Lecture 3
Institutions I

Matti Sarvimäki

Economic History
1 April 2018

Outline of the course

1. Today: Introduction, fundamental causes of growth
   - 1.1 Introduction and the Malthusian Model
   - 1.2 Luck, Geography and Culture
   - 1.3 **Institutions I**
2. Tomorrow: fundamental (con't), Innovations and crises
   - 2.1 Institutions II
   - 2.2 Technology
   - 2.3 Finance
3. Wednesday: Unleashing talent
   - 3.1 Geographical and social mobility
   - 3.2 Marriage, family and work

Defining institutions
North (1991)

Institutions are the humanly devised **constraints** that structure political, economic and social interaction

- informal constraints (sanctions, taboos, customs, traditions...)
- formal rules (constitutions, laws, property rights...)

Defining institutions

North (1991)

Institutions are the humanly devised **constraints** that structure political, economic and social interaction

- informal constraints (sanctions, taboos, customs, traditions...)
- formal rules (constitutions, laws, property rights...)

Institutions + "standard constraints"

- determine transaction and production costs
- provide the incentive structure of an economy

Defining institutions

North (1991)

Institutions are the humanly devised **constraints** that structure political, economic and social interaction

- informal constraints (sanctions, taboos, customs, traditions...)
- formal rules (constitutions, laws, property rights...)

Institutions + "standard constraints"

- determine transaction and production costs
- provide the incentive structure of an economy

Institutions evolve incrementally → history matters

When are they needed?

Game theoretic approach, North (1991)

"Spontaneous" cooperation easier when

- the game is infinitely repeated
- number of players is small

Institutions usefull when spontaneous cooperation is hard

- raise the benefits of cooperation
- reduce transaction costs $\rightarrow$ gains from trade (in all levels)

Stages of institutional evolution

According to the German historical school, North (1991)

Local exchange (single village)

- village-level autarky, but households trade with each other
- people know each other → enforcement of individuals (taking into account all of their actions) rather than specific actions
- little need for formal institutions

Stages of institutional evolution

According to the German historical school, North (1991)

Local exchange (single village)

- village-level autarky, but households trade with each other
- people know each other → enforcement of individuals (taking into account all of their actions) rather than specific actions
- little need for formal institutions

Trade between villages

- gains from trade increase
- contracts must be made more explicit → more resources to measurement and enforcement
- no state to enforce contracts yet, but religion typically imposes standards of conduct

Stages of institutional evolution

According to the German historical school, North (1991)

Long-distance trade

- more gains from trade, more scope for specialization
- problems: agency issues, contract negotiation and enforcement
- solutions: use of kin, armed force to protect ship/caravan, paying for protection to local rulers, creating standardized trade practices and merchant bodies

Stages of institutional evolution

According to the German historical school, North (1991)

Long-distance trade

- more gains from trade, more scope for specialization
- problems: agency issues, contract negotiation and enforcement
- solutions: use of kin, armed force to protect ship/caravan, paying for protection to local rulers, creating standardized trade practices and merchant bodies

"Modern" world

- economies of scale, hierarchical producing organizations, new technologies, industralization, urbanization
- need for effective, impersonal contract enforcement and security of property rights
- necessary to constraint ruler's power to prevent arbitrary seizure of assets (e.g. England's Glorious Revolution of 1688)

Patricians voting at the Sala Maggiore, Doge's Palace, Venice. Joseph Heintz der Jüngere, 1678

The Molo and the Riva degli Schiavoni from the St. Mark's Basin by Canaletto, 1740

Venice 800-1600

Puga and Trefler (2014)

Commercial Revolution of 950–1350 in Medieval Europe

- massive expansion of long-distance trade
- major institutional reforms

Venice 800-1600

Puga and Trefler (2014)

Commercial Revolution of 950–1350 in Medieval Europe

- massive expansion of long-distance trade
- major institutional reforms

This paper

- tracks Venice's institutional innovations that made it remarkably wealthy and socially mobile prior to 1300
- followed by extreme political closure, stratification, inequality
- thesis: international trade drove both developments

Medieval Shipping Lanes

Puga and Trefler (2014)

Increase in long-distance trade (a) rising incomes in Western Europe, (b) Byzantium regained control of the Eastern Mediterranean sea lanes between 961–969

Expansion of Venetian Long-Distance Trade

Puga and Trefler (2014)

