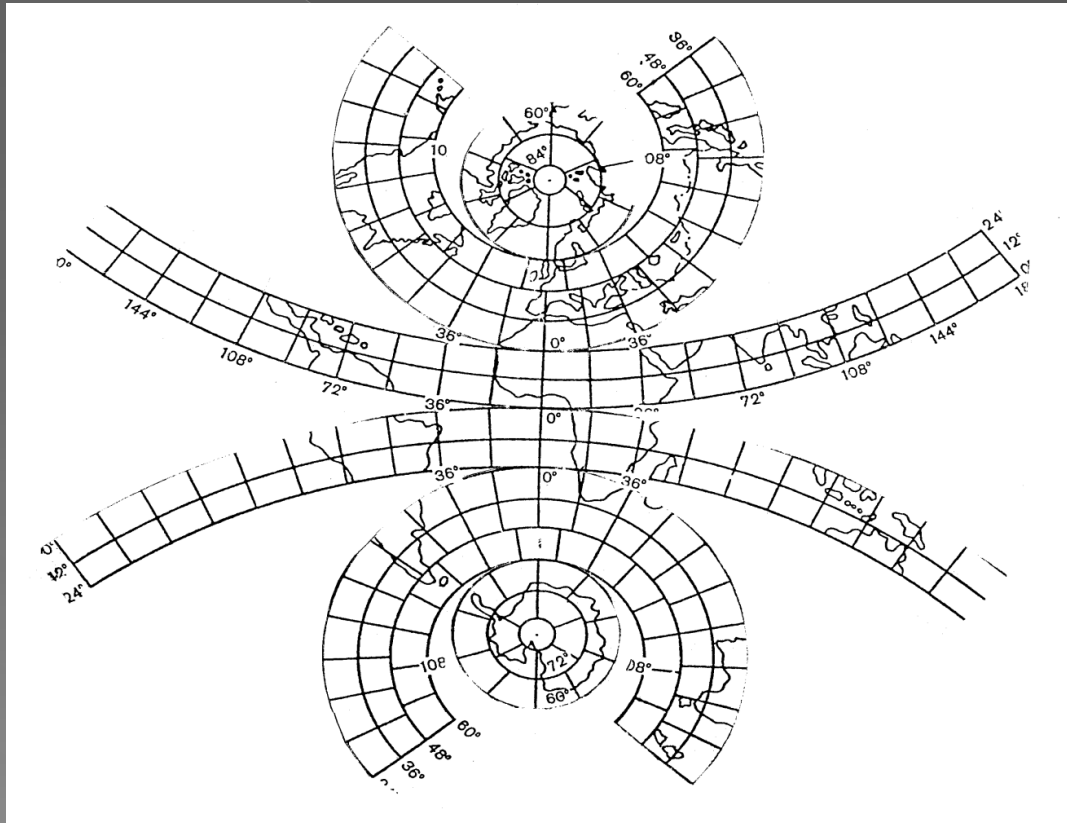# Theory and practice: cooperation in financial networks

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Theory and practice: cooperation in financial networks

Program

1. Introduction: Capitalism and Economic Growth during Sixteenth Century: the role of cooperation

2. A theoretical approach: Could financial network be studied as non linear dynamic system?

3. Two examples: Cooperation in Castilian Tax Farmers and Genoese Bankers

4. Conclusion

Introduction: Capitalism and Economic Growth during Sixteenth Century: the role of cooperation

All economic indicators show that European Economy grew between ca. 1450-1600.

-Explanations offered by historians: a better climate, an increasing population, more integrated markets (fairs), the paper of new monarchies, African gold and, specially, American Silver, etc.

-What was the role of cooperation between merchant networks for this economic increased? How could we study it?

-Hypothesis: During the long transition to First Modern Age, there were a movement from partial complexity to connected complexity where a more interconnected world was born.

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2. A theoretical approach: Could financial network be studied as non linear dynamic system?

-How could we attend to explain cooperation between merchants of First Modern Age?

