

Chapter 6

Transposition and Refunctionality: The Birth of Partnership Systems in Renaissance Florence¹

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Inventions of any sort are hard to understand. They seem to come out of the blue, a rupture with the past, yet close investigation always reveals historical roots. Individual geniuses sometimes create them, but is “genius” just our celebratory label for a process that worked, which we do not understand? To proffer a tentative distinction: innovations improve on existing ways (i.e, activities, conceptions and purposes) of doing things, while inventions change the ways things are done. Under this definition, the key to classifying something as an invention is the degree to which it reverberates out to alter the interacting system of which it is a part. To some extent we understand micrologics of combination and recombination.² Yet the invention puzzle is that some of these innovative recombinations cascade out to reconfigure entire interlinked ecologies of “ways of doing things,” whereas most innovations do not. The poisedness of a system to reconfiguration by an invention is as much a part of the phenomenon to be explained as is the system’s production of the invention itself. Invention “in the wild” cannot be understood through abstracting away from concrete social context, because inventions are permutations of that context.³ But to make progress in understanding discontinuous change we need to embed our analysis of transformation in the routine dynamics of actively self-reproducing social contexts, where constitutive elements and relations are generated and reinforced.

¹ This chapter is an abridged version (40% cut) of John F. Padgett and Paul D. McLean, “Organizational Invention and Elite Formation: The Birth of Partnership Systems in Renaissance Florence,” *American Journal of Sociology* 111 (2006): 1463-1568.

² E.g., Barley 1990; March 1991; Powell et al. 1996; Fleming 2002; Burt 2004.

³ Hutchins 1995; Latour 1988; Galison 1997.

Biological evolution stands as one exemplar that theoretical analysis (without prediction) is possible even in open-ended, endlessly generative systems of self-reproducing recombination and feedback. Imitation of biological science by the social sciences should never be slavish: social systems have no genes, and social systems have consciousness. But from biology comes the fundamental insight that organic entities, structures and artifacts are not static “objects”; they are vortexes of cross-entity chemical flows that reproduce themselves.⁴ Among other things, social systems are one form of “life.”⁵ As such, uncovering social analogues to cross-entity chemical flows, which transform and reproduce actors through interaction, is a prerequisite for systematically analyzing punctuated tippings or inventions in the reproductive dynamics of any human entity, be that a body, an organization, a market, or a city.

Renaissance Florence is the empirical site for this study of the historical process of socially embedded invention. While the uniqueness of the Italian Renaissance in world history may be debatable, the creativity of that particular place and time is not. Inventions in literature (Dante, Boccaccio), in art (Giotto, Masaccio, Donatello, Michelangelo), in letters (Petrarch), in architecture (Brunelleschi, Alberti), in science (Leonardo, Galileo), in constitutional design (Bruni, Savonarola), in political theory (Machiavelli, Guicciardini) and in business (Datini) were produced in breathtaking numbers and speeds. Indeed the most striking global feature about Renaissance Florence is the sheer multiplicity of domains in which inventions occurred: they seemed to cascade from one domain to another. These developments did not occur in isolation from the rest of northern Italy,⁶ but Florence was a particularly catalytic site in the northern Italian Renaissance web of invention.

While there is no gainsaying these facts about inventiveness, recent historians have challenged the “renaissance” interpretation of late medieval Florence, preferring instead to emphasize the traditional and conservative character of the place.⁷ The historiographical puzzle this revisionism poses is not which competing interpretation is correct. The puzzle is how both can be correct. How did such a traditional and conservative place, not at all

⁴ Maturana and Varela 1980; Nicolis and Prigogine 1989; Fontana and Buss 1994; Padgett, Lee and Collier 2003.

⁵ Luhmann 1995; Padgett and Powell, this volume.

⁶ E.g., Witt 2003.

⁷ Kent 1977; Kelly-Gadol 1977; Molho 1994.

motivated to innovate per se, nonetheless invent so prolifically? Large macrohistorical issues about the “rise of the West” are linked to the answer to this question.⁸

The particular Florentine economic invention whose emergence we will trace in this chapter is the discovery, in the late 1300s, of a new organizational form that Melis (1962) called the “business system” (*sistema di aziende*). We find his label imprecise, but what Melis (1962, 130) meant was not imprecise: a set of legally autonomous companies linked through one person or through a small set of controlling partners. In Melis’s definition, “legally autonomous companies” meant either ownership by a single person (*individuale*) or ownership by a partnership of persons (*collettiva*). If at least one of the companies linked into the *sistema di aziende* is a partnership, then we will translate Melis’s term as “partnership system.” The partnership system was an innovation in company ownership in which a single controlling partner (or a small number of partners), if he did not manage the branch himself, made a set of legally separate partnership contracts with branch managers in different locations and/or industries. This new “network-star” ownership structure largely displaced earlier legally unitary companies, often built collectively by patrilineage families, which were common in the late 1200s and early 1300s.⁹ Viewed formally, this splintering of a unitary company into overlapping parts was decentralization because it allowed various branches and business markets to be managed separately through legally independent account books. Viewed operationally, this devolution was centralization because it dissolved unitary committees of numerous owner-directors and substituted dominant ownership by just one or at most a few persons.¹⁰ Melis (1962) himself studied the extraordinarily well-documented case of Francesco Datini, the famous ‘merchant of Prato’ whose system lasted from 1382 to 1410.¹¹ The Datini system was among the first, if not the first, example of this new organizational form. De Roover (1966) studied the slightly later case of the Medici bank.

This new organizational form is important in the history of financial capitalism both because it protected owners (to some extent) against the unlimited-liability risk of complete financial ruin and because it easily allowed diversification into multiple product markets. The

⁸ Lopez 1976; Abu-Lughod 1989.

⁹ Saponi 1926; Renouard 1941; Padgett 2009.

¹⁰ de Roover 1966, 78.

