

Financial Inventions in Italian City-States

Ec 365
February 18

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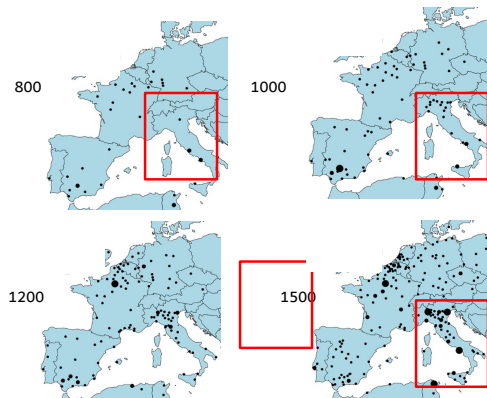
Plan

- The slow revival after the fall of the Western Roman Empire
 - Geography and trade
 - Amalfi and others
- Genoa and Venice, and others
 - Colonial empires in the Mediterranean
- Political setting:
 - No dominating king as in Spain, England, France
 - Cities at war: Genoa and Venice
- Invention in finance
 - Banks, loan markets
- Invention of the public debt
 - Why ? there, and that time
- First discussion of the public debt
 - Euro-bonds today?

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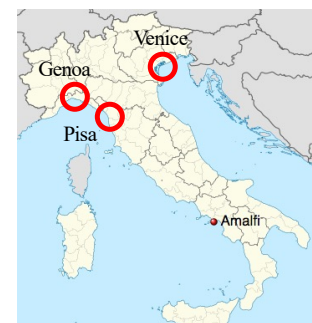
The growth of cities in medieval Europe



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Rebirth of trade and cities before and around 1000

- Italy: node for trade between East and West
- Amalfi:
 - Independent republic since ~ 700
 - Well protected from the land (cliffs)
 - Trade in the Mediterranean
 - Pop. of more than 70,000
 - (today 5000)
- Then rise of Genoa, Pisa, Venice



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Amalfi



- Of little importance until the mid-6th century under the Byzantines. One of the first Italian maritime republics in the 9th century, rivaled Pisa, Genoa, Venice and Gaeta as a naval power in trade with the East. Subdued and annexed by King Roger II of Sicily in 1131, it was sacked by the Pisans in 1135 and 1137 and rapidly declined in importance, although its maritime code, the *Tavola Amalfitana* ("Table of Amalfi"), was recognized in the Mediterranean until 1570. (Britannica)
- An independent republic from the 7th century until a population of some 70,000 to 80,000 break about the turn of the millennium.
- That is an important harbor is an implicit argument for the decline of trade after the Roman Empire



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Next,...

- Limits to the development of Amalfi and similar neighbor Gaeta...



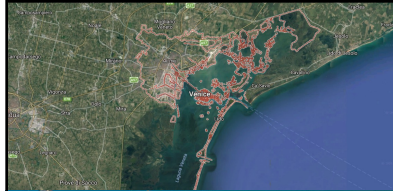
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Genoa

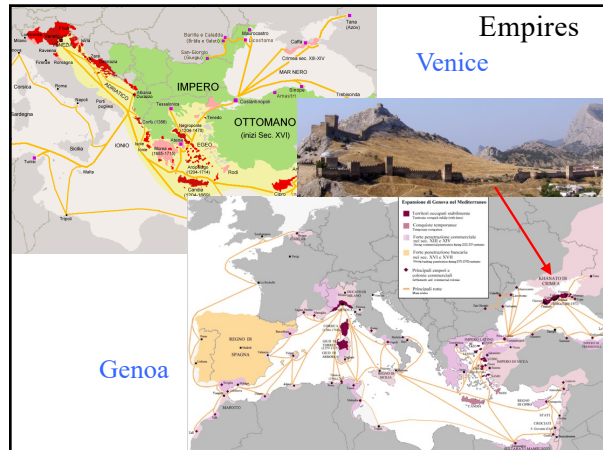



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Venice



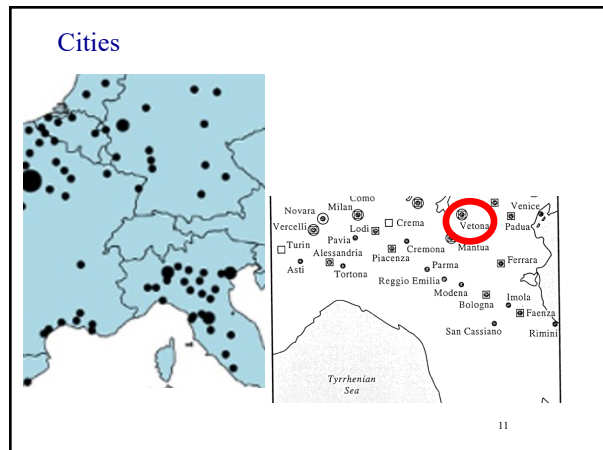

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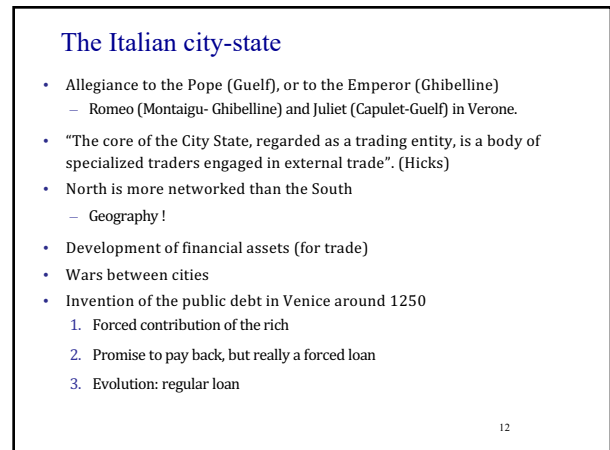
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WHY is the debt invented in a city state

