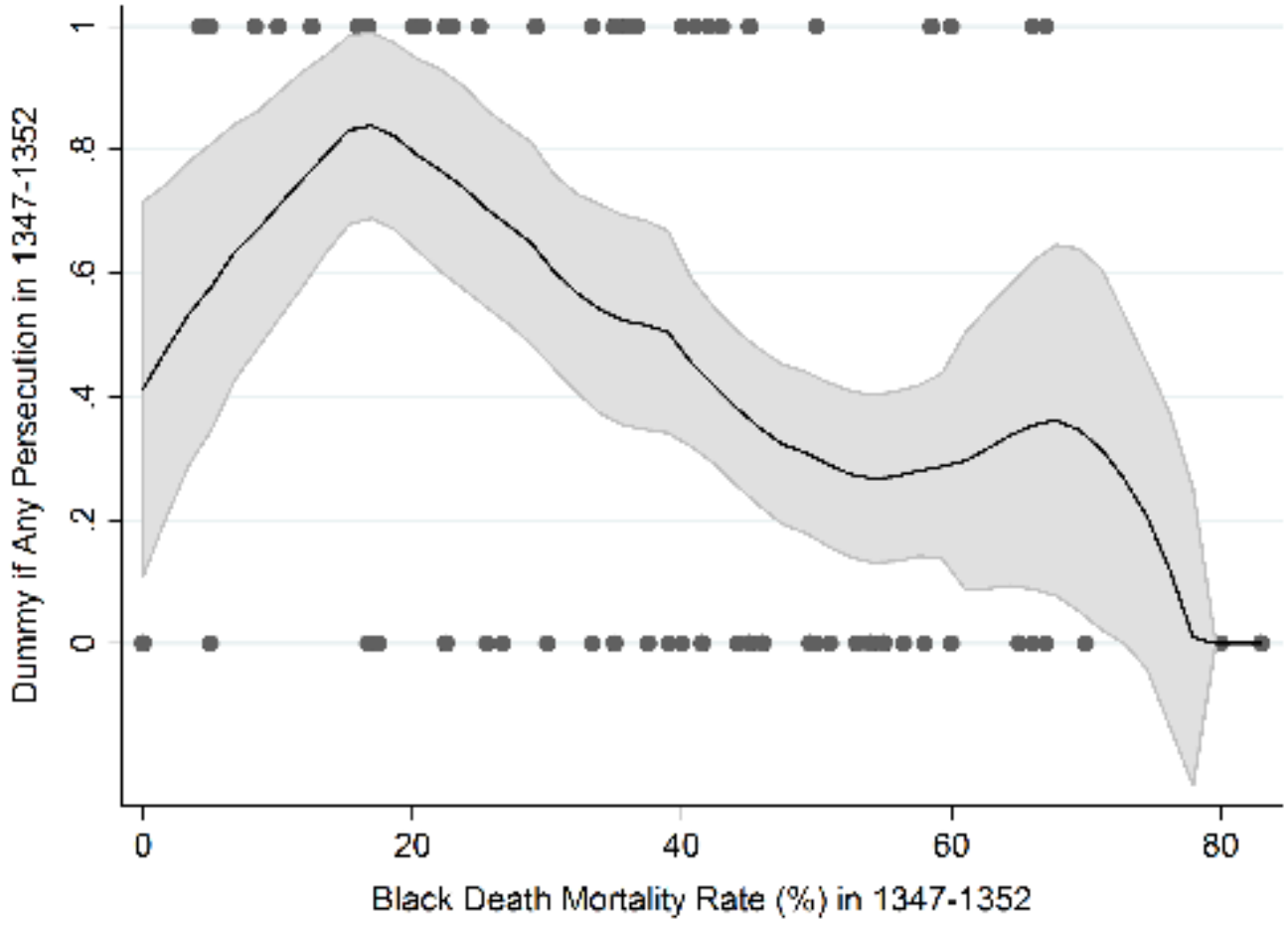


Figure 6: Total Number of Jewish Persecutions in 1100-1600 and 1347-1352



Notes: Panel (a) depicts all persecutions recorded in the full sample of 1,869 towns when the year is rounded to the nearest decade (year ending in 0) or mid-decade (year ending in 5). It shows that the Black Death period (1347-1352, rounded in 1350) witnessed the greatest number of persecutions in medieval European history (here, 1100-1600). Panel (b) focuses on the 124 towns of the main sample and on persecutions that took place within the Black Death period and seven years before or after (here, 1340-1360). See Web Appendix for more details on data sources.

Relationship between Black Death mortality and likelihood of a persecution, 1347-1352.



Local smooth polynomial for the sample of 124 cities with Jews in 1347 and data on the cumulative Black Death Mortality rate (%) in 1347-1352.

EMPIRICAL STRATEGY

- **Cross-sectional regressions** (for 124 cities i):

$$Persecution_{i,1347-1352} = \alpha + \beta Mortality_{i,1347-52} + X_i\theta + \epsilon_i$$

$$Persecution_{i,1353-1500} = \alpha' + \beta' Mortality_{i,1347-52} + X_i\theta' + \epsilon_i'$$

- *Persecution*: Dummy if persecution in the studied period.

- *Mortality*: Black Death mortality rate (%) in 1347-1352 (median duration $\approx$ 5 months, so this variable represents the cumulative rate over a period of a few months only).

- X: Set of controls.

BASELINE EFFECT

Strong negative effect of mortality, no long-run effect. 1 SD in mortality associated with a 0.34 SD reduction in likelihood of a persecution.

Table 1: BLACK DEATH MORTALITY RATES AND JEWISH PERSECUTIONS, 1100-1600

Dependent Variable: Dummy if Any Jewish Persecution in Period $[t\text{-}1;t]$:						
	Mortality in 1347-1352		Constant		Obs.	R2
1. $[t\text{-}1;t]$ = [1347-1352]	-0.009***	[0.002]	0.831***	[0.104]	124	0.12
2. $[t\text{-}1;t]$ = [1353-1400]	-0.004*	[0.002]	0.404***	[0.098]	122	0.02
3. $[t\text{-}1;t]$ = [1353-1500]	-0.000	[0.002]	0.640***	[0.099]	124	0.00
4. $[t\text{-}1;t]$ = [1353-1600]	0.000	[0.002]	0.724***	[0.088]	127	0.00

Notes: This table shows the constant α_t and the effect β_t of the Black Death mortality rate (%) in 1347-1352 on a dummy equal to one if there has been any persecution in various periods $[t\text{-}1;t]$, for the towns for which we have mortality data and in which we know that Jews were present in period $[t\text{-}1;t]$. Robust SE's: * p<0.10, ** p<0.05, *** p<0.01. See Web Appendix for data sources.

PARALLEL TRENDS

No placebo effect of the Black Death *before* the Black Death (1347-52)

Table 1: BLACK DEATH MORTALITY RATES AND JEWISH PERSECUTIONS, 1100-1600

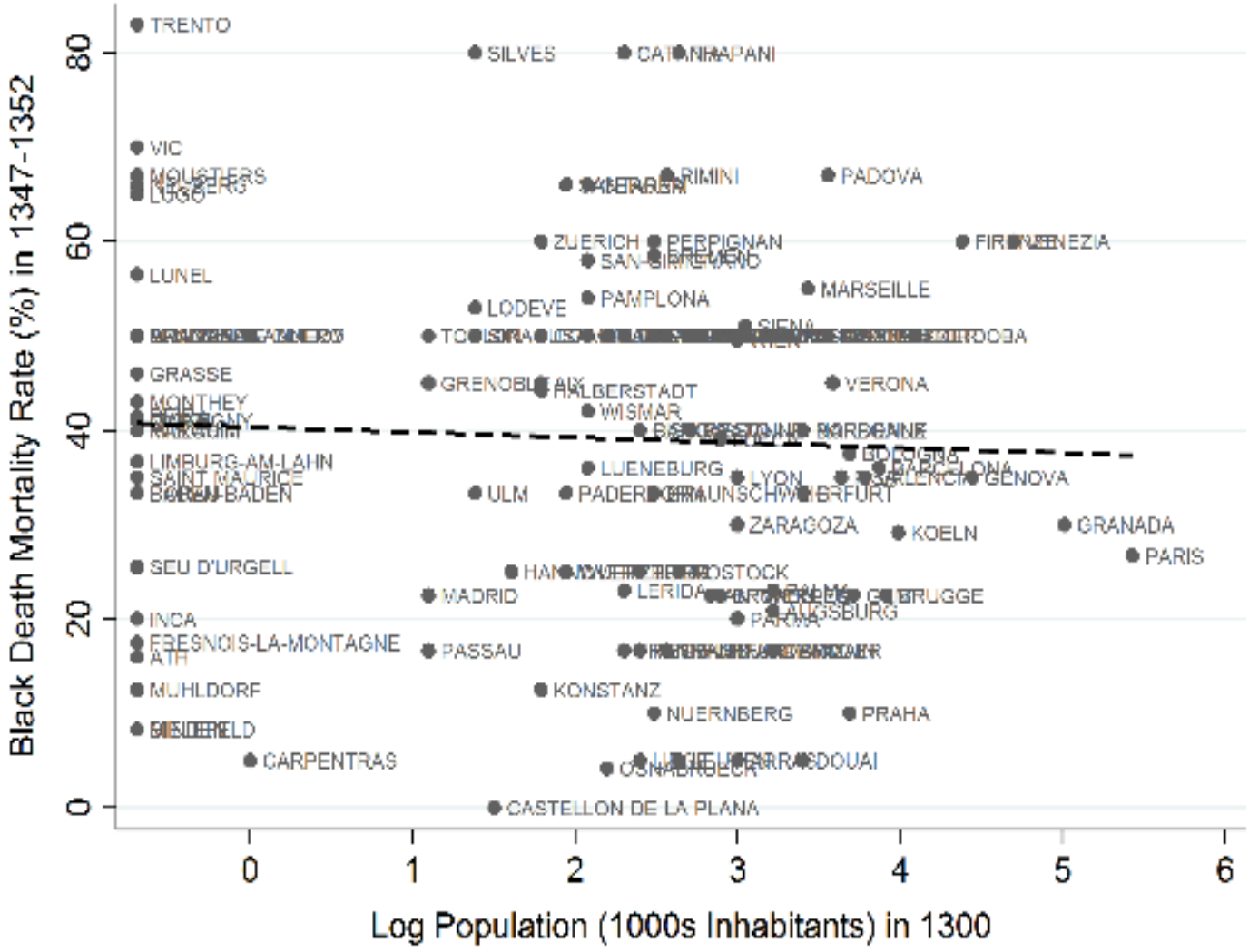
Dependent Variable: Dummy if Any Jewish Persecution in Period $[t\text{-}1;t]$:						
	Mortality in 1347-1352		Constant		Obs.	R2
1. $[t\text{-}1;t]$ = [1347-1352]	-0.009***	[0.002]	0.831***	[0.104]	124	0.12
2. $[t\text{-}1;t]$ = [1353-1400]	-0.004*	[0.002]	0.404***	[0.098]	122	0.02
3. $[t\text{-}1;t]$ = [1353-1500]	-0.000	[0.002]	0.640***	[0.099]	124	0.00
4. $[t\text{-}1;t]$ = [1353-1600]	0.000	[0.002]	0.724***	[0.088]	127	0.00
5. $[t\text{-}1;t]$ = [1341-1346]	0.001	[0.000]	-0.004	[0.004]	122	0.01
6. $[t\text{-}1;t]$ = [1321-1346]	-0.001	[0.001]	0.144**	[0.068]	126	0.01
7. $[t\text{-}1;t]$ = [1300-1346]	-0.001	[0.002]	0.255***	[0.082]	131	0.00
8. $[t\text{-}1;t]$ = [1200-1346]	-0.003	[0.002]	0.370***	[0.090]	132	0.02

Notes: This table shows the constant α_t and the effect β_t of the Black Death mortality rate (%) in 1347-1352 on a dummy equal to one if there has been any persecution in various periods $[t\text{-}1;t]$, for the towns for which we have mortality data and in which we know that Jews were present in period $[t\text{-}1;t]$. Robust SE's: * p<0.10, ** p<0.05, *** p<0.01. See Web Appendix for data sources.

Black Death Mortality Unrelated to Observables

Dependent Variable:	Black Death Mortality Rate (%, 1347-1352)							
	(1)		(2)		(3)		(4)	
Average Temperature 1500-1600 (d)	-0.23	[0.68]					0.26	[0.83]
Elevation (m)	-0.01	[0.01]					-0.00	[0.01]
Cereal Suitability Index	-2.28*	[1.28]					-2.52	[1.52]
Pastoral Suitability Index	4.58	[5.25]					-0.87	[6.49]
Coast 10 Km Dummy	-6.67	[4.98]					-8.94	[5.82]
Rivers 10 Km Dummy	-3.15	[3.08]					-4.26	[3.85]
Latitude (d)	-2.39***	[0.58]					-1.90**	[0.79]
Longitude (d)	0.62**	[0.30]					1.09**	[0.42]
Log Town Population in 1300			-1.41	[1.23]			-1.56	[1.57]
Maj.Roman Rd (MRR) 10 Km Dummy			0.49	[8.48]			-4.74	[6.30]
MRR Intersection 10 Km Dummy			9.67*	[5.71]			8.62	[5.65]
Any Roman Rd (ARR) 10 Km Dummy			6.78	[9.23]			10.39	[7.57]
ARR Intersection 10 Km Dummy			-5.54	[5.53]			-2.15	[5.49]
Medieval Route (MR) 10 Km Dummy			1.07	[4.42]			-1.73	[4.06]
MR Intersection 10 Km Dummy			-3.04	[5.14]			-3.94	[5.41]
Market and Fair Dummy			-5.14	[4.38]			-0.97	[5.16]
Hanseatic League Dummy			-1.03	[6.30]			7.20	[6.88]
Log Market Access in 1300			0.51	[1.00]			-0.07	[1.06]
Aqueduct 10 Km Dummy			3.19	[4.22]			-0.33	[4.66]
University Dummy			3.88	[6.47]			4.43	[7.02]
Monarchy in 1300 Dummy					3.18	[5.44]	6.85	[5.51]
State Capital in 1300 Dummy					7.06	[6.43]	2.01	[7.45]
Parliamentary Activity in 1300-1400					5.08	[4.66]	-0.32	[4.59]
Log Distance to Nearest Parliament					4.49**	[1.95]	0.59	[2.09]
Self-Governing City in 1300 Dummy					-5.30	[4.04]	2.04	[4.38]
Battle w/i 100 Km in 1300-1350 Dummy					-3.59	[3.85]	-6.48	[4.31]
Obs.; R^2	124; 0.27		124; 0.12		124; 0.15		124; 0.36	

Mortality Rates (1347-1353) and Initial City Size (1300).



Slope of -0.55; Obs. = 124; R2 = 0.00.

Black Death Mortality and Market Access

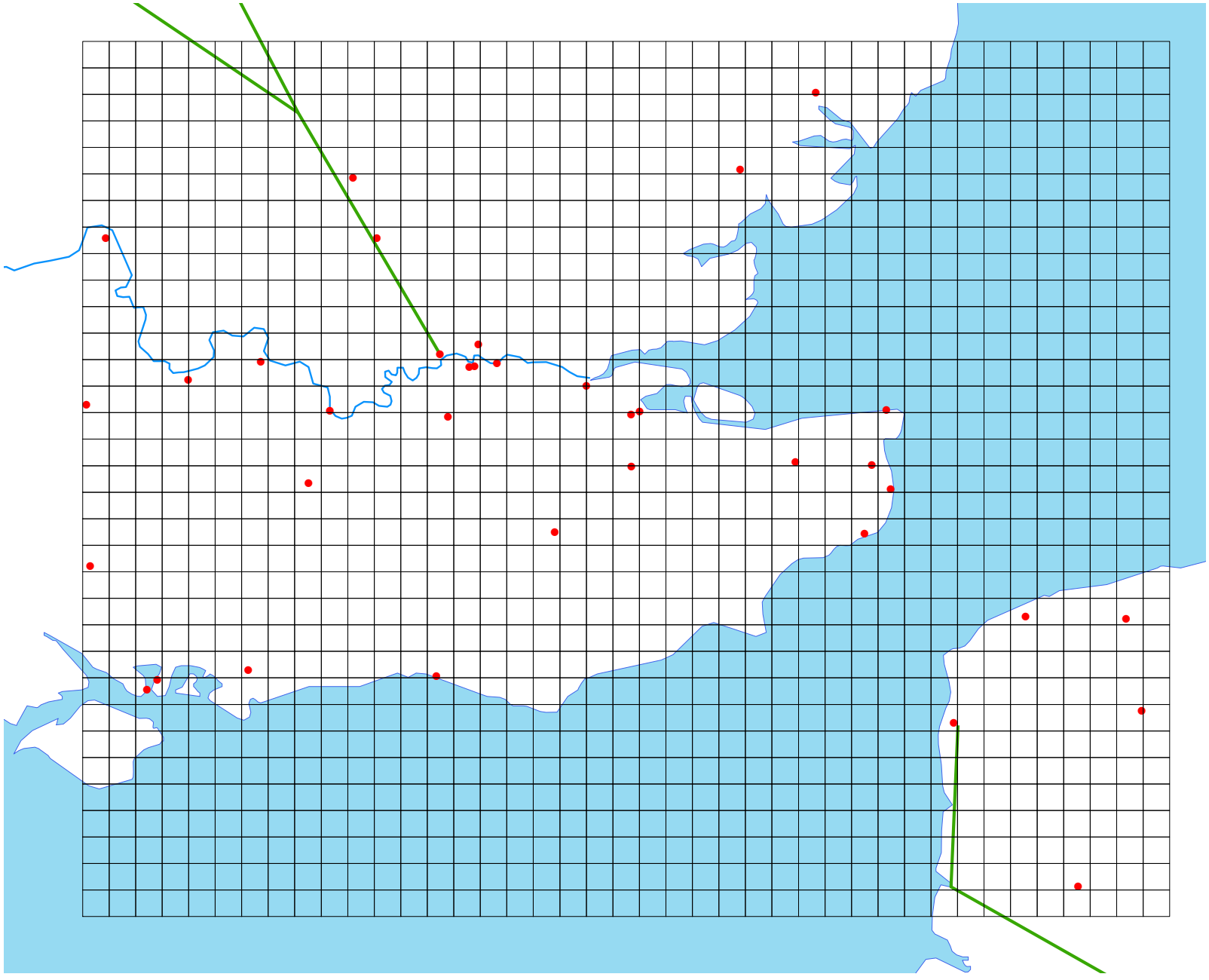
- Market Access for city j is defined as:

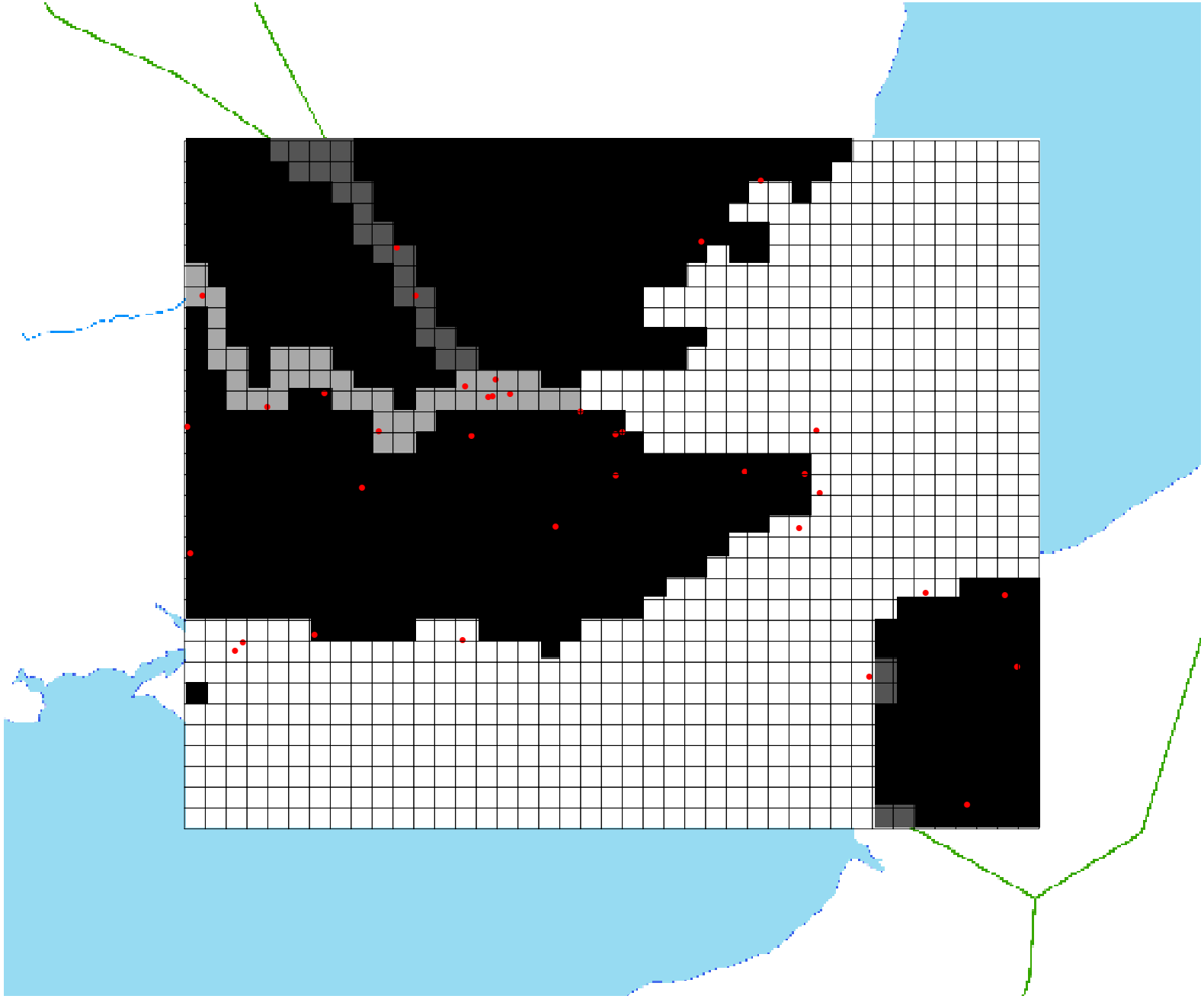
$$MA_j = \sum_{i=j} N_i \tau_{ji}^{-\sigma} \tag{1}$$