New Complexity Science is a discipline that attend to study **emergent** behaviour within systems with a huge number of agents.

Systems as tsunami, how brain works or networs in internet could be examples of complex systems.

2. A theoretical approach: Could financial network be studied as non linear dynamic system?

Complex System: It's a system based on huge networks, without a central management. A Complex System develops a collective behaviour due to information travels by the whole systems.

A Complex Systems is formed by subsistems with having influence one another, where adaptation, changes and evolutions is expected between all them.

-A complex system used to appear as **non linear,** where it is no possible to understand the system adding up each subsystem.

-Of course, cooperation is a key element in order to achieve a good work in non linear systems.

2. A theoretical approach: Could financial network be studied as non linear dynamic system?

Characteristics of a non-lineal dynamic system

1. Networks are horizontal, not vertical, perhaps unstable but very dynamic

2. Each subsystem has potential influence over the whole system.

3. There are permanent movements of the whole system and subsystems, where a changing external or internal can become all or part

3. Two examples of subsystems: Castilian Tax Farmers and Genoese Bankers

Could we understand each merchant network of First Global Age as part of a non linear system?
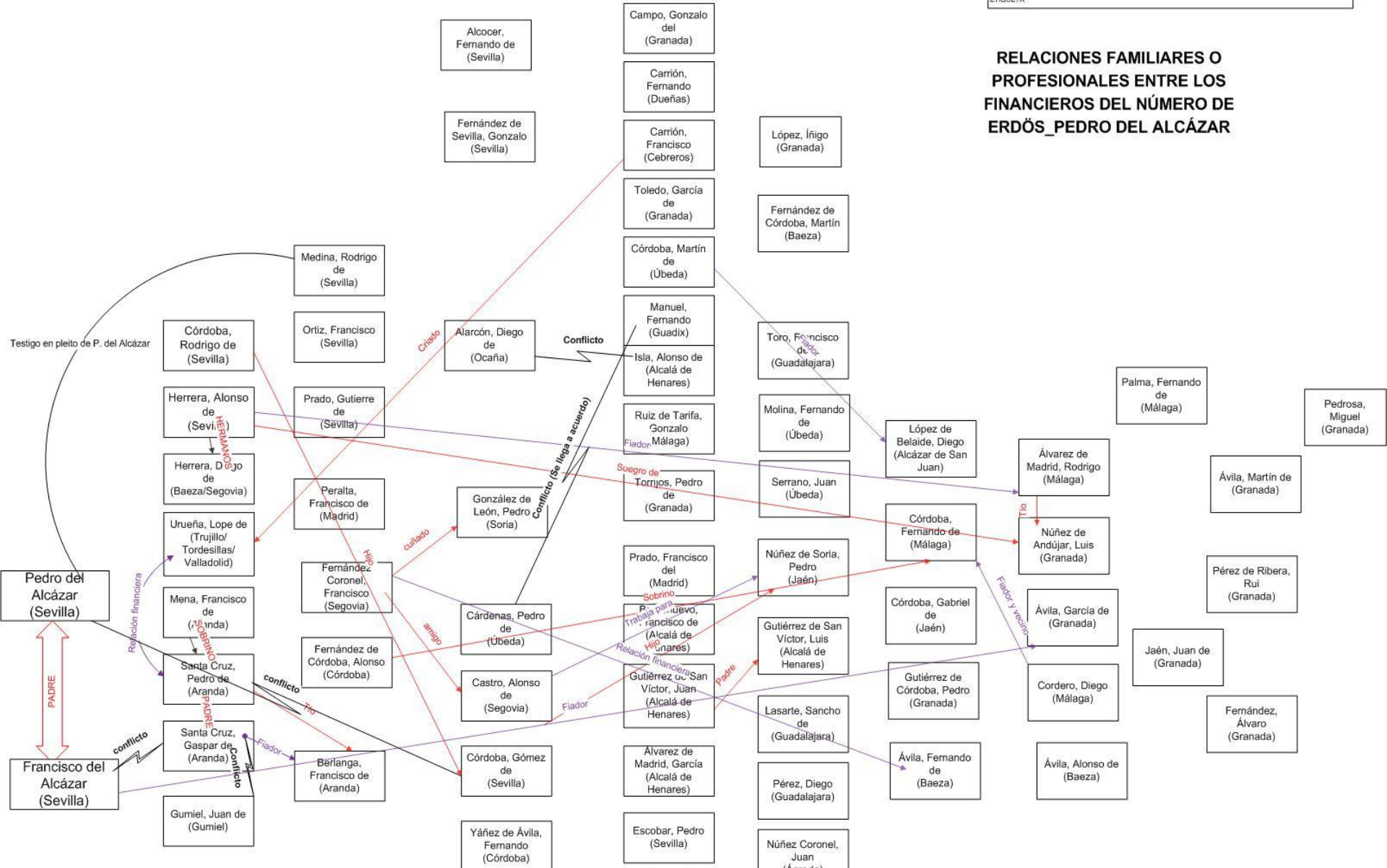
Die veneris 4 8bris 1524