Opening of Mediterranean shipping lanes in 976

The Golden Bull of 1082

- reward due to Venetian naval aid to Byzantium
- duty-free access to the most important Byzantine ports
- own Quarters within Constantinople
- long-distance trade and thus the power of merchants increase

The conquest of Constantinople in 1204

- created a Venetian colonial system in the Eastern Mediterranean that massively expanded Venetian trade

Implications of Increased Long-Distance Trade

Puga and Trefler (2014)

Created new rich merchants who demanded civic recognition

- new families start to appear in Dogal documents
- individually weak, but collectively managed to significantly constrain the power of the Doge

The Doge

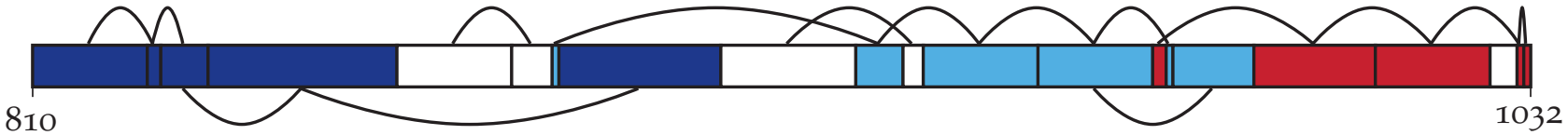
- had wide-ranging powers ("monarch of unlimited power")
- but was elected (and often murdered)

How to measure Dogal power?

- PT use their ability to appoint a family member as successor

Dogal Dynasties: 810–1032

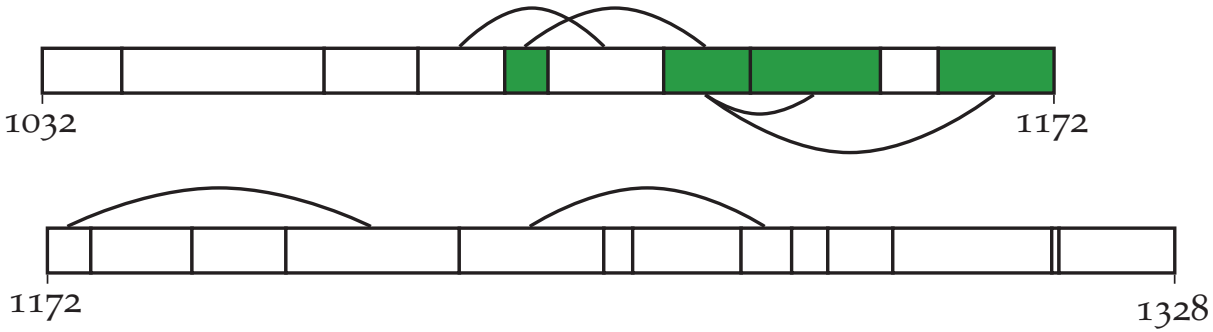
Puga and Trefler (2014)



Length of each box corresponds to the length of the term in office. Curves above the box mark connections between father and either son or brother, curves below the box mark connections involving a son-in-law or nephew. Dynasties are marked with colors and are defined as a set of Doges who pass on the Dogeship within the family at least twice. During this period, there were three dynasties and ***every* Doge had a direct family relationship to another Doge**. The four boxes that are not coloured in the figure in this early period are also Participazio (the first dynasty), but it is not clear from contemporary sources whether they were related to the earlier Participazio.

Dogal Dynasties: 1032–1323

Puga and Trefler (2014)



In 1032, Domenico Flabanico—a wealthy silk merchant—was elected as Doge. **Most subsequent Doges over the next centuries would also be merchants who were involved in long-distance trade**. The merchant Doges were willing to respect principles such as not appointing their successor. Dogal power were further constrained by the establishement of the **Great Council in 1172** (next slide). The timeline ends with the *Serrata* of 1297–1323 (discussed later).