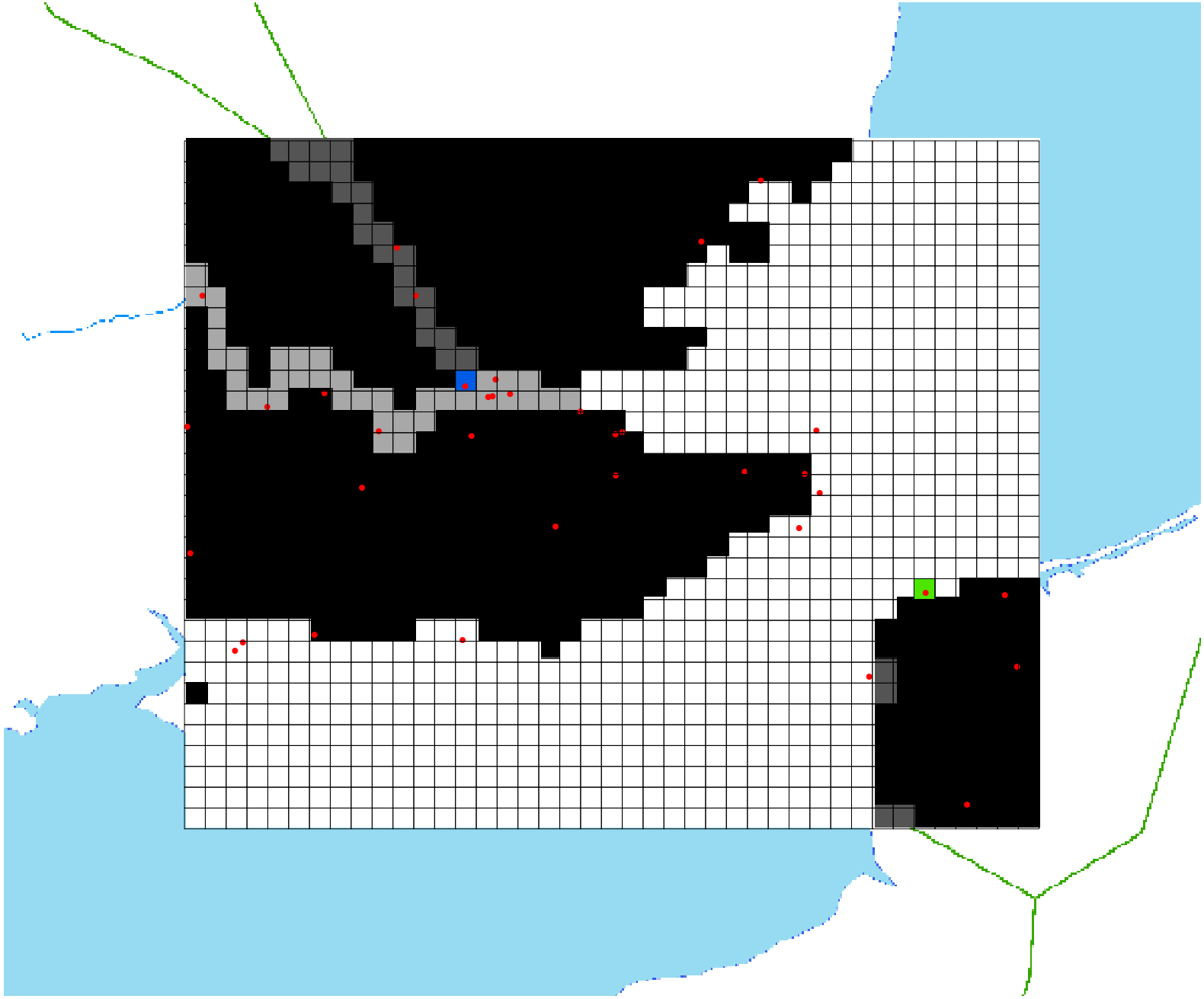
- where N_i is the population of city i, τ_{ji} is the cost of travel between cities j and i, and σ is a trade elasticity (from Donaldson & Hornbeck (2015) = 3.8).

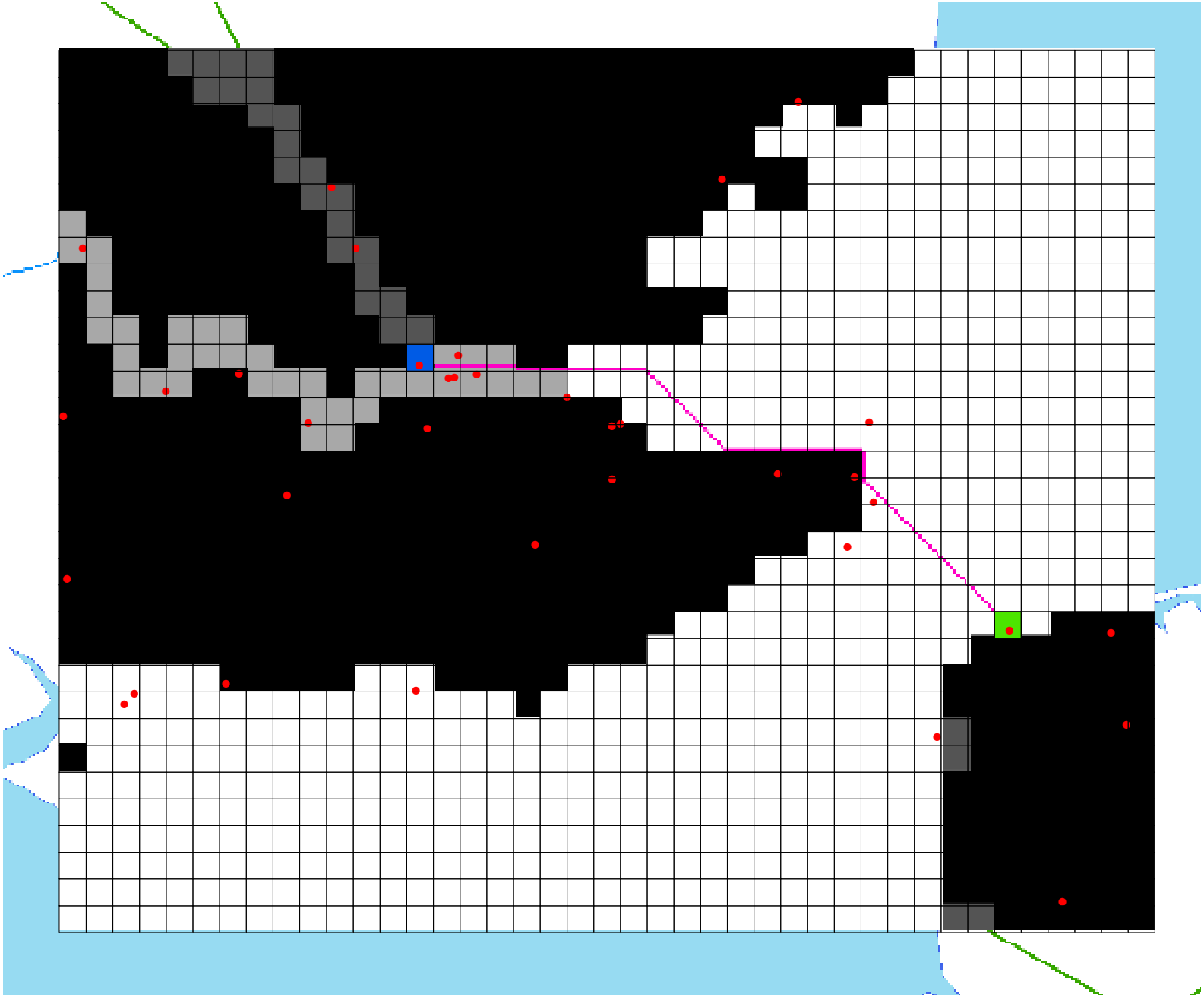
- The average cost of transport per km/ton expressed in terms of cereals in the early 20th century was: 8.8 k.g for porters, 3.9 for transportation by cart, 0.99 for river transport, and 0.3-0.4 kg for sea transport (Bairoch, 1990, 141).

- Where does τ_{ji}, or, 'travel cost' come from?



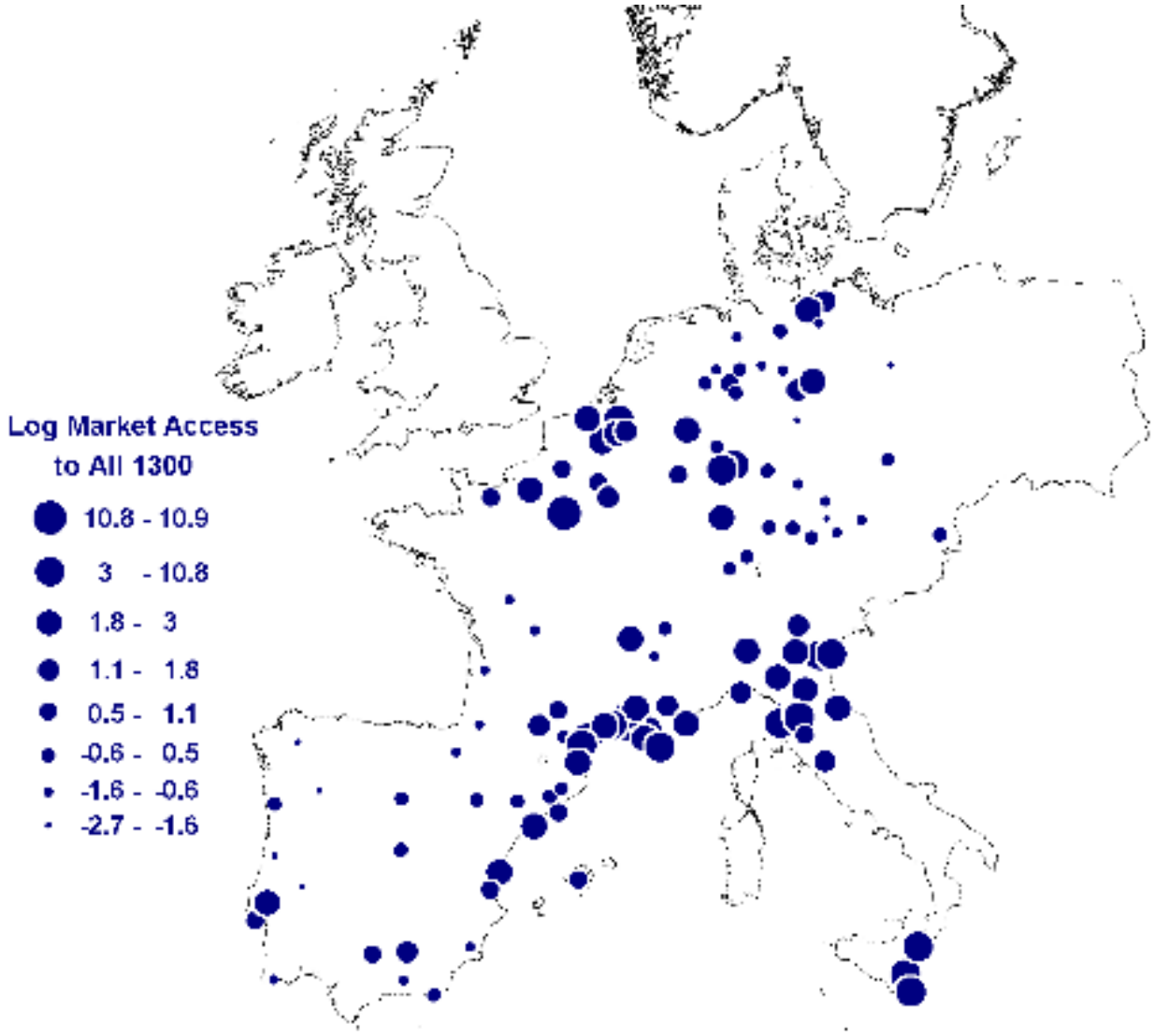






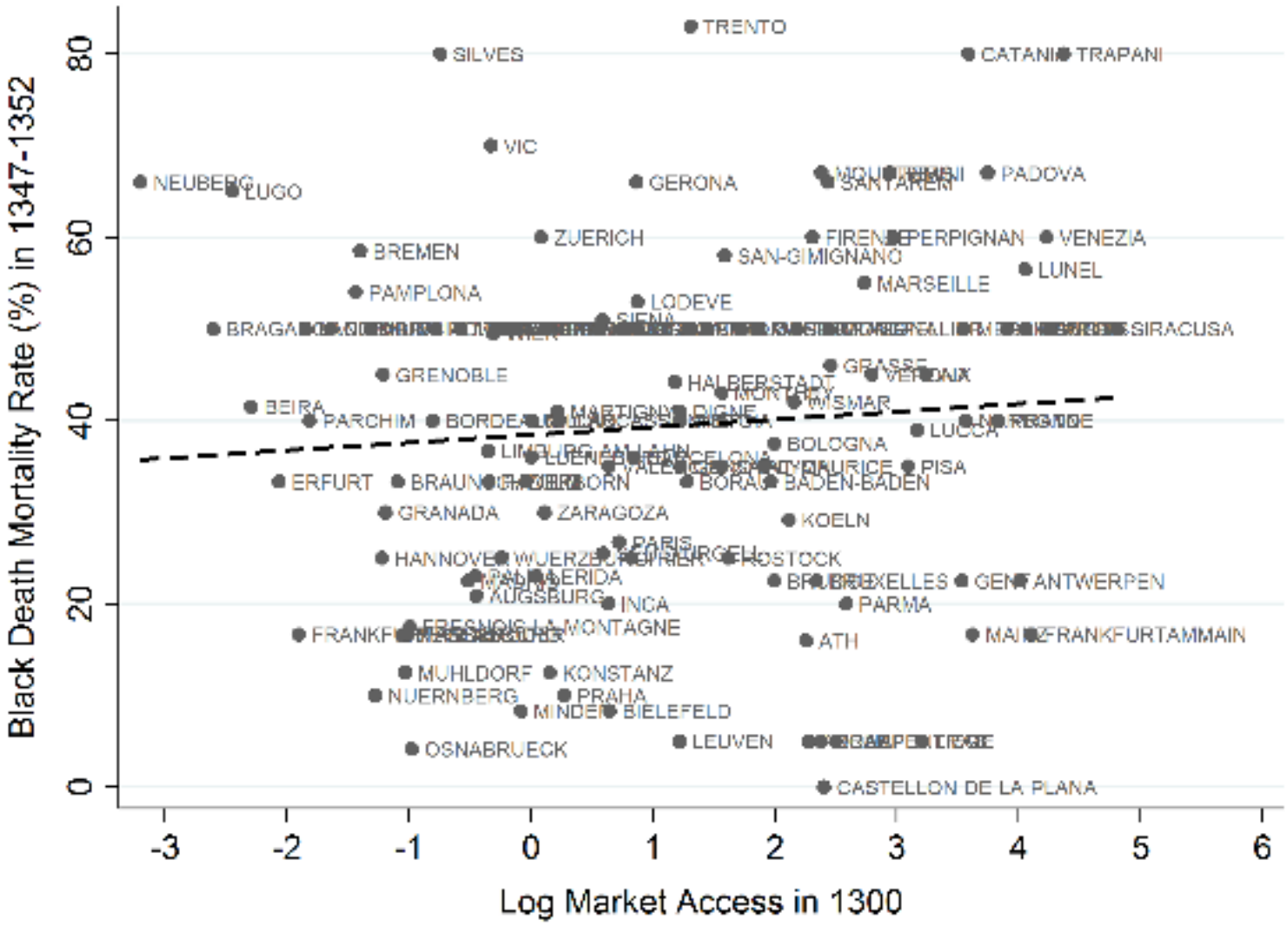

1.0
0.8
0.6
0.4
0.2

Market Access (for city i and other cities j, $MA_i = \sum_j \frac{P_j}{D_{ij}^{\sigma}}$)



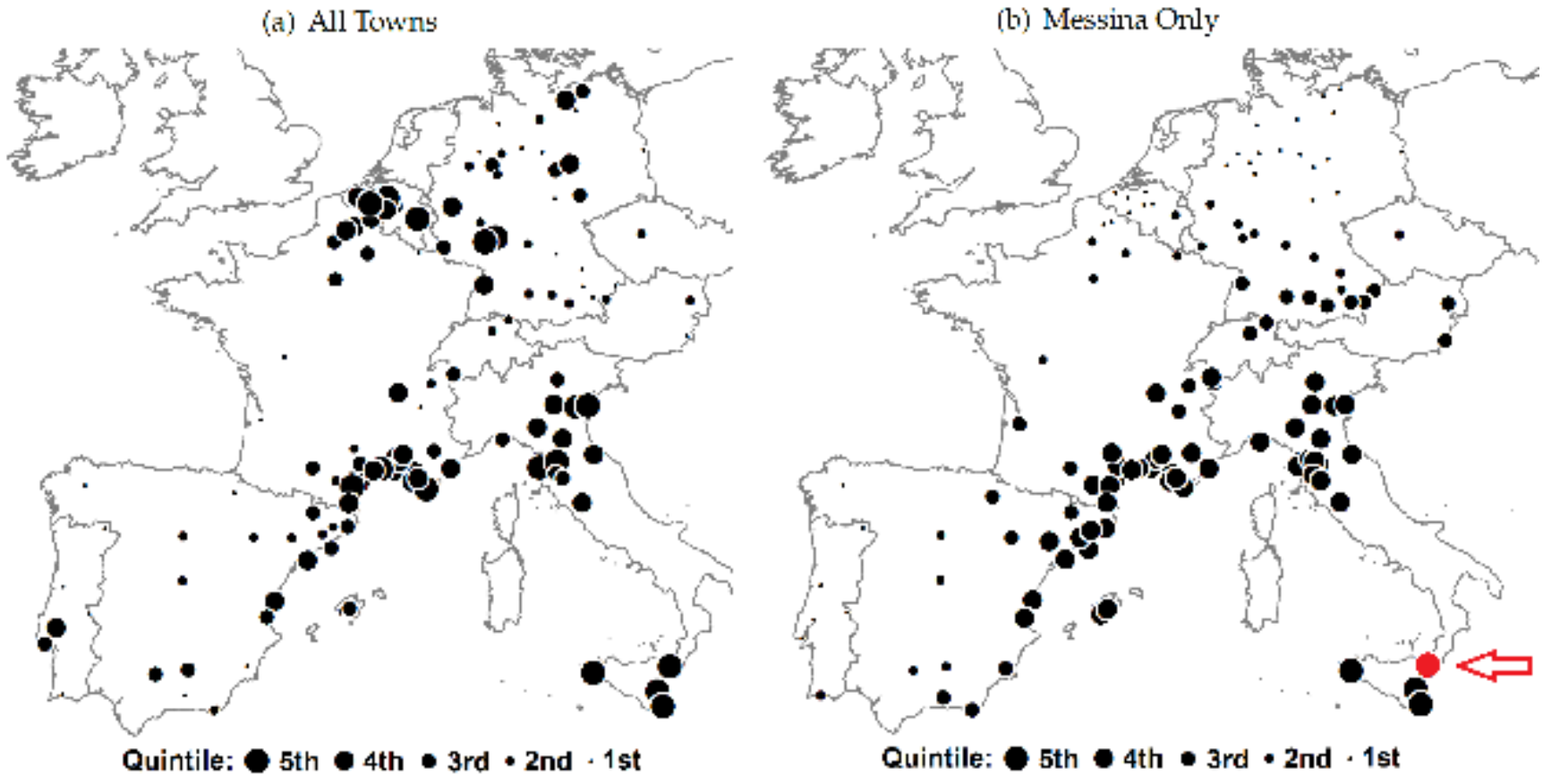
For the 124 towns, market access to other European towns (N = 1,869) in 1300.