[Handwritten 16th-century Latin notarial act; the body text is largely illegible cursive and cannot be reliably transcribed.]

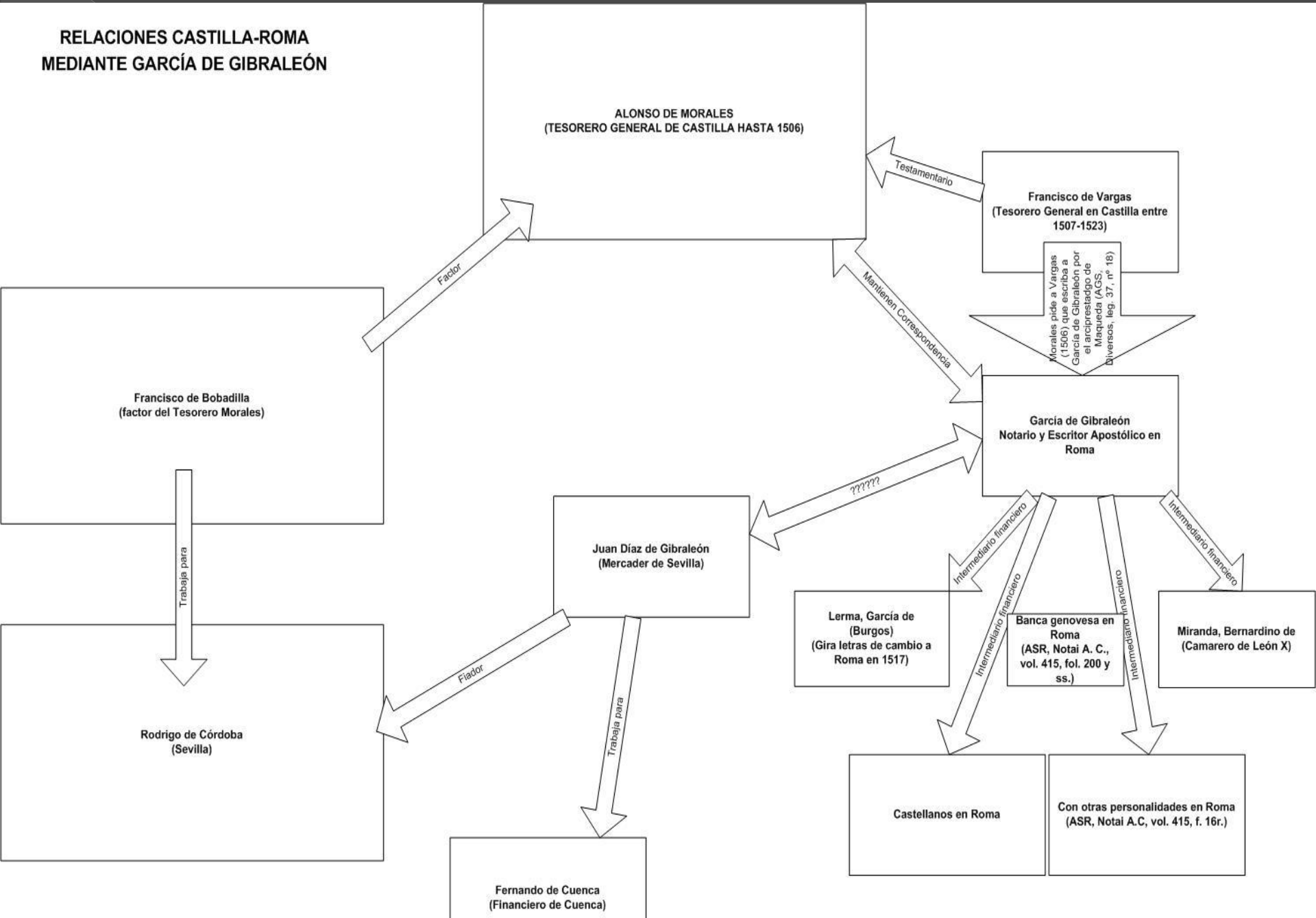RELACIONES FAMILIARES O PROFESIONALES ENTRE LOS FINANCIEROS DEL NÚMERO DE ERDÖS_PEDRO DEL ALCÁZAR