¹¹ See also Origo 1957.

earlier unitary companies often had been generalist in character, doing whatever type of merchant or banking business made sense to it at the moment. The new partnership system was also generalist in ensemble, but each component company was more specialized than before. Component specialization required a more abstracted system of articulation among branches than before. This in our account was the organizational driver for the rapid diffusion of double-entry bookkeeping in Florence in the late 1300s.

A stock market did not yet exist in the Renaissance, but apart from this major difference in ownership structure, the invention of the partnership system in Renaissance Florentine banking is similar managerially to the shift in American manufacturing from the functional to the multidivisional form, discussed by Chandler (1962). In economic mentalité, Florentine partnership systems are early exemplars of the “financial conception of control” discussed by Fligstein (1990). Partnership systems are also members of the class of organizations that Powell (1990) called “network organizations”; indeed historically they may have been the first member of this class. Each of these modernist classifications is accurate, depending upon which aspect of the new organizational form one chooses to emphasize. Viewed in the context of its time, however, partnership systems were *sui generis*, deeply embedded in the local Florentine and Tuscan context.

A companion article to this one, “Economic Credit in Renaissance Florence,”¹² examines this economic invention not at the level of organizational structure but at the level of organizational practice—namely, the operation and dramatic growth of economic credit in Renaissance Florence in the late 1300s and early 1400s. Ongoing relations of business credit were recorded primarily in the bookkeeping device of current accounts, tabulated in bilateral format. Extensive and deep credit relations among Florentine merchant-bankers were the primary reason for the century-long dominance of international finance in Europe by Florence. That companion article demonstrates the historical connection between the rise of intercompany credit and the invention and spread of partnership systems as new nodes of exchange in that credit.

¹² Padgett and McLean 2011.

THEORETICAL FRAMEWORK

Dynamic Multiple Networks

Inspired by biochemistry, our theoretical approach to the topic of organizational invention is to situate invention in the dynamics of reproduction of multiple networks—specifically, in the cross-network processes of transposition, refunctionality, and catalysis. Recombinant innovation in organizations is produced, this case study shows, when one or more social relations are transposed from one domain to another, mixing in use with relations already there. This transposition-induced hybridity is the raw material for invention, but that is only the first step. Refunctionality is when transposition leads not just to improvement in existing uses but, more radically, to new uses—that is, to new potential objects with which to interact and transform. Catalysis is when these new interactions feed back to alter the way existing relations reproduce. The entire multiple-network ensemble may tip into true invention when catalytic feedback loops are modified in the autocatalytic transformational process of network reproduction,¹³ either by adding new positive feedback loops or by subtracting old negative feedback loops.

To draw out the operational meaning of this perspective for Florence, see figure 6.1 (reproduced in chapter 1 as figure 1.1). We represent “social context” by multiple-network architectures. Actors are clusters of relational ties. In the activity plane of economics, for example, collective actors called companies are composed of partnership ties. These companies trade with each other. In the domain of kinship, for another example, collective actors called patrilineages are composed of genealogy ties. These patrilineages marry each other. And in the domain of politics, collective actors called factions are composed of clientage ties. These factions do political deals with each other. We label the strong-tie relations that constitute collective actors “constitutive ties,” and we label recurrent weak-tie relations through which actors deliver resources to each other “relational ties.” Within each domain, relational ties “feed” constitutive ties. Reproduction is when constitutive ties, using input resources, make new constitutive ties.

--- figure 6.1 about here ---

All-important for a multiple-network setup, people are also conceived as constitutive ties: namely, they are cross-domain composites of roles. Purposes are domain-specific

¹³ Maturana and Valera 1980; Kauffman 1993; Fontana and Buss 1994; Padgett et al. 2003.

features of roles within individuals; they are not features of individuals per se. In figure 6.1, people are represented as vertical lines, linking roles across planes. Not all people participate in all networks at all levels, but many do, inducing patterns of multiple-network overlay or “social embeddedness.”¹⁴ Cross-domain connections, through people, regulate the reproductive formation of constitutive and relational ties. Conversely, network reproduction generates people as social actors by shaping and composing the roles that act through them. Patterns of social embeddedness are important for us not only because of “trust” but also because they regulate the dynamic reproduction of constitutive ties in each domain through the aligning and sequencing of multiple roles.

Multiple-network overlays frame and regulate the flows and processes that generate and reproduce the social relations that construct social actors, making them “alive.” Uncovering generative flows is the prerequisite for empirically investigating qualitative tips in the dynamics of relational reproduction. Such system tips are how we conceptualize organizational invention.

If organizations are the units of analysis—firms, families and factions—then one obvious flow through them, bringing them to life, is people: “In organizations, biological or social, rules of action and patterns of interaction persist and reproduce even in the face of constant turnover in component parts, be these molecules or people. In the constant flow of components through organizations, the collectivity typically is not renegotiated anew. Rather, within constraints, component parts are transformed and molded into the ongoing flow of action.”¹⁵ Attending to the flow of people, and to the action rules they bring with them, leads to an analytic focus on careers and biographies as these wend their way across organizations and domains. Organizations reproduce through people and other resources flowing through them. The structure of biographical flow among organizations, both within and across domains, channels constitutive-tie transpositions of previously acquired network ties and learned rules of action and interaction. Organizational structure is the blending, transformation, and reproduction, on-site, of networks and interaction rules transported by people into the site from numerous sources.¹⁶ People, conversely, are the hybridized residues of past networks and rules acquired through interaction at their previous organizational

¹⁴ Granovetter 1985.

¹⁵ Padgett 1997, 200.

¹⁶ Padgett 2001.

sites.¹⁷ In other words, both organizations and people are shaped, through network co-evolution, by the history of each flowing through the other.