Mortality Rates (1347-1353) and Initial Market Access (1300)



Slope of 0.85; Obs. = 124; R2 = 0.01.

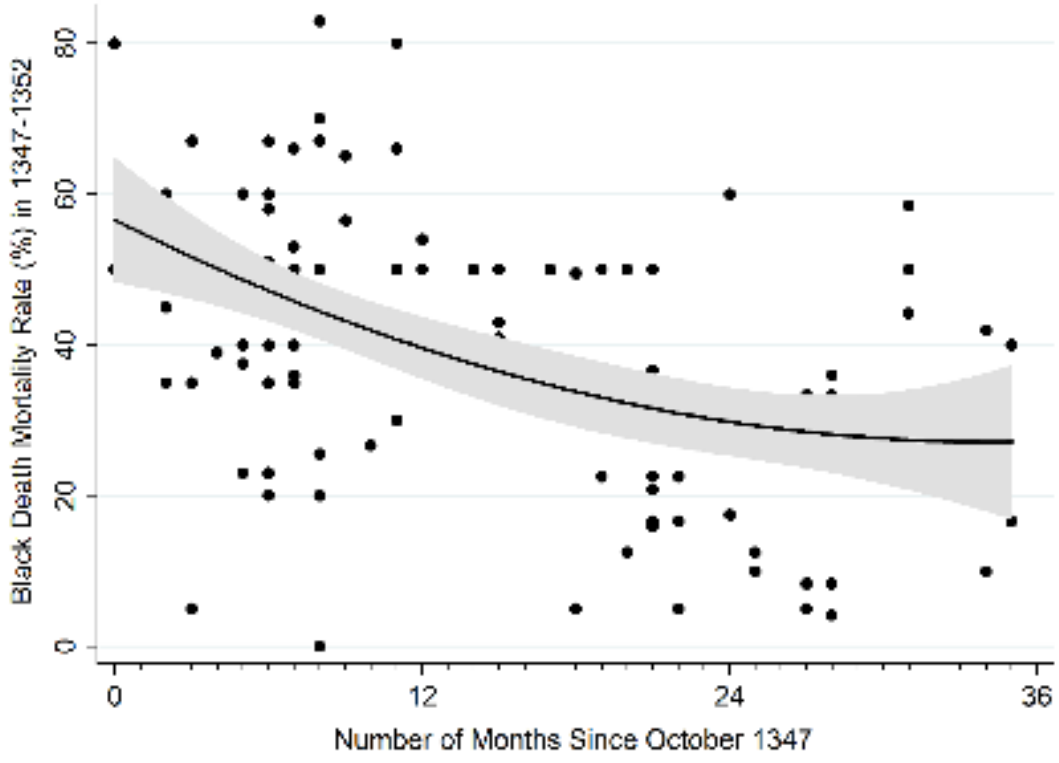
Figure 7: Market Access to All Towns vs. Market Access to Messina Only, 1300.



Notes: Panel (a) shows for the 124 towns of the main sample their log market access to all towns in 1300. Panel (b) shows for the same 124 towns their log market access to Messina in 1300. See notes under figure 5(b) for details on how market access is calculated. We use as an instrument log market access to Messina, conditional on log market access to all towns. See Web Appendix for more details on data sources.

IV1: Log market access to Messina, controlling for log total market access

Figure 8: Timing of the Onset of the Black Death and Black Death Mortality



Notes: This figure shows for the 124 towns of the main sample the relationship between cumulative Black Death mortality rates (%) in 1347-1352 and the specific timing of the onset of the Black Death in the town. Number of months is measured since October 1347, the date Messina—the port of entry of the Black Death in Europe—was first infected. Towns which were infected earlier had higher mortality rates (Y = 52.01*** -0.87*** X; Obs. = 124; R2 = 0.22). See Web Appendix for more details on data sources.

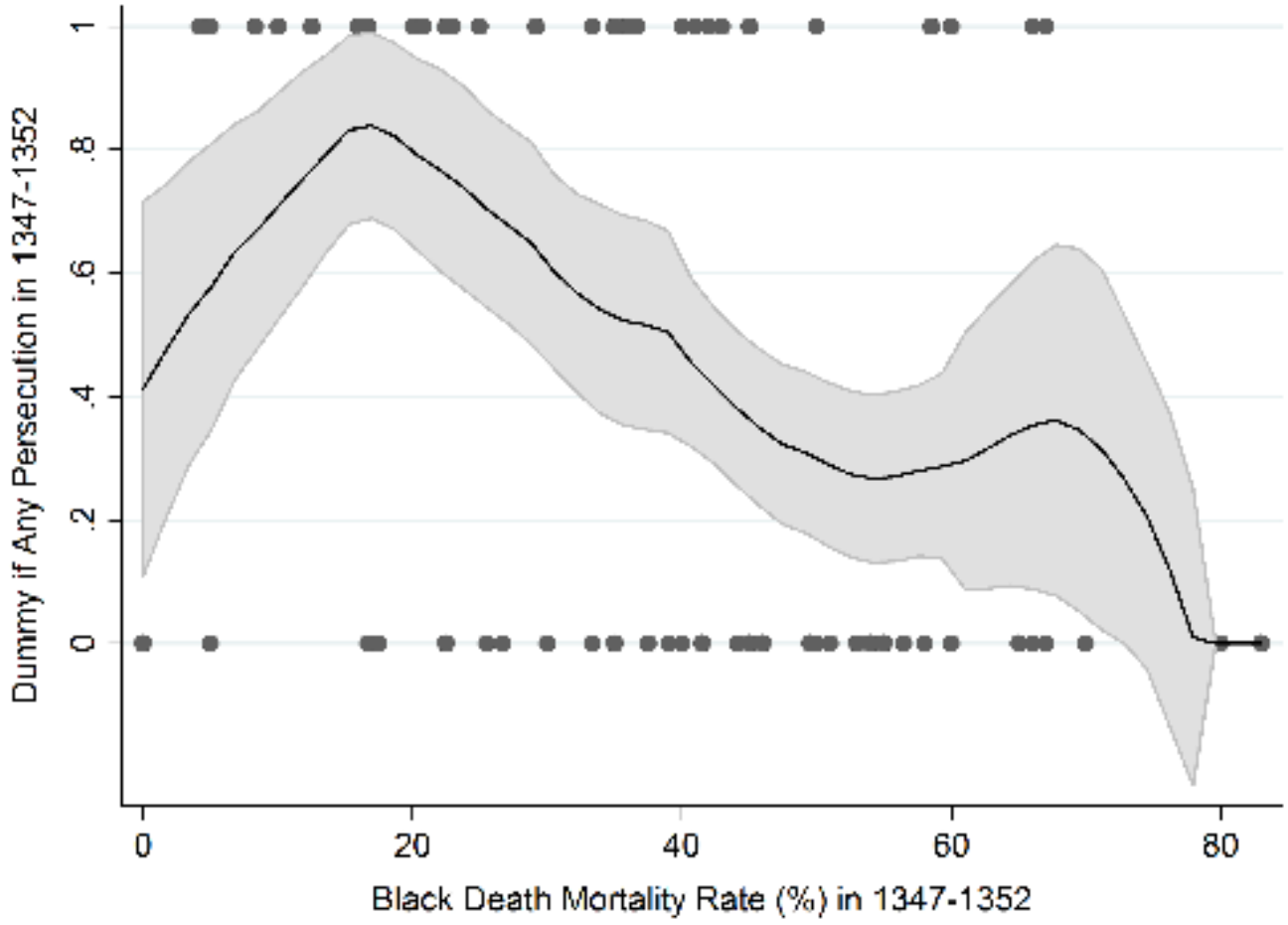
IV2: Number of months between Oct 1347 and month of first infection.

Table 3: MORTALITY RATES AND PERSECUTIONS, INVESTIGATION OF CAUSALITY

Dependent Variable: Dummy if Any Jewish Persecution in 1347-1352:

	Mortality 1347-1352		Constant		Obs.
1. Baseline (Row 1 of Table 1)	-0.009***	[0.002]	0.831***	[0.104]	124
2. Drop if Jews > 5% of Town Population	-0.008***	[0.002]	0.779***	[0.113]	107
3. Controls for Jewish Cemetery, Quarter and Synagogue	-0.009***	[0.002]	0.808***	[0.117]	124
4. Controls for Years of First Entry and Last Reentry	-0.009***	[0.002]	0.814***	[0.197]	124
5. Control for Jewish Centrality Index	-0.009***	[0.002]	0.814***	[0.197]	124
6. Row 2 + Row 3 + Row 4 + Row 5	-0.009***	[0.003]	0.478*	[0.279]	107
7. Drop if Known Number of Victims	-0.009***	[0.002]	0.775***	[0.111]	115
8. Dummy if Persecution in 1321-1346	-0.009***	[0.002]	0.812***	[0.107]	124
9. Dummy if Persecution in 1300-1346	-0.009***	[0.002]	0.816***	[0.108]	124
10. Control for Number of Persecutions in 1321-1346	-0.009***	[0.002]	0.812***	[0.107]	124
11. Control for Number of Persecutions in 1300-1346	-0.009***	[0.002]	0.836***	[0.106]	124
12. Drop Top and Bottom 25% in Mortality	-0.015**	[0.007]	1.049***	[0.295]	71
13. Drop if Natural Baths or Response	-0.009***	[0.002]	0.812***	[0.106]	121
14. All Controls of Table 2	-0.005*	[0.003]	1.373	[1.344]	124
15. IV1: Log MA to Messina, Control for Log MA (F: 31.0)	-0.016***	[0.005]	1.134***	[0.184]	123
16. IV1 + Latitude, Longitude and their Squares (F: 4.3)	-0.023*	[0.014]	8.356*	[4.606]	123
17. IV2: #Months between Oct 1347 and First Infection (F: 33.2)	-0.028***	[0.006]	1.567***	[0.240]	124
18. IV2 + Latitude, Longitude and their Squares (F: 7.3)	-0.029**	[0.015]	6.116	[5.522]	124
19. IV1 + IV2 + Latitude, Longitude and Squares (F: 4.4)	-0.019*	[0.011]	8.652**	[4.239]	123
20. Reduced-Form Effect of Log MA to Messina, Ctrl for Log MA	-0.071***	[0.002]	-0.192	[0.200]	123
21. Row 20, for Dummy if Any Jewish Persecution in 1321-1346	-0.001	[0.007]	0.061	[0.076]	121
22. Row 20, for Dummy if Any Jewish Persecution in 1300-1346	-0.003	[0.013]	0.103	[0.136]	121
23. Reduced-Form Effect of #Months btw Oct 1347 and 1st Inf.	0.024***	[0.004]	0.113	[0.069]	124
24. Row 23, for Dummy if Any Jewish Persecution in 1321-1346	-0.002	[0.002]	0.108**	[0.047]	122
25. Row 23, for Dummy if Any Jewish Persecution in 1300-1346	-0.004	[0.004]	0.207***	[0.007]	122

Relationship between Black Death mortality and likelihood of a persecution, 1347-1352.



Local smooth polynomial for the sample of 124 cities with Jews in 1347 and data on the cumulative Black Death Mortality rate (%) in 1347-1352.

Mechanisms: Scapegoating vs. Complementarities

- We interact mortality with city characteristics that may affect the respective magnitudes of the **scapegoating** (α) and **complementarities** (β) effects.

$$P_{i,1347-52} = \alpha + \beta \mathrm{M}_{i,1347-52} + \gamma \mathbf{X}_i + \delta \mathrm{M}_{i,1347-52} * \mathbf{X}_i + \varepsilon_i \qquad (2)$$

- If interacted effect of mortality rate and the characteristic (δ) > 0, the scapegoating effect is reinforced.

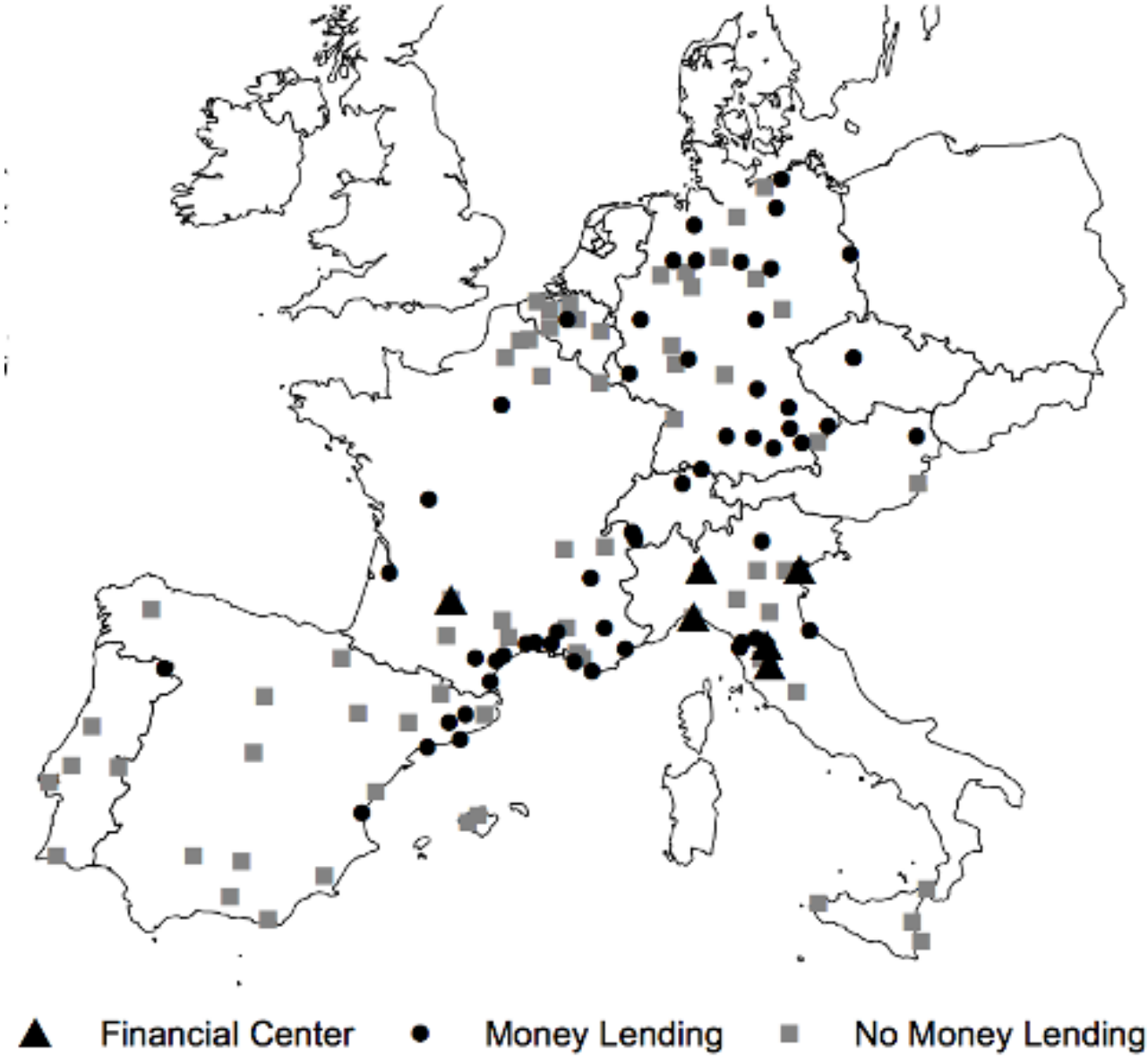
  Persecution more likely if history of antisemitism or "fake news"

- If interacted effect of mortality rate and the characteristic (δ) < 0, the complementarities effect is reinforced.

  Persecution less likely if important economic role (e.g., finance)

- We also report the significance of the total effect of mortality ($\beta + \delta$) to show if the mechanism shuts down the protective effect.

Mechanisms: Complementarities



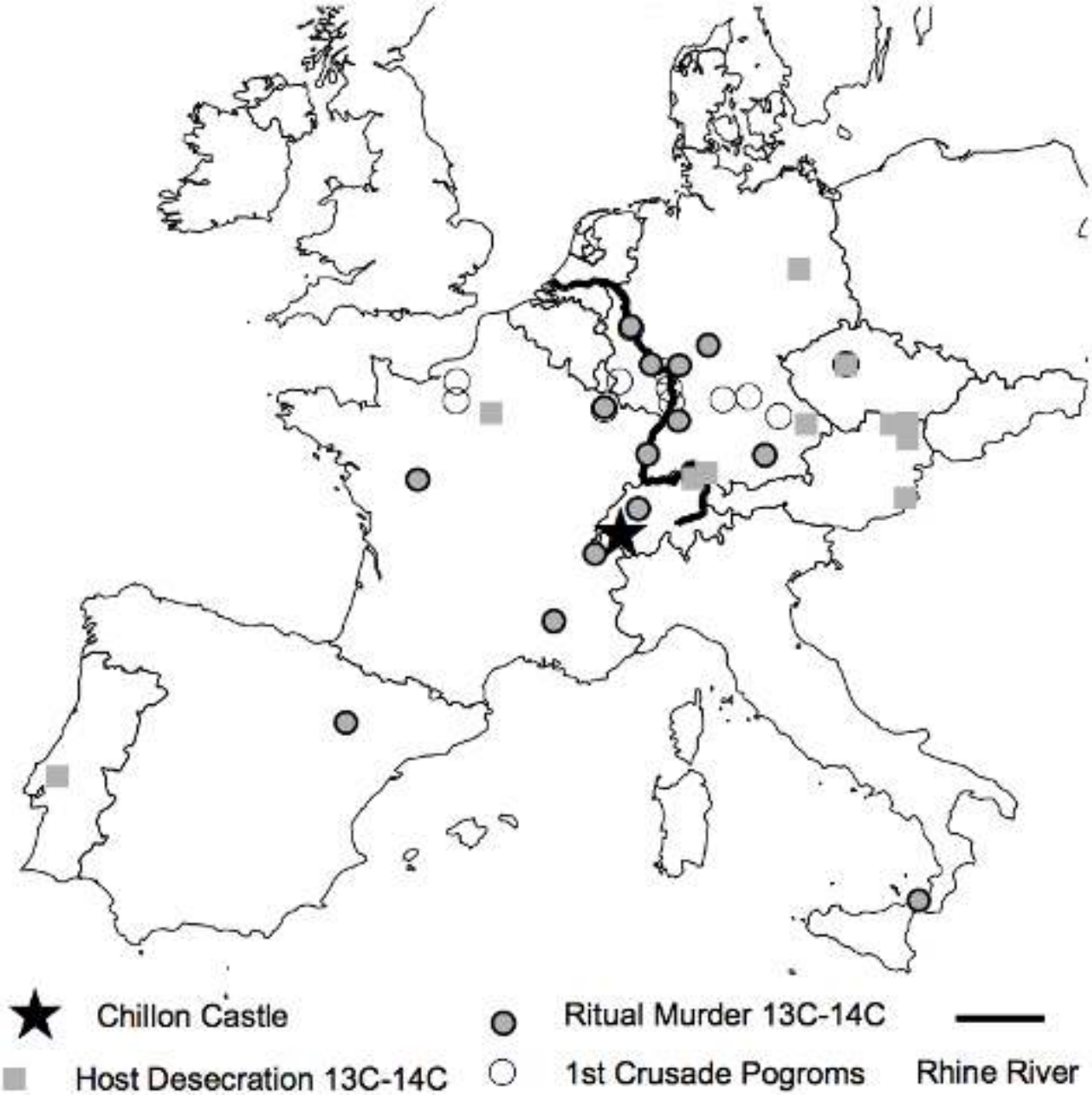
Mechanisms: Complementarities

- Stronger negative relationship between plague mortality and persecution in towns where Jews offer specialized economic services:
- **Moneylending services** (papal prohibition on usury, but competition from Cahorsins and "Lombards"):
  - If farther from main financial centers in 14th century.
  - If lend to people in the town (often the only option at all).
- **Trade networks** (merchants relied on credit to fund trade, since costly to move bullion over long distances):
  - Cities close to other cities with a Jewish community.
  - No effects for Hansa cities though (substitute non-Jewish trading network?)