3. Castilian Tax farmers (1505-1530): Elements of Cooperation

- Huge religious component (They are ancient Jews)
- Problems because of Inquisition: social pressure
- Political support from King because of their credit (money) and relationships
- It's not sure that cooperation secured a bigger ability to avoid risk, transaction cost or reinforced trust.
- General decrease after 1522, when political support ended as consequence of "Comunidades" Revolt
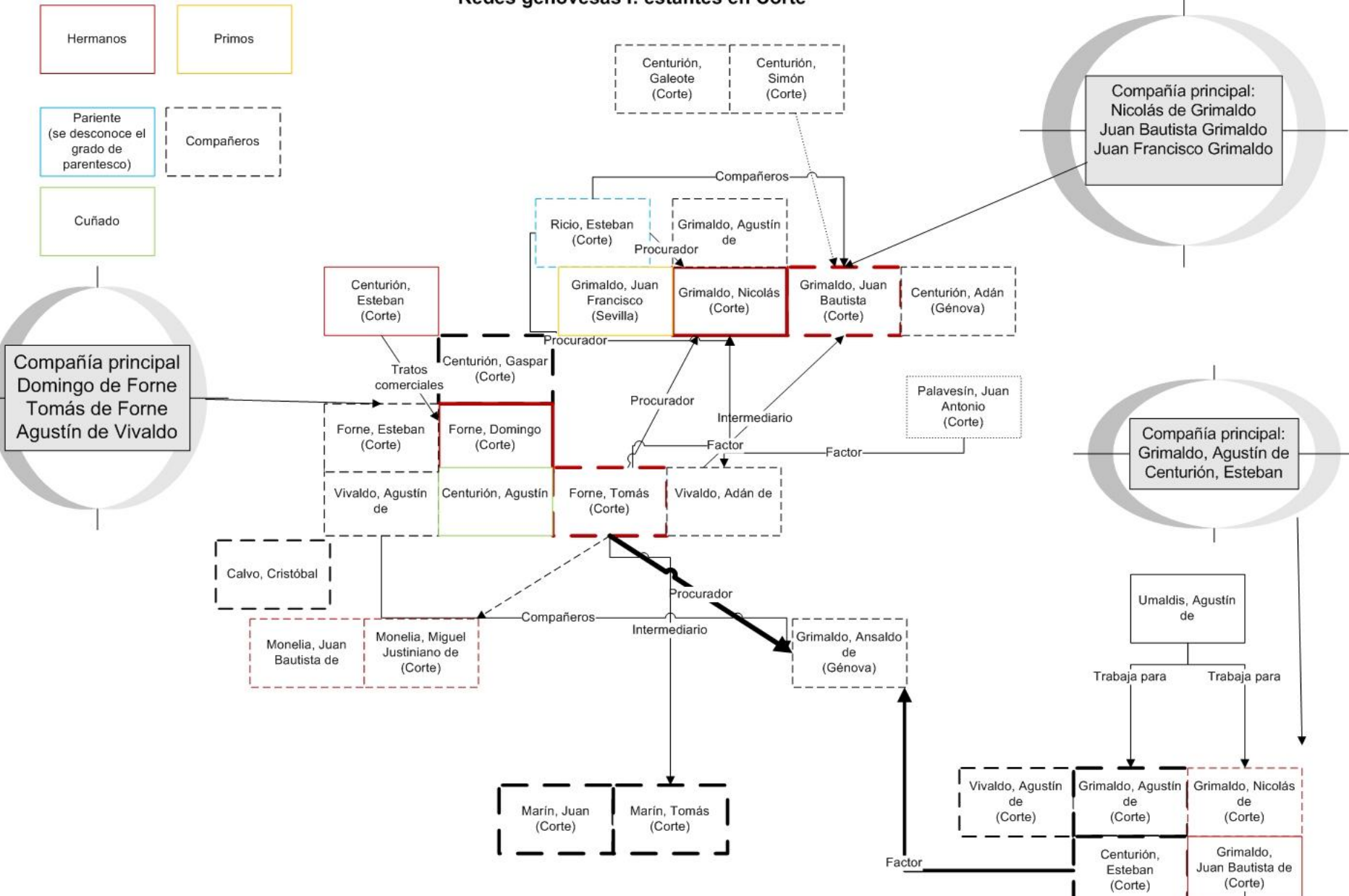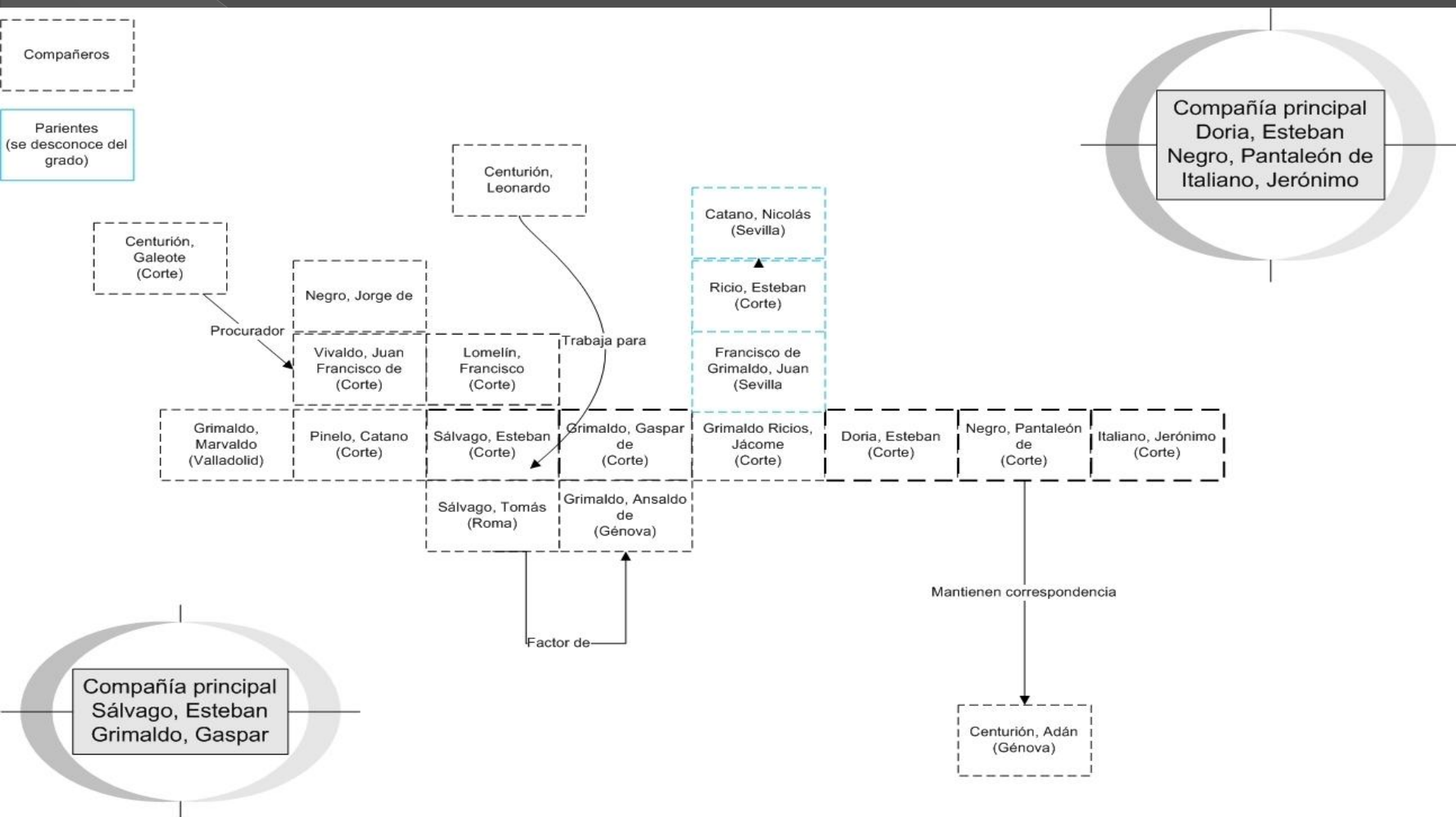
RELACIONES CASTILLA-ROMA
MEDIANTE GARCÍA DE GIBRALEÓN