Florentine Transposition of Economic Networks into Politics (and back again)

In this chapter, the general theoretical framework above will play out in Florentine history as follows: After the Ciompi revolt of 1378, as part of a political reconsolidation-repression to be discussed below, domestic or cambio bankers were mobilized into core political offices within the republican state. Before this political mobilization, cambio bankers operated for the most part domestically within the city, changing money and doing deposit banking for their Florentine customers. They participated in state offices through the medium of their guild. International trading (mostly of woolen cloth), on the other hand, was the province of socially high-status merchants often organized into large unitary family firms. This international versus domestic division of labor was reinforced administratively by the guild structure—Arte della Calimala for international traders of finished cloth and Arte del Cambio for domestic bankers. With aggressive political mobilization of them by elite moderates after the Ciompi revolt, however, cambio bankers systematically were pulled up into the ‘jet stream’ of international trading, thereby injecting domestic banking organizational forms and accounting practices into international trading. In what follows I show that a majority of the new partnership systems were constructed by cambio bankers reaching overseas to construct new trading branches abroad. This engagement in international trade had been inhibited, though not prohibited, by the guild system before the Ciompi revolt. Making bankers into city councillors is our example of transposition of roles across domains through collectively restructuring political biographies.

As cambio bankers were transported into new settings, both economic and political, they brought with them their old master-apprentice logics of contracts and careers. They then adapted these to the new international-trading setting, blending with the patrilineage family logics already there. The result was a modularized hybrid—short-term contracts with both family and nonfamily branch managers—in other words, the partnership system. Refunctionality occurred when this new organizational form led Florentine businessmen to discover new ways for companies to relate to each other in the market—through current

¹⁷ Cf. Breiger 1974.

accounts, credit, and double-entry bookkeeping. Together transposition and refunctionality created the potential for revolutionizing international finance via modularity and liquidity, depending upon how the rest of the multiple-network system of Florence responded to these innovations.

The catalysis that catapulted this organizational innovation into systemic invention, which restructured both banking and elites, was the social embedding of this partnership system into marriage and clientage. In politics the Ciompi revolt triggered the formation of a “republican oligarchy” to succeed “guild corporatism”¹⁸ in two stages. After 1393, a more conservative political regime succeeded the major-guild moderate innovators of 1382-92. Higher-status *popolani* and magnates demographically took over the partnership systems that had been developed (for the most part) by cambio bankers. This second stage of biographical transposition brought economic partnerships into tighter correlation with elite marriages. This in turn established sinews for the percolation of partnership-system economic techniques, like current accounts, out into the broader network structure of the ruling social elite at large, making that elite itself more mercantile in its thinking. For markets, this new correlation of partnership with marriage provided social foundations for *fiducia* (trust) within the merchant community to make the credit system function. The final product, on the one hand, was a vibrant financial system that dominated European international finance for a century. On the other hand, it was an intensely status-conscious but politically permeable merchant elite that created generalists (“Renaissance men”) for whom economics, politics, family, art, and philosophy were all refractions of each other.

In sum, the economic invention in late medieval Florence of the partnership system was one corollary (not the only corollary) of elite transformation. As the social-network constituents of the Florentine elite shifted from patrilineage and guild into marriage and clientage, new business forms were invented, new political mobilization techniques were developed, and kinship was incrementally rewired to emphasize marriage. Each of these organizational changes spilled over to support the other to create a multiple-network ensemble that we might label the Renaissance oligarchic-republican regime.

The “rise of financial capitalism” here is not a grand teleological process of inevitable modernization. It was rooted instead in particular places and histories, which refashioned

¹⁸ Najemy 1982.

their own multiple networks in crucial punctuated-equilibrium moments. Florence was unusually creative in part because of its tumultuous political history, which repeatedly transposed and refunctionalized its underlying social networks. Florentine elites invented not because they wanted to but because they had to, conservatively to preserve their threatened positions. Naturally there is more to explaining invention than political turmoil, but in the case of Renaissance Florence that was the core mechanism that recomposed its economic, political, and kinship networks into tipping.¹⁹ Other case studies, like the ones in this book, no doubt will add to the list of annealing mechanisms that induce transposition, refunctionality, and catalysis in social networks in such ways that evolution, not collapse, is the result.²⁰

This chapter will develop this argument in several stages. After reviewing prior historical research on Florentine partnership systems, I pinpoint the exact timing of this invention to be 1383. Most of the partnership system builders of this period will be identified to be cambio bankers, who politically were mobilized into government at increased rates after the Ciompi revolt. After identifying the innovators, I then describe the politics of the Ciompi revolt and its repression in some detail and show how political mobilization created a post-Ciompi republican oligarchy, absorbing cambio bankers and other businessmen into this newly augmented elite through marriage. This social embeddedness of banking in marriage catalyzed the reproduction of partnership systems in economics and helped transform the new oligarchy politically into mercantile republicans. *Tutti insieme*, post-revolt Renaissance Florence is a dramatic example of the punctuated co-evolution of economic markets and political elites.

DOCUMENTING THE EMERGENCE OF FLORENTINE PARTNERSHIP SYSTEMS

Existing Literature

The previous literature on the Florentine partnership system, both overviews and detailed case studies, was reviewed extensively in the article out of which this abridgement is drawn.²¹ That review will not be repeated here, except to note that the two most important

¹⁹ Cf. Stinchcombe 1965.

²⁰ See Powell et al., chapter 13 this volume, for another example of transposition and refunctionality.

²¹ Padgett and McLean 2006.

works that precede this study are the study of the Datini system by Melis (1962) and the study of the Medici system by de Roover (1966).

As documented in these and other studies, the complete set of organizational features that Datini and the Medici employed to construct and to manage their businesses were these:

- (a) legally distinct partnerships with branch managers (or the owner) in each location;
- (b) separate sets of account books for each branch;
- (c) diversification of companies into multiple industries;
- (d) a ‘holding company’ arrangement, in which Datini’s Florentine partnership owned parts of other partnerships;²²
- (e) centralized oversight of branches through vast numbers of business letters between Datini and his branch partners and through regular meetings between Datini and his branch partners;
- (f) double-entry bookkeeping in bilateral format; and
- (g) current accounts both among partnership-system companies and with major trading partners.²³

The first element in this list narrowly defines the partnership system, but the historical significance of the system comes from this whole package of organizational correlates working together.