Complementarities

Dependent Variable: Dummy if Any Jewish Persecution in 1347-1352:						
Effect of:	Mortality		Mortality x		Sum	
Rows 1-11: Dummy Equal to 1 if:	Rate (β)		Dummy (δ)		($\beta + \delta$)	
1. Close to Major Financial Centers	-0.008***	[0.002]	0.008***	[0.002]	0.000	[0.000]
2. Jews Lend Money in the Town	-0.006*	[0.003]	-0.009**	[0.004]	-0.014***	[0.002]
9. Top 10% Jewish Centrality Index	-0.008***	[0.002]	-0.010**	[0.004]	-0.018***	[0.004]
10. Hanseatic League	-0.009***	[0.002]	0.005	[0.005]	-0.004	[0.004]

Mechanisms: Fake News



MECHANISMS: SCAPEGOATING

- Persecute more in towns with **conspiracy theories/fake news**:
  - Proximity to Chillon (origin of rumour that Jews poisoned wells)
  - Proximity to Rhine (spread of rumour)

Link to Modern Example

SCAPEGOATING

Dependent Variable: Dummy if Any Jewish Persecution in 1347-1352:						
Rows 1-17: Dummy Equal to 1 if:	Effect of: Mortality Rate (β)		Mortality x Dummy (δ)		Sum ($\beta + \delta$)	
1. Close to Chillon Castle (Origin of Rumor)	-0.010***	[0.002]	0.016*	[0.009]	0.006	[0.009]
2. Close to Towns Warned by Letter (Path of Rumor)	-0.010***	[0.002]	0.017*	[0.009]	0.007	[0.009]
3. Close to Rhine River (Path of Rumor)	-0.009***	[0.002]	0.017**	[0.007]	0.008	[0.007]

Mechanisms: Scapegoating

- Persecute more in towns with **history of antisemitism**:
  - Persecution in past 5 or 25 years
  - First Crusade (1096) pogroms
  - Ritual murder (13th century) accusations
  - Host desecration (1st half of 14th century) accusations

Link to Modern Example

SCAPEGOATING

Dependent Variable: Dummy if Any Jewish Persecution in 1347-1352:						
Effect of: Rows 1-17: Dummy Equal to 1 if:	Mortality Rate (β)		Mortality x Dummy (δ)		Sum ($\beta + \delta$)	
1. Close to Chillon Castle (Origin of Rumor)	-0.010***	[0.002]	0.016*	[0.009]	0.006	[0.009]
2. Close to Towns Warned by Letter (Path of Rumor)	-0.010***	[0.002]	0.017*	[0.009]	0.007	[0.009]
3. Close to Rhine River (Path of Rumor)	-0.009***	[0.002]	0.017**	[0.007]	0.008	[0.007]
9. Very Recent Persecution in 1340-1346	-0.010***	[0.002]	0.039*	[0.021]	0.029	[0.021]
10. Close to Pogrom 1st Crusade (1096)	-0.009***	[0.002]	0.016**	[0.007]	0.007	[0.007]
11. Close to Alleged Ritual Murder 13C	-0.010***	[0.002]	0.016**	[0.008]	0.006	[0.007]
12. Close to Alleged Host Desecration 1st Half 14C	-0.010***	[0.002]	0.011**	[0.005]	0.001	[0.005]

MECHANISMS: SCAPEGOATING

- We know the **month of first infection** for each town:
  - Periods of reflection and penance such as **Advent (December)** & **Lent (February-March)**: Catholics must confess their sins, fast, make amends $\rightarrow$ persecute less.

MECHANISMS: SCAPEGOATING

- We know the **month of first infection** for each town:
  - Feast days such as **Easter (e.g., 20 April 1348, so April-May) & Christmastide (January):** Jews held guilty of Jesus' crucifixion. In many regions, illegal for Jews to be seen in public during the Holy Week leading to Easter (Jesus' resurrection from the dead).

    Jews historically seen as **"Christ-killers"** $\rightarrow$ persecute more.

SCAPEGOATING

Dependent Variable: Dummy if Any Jewish Persecution in 1347-1352:						
Rows 1-17: Dummy Equal to 1 if:	Effect of: Mortality Rate (β)		Mortality x Dummy (δ)		Sum ($\beta + \delta$)	
1. Close to Chillon Castle (Origin of Rumor)	-0.010***	[0.002]	0.016*	[0.009]	0.006	[0.009]
2. Close to Towns Warned by Letter (Path of Rumor)	-0.010***	[0.002]	0.017*	[0.009]	0.007	[0.009]
3. Close to Rhine River (Path of Rumor)	-0.009***	[0.002]	0.017**	[0.007]	0.008	[0.007]
9. Very Recent Persecution in 1340-1346	-0.010***	[0.002]	0.039*	[0.021]	0.029	[0.021]
10. Close to Pogrom 1st Crusade (1096)	-0.009***	[0.002]	0.016**	[0.007]	0.007	[0.007]
11. Close to Alleged Ritual Murder 13C	-0.010***	[0.002]	0.016**	[0.008]	0.006	[0.007]
12. Close to Alleged Host Desecration 1st Half 14C	-0.010***	[0.002]	0.011**	[0.005]	0.001	[0.005]
13. Month of First Infection is December (Advent)	-0.009***	[0.002]	-0.022**	[0.009]	-0.031***	[0.013]
14. Month of First Infection is January (Christmastide)	-0.011***	[0.002]	0.016**	[0.007]	0.005	[0.007]
15. Month of First Infection is February or March (Lent)	-0.008***	[0.002]	-0.014***	[0.003]	-0.022***	[0.002]
16. Month of First Infection is April or May (Easter)	-0.011***	[0.002]	0.011*	[0.006]	0.000	[0.006]
17. Month of First Infection is October (2nd Planting)	-0.009***	[0.003]	0.011***	[0.004]	0.002	[0.003]

▸ All Months

We estimate two models.

Model 1 tells us if Jewish *presence* in a city was correlated with higher population growth:

$$\log L_{i,t} = \kappa J_{i,[t-1;t]} + \beta_t M_{i,1347-52} + \mu_i + \lambda_t + \varepsilon_{i,t} \ . \tag{3}$$

Model 2 tells us if an *expulsion* or *pogrom* against Jews during the Black Death period had a long-run impact on city growth:

$$\begin{aligned} \log L_{i,t} = {} & \phi P_{i,1347-52} \times 1(t > 1400) + \pi J_{i,1347-52} \times 1(t > 1400) \\ & + \kappa' J_{i,[t-1;t]} + \beta'_t M_{i;1347-52} + \mu'_i + \lambda'_t + \varepsilon'_{i,t} \ . \end{aligned} \tag{4}$$

Jewish Presence and Growth

Dependent Variable: Log Town Population in Year t:				
Panel A: Effect of Jewish Presence in Period $[t\text{-}1; t]$ Dummy		Coeff.	SE	Obs.
1.	Baseline Effect of Jewish Presence Dummy	0.33***	[0.04]	16,821
2.	Row 1 + Including the Lag of Log Town Population in t-1	0.24***	[0.03]	16,821
3.	Individual Effect of Jewish Presence Dummy	0.12*	[0.06]	16,821
	Individual Effect of Jewish Presence Share	0.26***	[0.07]	
4.	*Entries:* Effect if Jews Absent in Previous Period $[t\text{-}2; t\text{-}1]$	0.35***	[0.05]	16,821
	Exits: Effect if Jews Present in Previous Period $[t\text{-}2; t\text{-}1]$	0.12**	[0.05]	
5.	Effect of Jewish Presence Dummy Before 14th Century	0.31***	[0.04]	16,821
	Effect of Jewish Presence Dummy After 14th Century	0.40***	[0.06]	
Panel B: Effect of Black Death Persecutions in 1347-1352 After 14th Century		Coeff.	SE	Obs.
1.	Baseline Effect of Persecution in 1347-1352 Dummy After 14th Century	-0.21*	[0.11]	16,821
2.	Effect of Pogrom in 1347-1352 Dummy After 14th Century	-0.31***	[0.12]	16,821
	Effect of Expulsion in 1347-1352 Dummy After 14th Century	0.24	[0.16]	

SUMMARY

These papers help us draw some stylized facts about the conditional toleration equilibrium:

- It was fragile. Subject to collapse in the face of supply shocks and depended on patterns of local economic complementarities or scapegoating.
- It's fragility was conditional. By 1600 things were changing. Some evidence this is related to increases in state capacity.
- There were costs associated with the conditional toleration equilibrium—both social (persecution) and economic (city growth). The city growth claims are non-causal for now.

Lecture 2: The Abandonment of Identity Rules and the Benefits of the Shift to General Rules

December 2, 2018

The Breakdown of Conditional Toleration

Masacre of the Innocents. Pieter Brueghel d. Elder. ca. 1565

The Breakdown of Conditional Toleration

The Reformation and Conditional Toleration

Before 16th century

- European states crushed heretical movements where possible (e.g. Cathars in 13th c., Lollards in 15th c.).
- They enforced religious conformity as part of a *quid pro quo* with the Church.

After 16th century

- Technology like the printing press made the spread of Protestantism impossible to contain.
- The Reformation undermined identity rules. More religious sects which were more strictly adhered to (confessionalization).
- In states with relatively high capacity (e.g. England or France) this led to an initial intensification in religious persecutions before more general rules gradually adopted. Places with low capacity (e.g. Spain or Poland) did not go through this transition.

Legal Centralization and Heresy Trials

Francis I. Ruled from 1515 to 1547.

Ordonnances Royaulx Nouuelles

C.xi. Et pource que telles choses sont souuentesfois aduenues sur lintelligence des motz latins cõtenuz esdictz arrestz Nous voulons q doresenauãt tous arrestz ensemble toutes autres procedures soyent de noz cours souueraines ou autres subalternes et inferieures / soyent de registres / enquestes / contractz / commissions / sentẽces / testamens et autres quelzconques actes & exploictz de iustice / ou qui en dependent / soyent prononcez / enregistrez & deliurez aux parties en langage maternel francoys / et non autrement.

Amendes cõtre ceulx q calumnieusement obtiendront lettres pour articuler faictz nouueaulx.

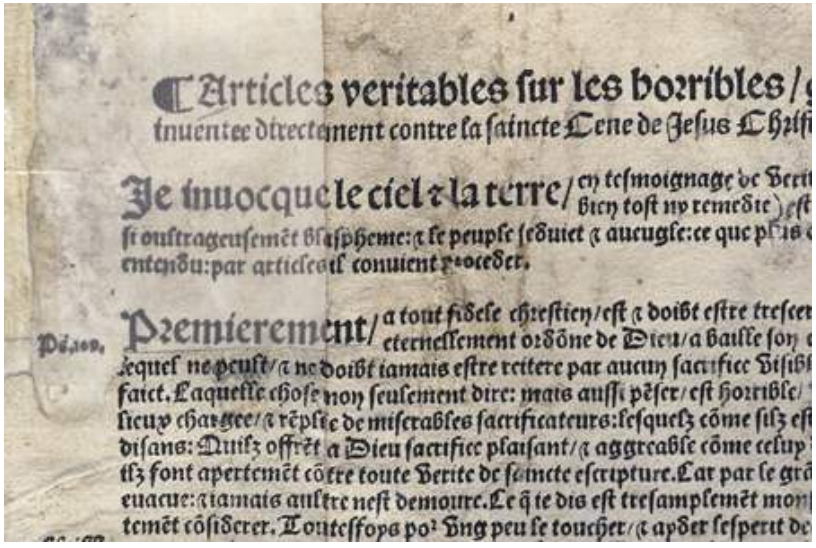
C.xii. Nous voulons que les impetrans de lettres pour articuler calumnieusement faictz nouueaulx sil est trouué quilz ne seruent a la decision du proces seront condẽnez enuers nous en lamẽde ordinaire du fol appel en noz cours souueraines / & vingt liures parisis es inferieures / et neantmoins aux parties et plus grosses si mestier est comme dessus.

Executeurs darrestz ne pourront estre recusez sur les lieux.

C.xiii. Que noz conseillers executeurs des arrestz de noz cours souueraines / ne pourront estre recusez sur les lieux / Ains nonobstant les recusations q on pourroit proposer cõtre eulx passeront oultre / iusques a la

The Edict of Villers Cotterets (1539). Mandated the use of French in all legal documents, marriages be recorded, use of Roman Canon Law. Followed by other Edicts defining fiscal and legal system.

The State Confronts Protestantism



Articles veritables sur les horribles/
inuentee directement contre la saincte Cene de Jesus Chri
Je inuocque le ciel & la terre/ en tesmoignage de Verit
bien tost ny remedie) est
si oultrageusemẽt blaspheme: & le peuple seduict & aueugle: ce que plus
entendu: par articles il conuient proceder.
Premierement/ a tout fidele chrestien/ est & doibt estre treser
eternellement ordõne de Dieu/ a baille son
lequel ne peult/ & ne doibt iamais estre reitere par aucun sacrifice Visibl
fait. Laquelle chose non seulement dire: mais aussi pẽser/ est horrible/
lieux chargee/ & rẽplie de miserables sacrificateurs: lesquelz cõme silz es
disans: Quilz offrẽt a Dieu sacrifice plaisant/ & aggreable cõme celuy
tlz font apertemẽt cõtre toute Verite de saincte escripture. Car par le gr
euacue: & iamais aultre nest demoure. Le q̃ te dis est tresamplemẽt mon
temẽt cõsiderer. Toutesfoys po' vng peu se toucher/ & ayder lesperit de

A placard denouncing the Catholic church. Appeared throughout Paris and other cities (and on the King's bedroom door) on the night of October 17, 1534.

Francis I takes part in a reparation ceremony in the center of Paris in the aftermath of the Placards Affair (1534).

Persecutions in France after Edict of Fontainebleau (1540)

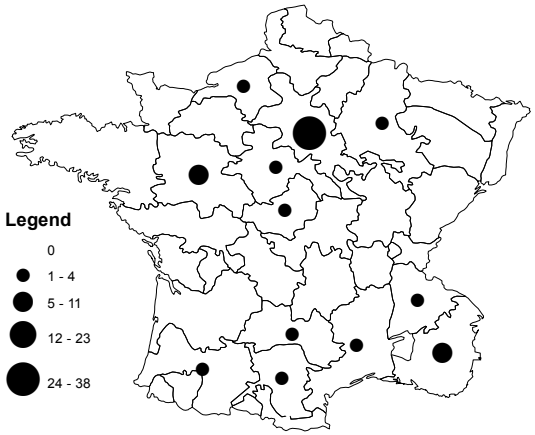


Figure: Executions of heretics by généralité, 1523 – 1539

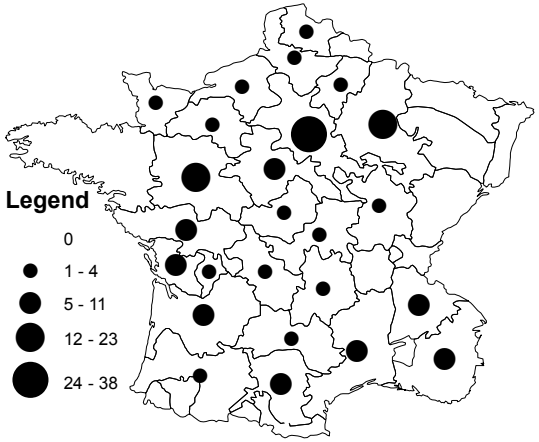


Figure: Executions of heretics by généralité, 1540 – 1549

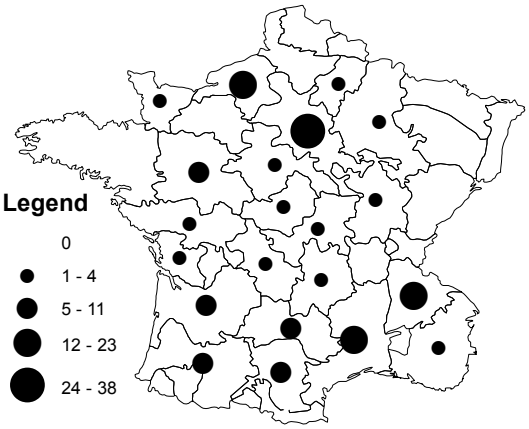


Figure: Executions of heretics by généralité, 1550 – 1560

Persecutions in France after Edict of Fontainebleau (1540)

Figure: Distance of heresy executions from high court in Provence located at Aix-en-Provence. Squares represent executions before 1540. Triangles represent executions after 1540. Multiple executions may be represented by one symbol.

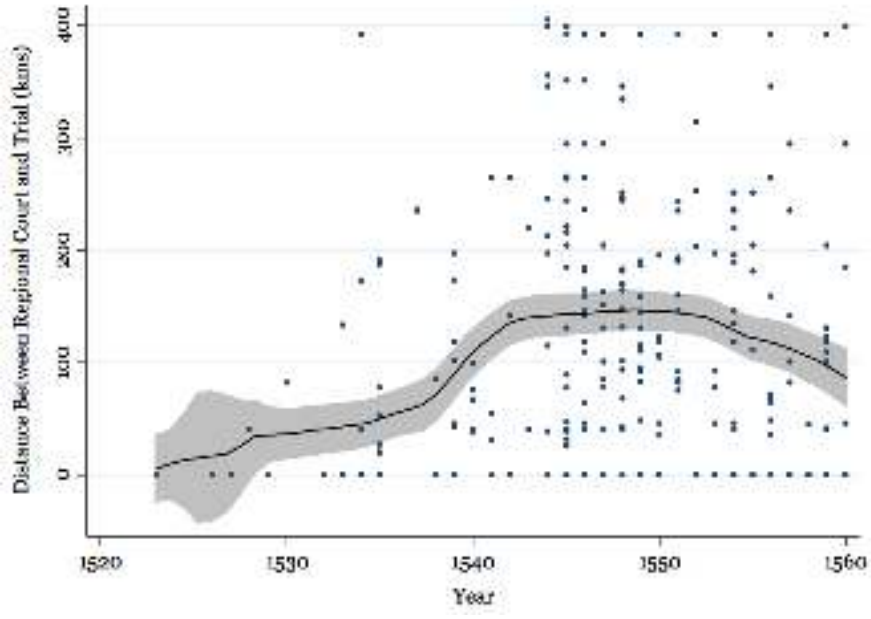


Figure: Distance of trials from regional Parlement, 1520 – 1560. Each dot represents a trial. Plotted line is a kernel weighted local polynomial regression of distance of trial on year (bandwidth = 2). 95% confidence interval shown.

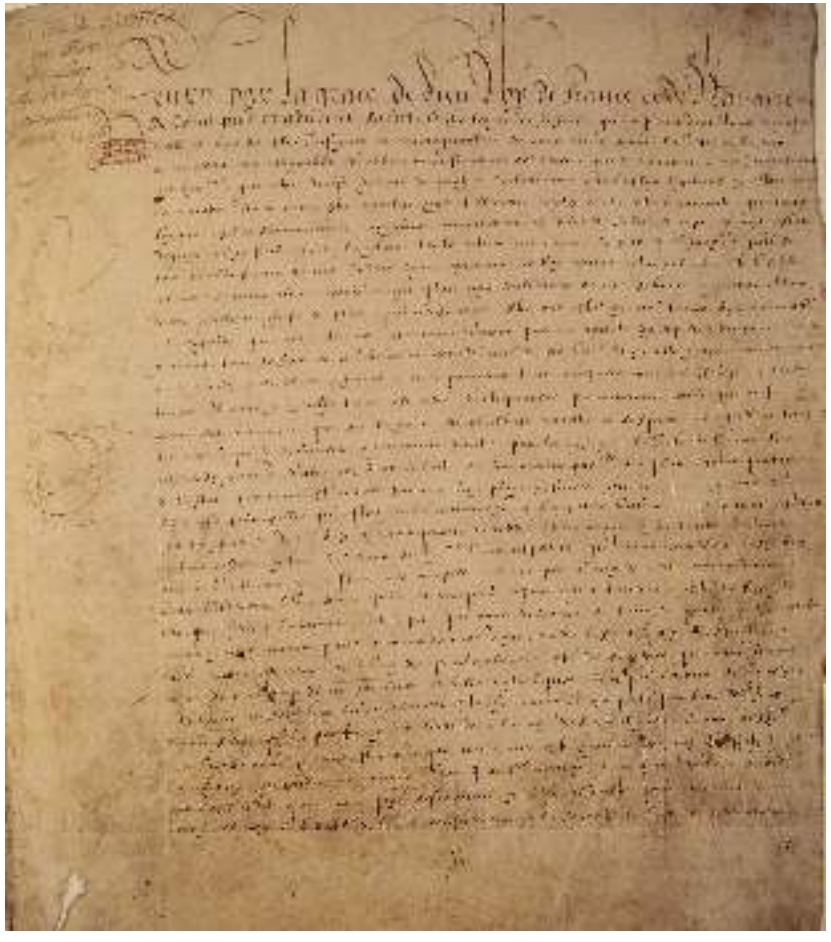
The Decriminalization of Heresy

Catherine de Medici, in an attempt to calm growing tensions between Catholics and Huguenots issues the Edict of Saint-Germain in January 1562. Decriminalizes Protestant belief throughout France.

Massacre of Vassy, March 1562. Duc de Guise comes across large number of Huguenots holding church service in barn. Things get out of hand and hundreds die. The French Wars of Religion begin.

The Decriminalization of Heresy

Religious Toleration: Henri IV converts to Catholicism (1593) at St. Denis.



The Edict of Nantes is issued in 1598. Renewed until 1685 when it is revoked by Louis XIV. The Revocation is largely ignored from 1724 onwards.

Conditional Toleration and the Reformation

The Effect of the Reformation *interacted* with state capacity

- In high capacity states, intense persecution was extremely destabilizing and was rapidly contained (in Germany after 1555, in France after 1560, in England after 1558, in Dutch Republic after 1575). More general rules were adopted in the wake of these persecutions—identity rules were increasingly abandoned.

- In low capacity states like Poland, Transylvania or in states that largely escaped the effects of the Reformation (Spain, Portugal, Italy) there was no period of intense persecution. There was also no strong incentive to abandon identity rules.