- In ANY loan, the main issue is how to pay back
- If the lender does not expect to be paid back: no loan
- Problem is the enforcement to pay back
- Today, in a private loan, the legal system enforces the payment
- But who forces the government?
- ONLY way is how the incentives are devised
- In a city-state:
 - The city borrows and the resident lend
 - Bond is serviced by taxes
 - The city elite enforces the taxes
 - At the same time, they (the rich...) or their relatives own bonds.
- ALIGNMENT OF THE BOND HOLDERS AND THE TAX ENFORCERS.

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Issues for the credibility of a bond

- Which tax ?
 - Many taxes before 1800: ear-marked taxes
 - Revenues of the tax for a specific debt
 - Example today, social security tax and payments
- Enforcement of the service of the bond (through taxation)
 - Alignment between the tax enforcers and the bond holders
 - Venice
 - Powerful institution that holds the bonds and can punish the state
 - Genoa (Casa di San Giorgio, 1407)
 - Paris and the King of France (1522)
 - Bank of England, 1692.
- More about this in the future

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DEVICE 2: The bonds on the city of Paris

- Shortly after 1500, the king wanted to borrow (many wars).
- Could not borrow directly (who forces the king to pay)
- Solution:
 - Common interest of winning the war with the city of Paris
 - The city of Paris issues the bonds on the city of Paris and transfers the money to the king.
 - The city council enforces the taxes

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DEVICE 1: The Casa di San Giorgio

- City of Genoa
- Many small loans
 - Serviced by small taxes *earmarked* for the loans
 - If there is a problem, an individual had no power against the state
- Solution: The Casa di San Giorgio (1407)
 - Crisis: defeat against Venice in the battle of Chioggia, near Venice, 13890
 - Buys the loans (*luoghi*), with the tax rights.
 - Does not pay cash: issues shares in the CsG: swao
 - An owner of a luogo surrender the bond and receives a share (bond) of the CsG.
 - The CsG is a strong institution that can enforce the payment of taxation.
 - Even had its own army.
- Same system as the Bank of England three centuries later
 - The BoE issues shares and lends to the government.
 - It is not collecting taxes, but it has power against the government

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The Casa di San Giorgio balance sheet

Assets	Liabilities
Colonies	Bonds
Loans to the state	
Tax rights	

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State debt

- The state has some debt in bonds
 - Fixed payment (coupon) once a year (usually two installments).
 - Debt may be perpetual, or term
 - Redeemable or not
- Bond has two features: coupon and par value
 - Ex: par=100, coupon $c=5$.
- If the bond is traded and r is the interest rate, a one year bond (repaid after one year) has a price

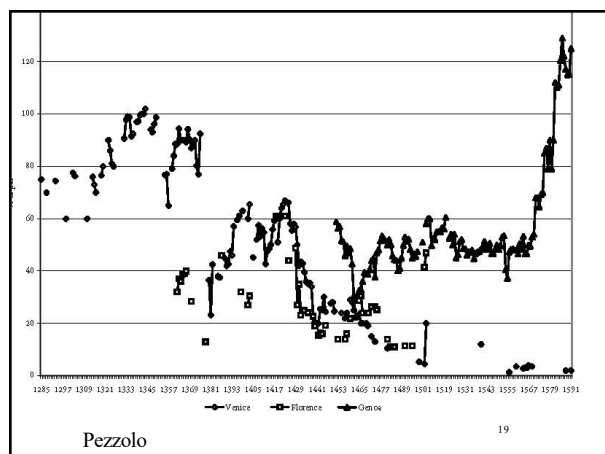
$$p = (100 + c) / (1 + r)$$
- If there is a probability of bankruptcy $q > 0$, the price is less

$$p = (1 - q)(100 + c) / (1 + r)$$
- The price of the bond decrease if the interest rate is higher.
- The price of a perpetual bond is

$$P = c / (1 + r) + c / (1 + r)^2 + \dots = c / r$$

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Euro-bonds ?

- What is "Euro" in this expression?
- Bonds for what?
 - Real projects:
 - produce a real return (assuming it can be captured to service the bonds)
 - Government debt:
 - no real asset, only the promise to commit future taxes to service the bonds
 - Guarantee depends on the commitment of the enforcer of taxes.
 - In the current situation in Europe, difference between Germany and France
 - In an Italian city state, self-enforcing mechanism:
 - The merchant elite owned city bonds and had the power to enforce taxes.

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