Quantitative Documentation of Growth and Diffusion

The article out of which this abridgement was drawn also went to considerable length to document the precise timing of the invention and diffusion of this new organizational form. The reason for temporal precision was to narrow down causality. The previous literature had documented the form and operation of the partnership system but not the exacting timing of its invention and diffusion. Based on primary sources, this documentation was presented in a thirteen-page appendix²⁴ and in an online sixty-one-page memo.²⁵

Just to summarize, the primary findings about timing of emergence were these:

²² Melis [1965] 1991, 169.

²³ de Roover [1956] 1974, 144-49.

²⁴ Padgett and McLean 2006, 1548-60.

²⁵ Padgett 2005.

(a) Francesco di Marco Datini, the famous and well documented “Merchant of Prato,”²⁶ was indeed one of the original founders of the partnership system, who first developed his new organizational form in 1383.²⁷

(b) But four other partnership systems, none documented like that of Datini with surviving internal business records, were also founded that same year: Vieri di Cambio de’ Medici, Davanzato and Manetto di Giovanni Davanzati, Francesco di Neri Ardinghelli, and Ardingo di Corso Ricci and Gualtieri di Sandro Portinari. What had appeared to previous scholarship as the invention of a single business genius (Datini) was actually a simultaneous invention by a cluster of interrelated Florentine and Pratese businessmen.

(c) All of the original inventors, except Datini, were Florentine cambio bankers who had been in business under more traditional organizational forms prior to their simultaneous adoption.

(d) Given its first appearance in 1383, the new organizational form diffused rapidly through the upper reaches of the Florentine and then the Tuscan economies. The original article documents forty-eight such systems in Florence before 1400, and it discusses other examples in Lucca and in Pisa during the post-1390 period.

(e) The size distribution of number of partners in cambio banks (information contained in annual guild registers) underwent a sudden shift exactly in 1382 as the organizational role of many of them shifted to being headquarters for partnership systems.

Composition of post-Ciompi Partnership Systems

So much for timing, now what about agency? That is, other than Francesco Datini, Vieri di Cambio de’ Medici, and the others already mentioned, who exactly were the Florentines who collectively invented the partnership system?

Table 6.1 tabulates the industrial composition and the centralization frequencies of the newly emergent partnership systems listed in the appendix of Padgett and McLean (2006). While some of the new partnership systems, like that of Datini himself, emerged out of international trading, the bulk of them, like that of Vieri de’ Medici, emerged through a fusion of cambio banking with international trading. The role of wool-manufacturing

²⁶ Origo [1957] 1992.

²⁷ Melis 1962, 130.

companies in the emergence of partnership systems was minor. Among the twenty-four cambio-plus-international-fusion partnership systems, nineteen were formed sequentially by cambio bankers entering into international trading or merchant banking. Only five (including Datini) were formed in the reverse order, by international traders entering into cambio banking. In other words, Florentine partnership systems primarily emerged in the industry domains of domestic banking and international trading, fusing them together, with cambio bankers taking the lead in organizing this fusion.

--- table 6.1 about here ---

Table 6.2 presents statistical information on who the post-Ciompi partnership-system innovators were, in comparison to time periods both earlier and later than 1383. Poisson regressions were performed to discover the social and political features of the active Florentine businessmen who organized the most companies. The dependent variable in these regressions is the number of legally distinct companies in which a businessman is a partner. Businessmen involved in many companies were the organizers and central commanders of partnership systems. Archival sources for the data in these regressions are listed in the notes to the table.

--- table 6.2 about here ---

Before the 1378 Ciompi revolt, the only businessmen who participated in multiple industries in statistically significant numbers, few in absolute numbers as these were, were guild consuls—that is, elected political leaders of the banking, the wool, and to a lesser extent the international trading guilds. The pre-Ciompi regressions in table 6.2 reflect the fact that business careers were specialized within guilds until guildsmen reached the pinnacle of success, at which point they might branch out into other economic activities, using their originally more specialized company as a base.

With the onset of partnership systems, the sociopolitical backgrounds of businessmen engaged in multiple companies changed. In 1385-99, immediately after the Ciompi revolt, businessmen participating in two or more partnerships were distinguishable sociopolitically in two ways from businessmen involved in only one company: (a) politically they were mobilized into the 1384 *balìa* and the 1393 *reggimento*, and (b) socially they married upper-class popolani wives. Why did these particular political and social factors correlate with the economic activity of founding partnership systems?

Balie were special ad hoc committees set up to reform the Florentine political constitution, sometimes in minor, sometimes in major ways.²⁸ The 1384 *balìa* was set up to reform the wool manufacturers' industry and guild,²⁹ a central locus of *ciompi* agitation. The *reggimento* was the set of Florentines successfully elected to be eligible for the Priorate or city council³⁰ through an election procedure called the scrutiny.³¹ As such it was Florence's political ruling class. To say that partnership-system businessmen were disproportionately members of these two groups is to say that, for those years at least, they were members of the political elite.

It is not surprising that the 1378 *balìa* coefficient, during the height of the Ciompi revolt itself, is not statistically significant. But it is interesting that in 1382, a year associated with repression of the Ciompi revolt, the political membership variables of 1382 *balìa* and 1382 *reggimento* were not statistically significant predictors of partnership-system builders. This temporal pattern of coefficients helps us interpret direction of causality: it was the new 1382 post-Ciompi political elite that subsequently recruited and co-opted businessmen (about to become partnership-system businessmen) into the political elite rather than these businessmen who created the new political elite in the first place.