The Establishment of a Parliament

Puga and Trefler (2014)

The Great Council established in 1172

- background: unexpected murder of an unpopular Dodge
- a limited-franchise elected parliament

The Establishment of a Parliament

Puga and Trefler (2014)

The Great Council established in 1172

- background: unexpected murder of an unpopular Dodge
- a limited-franchise elected parliament

Limits to Dogal power through

- Oath of Office (explicitly listed what the Doge could not do)
- Dogal Council (elected by, accountable to the Great Council)

Innovations for Long-Distance Trade

Puga and Trefler (2014)

Financial innovations by the early-14th century included

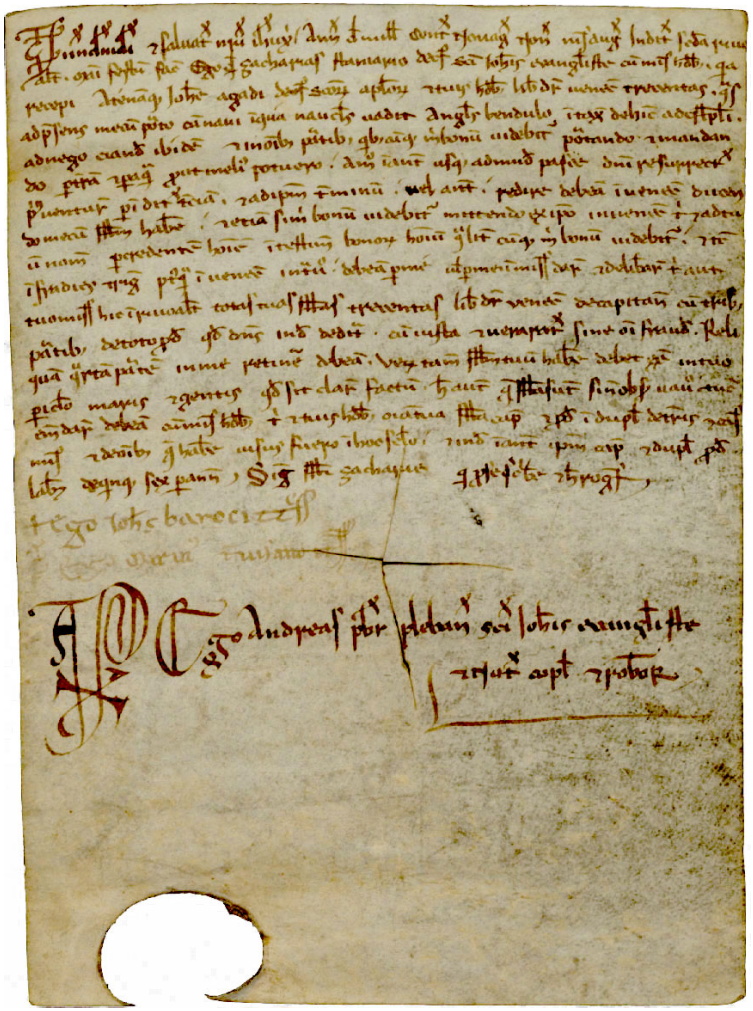
1. Limited-liability contracts
2. Thick markets for debt (especially bills of exchange)
3. Secondary markets for a wide variety of debt, equity and mortgage instruments
4. Bankruptcy laws that distinguished illiquidity from insolvency
5. Double-entry accounting methods
6. Business education (inc. algebra for currency conversions)
7. Deposit banking
8. Reliable medium of exchange (the Venetian ducat)
9. Law Merchant (foundation of modern commercial law)

We will come back to some of these in lectures 8–9; now focus on the *colleganza* (know as *commenda* elsewhere in Europe)

An example of a *colleganza*, 1199

Puga and Trefler (2014)

[...] I, Zaccaria Stagnario [...] declare that I have received from you, Giovanni Agadi [...] 300 pounds of Venetian pennies that I shall carry in the ship on which the helmsman Angelo Bendulo is traveling in convoy from here to Constantinople **to do business there and in any other place that seems good to me**, carrying and entrusting it through land and water as best I can [...] I am to give [...] to you or to your messenger your entire capital of 300 pounds of Venetian pennies together with three parts of whatever profit God shall give us with just and truthful account and without any fraud. **I am to keep for myself the remaining fourth**. However, **the aforesaid goods are to remain at your own risk from sea and people if this is clearly apparent**. Moreover, if I do not observe all that is written above I am to compensate you and your heirs with double the amount of capital and profit out of my lands and houses and all that I am known to own in this world and let the same capital and the double bear interest of six per five every year from that time onwards.