Conditional Toleration and the Reformation

After 1600

- Attempts to restore the conditional toleration equilibrium succeeded in low capacity states but failed in the high capacity states.
- States which experienced the Reformation and possessed relatively high state capacity could not restore the old equilibrium.
- This gave rise to a series of political–religious crises (English civil wars, Glorious Revolution, Revocation of the Edict of Nantes).
- But it also set in motion a transition to a new equilibrium in which states no longer relied on identity rules and religious legitimacy and instead moved towards a modern equilibrium of general rules and non-religious sources of political legitimation.

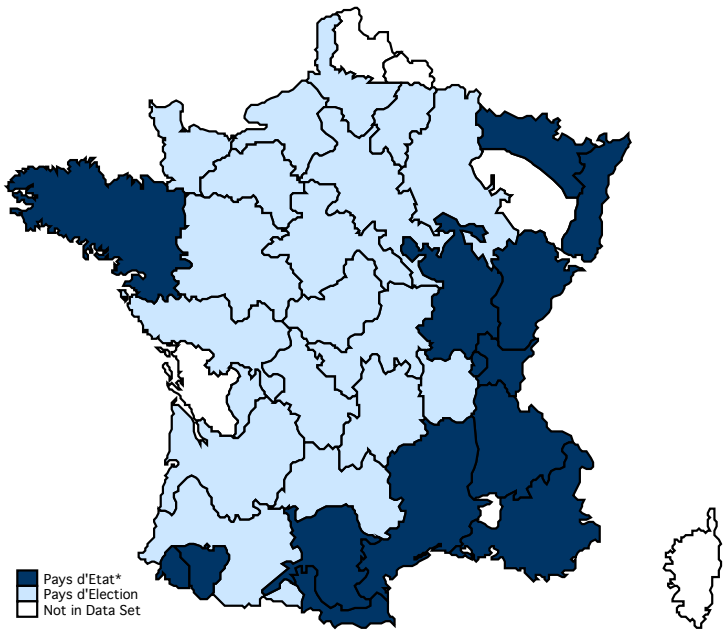
A Paper on the Coevolution of State Capacity and General Rules

- Johnson, N. D. and Koyama, M. (2014). Taxes, lawyers, and the decline of witch trials in France. *Journal of Law & Economics*, 57(1).

France, Fiscal Capacity, and the Adoption of General Rules

Fiscal and Legal Fragmentation in France

- Fiscal and Legal fragmentation were closely related and costly
- There were multiple tax authorities. Rouen to Nantes thirty tolls. (Heckscher, 1955)
- "...we have more laws in France than in the rest of the world put together... so much is left to the opinion and decision of our judges that never was their liberty more unshackled...."
  -Montaigne (d. 1592)



Fiscal and Legal Fragmentation in France

Within region fragmentation is prodigious: Haute-Auvergne (Greenshields, 1994)

- Between 1587 and 1664 one royal présidial court, five local baillage courts and 15 maréchaux for about 175,000 inhabitants.
- As a result, many crimes handled by local nobility who also manipulated the laws to their advantage.
- For example, many seigneuries had their own weights and measures within their territory (Greenshields, 1994; Hamscher, 1976).

Witch Trials in France

"Prolonged witch hunting is as good a barometer as any for measuring weakness in a state" (Soman, 1989)

- Little consistent data on deviation of locally enforced rule of law from 'modern' standards of procedure.
- We use witch trials as a proxy of legal capacity in the early modern period.

- A simple theoretical model and historical evidence suggest that the rise of the fiscal state led to the decline in witch trials.
- We find that witch trials and fiscal capacity are strongly correlated in panel data set.

Witch Trials in France

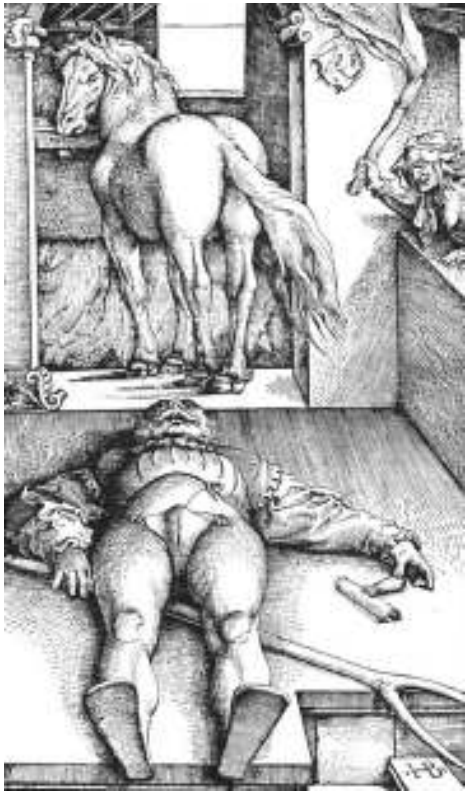
European Witch Hunt peaked during the age of Shakespeare, Descartes and Newton

- 20,000–40,000 executions between 1450–1750.
- No consensus as to why it began or why it ended.
- Witch hunt was fiercest in "border lands". Organized states put an end to uncontrolled witch-hunting (Levack, 2006; Soman, 1978).

We claim that the witch trials can be used as a proxy for lack of legal development

Witch Trials in France

Two components of the early-modern definition of witchcraft



Maleficia

Diabolism

Witch Trials in France

- Witchcraft (especially diabolism) left no physical evidence.
- Most legal codes restricted use of torture (e.g. Ordinance of Villiers Cotterets (1539)).
- Circumstantial evidence, at least, required for implementation of torture (Langbein, 1976, 2006).

Witch Trials in France

- Demonologists argued that judges and magistrates should relax legal standards in witchcraft cases.
- For example, Jean Bodin (1579), Nicolas Rémy (1595), Martin Del Rio (1599), Henri Boguet (1602), and Pierre de Lancre (1612 and 1622).

According to Jean Bodin:

> *. . . proof of such evil is so obscure and difficult that not one of a million witches would be accused and punished if regular legal procedure were followed. (quoted in Midelfort, 1972, 19)*

Witch Trials in France

- Witch-fears sparked trials but fear of witches was endogenous:

  > *. . . [s]uccessful witch-trials confirmed to potential accusers the presence of witches, encouraging them to act. Rather than allaying local fears, witch-hunts spread them (Gaskill, 2010, 80).*

- Trials begat more trials:

  > *The news of witch-hunts and executions in other parts of a country could easily fan popular and elite fears and create a mood that was conducive to witch-hunting in a village or town (Levack, 2006, 53).*

Hence a trial in one area could cascade causing more trials in nearby regions

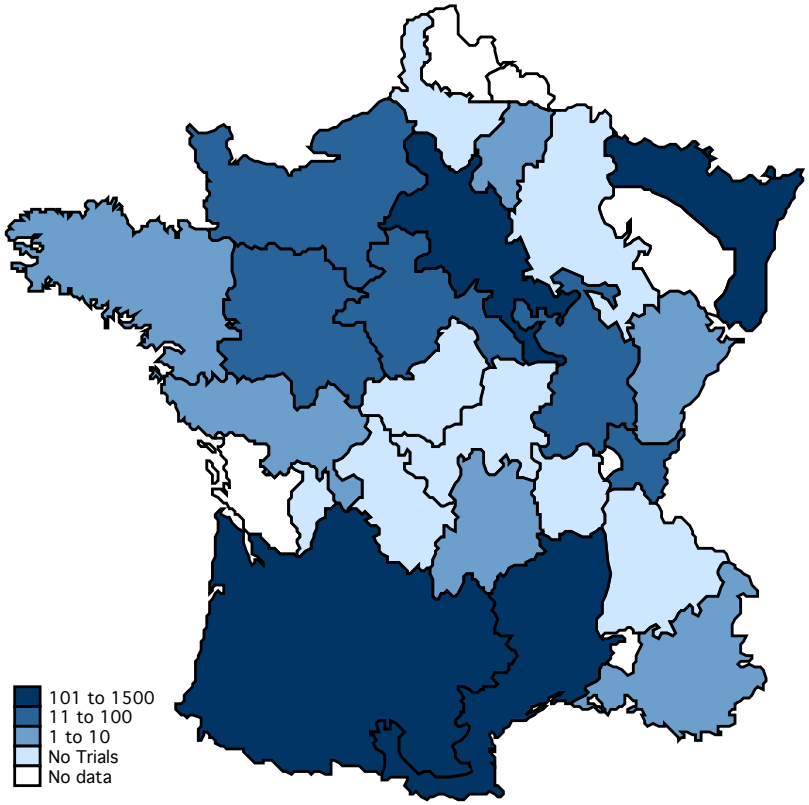
Data

- We would like to identify whether fiscal capacity and legal capacity were correlated across time and space in 16th and 17th century France
- We proxy fiscal capacity with real per capita tax receipts from the most important direct tax, the Taille.
- We proxy legal capacity by the number of witch trials in a given region.

Data

Witch Trial Data

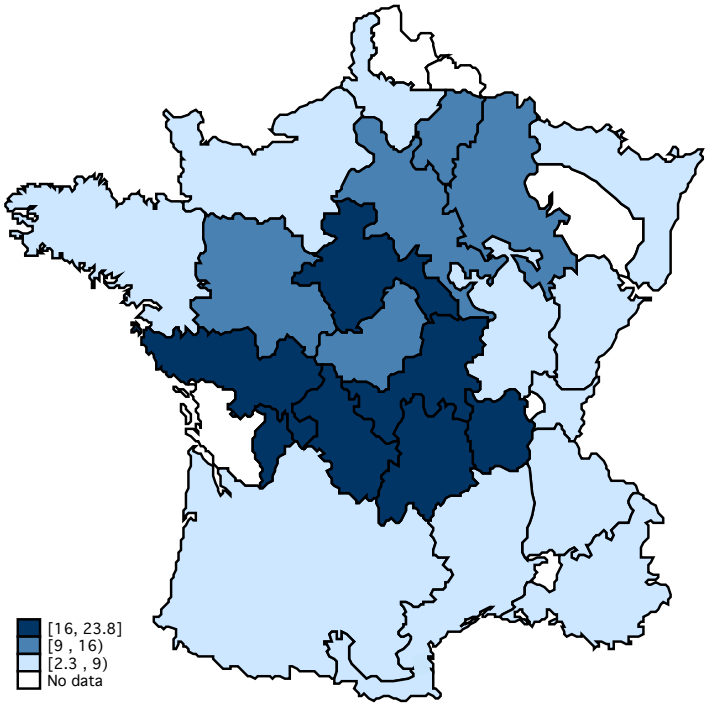
- Base data on 2,261 witch trials in France between 1550-1700 was collected from various primary and secondary sources.
- We also create a "maximal" data set with an additional 572 trials from various sources.
- We recoded these data to correspond to the appropriate tax region (*généralités*).



Data

Tax Revenue Data

- The Tailles constituted between 1/3 and 2/3 of ordinary revenues between 1550 and 1700.
- Collected at the Généralité level. There were 33 Généralités over the course of the 16th and 17th centuries. We aggregate these into 21 consistent regions.



Witch Trials

- Base Malet data set has 21 regions and 3 periods: 1550-1609, 1610-1649, 1650-1699.

- We run diff-in-diff regressions and thus control for time-variant unobservables common to all regions (e.g. changing mentalités, weather, etc...) and region-specific time invariant factors (e.g. cultures, geography, etc...).

$$Trials_{it} = \beta TaxesPC_{it} + \delta_i + \gamma_t + \theta Popdensity_{it} + \varepsilon_{it} \tag{5}$$

- Because of over-dispersion in the trials variable we estimate using linear as well as negative binomial models.

Estimate of Effect of Fiscal Capacity on Witch Trials

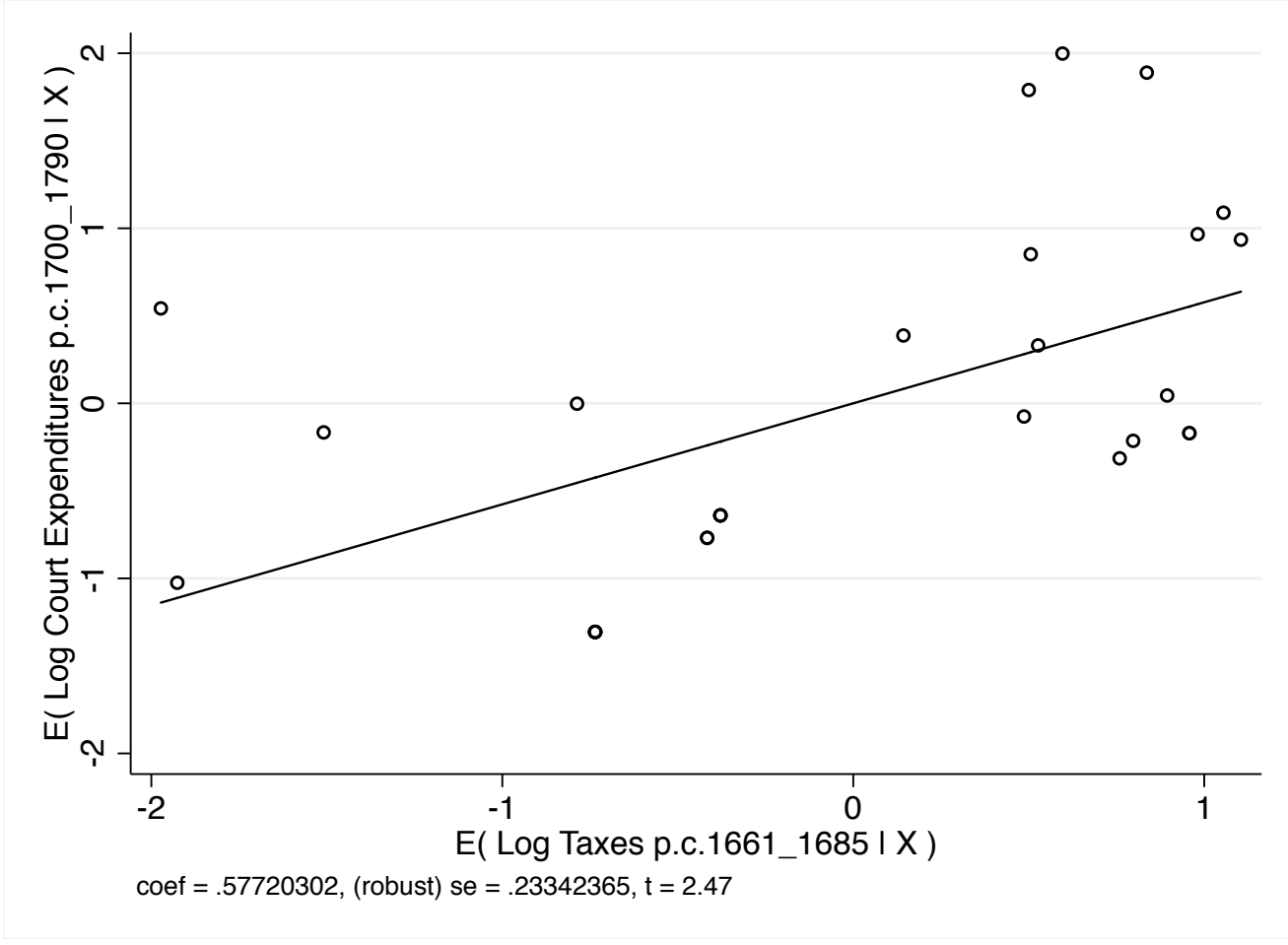
Panel A: **Malet Sample**

	Dep. Var = Count Trials		Dep. Var = Count Trials		Dep. Var = Per Capita Trials	
	(1)	(2)	(3)	(4)	(5)	(6)
Log Taxes Per Capita	-0.83**	-0.86*	-0.70***	-0.66**	-0.016*	-0.012*
	(0.35)	(0.48)	(0.28)	(0.30)	(0.005)	(0.006)
	[0.44]	**[0.42]**	**[0.49]**	**[0.52]**	**[0.62]**	**[0.47]**
1609-1649 (dummy)		-1.02**		-1.91***		-0.013*
		(0.52)		(0.42)		(0.006)
		[0.36]		**[0.15]**		**[0.43]**
1650-1699 (dummy)		-1.46**		-1.44***		-0.015*
		(0.67)		(0.57)		(0.009)
		[0.23]		**[0.24]**		**[0.50]**
Estimator	NBReg	NBReg	NBReg	NBReg	OLS	OLS
Sample	Base	Base	Maximal	Maximal	Base	Base
Obs	42	42	45	45	63	63
Groups	14	14	15	15	21	21
Region Dummies	x	x	x	x	x	x
Avg. City Pop. Control	x	x	x	x	x	x
F-Stat	--	--	--	--	2.26	2.43
R-squared	--	--	--	--	0.31	0.36
LR X^2	5.49	10.30	6.58	106.4	--	--

Numbers in brackets for NBReg specifications are incident rate ratios. 1 sd in fiscal capacity = 1.