The other statistically significant effect in table 6.2, for 1385-99, is for marriage to popolani wives. In the republican conception of status in Renaissance Florence, social class was defined as the political age of one's patrilineal family—namely, the year in which one's male ancestors first were elected to city council. The highest-prestige popolani were the politically founding generation of the Florentine families who first entered the Priorate during 1282-1342—namely, the era between the constitutional founding of the republic and its first major political convulsion in 1343. To say that partnership-system businessmen disproportionately married popolani wives is to say that they were being absorbed into the social elite, whether or not they were born into it.

The natal social-class coefficients reveal that the 1385-99 partnership-system businessmen (unlike their 1427 successors) were not themselves necessarily born into the social elite. Instead they were socially quite heterogeneous in class background—some high

²⁸ Molho 1968a.

²⁹ A.S.F., *Arte della Lana* 46.

³⁰ Kent 1975.

³¹ Najemy 1982.

prestige like Vieri de' Medici and some low prestige like Francesco Datini. Either way, they wound up marrying popolani wives, indicating a systematic process of social as well as political co-optation. Even outsider Datini from Prato took a popolani Florentine wife.

The vector of 1427 coefficients shows how these partnership-system businessmen settled into the social structure of Florence over time. Businessmen's marriages to popolani wives (and now also to magnate wives) became an even more powerful predictor of their capacity to build partnership systems than it was the case in 1385-99. The big change from the late 1300s to 1427 was that partnership-system businessmen themselves became more homogeneously elitist in social-class background. By 1427, natal birth into the popolani and magnate social classes had become strongly associated with leadership of partnership systems. Indeed by 1427, the social distinction between popolani and magnates had been largely effaced: these two upper social classes fused in the economic domain, as they gradually took over the partnership systems that others had created. It is facts like these that lend credence to the 'oligarchic' interpretation of the Albizzean regime.³²

The statistically significant 1427 coefficient for the Medici faction is consistent with existing historiography. The Medici bank was a crucial component in the new Medici political party.³³ To put this point more generally: ultimately, economic organizational invention, in the form of new partnership networks, became incorporated into the organizational structure of political parties, thereby changing the dynamic of state formation in Florence. After a number of intervening decades, economic invention eventually cascaded back into political invention.

I have not yet coded from the archives *balìa* and *reggimento* data for 1427, so my interpretation for that period needs to be provisional. But there is no evidence in table 6.2 to suggest that political mobilization, in the form of political officeholding, played an important role in the ongoing maintenance of the Florentine partnership system after its birth. Political mobilization was clearly related to economic partnership-system building in the 1383-99 phase of its genesis. But forty years later, during the phase of its ongoing reproduction, natal social class had taken over as the dominant social embedding for partnership systems. Marriage to popolani wives remained the network that dynamically bridged the transition

³² Schevill 1936; Martines 1979; Cohn 1980.

³³ Padgett and Ansell 1993.

between these two phases, guiding the partnership system from its political genesis to its social-class institutionalization.

EXPLAINING THE EMERGENCE OF FLORENTINE PARTNERSHIP SYSTEMS

Given these newly discovered facts about the Florentine invention of the partnership system in the 1380s, my causal explanation of these facts will be developed in the following stages. First, summarizing the extensive secondary literature on this topic, I briefly describe the Ciompi revolt and the stages of its repression. Second, I examine the roles of both cambio bankers and international merchants in the political reconstructions of the state and of the elite after the Ciompi revolt. Demobilization of guilds and politicization of marriage and clientage were central features in these reconstructions. Next I show how the social logics of cambio-banking and international-merchant partnerships, viewed separately as individual spokes of the partnership system, changed through this elite reconsolidation process, enabling those components to fit together organizationally and to be reproduced socially. In the final section of this chapter, I adumbrate the economic consequences of these organizational transformations for bookkeeping, liquidity, and credit in the Florentine banking system.

The Ciompi Revolt and its Repression

The Ciompi revolt was the only (temporarily) successful workers revolution in European preindustrial history.³⁴ Some prominent Florentine historians do not accept this economic-class characterization,³⁵ even though the direct involvement of wool workers and other *popolo minuto* or “little people” (collectively called *ciompi* or “comrades” by contemporaries) in violently overthrowing the state and in evicting large numbers of popolani and magnates from Florence was indeed the most striking feature of this dramatic event in 1378. The major reason for their rejection is because the objectives of the *popolo minuto* emphasized guild-corporatist demands for inclusion and citizenship rather than overthrow of the means of production. Seen in the light of contemporaries, however, the political ‘reforms’

³⁴ Rodolico [1899] 1968; Cohn 1980; Stella 1993; Trexler 1998.

³⁵ Brucker 1968, 1977; Najemy 1981, 1982.

proposed and forcibly implemented for a short time by the *ciompi* were radical indeed.³⁶ Here we shall narrate these searing events with an emphasis on the role of and the impact on international merchants and domestic bankers who collectively invented the partnership system.

The Ciompi revolt emerged out of the War of the Eight Saints (1375-78) with the papacy. Intense political struggle between two elite factions had been building up for two decades before this climatic war, with a “conservative” side (the Albizzi faction in alliance with the Parte Guelfa) consistently pushing for restriction of the republican franchise to patrician families and with a “liberal” side (the Ricci faction in alliance with artisan guilds) consistently pushing to open the franchise to new men who had recently established themselves in the city economy.³⁷ Three traumatic events in the 1340s—namely, the 1342 bankruptcies of the large Bardi and Peruzzi banks, the 1343 political convulsion which that economic crash triggered, and the 1348 Black Death which killed about two-thirds of the Florentine population³⁸—had opened up both the economy and the political regime to an infusion of new men (*gente nuova*). This post-1343 infusion generated deep resentment on the part of the older patricians who had founded the republic in 1282. Political struggle between patricians and new men had been a consistent trope in late medieval Florence—even more so than in other Italian city-states because of high rates of economic and social mobility. Contradictorily, each generation of elites between 1200 and 1500 sponsored mobility in the economic domain but resisted it in the political domain. The political expression of this underlying social-mobility contradiction, however, changed substantially through time.