Colleganza and Long-Distance Trade

Puga and Trefler (2014)

Colleganza was a key commercial innovation of medieval times

- direct precursor of the great joint stock companies

Colleganza and Long-Distance Trade

Puga and Trefler (2014)

Colleganza was a key commercial innovation of medieval times

- direct precursor of the great joint stock companies

Typical colleganza

- sedentary merchant provides capital
- travelling merchant provides labor
- **joint stock**: the value of capital stated and profit share rule defined (typically 75/25)
- **limited liability**: risk born by the investor ... but he can lose only his capital

Colleganza and Long-Distance Trade

Puga and Trefler (2014)

Colleganza was a key commercial innovation of medieval times

- direct precursor of the great joint stock companies

Typical colleganza

- sedentary merchant provides capital
- travelling merchant provides labor
- **joint stock**: the value of capital stated and profit share rule defined (typically 75/25)
- **limited liability**: risk born by the investor ... but he can lose only his capital

A response to the challenges of long-distance trade

- large capital requirements: those most suited to be travelling merchants typical didn't have sufficient capital
- principal-agent problem: sufficient financial incentive for the travelling merchant to keep the deal (incentive compatibility)
- risk: sedentary merchant can only lose his capital; travelling merchant not liable for things he cannot control

Colleganza and Social Mobility

Puga and Trefler (2014)

The *colleganza* allowed poor merchants to enter the game

- "the tractores [travelling merchants] were ambitious young men who were willing to take heavy risks in order to accumulate sufficient capital to join eventually the ranks of the stantes [sedentary merchants]"

Colleganza and Social Mobility

Puga and Trefler (2014)

The *colleganza* allowed poor merchants to enter the game

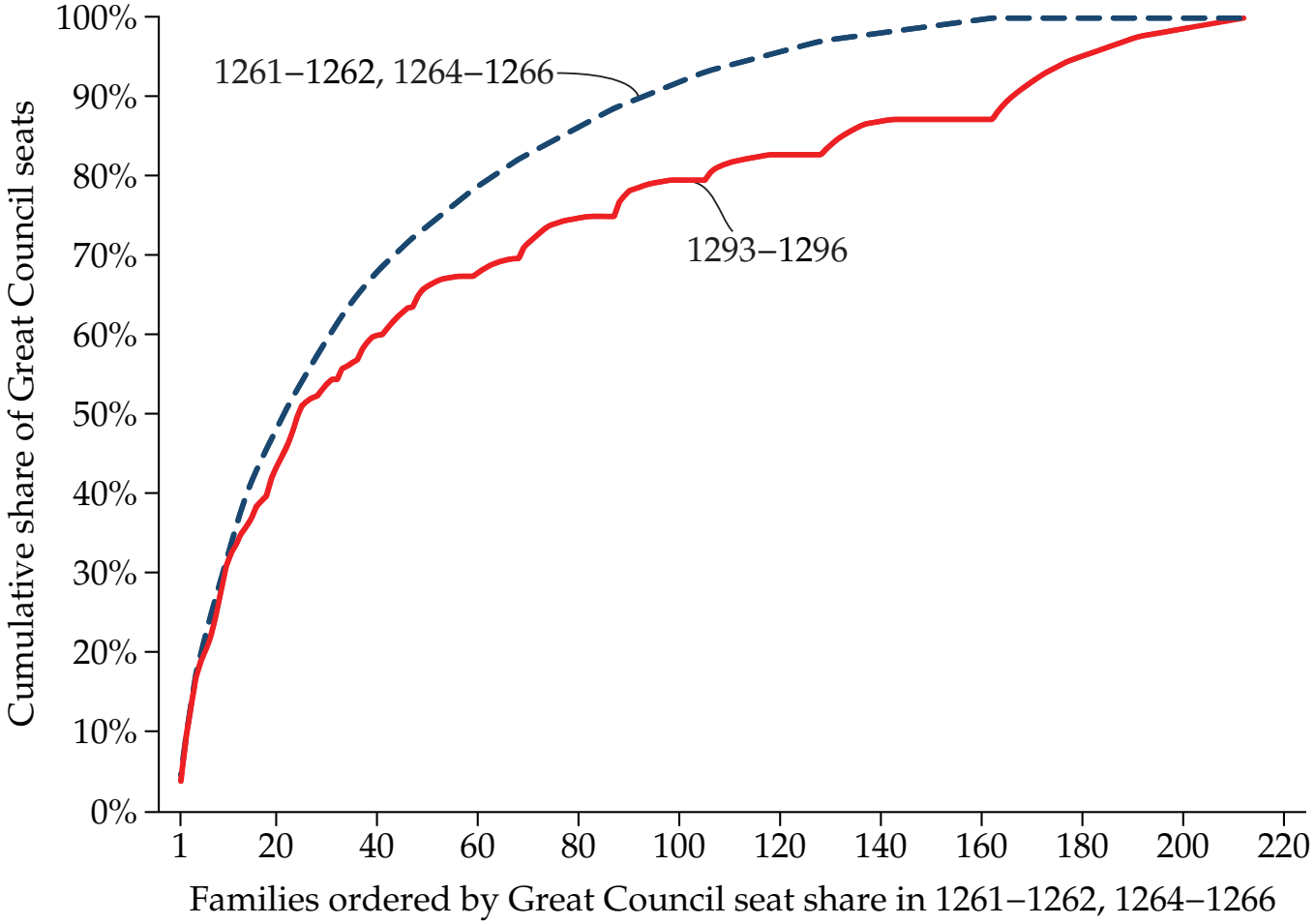
- "the tractores [travelling merchants] were ambitious young men who were willing to take heavy risks in order to accumulate sufficient capital to join eventually the ranks of the stantes [sedentary merchants]"