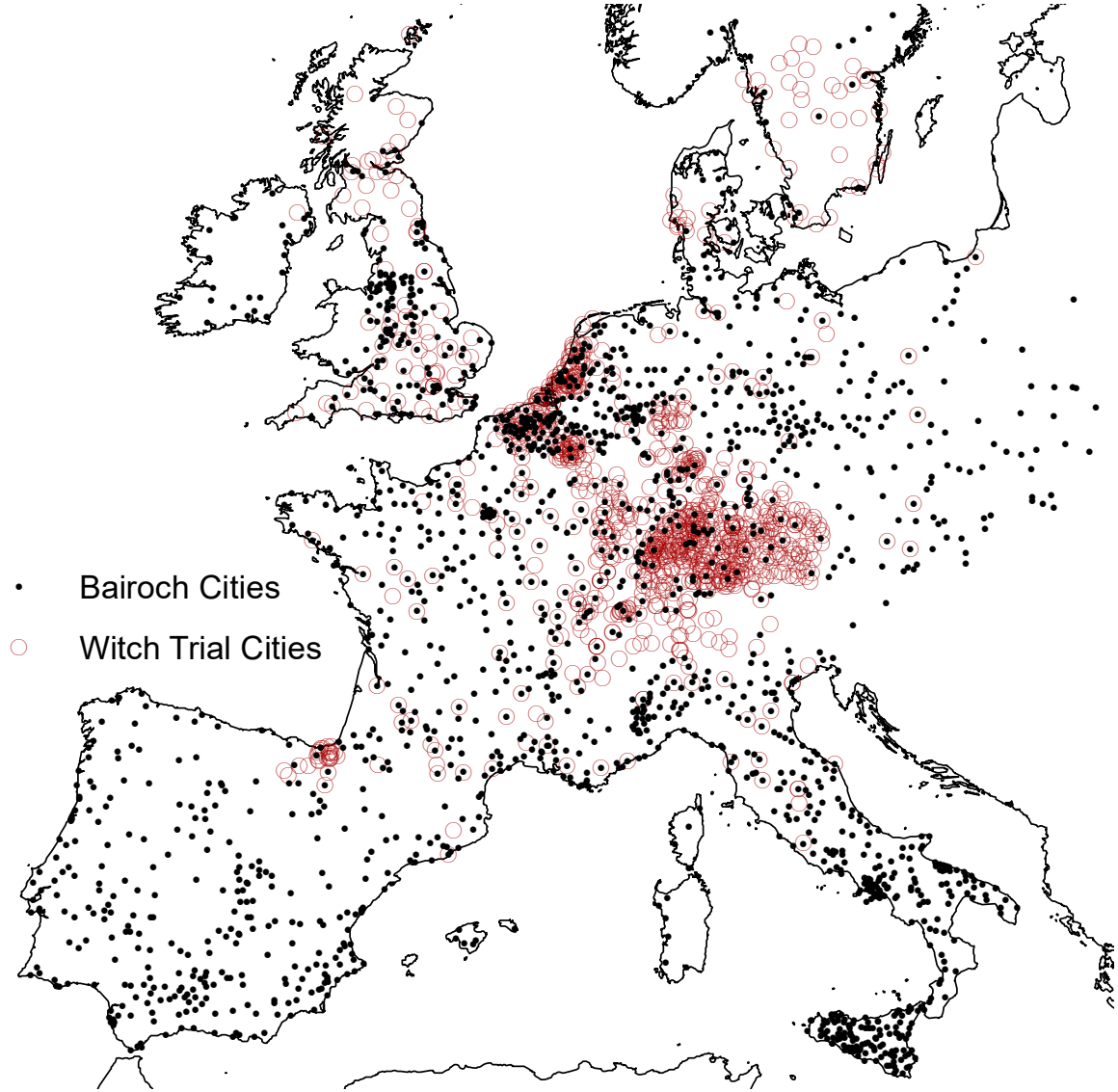
Reason vs. Rule of Law

Fiscal and Legal Capacity are Complements



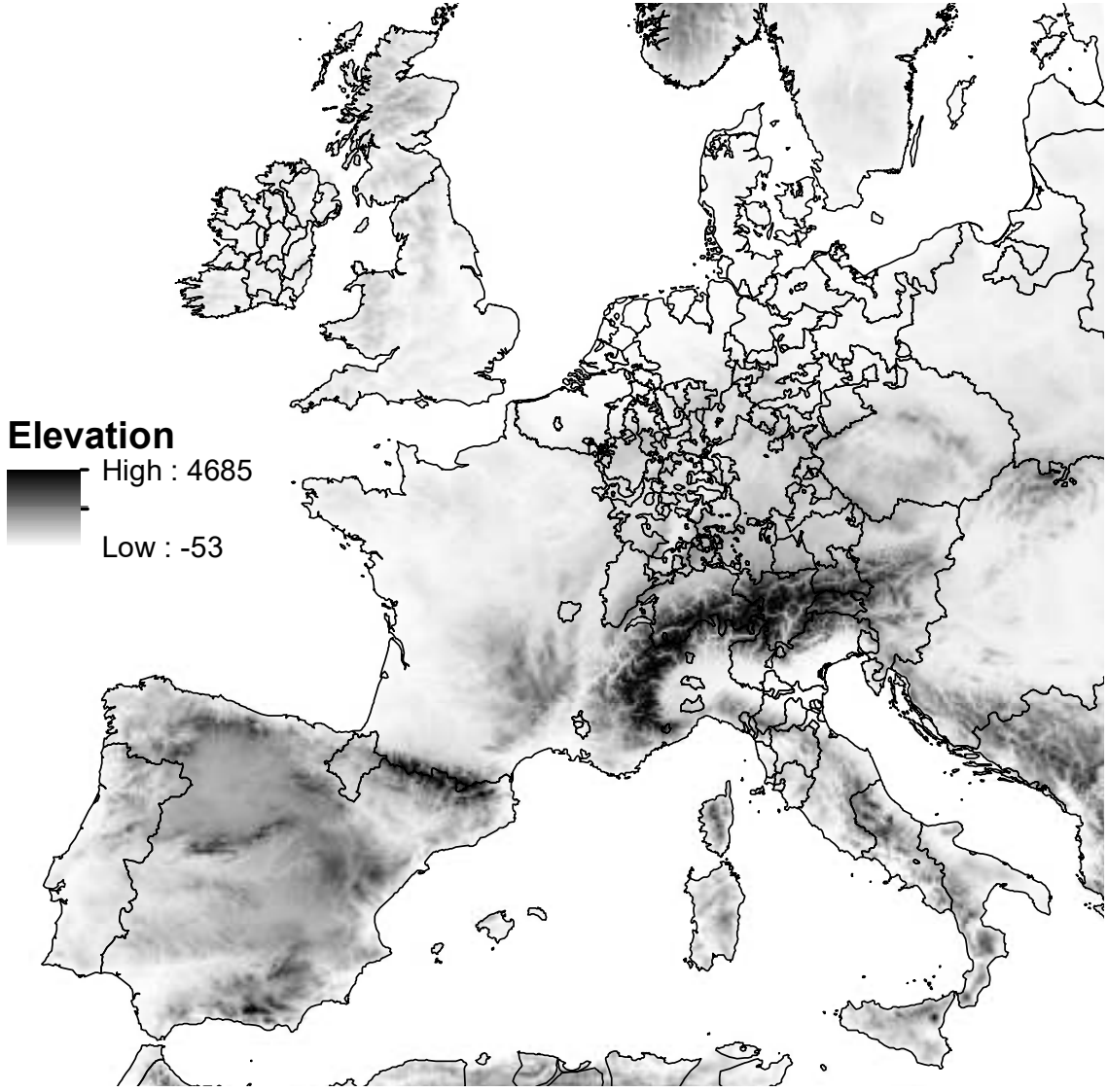
Data on court expenditures from Hamscher (2012) for 34 regions.

Bairoch Cities and the Locations of Witch Trials, 1300-1850

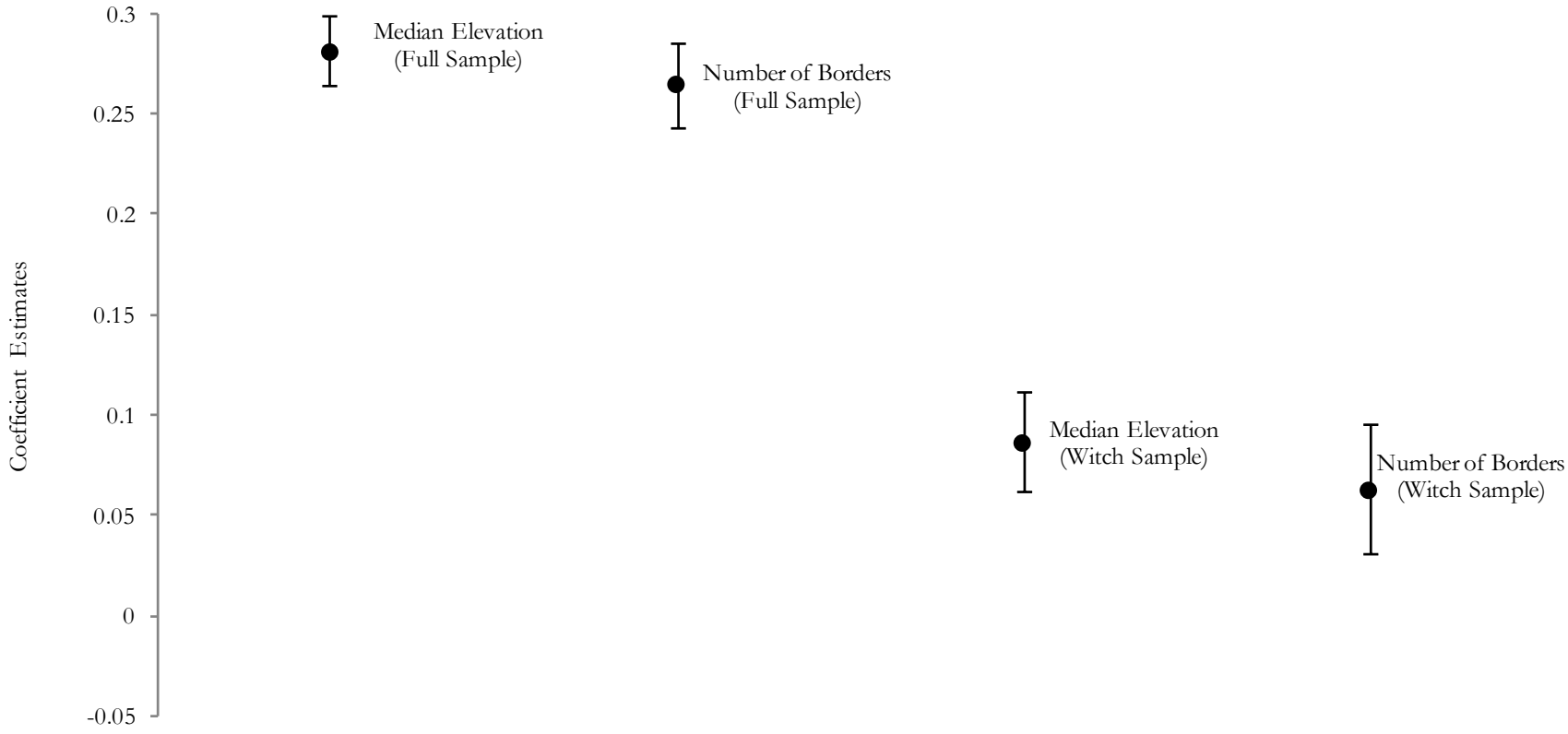


Data geocoded from Leeson and Russ (2017) on 29,400 witch trials and 9,736 executions across 1,070 locations

Proxies for Low State Capacity? Elevation and State Boundaries in 1500



Correlation Across Europe Between Low State Capacity and Witch Trials

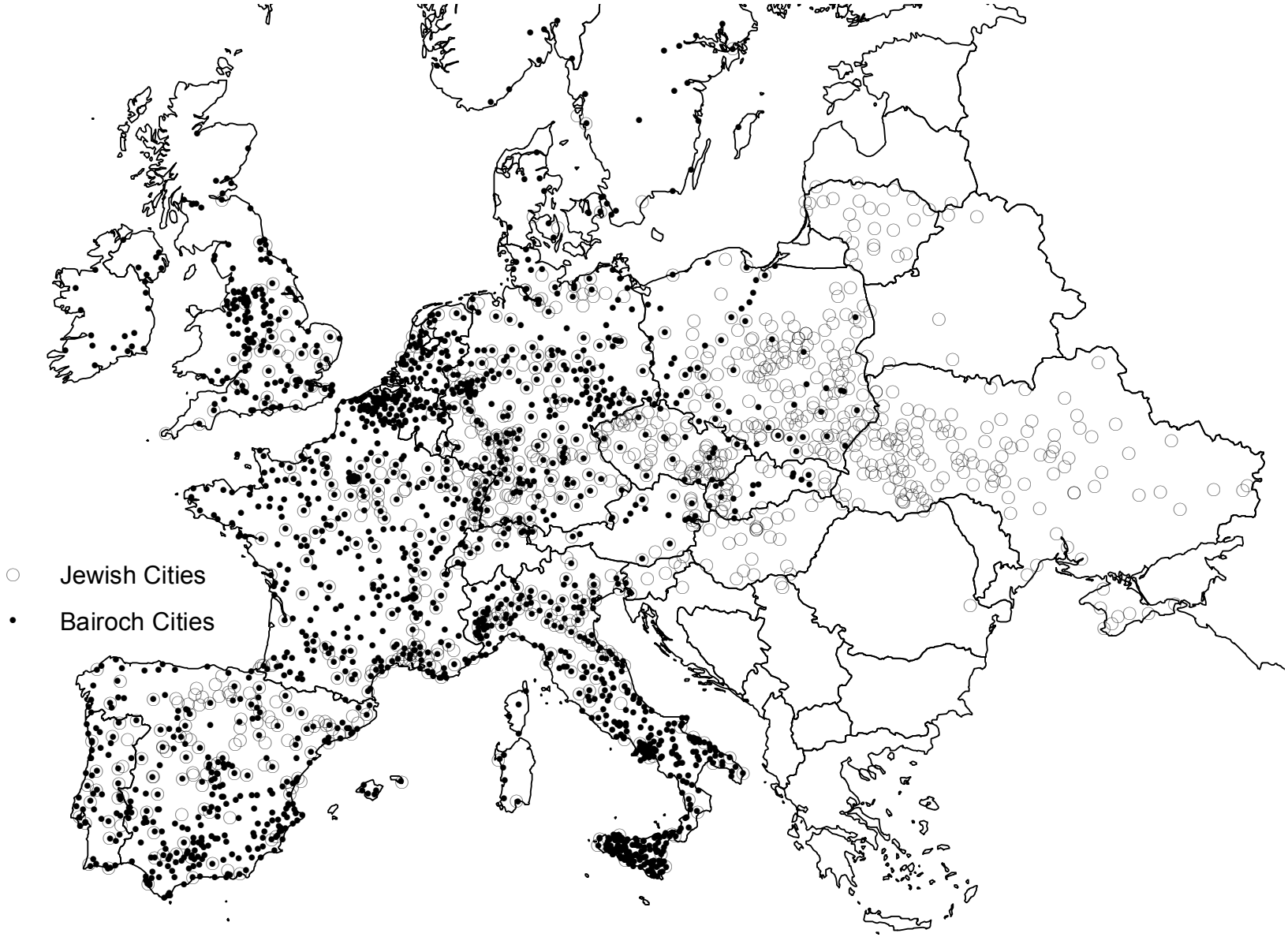


Each variable is standardized by subtracting its mean from it and then dividing by its standard deviation. We include the longitude and latitude of the city or region as controls.

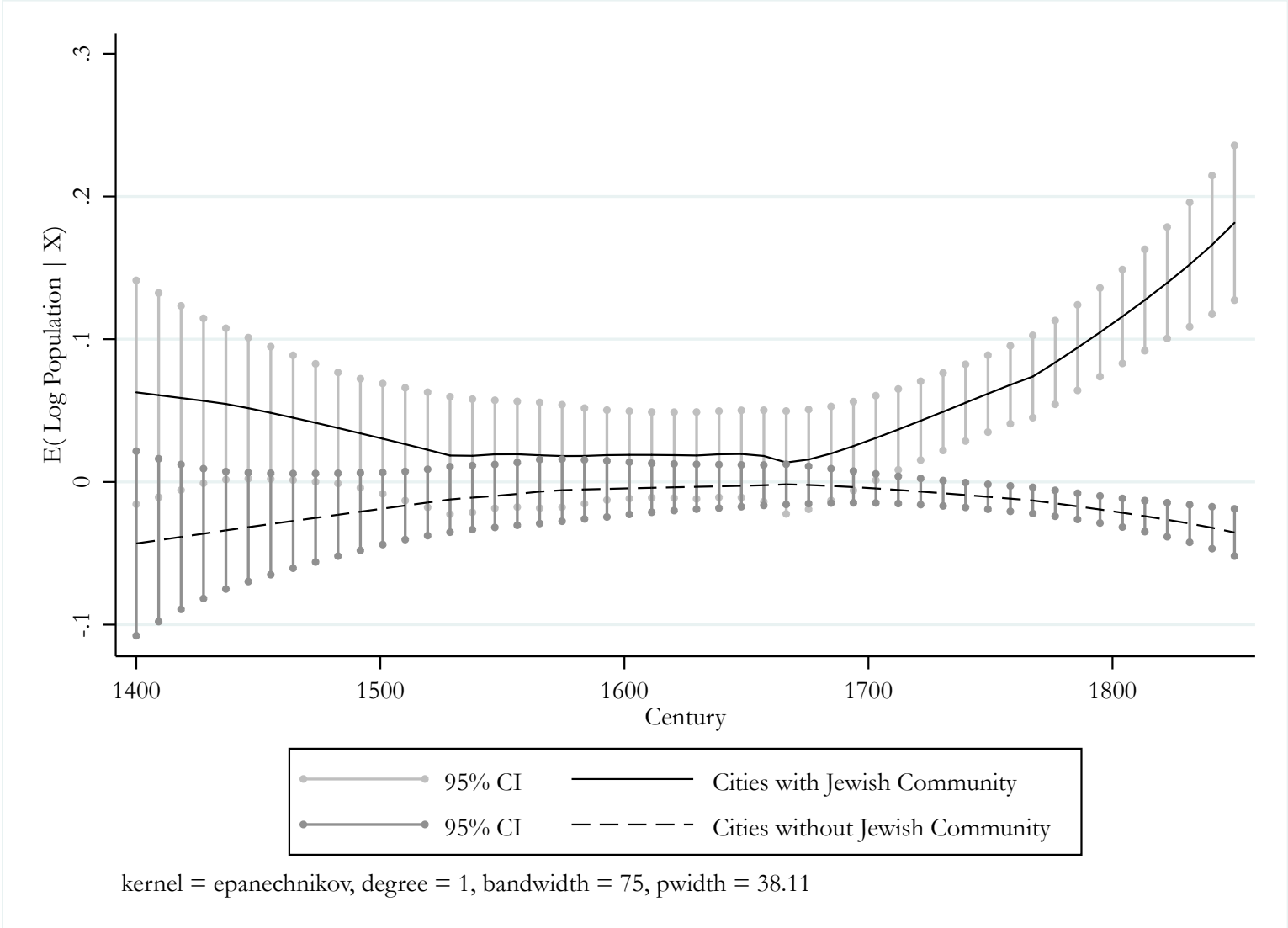
A Paper on the Economic Effects of General Rules

- Johnson, N. D. and Koyama, M. (2017a). Jewish communities and city growth in preindustrial Europe. *Journal of Development Economics*, 127: 339–354.

Jewish Cities and Bairoch Cities, 1400-1850



Jewish vs. Non-Jewish City Growth



This uses the Extended Sample and Conditions out all fixed effects and controls.

Hypotheses

Why would we expect Jewish settlement to be associated with economic growth?

1. **Human capital** more
   - e.g. Botticini and Eckstein (2012); also Acemoglu et al. (2011); but Abramitzky and Halaburda (2014) suggests this may be a composition affect (at least in the Pale of Settlement).

2. **Cultural Transmission of Pro-Market Values** more
   - Recent literature emphasizes the importance of cultural values (Greif, 2006; Tabellini, 2008; Mokyr, 2009; McCloskey, 2010). Horizontal transmission rather than vertical.

3. **Market Integration** more
   - Jewish merchants and traders shared a common culture (sometimes a common language) and played a role integrating Europe's commercial and trading networks.

4. **Generalized Toleration** more
   - Cities that were more tolerant (in general) may have been more likely to accept Jews, but the general tolerance (not necessarily the Jewish communities) may have generated growth.

Did the Presence of Jewish Communities Cause City Growth

- We perform a battery of empirical tests to investigate the causal relationship between Jewish Communities and City Growth.

- Our main test uses difference-in-differences regressions while controlling numerous observables including: cereal suitability, proximity to rivers, proximity to seas, distance to medieval trade routes, and universities.

$$\text{Log Pop}_{i,t} = \beta \text{Jewish Community}_{i,t} + \sum_{t=1500}^{1850} \mathbf{X}_i' \mu_t + \delta_i + \eta_t + \varepsilon_{i,t} \qquad (6)$$

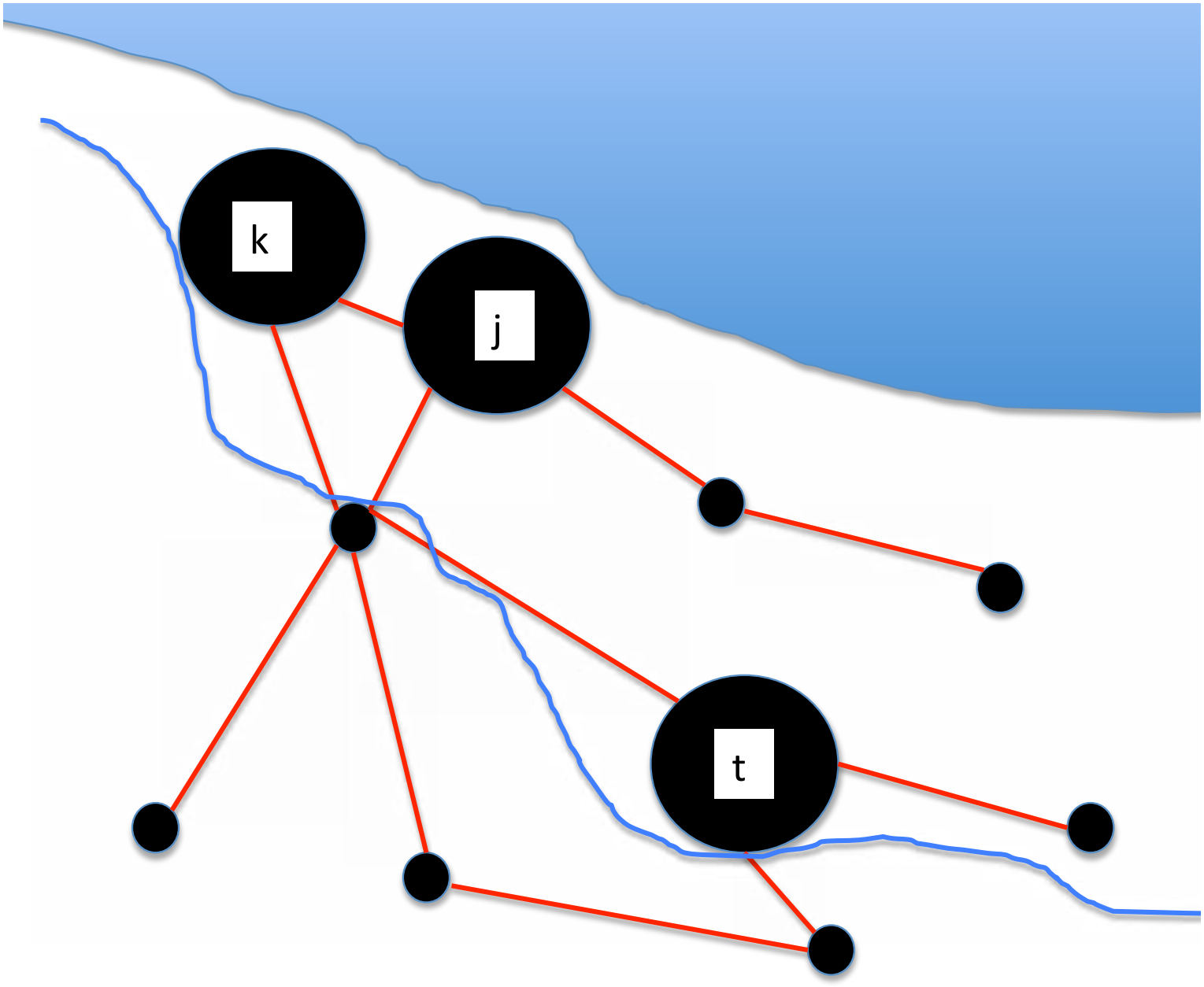
- We also implement an instrumental variables strategy which exploits both the network structure of Jewish communities and nearby expulsions.