Redes genovesas I: estantes en Corte

Compañeros

Parientes (se desconoce del grado)

Centurión, Leonardo

Catano, Nicolás (Sevilla)

Compañía principal Doria, Esteban Negro, Pantaleón de Italiano, Jerónimo

Centurión, Galeote (Corte)

Negro, Jorge de

Ricio, Esteban (Corte)

Procurador

Vivaldo, Juan Francisco de (Corte)

Lomelín, Francisco (Corte)

Trabaja para

Francisco de Grimaldo, Juan (Sevilla

Grimaldo, Marvaldo (Valladolid)

Pinelo, Catano (Corte)

Sálvago, Esteban (Corte)

Grimaldo, Gaspar de (Corte)

Grimaldo Ricios, Jácome (Corte)

Doria, Esteban (Corte)

Negro, Pantaleón de (Corte)

Italiano, Jerónimo (Corte)

Sálvago, Tomás (Roma)

Grimaldo, Ansaldo de (Génova)

Mantienen correspondencia

Factor de

Compañía principal Sálvago, Esteban Grimaldo, Gaspar

Centurión, Adán (Génova)

Redes genovesas II: estantes en Corte (1520-1547)

3. Genoese bankers. Elements of cooperation

- -No religious problems
- -No social problems: Genoese bankers were aristocrats as well.
- -An increasing more trust inside their networks since ca. 1500 (documents speak about how one signature were recognized as signature of other partner). Cooperation reinforced Trust and positions of Genoese bankers
- Finally: Political support from Genoa and Charles V, specially after 1528 as result of successful previous tendency.

Conclusion

- Castilian tax farmers and Genoese bankers used cooperation and forms of *self-organizing networks* for gaining more and more influence. However, results were very different for external and internal raisons. Castilian tax farmers decreased since 1523-1525, while Genoese bankers increased since this moment. Why? Main conclusion of this part will be cooperation is basic in evolutions on dynamics systems, but not always guarantees to be successful

- -Both could be understood as subsystems of a only dynamic system, that we need to rebuild entirely in order to understand better how capitalism and First Global Age began.

Thanks for your attention and comments