An example: Zaccaria Stagnario

- His grandfather was a Croatian slave, his father a helmsman
- In 1199, he signs the colleganza we just examined
- In 1207, he becomes counselor for the Venetian podestà in Constantinople; sedentary merchant in two large *colleganzas*
- After returning to Venice he integrated himself into the highest social and political circles

The Changing Membership of the Great Council

Puga and Trefler (2014)



Between 1266 and 1293, 50 new families entered the Great Council (the concave section at the right end of the solid line), 47 families moved out (the flat portions), and established families were losing seat shares (the solid line is below the dashed line).

The *Serrata*, *1297–1323*

Puga and Trefler (2014)

Wealthy families did not take this mobility lying down

- 1297–1307: series of motions that made re-election to the Great Council substantially easier for those already in there
- 1319: electing new members terminated
- 1323: only men whose fathers *and* grandfathers had been in the Great Council could hold seats

The *Serrata*, *1297–1323*

Puga and Trefler (2014)

Wealthy families did not take this mobility lying down

- 1297–1307: series of motions that made re-election to the Great Council substantially easier for those already in there
- 1319: electing new members terminated
- 1323: only men whose fathers *and* grandfathers had been in the Great Council could hold seats

How did they manage to do this?

- 1297–1310: enlargement of the Great Council
- 1310: establishement of the repressive Council of Ten (that created its own police force in 1319)

The Closure of Long-Distance Trade

Puga and Trefler (2014)

1320s: a new system of publicly owned galleys that were auctioned off to private operators

- earlier: privately owned and operated convoys
- now: state chose the destinations and sailing dates
- only nobles were allowed to participate in the auctions

1324: *Capitulare Navigantium*

- forbade any merchant from shipping wares with a value in excess of the merchant's assessed wealth
- wealth assessments based on taxes and only the very wealthy paid taxes

Commoner Involvement in *Colleganza*

Puga and Trefler (2014)

(1) Period	(2) Number of surviving *colleganza*	(3) Number of *colleganza* involving commoners	(4) % of *colleganza* involving commoners	(5) Median merchant's family seats per session in the Great Council	(6) Officium de Navigantibus
1073–1200	65	27	42%	1.5	
1201–1220	63	24	38%	1.0	
1221–1240	79	42	53%	0.9	
1241–1261	59	30	51%	0.8	
1310–1323	81	22	27%	3.0	
1324	3	0	0%	1.8	In force
1325–1330	19	1	5%	4.8	
1331–1338	10	0	0%	5.4	In force
1339–1342	2	0	0%	13.6	

Commoners were involved in 42% of surviving colleganza in 1073–1200, 51% in 1241–1261, 27% in 1310–1323 (when the Serrata was already underway) and 3% in 1323–1342. At the same time, participation shifted towards the more powerful nobels (col. 5). The sharp drop in the number of colleganze in 1330 is likely due to a shift in financing away from the colleganza and towards financing through family and marriage alliances.