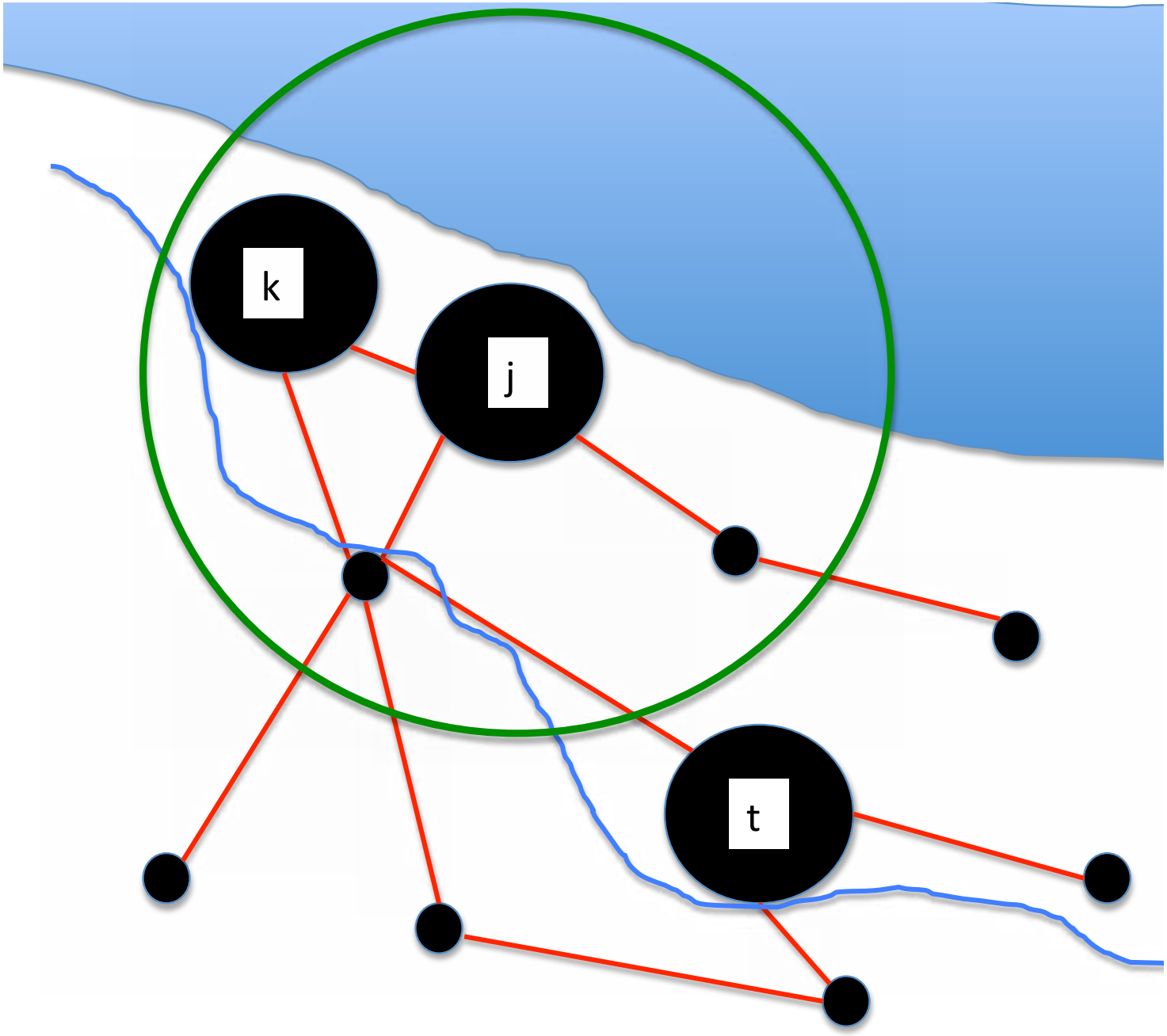
Creating the IV: Jewish Network Access

- We build on the *Market Access* literature. For example, see 'Railroads of the Raj' (Donaldson (2016)).

- We assume:

  1. A Jewish community is more likely to be established close to another Jewish community (e.g. because of trade networks, financial relationships, cultural linkages, or other spatial externalities).
  2. 'Close' is defined as the least cost travel path.
  3. Unobservable characteristics of the cities in which the communities are located become less correlated the further they are from each other.


k
j
t


k
j
t

Creating the IV: Jewish Network Access

- Jewish Network Access for city j is defined as:

$$NA_{jt} = \sum_{i \neq j} JC_{it} \tau_{ji}^{-\sigma} \tag{7}$$

- where JC_i is a dummy variable for city i taking a value of 1 if a Jewish community is located in it in time period t, τ_{ji} is the cost of travel between cities j and i, and σ is a trade elasticity (we experiment with various values and choose $\sigma = 1$).

- The average cost of transport per km/ton expressed in terms of cereals in the early 20th century was: 8.8 k.g for porters, 3.9 for transportation by cart, 0.99 for river transport, and 0.3-0.4 kg for sea transport (Bairoch, 1990, 141). We normalize these costs so that porter transport = 1.

- Where does τ_{ji}, or, 'travel cost' come from? We combine tools in ArcGIS and R (gdistance package) to create it.

Creating the IV's

- The Jewish Network Access variable is not a valid instrument.
- We create two sets of IV's based on the Jewish Network Access variable.
  1. The Jewish Network IV
  2. The Expulsions IV

The Jewish Network IV

- Recall that:

$$NA_{jt} = \sum_{i \neq j} JC_{it} \tau_{ji}^{-\sigma} \tag{8}$$

- The Jewish Network IV for city j is defined as $\text{IVNetwork}_{jt} = NA_{jt}\Big|_{i>Dkm}$.
- In this way we will be only be predicting the presence of a Jewish community in city j based on the network of Jewish cities that are more than D kilometers away. Since it is likely that any unobserved variables correlated with both the growth of city j and Jewish presence in city j will be uncorrelated with Jewish presence in city i that is $\hat{D}$ kilometers away, then this is a potentially valid instrument.
- We create the instrument for Dkm=0, 50, 100, 250, and 500.

THE EXPULSIONS IV

- To construct the Expulsions IV we reconstruct the Jewish Network variable but weight by $\text{Expulsion}_{it} = 1$ if there was an expulsion in city i in the period before year t. Then the Expulsions Network variable becomes...

$$EN_{jt} = \sum_{i \neq j} \text{Expulsion}_{it} \tau_{ji}^{-\sigma} \tag{9}$$

- Our time varying instrument is defined as $\text{IVExpulsion}_{jt} = EN_{jt}\Big|_{i>Dkm}$.

- Assumes that expulsions of Jews that happen more than $\hat{D}$ kilometers away are uncorrelated with other factors driving growth in city j. Relevance comes from the exogenous 'push' of expelled Jews towards city j combined with the 'pull' of city j being on a relatively short least cost travel path to the city from which the Jews are expelled.

Estimated of Effect of Jewish Communities on City Growth

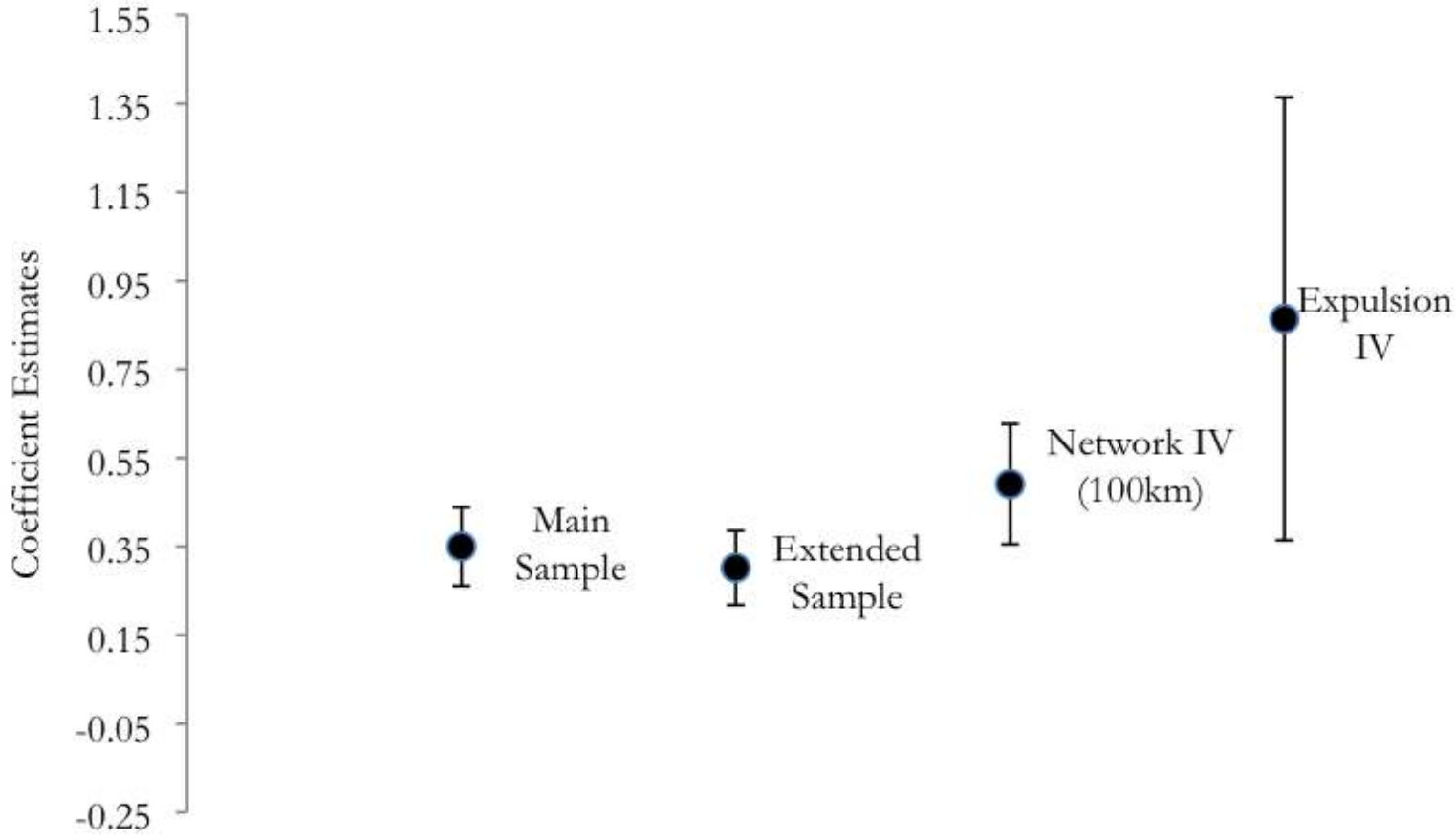


Figure: . . . 95% confidence intervals shown.

Estimated Effect Over Time

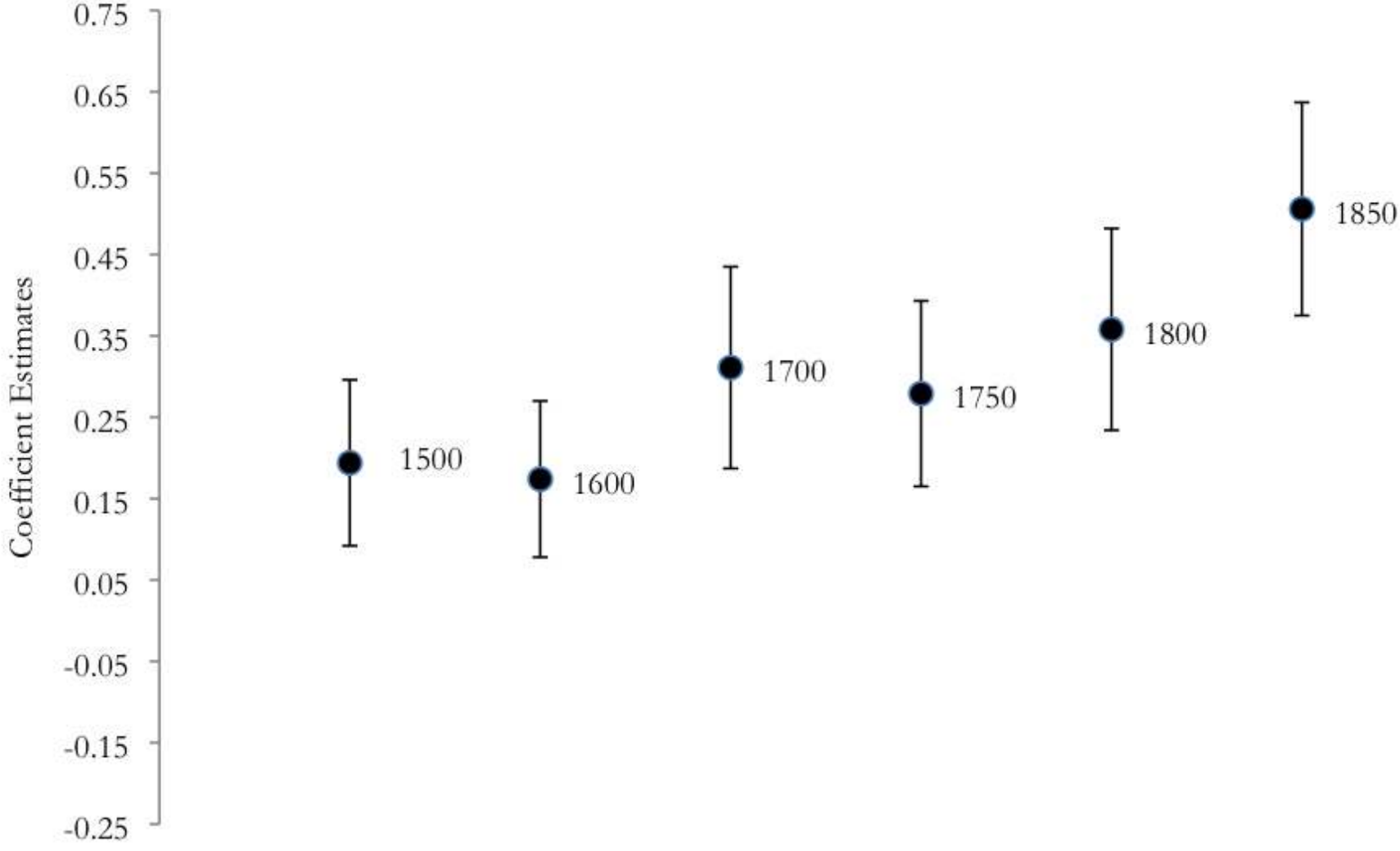


Figure: . . . 95% confidence intervals shown.

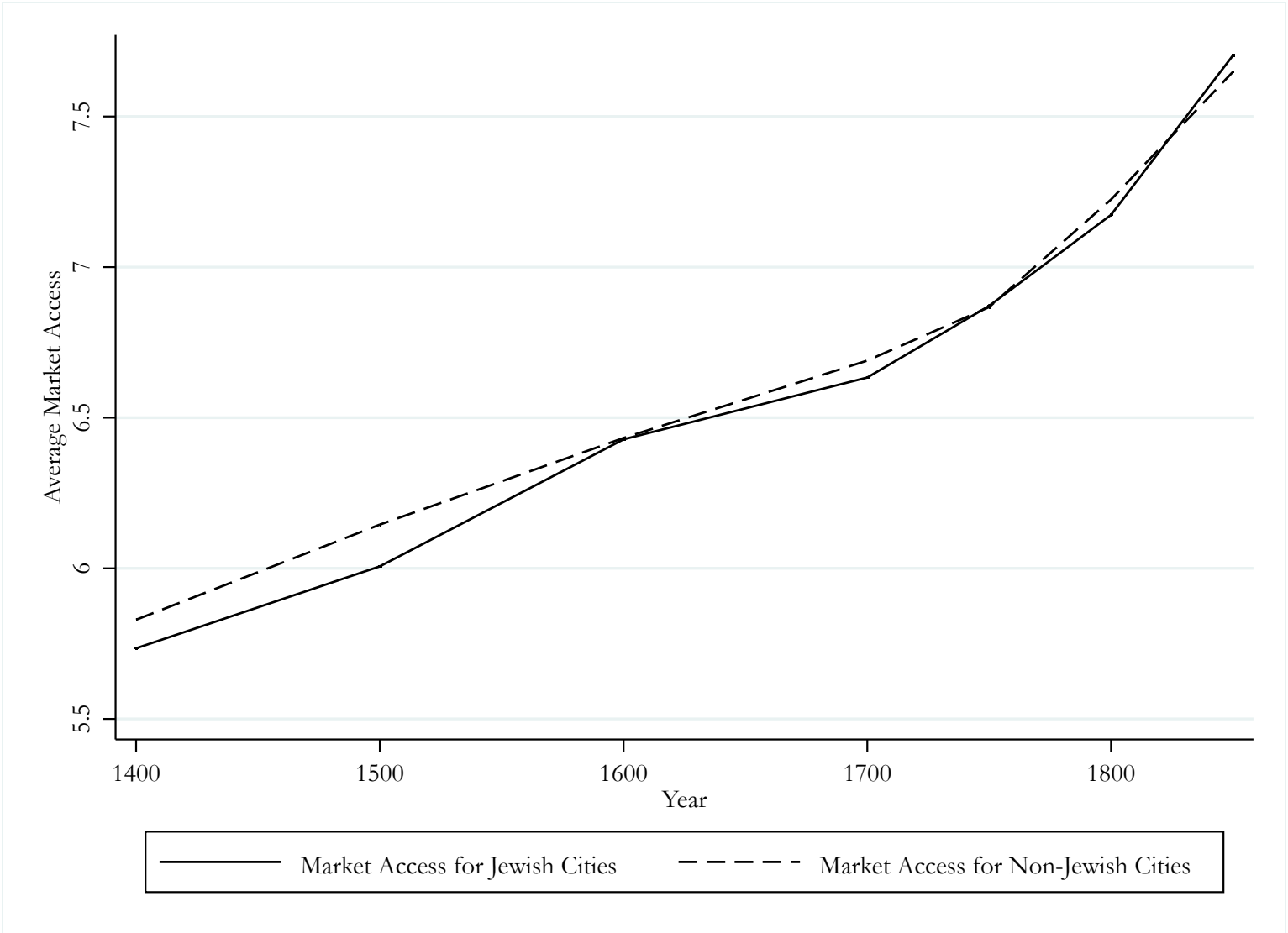
Mechanisms: Market Access

- Economic historians have conducted numerous studies of market integration during the early modern period, with a few exceptions these have focused on the grain trade (Bateman, 2011; Chilosi et al., 2013).
- Jewish, however, did not play a prominent role in the grain trade. They were involved in the transport of diamonds, sugar, silks, tobacco, and other luxury products in addition to playing a large role in banking and finance.
- Therefore, we explore a more general measure of market integration based on market access (Eaton and Kortum, 2002; Donaldson and Hornbeck, 2016).
- Market access is calculated as:

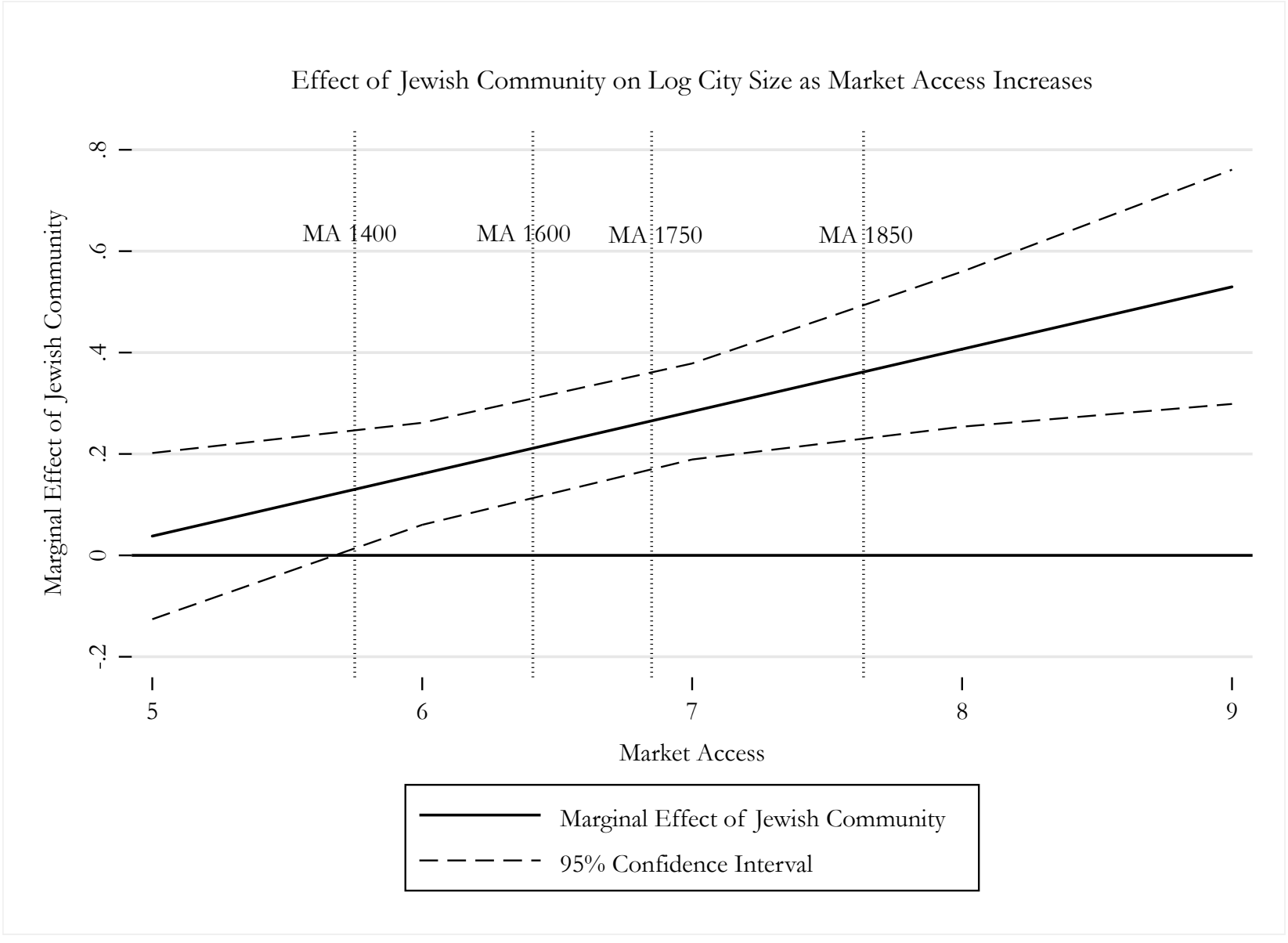
$$\text{Market Access}_{jt} = \sum_{i \neq j} \text{Population}_{it} \tau_{ji}^{-\sigma} \tag{10}$$

- Where Population_{it} is simply the population of city i in year t, τ is the least cost travel cost between city i and j, and σ is a trade elasticity.