In the 1343-1378 generation, political struggle was manifest in an escalating series of McCarthyite purges (*ammonizione*) by both factions—the Albizzi-faction-cum-Parte Guelfa side purging selected liberals through denouncing them as Ghibellines, and the Ricci-faction-cum-guild side purging targeted conservatives through denouncing them as magnates.³⁹ The 1375-78 war with the pope, then resident in Avignon, was perhaps inevitable given the two territorial consolidations by Florence in Tuscany and by the pope in central Italy, which

³⁶ Cohn 2006.

³⁷ Brucker 1962.

³⁸ Herlihy and Klapisch-Zuber 1985, 69.

³⁹ Brucker 1962.

collided. Internationally, the pope through his spiritual interdict of Florence organized a largely (though not completely) successful boycott of European trade with Florentine businessmen, temporarily crushing the Florentine economy.⁴⁰ Domestically, war with the pope desecrated deep and long-standing Guelf loyalties in many Florentines, especially among traditionalist patricians. Ultimately the rejection of city-state loyalty to the pope set the stage for the birth of civic-humanist republicanism.⁴¹ But in the short run this intersection of domestic with international politics fueled Florentine factional struggle to the boiling point. Each side, but in particular the Guelf side, progressively denounced and purged the other to the point where eventually Salvestro d'Alamanno de' Medici led liberal guild forces in the burning of conservative houses and the forcible eviction from Florence of many Parte Guelfa leaders on June 18, 1378.

This violence within the citizenry opened the door to the potentially revolutionary entrance of previously disenfranchised *ciompi* onto the public stage. On July 21 and then again on August 31, waves of wool workers organized as a “mob” surged into the streets and public squares of Florence, forcibly dissolving with plunder and arson the existing government and demanding reorganization of the state in order to incorporate themselves as three new guilds. These new guilds provided the organizational core of the temporarily victorious *ciompi* state: an expanded guild-corporatist alliance between previously nonguild workers and minor-guild artisans, which lasted only six weeks. Throughout these tumultuous events, conservative popolani and magnates left Florence in droves in fear of their lives, and all export-oriented economic activity, already damaged by the pope's interdict, ceased.

It is not the purpose of this chapter to explain the Ciompi revolt itself, but historians have pointed to a (contested) combination of three factors as causes: (a) chronic dissatisfaction of wool workers with political disenfranchisement, due to their economic subordination within the guild system; (b) the self-immolation of elites in factional struggle, the liberal side of which had systematically raised enfranchisement expectations; and (c) a wool-industry economic slump, due both to short-run pressures from the papal war and to long-term pressures from the growth of a competitive English textile industry,⁴² which constricted the import of high-quality English wool to Florentine putting-out *botteghe*,

⁴⁰ Trexler 1974.

⁴¹ Baron 1966.

⁴² Carus-Wilson 1963, 1967.

thereby generating unemployment.⁴³ In future research I hope to “endogenize” the Ciompi revolt by explaining it as the consequence of chronic contradiction in fourteenth-century Florence between the two organizing principles of patrilineage and guild, which the short-term pressures mentioned above intensified.

More important in this chapter is the reaction of various exiled and nonexiled groups to this searing political event. Florentine reaction developed in three stages, each stage of which involved progressively more elitist actors. The first stage was not really an elite reaction at all; it was the countermobilization on September 1, 1378, of minor-guild artisans to take back “their” guild-corporatist state from six weeks of control by nonguild *ciompi*. Minor guildsmen, led by liberal popolani like Salvestro Medici, Tommaso Strozzi, Giorgio Scali, Benedetto Alberti, and Ugucione Ricci, confronted radical wool workers in the streets and defeated them in combat. The largest and most radical of the new *ciompi* guilds was disbanded, and a relatively democratic guild-corporatist state was established, which lasted from 1378 to 1382.

The second stage of reaction, in January 1382, was essentially a coup d’état by “cloth manufacturers and bands of aristocrats, who had armed their servants and retainers, and the peasants from their country estates”.⁴⁴ The constitutional *balìa* produced by this coup abolished the remaining two minor guilds set up by the *ciompi*, burned the 1378 regime’s scrutiny bags, and forcibly tilted officeholding away from artisans back toward the major guilds like international traders, cambio bankers, and wool cloth manufacturers (*lanaiuoli*), who had been in charge before the revolution. Rather than purely reactionary in character, this second-stage counterrevolution was led by factional “moderates”—that is, wealthy major guildsmen in the political center who opposed factional extremes on both the left and the right. Their guiding policy was elite “consensus”,⁴⁵ in the pursuit of which, ominously, deeply reactionary exiles and magnates were invited to return to Florence. This elitist but relatively moderate regime of 1382-93 was the “favorable business climate” that induced Francesco Datini to return to Tuscany in 1383, thereby initiating the construction of his partnership system.

⁴³ Hoshino 1980; Franceschi 1993a.

⁴⁴ Brucker 1977, 60.

⁴⁵ Najemy 1982.

The third and final stage of counterrevolution occurred in 1393 with the accession to power of Maso degli Albizzi and his ‘oligarchic’ allies. Reinforced by an international context of dangerous wars with Milan, returning conservatives resumed their purging ways, first in 1387 and then in 1393, this time more selectively targeting the most powerful remaining leaders of the liberal popolani—namely, the Alberti family of international merchant bankers. With the Alberti and their close popolani allies sent into exile, the Albizzi-led regime destroyed remaining guild-consul scrutiny bags and held new elections to restructure the political *reggimento* by fusing elite moderates with elite conservatives.