Back to Kin-Based Financing

Puga and Trefler (2014)

Dealing with the huge capital requirements of the galley trade

- pre-Serrata: many colleganza held by commoners and nobels
- post-Serrata (inital): broad-based noble participation
- post-Serrata (later): narrow group monopolize galley trade

1400s: powerful families started to monopolize entire convoys

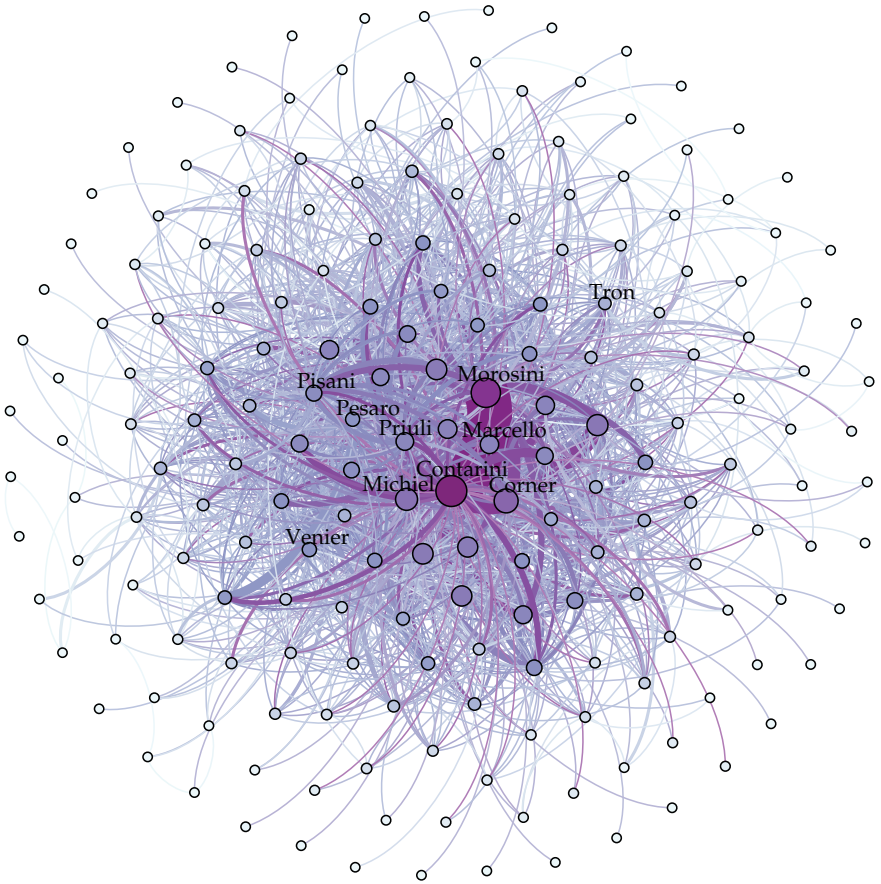
- raised capital within a family
- additional capital from marriage alliances

These families had grown spectacularly rich due to international trade and were now able to exploit