Market Access on the Extensive Margin



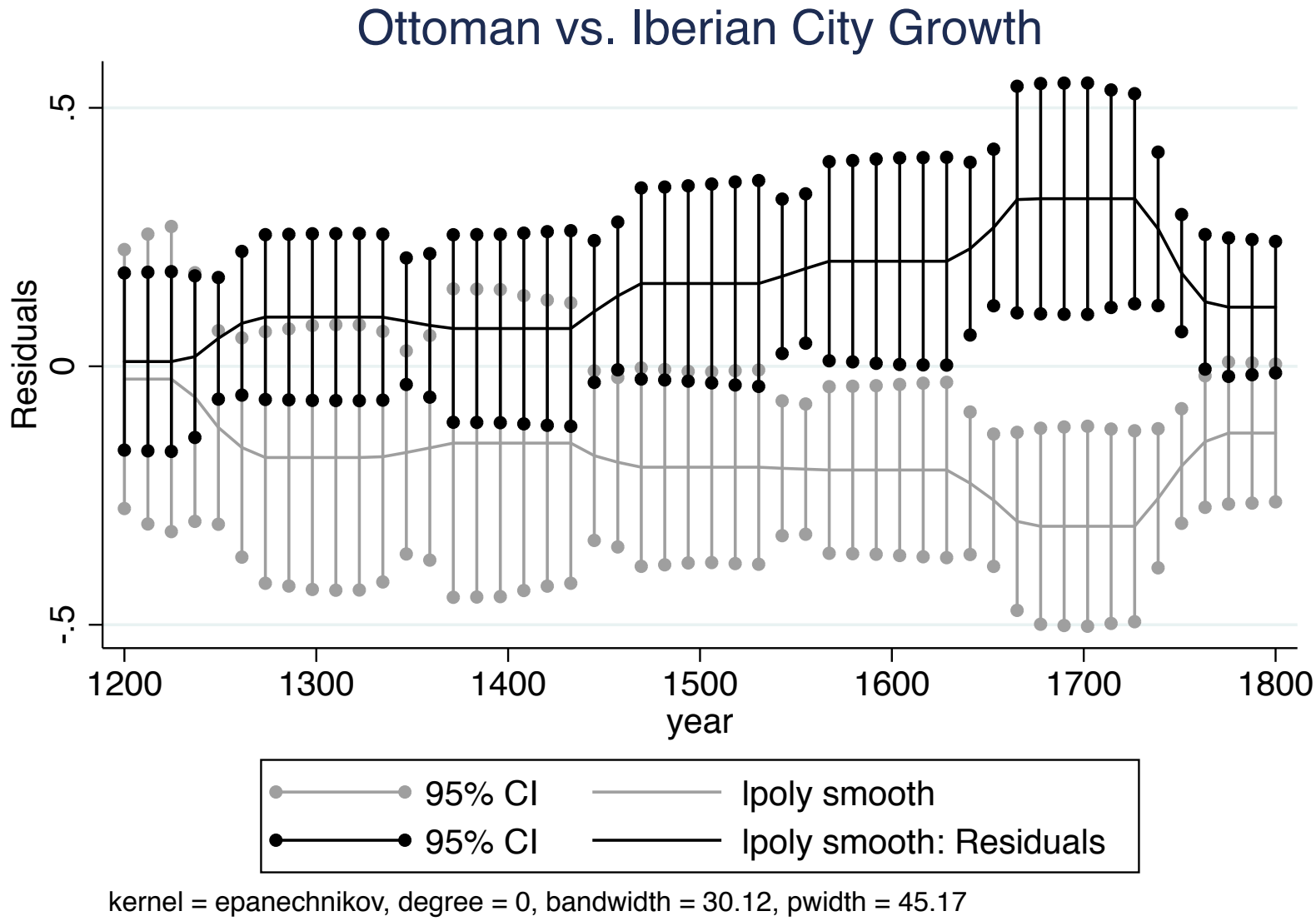
Predicted Effect of Market Access on Growth for Jewish Cities, 1400-1850



Conclusions

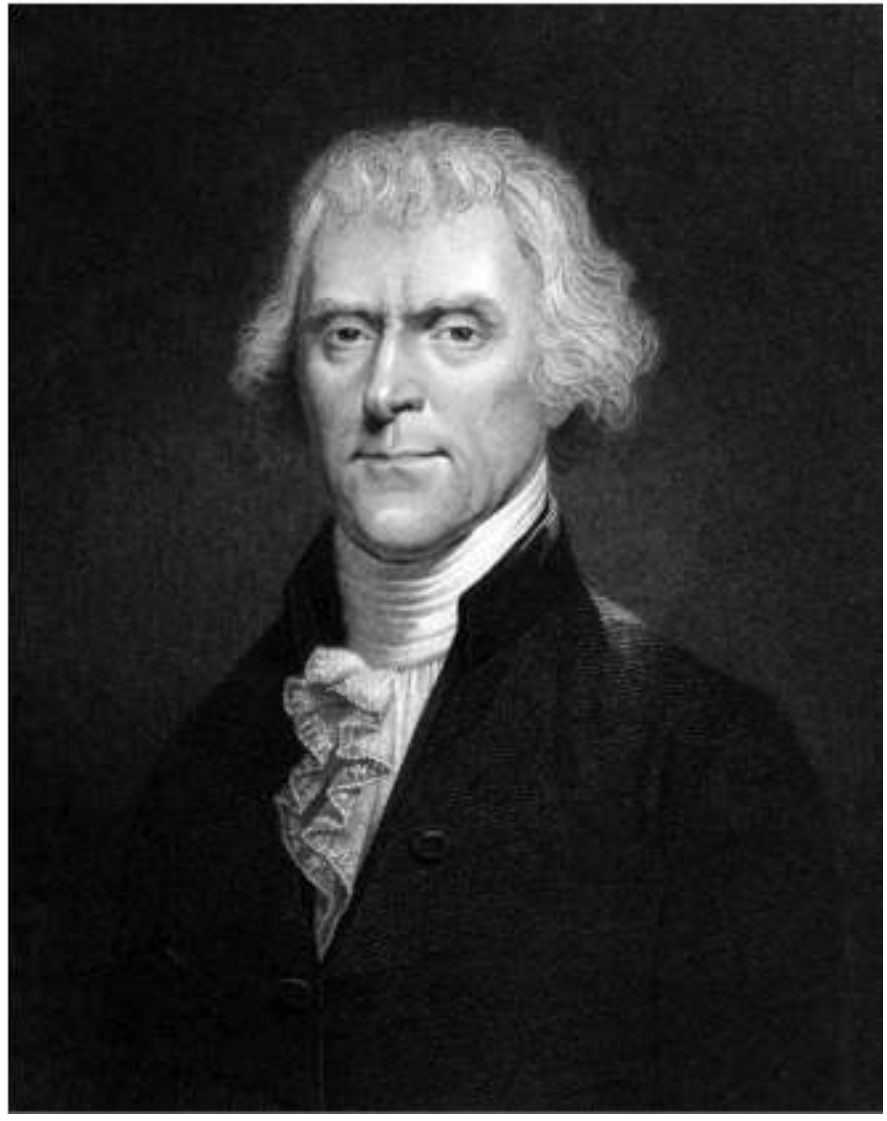
- Cities with Jewish communities grew faster than comparable cities without Jewish communities in Europe between 1400 and 1850.
- This growth advantage accelerated after 1600.
- We identify the causal effect of Jewish communities on city growth by creating an IV based on a spatial model of the Jewish network across Europe and exploiting 'nearby' expulsions.
- We provide evidence that cities with Jewish communities benefited more from market access on the intensive margin, but not on the extensive margin. Jewish communities were better able to translate greater *potential* market density into economic gains.

Extension: The Iberian Expulsions and Ottoman City Growth (ongoing research with Mark Koyama and Nisan Gorgulu)



Applications to the Rest of the World: USA

- Established state churches were common in colonial America.
- Jefferson and Madison were less important than dissenting Protestants in securing the 1st Amendment.
- The 1st Amendment precluded an established church at the federal level but state churches continued
- General tendency towards religious freedom during 19th century.



Applications to the Rest of the World: Middle East

- Religious legitimacy remained the main source of political legitimacy in the Middle East until the 20th c.
- Identity rules remained crucial to maintaining order
- State capacity remained low
- Hence, conditional toleration remained self-reinforcing.
- No move towards greater religious freedom.

Caliph Abdulmejid II (1868-1944)—the last Caliph of the OE, ended 1924.

Concluding Comments

- Ideas were not enough
- Liberal ideas were not necessarily responsible for the emergence of liberal societies
- Institutional change was crucial
- But do we understand institutional change?

Concluding Comments

- We argue that the rise of liberal states and societies required self-reinforcing institutional change
- Increases in state capacity helped make these institutional changes self-reinforcing:
  - Less reliance on religious legitimation
  - Less use of identity rules, more use of general rules
- But institutional change can be put into reverse as was the case in Nazi Germany and the Soviet Union.

Rent-Seeking and Extractive Institutions?

Illustration showing Jews receiving a charter of privileges from Emperor Henry VII in 1312. *Source*: Codex Baldvini; Koblenz, Municipal Archives.

Figure 3. A Jewish moneylender with his family in the background negotiating with a peasant and a townsman. A woodcut from Foltz, *Die Rechnung Kolbergers von dem Gesuch der Juden*, Nuremberg, 1491.

A Jewish money lender with his family in the background negotiating with a peasant and a townsman. Woodcut from Foltz: Die Rechnung Kolpergers von dem Gesuch der Juden – 'The billing of Kolpergers from the request of the Jews'. Nuremberg 1491

Return

Generalized Tolerance and Jewish Presence in Cities

- West European society increasingly abandoned *identity rules* around the seventeenth century.
- Part of this meant that Jews were more welcome in places were Identity Rules were being abandoned towards the end of the early modern period.
- Also, the abandonment of *identity rules* meant that Jews were more mobile than previously.
- This could either mean that greater religious freedom generates growth and Jewish communities are simply a marker for those cities. Or, Jewish communities could be directly contributing to growth.
- Or, probably, both.

Return

The Economic Role of Jews in Early-Modern Europe: Pro-Market Values

- literature emphasizes the importance of cultural values (Greif, 2006; Tabellini, 2008; Mokyr, 2009; McCloskey, 2010).
- Weber (1930) associates Jewish values with Puritan values.
- Ultimately dismisses role of Jews as restricted to 'pariah capitalism'.
- Weber's argument criticized by Sombart (1962) who argues Jews played crucial role in early stages of modern capitalism.
- However, Sombart's ideas are contaminated by anti-Semitism.

Quentin Massys – *The Money Lenders*

return

The Economic Role of Jews in Early-Modern Europe: Trading Networks

- Market integration between 1500-1800 has been widely studied as a potential driver of urbanization and subsequent economic growth.
- Numerous studies use law of one price to test level of market integration (e.g Shiue and Keller, 2007; Bateman, 2011; Chilosi et al., 2013).
- But extensive data only exists for widely traded staples such as grain.
- Jewish merchants were active in luxury trade, especially in the Levantine trade (spices, silk, cotton), and in Atlantic trade (sugar, tobacco, rum, silver) and in finance and banking.
- In particular, Sephardic Jews were extremely prominent in international trade during the early modern period.

return

The Economic Role of Jews in Early-Modern Europe: Human Capital

- Botticini and Eckstein (2012): Jews in medieval Europe had higher levels of human capital than Christians.
- Kuznets (1960): this the case in the late 19th century.
- Acemoglu et al. (2011): this held true in Eastern Europe before the Holocaust. Abramitzky and Halaburda (2014) suggests this may be a composition affect (at least in the Pale of Settlement).
- Today high levels of human capital are associated with city growth (Glaeser and Mare, 2001; Davis and Dingel, 2012, 2014). return

Abramitzky, Ran and Hanna Halaburda (2014), Were Jews in interwar Poland more educated? memo.

Acemoglu, Daron and James A. Robinson (2012), *Why Nations Fail*, Crown Business, New York.

Acemoglu, Daron, Tarek A. Hassan and James A. Robinson (2011), 'Social structure and development: A legacy of the Holocaust in Russia', *The Quarterly Journal of Economics* **126**(2), 895–946.

Bateman, Victoria N. (2011), 'The evolution of markets in early modern Europe, 1350–1800: a study of wheat prices', *The Economic History Review* **64**(2), 447–471.

Bockstette, Valerie, Areendam Chanda and Louis Putterman (2002), 'States and markets: The advantage of an early start', *Journal of Economic Growth* **7**(4), 347–69. available at http://ideas.repec.org/a/kap/jecgro/v7y2002i4p347–69.html.

Bosher, J. F. (1964), *The Single Duty Project: A Study of the Movement for a French Customs Union in the Eighteenth Century*, University of London Press, London.

Botticini, Maristella and Zvi Eckstein (2012), *The Chosen Few*, Princeton University Press, Princeton, New Jersey.

Chilosi, David, Tommy E. Murphy, Roman Studer and A. Coükun Tunßer (2013), 'Europe's many integrations: Geography and grain markets, 1620–1913', *Explorations in Economic History* **50**(1), 46 – 68.

Conchon, Anne (2002), *Le pèage en France au XVIII^e siècle*, *CHEFF*, *Paris*.

Davis, Donald R. and Jonathan I. Dingel (2012), A Spatial Knowledge Economy, NBER Working Papers 18188, National Bureau of Economic Research, Inc.

Davis, Donald R. and Jonathan I. Dingel (2014), The Comparative Advantage of Cities, NBER Working Papers 20602, National Bureau of Economic Research, Inc.
URL: *https://ideas.repec.org/p/nbr/nberwo/20602.html*

Donaldson, Dave (2016), 'Railroads of the Raj: Estimating the impact of transportation infrastructure', *American Economic Review* **Forthcoming**.

Donaldson, David and Richard Hornbeck (2016), 'Railroads and American economic growth: A "market access" approach', *Quarterly Journal of Economics* **131**(2), 799–858.

Eaton, Jonathan and Samuel Kortum (2002), 'Technology, geography, and trade', *Econometrica* **70**(5), 1741–1779.

Encyclopedia Judaica (2007), 2nd edition edn, Macmillan Reference.

Fischer, Gunther, Harrij van Nelthuizen, Mahendra Shah and Freddy Nachtergaele (2002), *Global Agro-Ecological Assessment for Agriculture in the 21st Century: Methodology and Results*, Food and Agriculture Organization of the United Nations, Rome.

Gaskill, Malcolm (2010), *Witchcraft: A Very Short Introduction*, Oxford University Press, Oxford.

Glaeser, Edward L and David C Mare (2001), 'Cities and Skills', *Journal of Labor Economics* **19**(2), 316–42.

Greenshields, M.R. (1994), *An economy of violence in early modern France: crime and justice in the Haute Auvergne, 1587-1664*, Pennsylvania State University Press.

Greif, Avner (2006), *Institutions and the Path to the Modern Economy*, Cambridge University Press, Cambridge, U.K.

Guiot, Joel and Christopher Corona (2010), 'Growing season temperature in Europe and climate forcings over the past 1400 years', *Plos One* **5**(4), 1–15.

Hamscher, Albert N. (1976), *The Parlement of Paris After the Fronde, 1653-1673*, University of Pittsburgh Press, Pittsburgh.

Heckscher, Eli F. (1955), *Mercantilism*, Vol. I, George Allen & Unwin LTD, London. translated by E.F. Soderlund.

Hyslop, Beatrice (1934), *French Nationalism in 1789 According to the General Cahiers*, Cambridge University Press.

Israel, Jonathan (2001), *Radical Enlightenment: Philosophy and the Making of Modernity, 1650-1750*, Oxford University Press, Oxford.

Johnson, Noel D. (2006), 'Banking on the King: The evolution of the royal revenue farms in old regime France', *The Journal of Economic History* **66**(04), 963–991.

Johnson, Noel D. and Mark Koyama (2013), 'Tax farming and the origins of state capacity in England and France', *Explorations in Economic History* **Forthcoming**.

Jordan, W.K. (1932), *The Development of Religious Toleration in England*, Vol. I, Cambridge University Press, Cambridge.

Karaman, Kivanc and Şevket Pamuk (2013), 'Different paths to the modern state in Europe: The interaction between warfare, economic structure and political regime', *American Political Science Review* **107**(3), 603–626.

Koyama, Mark (2010), 'The political economy of expulsion: the regulation of Jewish moneylending in medieval England', *Constitutional Political Economy* **21**(4), 374–406.

Kukathas, Chandran (2003), *The Liberal Archipelago: A Theory of Diversity and Freedom*, Oxford University Press, Oxford.

Kuznets, Simon (1960), Economic structure and life of the Jews, *in* L.Finkelstein, ed., 'The Jews: Their History, Culture, and Religion', Jewish Publication Society of America, Philadelphia, pp. 1597–1666.

Langbein, John H. (1976, 2006), *Torture and the Law of Proof*, University of Chicago Press, Chicago.

Lecler, Joseph (1960), *Toleration and The Reformation*, Association Press, New York.

Levack, Brian P. (2006), *The Witch-Hunt in Early Modern Europe*, 3rd edn, Person, Harlow.

Levenson, Alan T. (2012), *The Wiley-Blackwell History of Jews and Judaism*, Wiley-Blackwell, London.

Levy, Jacob (2015), *Rationalism, Pluralism, and Freedom*, Oxford University Press, Oxford.

Matthews, George T. (1958), *The Royal General Farms in Eighteenth-Century France*, Columbia University Press, New York.

McCloskey, Deirdre N. (2010), *Bourgeois Dignity: Why Economics Can't Explain the Modern World*, University of Chicago Press, Chicago.

McCloskey, Deirdre N. (2016), *Bourgeois Equality*, Chicago University Press, Chicago.

Michalopoulos, Stelios and Elias Papaioannou (2013), 'PreColonial Ethnic Institutions and Contemporary African Development', *Econometrica* **81**(1), 113–152.

Midelfort, Eric (1972), *Witch Hunting in Southwestern Germany*, Stanford University Press, Stanford, California.

Mokyr, Joel (2009), *The Enlightened Economy*, Yale University Press, New Haven.

Mokyr, Joel (2016), *Culture of Growth*, Princeton University Press, Princeton, NJ.

Moykr, Joel (1990), *The Lever of Riches*, Oxford UP, Oxford, U.K.

Nordman, D. and M. Ozouf-Marignier, eds (1989), *Atlas de la Révolution française, vol 5: Le territoire*.

Richardson, Gary and Michael McBride (2009), 'Religion, longevity, and cooperation: The case of the craft guild.', *Journal of Economic Behavior and Organization* **71**(2), 172–186.

Rubin, Miri (2004), *Gentile Tales: The Narrative Assault on Late Medieval Jews*, University of Pennsylvania Press, Philadelphia.

Shiue, Carol H. and Wolfgang Keller (2007), 'Markets in China and Europe on the eve of the industrial revolution', *American Economic Review* **97**(4), 1189–1216.

Soman, Alfred (1978), 'The parlement of Paris and the great witch hunt (1565-1640)', *The Sixteenth Century Journal* **9**(2), 31–44.

Soman, Alfred (1989), 'Decriminalizing witchcraft: Does the French experience furnish a European model?', *Criminal Justice History* **10**, 1–22.

Tabellini, Guido (2008), 'Presidential address institutions and culture', *Journal of the European Economic Association* **6**(2-3), 255–294.

Weber, Max (1930), *The Protestant Ethic and the Spirit of Capitalism*, Allen and Unwin, London, U.K.

Zagorin, Perez (2003), *How the Idea of Religious Toleration Came to the West*, Princeton University Press, Princeton, New Jersey.