There has been a lively debate in the historiographical literature about the character of this post-Ciompi Albizzean regime. The traditional interpretation shared by chroniclers and historians alike⁴⁶ is that the Albizzean regime was an oligarchy, politically dominated by a fairly well-defined set of conservative families, mostly popolani but also including new-men and magnate sympathizers. But Hans Baron’s (1966) famous book on civic humanism emphasized the forward-looking philosophical and patriotic vision of republicanism forged by this “oligarchy” in its wars with Milan. In support of this revisionist interpretation, careful empirical analyses by Molho (1968b), Witt (1976), and Najemy (1982) have shown the high rate of election of new individuals in the 1382 and 1393 scrutinies, well beyond any purported closed circle of elite families. Najemy (1982, 276-300) resolved this contradiction to some degree by showing that openness in election was offset by tight institutional controls (e.g., *accoppiatori* and *borsellini*) on the translation of election into real political power. But still this dual vision of oligarchy versus republicanism remains to confound clear understanding of the period.

Following Najemy (1982), our position on this puzzle will be that the entire 1282-1382 century in Florence can be understood as a long-term contradiction between the patrilineage and the guild modes of organizing social, economic, and political mobility. The original Popolo-regime pattern in the 1250s was older elites organized into partilineages confronting rising groups organized into guilds. But the dynamic of political development came from organizational crossover in the late 1200s and early 1300s—namely, popolani dominating markets and the state through major guilds and new men mimicking patrilineages

⁴⁶ E.g., Machiavelli [1524] 1988; Guicciardini [1512] 1994.

in their family structure.⁴⁷ Najemy focused on the formal institutional and electoral sides of this organizational contradiction. The complementary focus here is to trace this deep contradiction through the evolution of social networks. Padgett (2010) traces mobility patterns through marriage networks over two hundred years, demonstrating the contesting principles at work. Civic-humanist republicanism was the early fifteenth-century ideological face of this underlying social-network reorganization of mobility channels into the reconstituted Florentine elite.

Biographical Transposition: The Political Co-optation of Cambio Bankers

To repeat, for editorial clarity: “transposition” was the political co-optation of guild-based cambio bankers into high political office. “Refunctionality” was the conversion of these co-opted domestic bankers into international system builders. And “catalysis” was the absorption of partnership systems into socially elite marriage networks.

During the reaction to the Ciompi revolt, domestic cambio bankers, more so than international merchants, were mobilized strongly into the republican institutions of the state. Table 6.3 documents this point. In the post-Ciompi period of 1380-1399, 26-36 percent of cambio bankers and 51-59 percent of cambio-banking companies were represented at some time in the city council or Priorate of the city, up from pre-Ciompi representation rates of 15-25 percent and 35-38 percent, respectively. In the more economically focused Mercanzia or commercial court, political mobilization of cambio bankers was even more dramatic: from 4-6 percent of cambio bankers and 6-11 percent of cambio-banking partnerships in the Mercanzia before the revolt, to 23-24 percent and 44-48 percent after the revolt, respectively. These high cambio-banker representation rates compare with the much lower representation rates of 13-17 percent for international merchants and 17-26 percent for international merchant-banking companies during 1380-1399. Temporally refined *balie* representation rates reveal the post-Ciompi mobilization inflection point exactly to be 1384, a date that makes perfect sense in light of the Ciompi-revolt narrative above: Cambio bankers did not initiate the 1382 second-stage major-guild regime that quickly mobilized them, but by 1393 they were fully integrated into the Albizzean “oligarchic” or “civic humanist” regime.

--- table 6.3 about here ---

⁴⁷ Padgett 2006.

This differential political mobilization of cambio bankers, compared to that of international merchants, is surprising in light of the strictly economic history of the period. The pope emerged victorious in his 1375-78 war with Florence not because of the military power of his weak mercenary armies but because of the economic power of his spiritual interdict of Florentine merchants—namely, his ordering other cities’ merchants not to trade with Florentines, under the sanction of withholding sacraments. Florentine international merchants, not everywhere but in many places,⁴⁸ were decimated economically by this interdict, as foreign merchants seized their goods and exiled them back to Florence. From the perspective of rebuilding the damaged Florentine economy, it was the international merchant-bankers, not the domestic cambio bankers, that most needed political support.

To probe this and other aspects of the political mobilization of cambio bankers, I present tables 6.4 and 6.5. Within the context of a sampling universe of tax censuses of the entire male head-of-household population of Florence, these two tables present various social and political predictors of active participation in cambio banking (table 6.4) and in international trading (table 6.5), at various points in late medieval time. Numerous findings in these logit regressions are of interest, to which I shall return, but the answer to the current puzzle about the greater political mobilization of cambio bankers than international merchants is to be found in the political-faction section of those logit-regression tables. Both before and during the Ciompi revolt, cambio bankers and international merchants were politicized into the various factional struggles of the time, as was the entire city. But in the struggle between the Albizzi and Ricci factions, cambio bankers were neutral, and in the Ciompi struggle itself cambio bankers were politicized into both sides equally. In contrast, international merchants by 1369 had swung predominantly to the guild side.⁴⁹ The political redoubt of the leading Alberti family, later to be exiled by conservatives in 1387 and 1393, was the most internationally oriented guild of them all—the Arte della Calimala, home of international traders and import cloth finishers.

--- tables 6.4 and 6.5 about here ---

Leaders of the moderate regime of 1382-93 were *lanaiuoli* and other domestically based major guildsmen—socially and economically “elite” but politically opposed to both

⁴⁸ Trexler 1974.

⁴⁹ Brucker 1962, 124-7.

factional extremes. They had experienced decades of violent political and street warfare among fractious elite families, which had opened the door to revolution from below. These moderate major guildsmen desperately wanted to reestablish peace and control both for their own sanity and in order to rebuild the manufacturing and export economy upon which their livelihood depended, so damaged by war with the pope. Instead of crushing opposition, they sought to achieve the difficult objective of annealing conflicting forces back into economic and political synergy. Statistical support for this “leading reform role of the moderates” interpretation is given by the disappearance of all significant political-faction coefficients in tables 6.5-6.7 after 1382. Because of the sequentiality of annealing, the crushing of pro-Ciompi revolutionary forces in 1382 did not automatically imply that reactionary forces took over.