- monopsony power in the destination
- monopoly power in Venice

Marriage Network among Noble Families in 1400s

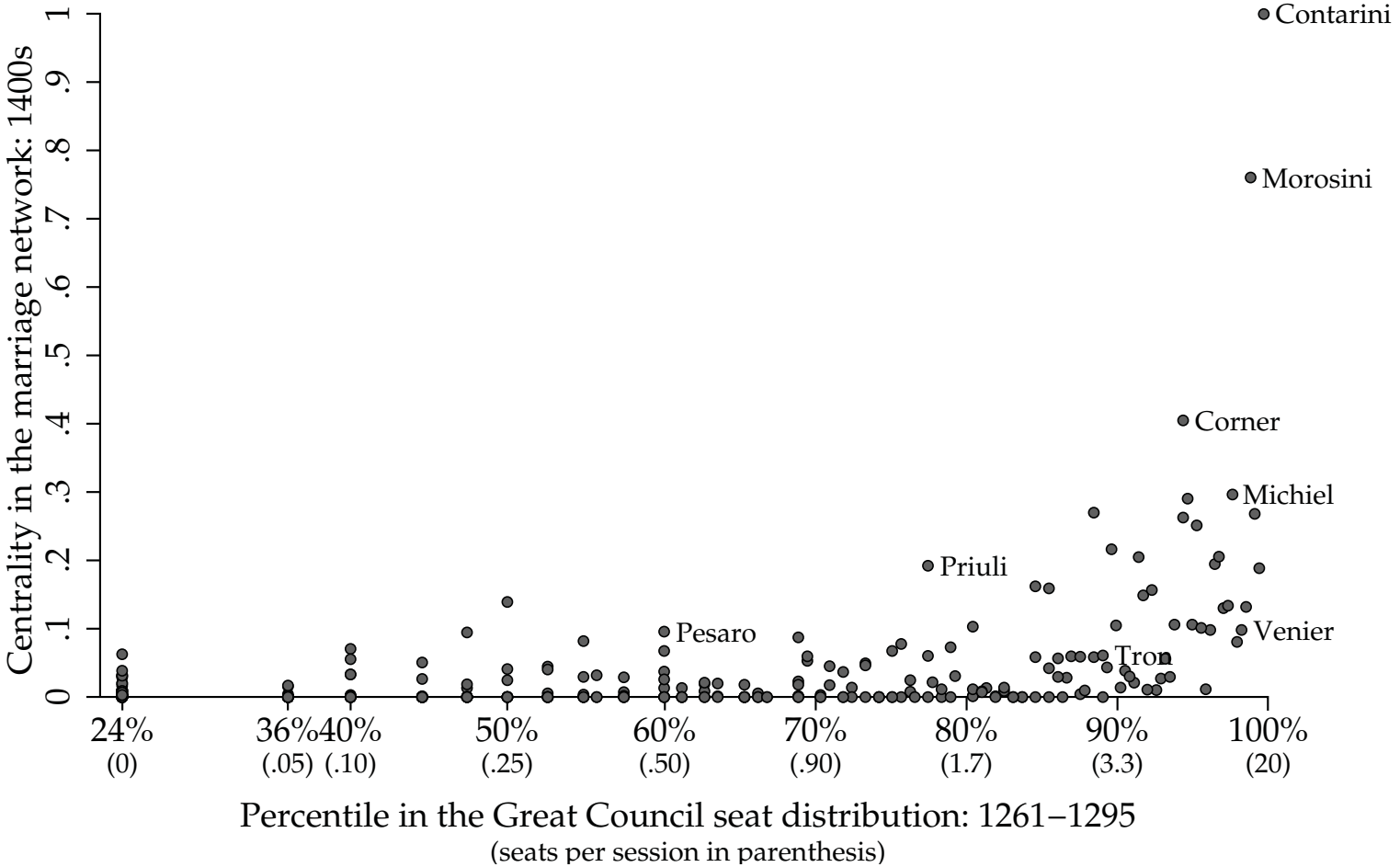
Puga and Trefler (2014)



Each node represents a family and each arc is a marriage. All 6,959 marriages among noble families in 1400–1499 are plotted, with thicker/darker arcs representing more marriages. The size of the circles increases with the family's importance in the network as measured by eigenvector centrality (a node is more important when it is better connected to other important nodes).

Post-Serrata Centrality and Pre-Serrata Power

Puga and Trefler (2014)



Families with high centrality in the 1400s had high pre-Serrata seat shares.

The Value of the Marriage Network

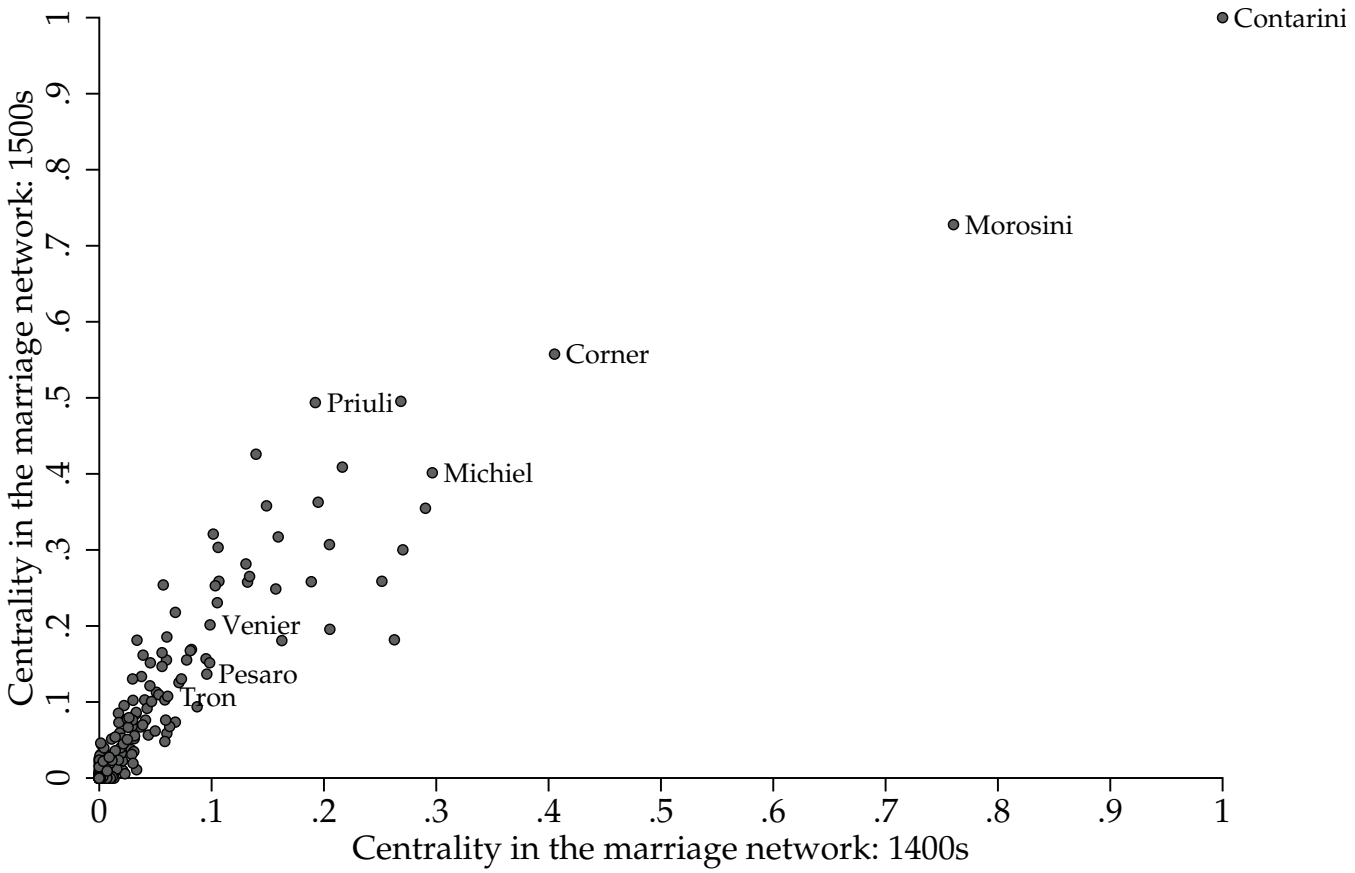
Comparison of high-centrality families with those who are prominent in the galley trade

- 12 families with at least 100 galley shares in 1495–1529
- all in the the top decile of marriage centrality in the 1400s
- accounted for one-half of all of the galley trade

Suggests that the most powerful pre-Serrata families used marriage alliances to monopolize the galley trade

Persistence of the Network

Puga and Trefler (2014)



The inter-temporal correlation is very high, which shows that the same families dominated over these two different centuries. This extreme persistence over such an extended period is in stark contrast to the high mobility and permeability that characterized Venice before the Serrata.

Social Stratification

Puga and Trefler (2014)

Many nobles became impoverished and could potentially revolt $\rightarrow$ a new patronage system of "welfare jobs for poor nobles"

- much rent-seeking behaviour for government jobs
- legislation on which jobs were reserved for poor nobles
- definition of nobility became very important for poor nobels

Thus the Serrata reduced social mobility and replaced it with a stratified system emphasizing rank and hierarchy

Lessons of Venice: Summary

Puga and Trefler (2014)

"International trade led to an increased demand for growth-enhancing inclusive institutions but also led to a shift in the distribution of income that eventually allowed a group of increasingly rich and powerful merchants to capture a large fraction of the rents from international trade."

Concluding remarks

Does the story of Venice represent a broader pattern?

- Acemoglu, Johnson and Robinson (2005) argue that Atlantic trade gave rise to more representative European political institutions ... but only in places that had sufficiently inclusive initial institutions

International trade is an example of a "critical juncture" that may break institutional path dependence

- the Black Death is another prominent example (the power of landlords declines in Western Europe, but the Second Serfdom starts in Easter Europe)

Papers for Essays

Acemoglu, Robinson (2000): Why Did the West Extend the Franchise? Democracy, Inequality and Growth in Historical Perpective. *QJE*, 115, pp. 1167–1199

- This paper proposes a model of political reforms as strategic decisions to prevent a revolution. Political transition occurs because current transfers do not ensure future transfers, while the extension of the franchise changes future political equilibria and acts as a commitment to redistribution.

Greif, Laitin (2004): A Theory of Endogenous Institutional Change. *American Political Science Review* 98(4):633–652

- This paper discusses how to allow endogeneous institutional change in game theoretical models, where institutions are self-reinforing (and thus stable). It also discusses the history of early modern Europe to illustrate the approach.