The political problem faced by the 1382 moderate-elite regime trying to restore order was the following: Repression of the radical *ciompi* obviously was the sine qua non, but that had already been accomplished by the 1378 regime of minor guilds and liberal popolani. The next step was to solve the structural problem of the guild-corporatist constitutional order, which had served major guildsmen so well in earlier generations but had badly malfunctioned. The *ciompi* had hijacked this institutional order to mobilize revolution, and minor guildsmen with their liberal popolani allies had used it to seize control from major guilds, both immediately before and immediately after the Ciompi revolt. Najemy (1981) has shown how the economic-class tension associated with the Ciompi revolt shredded political cohesion within the guild of wool manufacturers, and presumably within other major guilds as well, thereby enabling these defeats.

Whatever the reasoning, the 1382-93 regime moved quickly to dismantle the autonomy of those very guilds, both major and minor, which had previously been the institutional foundation of their own economic and political power. In 1382, all elected guild consuls became subject to the approval of the Mercanzia; in 1383 and 1390 the Mercanzia exercised this review power to alter the results of the election of consuls in the cloth retail and silk guild; and finally in 1393 the *balìa* burned all guilds’ scrutiny bags, which contained the results of previous consul elections, and requested that the Mercanzia appoint guild consuls directly “by hand.”⁵⁰ In addition, in 1384 a special-purpose *balìa* of major

⁵⁰Najemy 1972, 582-601; Franceschi 1993b, 886-889.

guildsmen, including both cambio bankers and international merchants, was appointed to reform the wool-manufacturers'.⁵¹ The previous constitutional system of federated economic and political self-governments by guilds was dismantled, in other words, in favor of more direct "oligarchic" oversight by those in control of the central institutions of the republican state (namely, the Priorate, the *balie*, and the Mercanzia).

Previous histories have not always clearly differentiated between moderate and conservative elements in the post-Ciompi oligarchic-cum-republican regimes. Nor have they precisely identified the differing roles of various major guildsmen, such as wool manufacturers, cambio bankers, and international merchants, in this constitutional reconstruction. The data show clearly, however, that the 1382 reformers actively reached out to cambio bankers for allies in their institutional reforms. But they did not reach out similarly to international merchants, apparently because they were often not politically reliable. This mobilization collectively lifted cambio bankers to political heights not previously attainable.

This co-optation strategy by political moderates fits neatly with the findings of Molho (1968b), Witt (1976) and Najemy (1982), who demonstrated the high degree of openness by the post-1382 "oligarchic" regime to the (highly selective) election of newcomers. Cambio bankers were not the only ones being co-opted. In pursuit of their annealing objectives, elite-but-moderate reformers reached out for support in all sympathetic directions, as long as they, not the guilds, controlled the routes of access. But whereas many were mobilized as clients, cambio bankers were mobilized into the very core of the regime.

Without sharply distinguishing between moderates and conservatives, Najemy puts the same point eloquently, if somewhat cynically, like this:

In short, as the number of participants reached new heights, real power in the system underwent an unprecedented process of centralization. The thousands of individual Florentine citizens who willingly entered the lists of the electoral lottery, each nourishing his private hope of elevation to the priorate, gave the republican regime a stability it had not previously known. They played the game as faithful creatures of the regime, hardly aware that their own acquiescence in the illusion of political equality, their very willingness to play by rules they no longer shared in defining, and their acceptance of participation without actual power were the bedrock of consensus

⁵¹ A.S.F., *Arte della Lana* 46, 164-166.

on which the stable and elitist polity of fifteenth-century Florence was built. Even less were they aware of having created the conditions that shaped the new republican ideology of civic humanism. (1982, pp. 299-300)

Organizational Refunctionality: Domestic Bankers into International System Builders

From the perspective of our theoretical framework for analyzing organizational invention, co-optation of bankers into politics was biographical transposition. This led to organizational refunctionality—namely, the perception of new purposes for old practices and tools. The old practices and tools were those of the domestic cambio bankers; the new perceptions and purposes were those of international trade.

Twenty-five to thirty percent of cambio bankers were elevated into the central institutions of the state—the Priorate, the *balie*, and the Mercanzia—where government policy was made. This political promotion introduced these domestic deposit bankers to international contacts and to an internationalist perspective from which they had previously been, if not excluded, then inhibited by the specialized guild system. Before the Ciompi revolt, a few cambio bankers had sometimes engaged in international trading on the side, but that was hardly their primary activity. International trading instead had been dominated by merchants in the Calimala guild, not by bankers in the Cambio guild. Now, however, the state urgently needed to rebuild its war-damaged, export-oriented wool-manufacturing and international trading economies. Cambio bankers were recruited into this economy-rebuilding effort, and they became a core part of the very state that was recruiting them.

As shown in tables 6.4 and 6.5, the 1384 special-purpose *balia* on the wool industry⁵² was one prong in this rebuilding effort in which cambio bankers were centrally involved. This *balia* reformed the terms of trade and the administration of disputes, fines, and fees among various members of the wool industry (manufacturers, dyers, laborers, etc.) in an apparent effort simultaneously to restructure this recently politically explosive guild and to revive this crucial but declining economic sector in Florence. Apart from this important industry-specific *balia*, I am aware of no other special governmental commission that was set up to propose other economic reforms. Rather there was ‘just’ the strong encouragement and backing of the state for

⁵² A.S.F., *Arte della Lana* 46, 164-166.

those who wished to fill the international-trading vacuum. In future research into the records of these governmental bodies, I hope to elaborate the precise form this encouragement took.

Whatever the particular inducements, some experienced cambio bankers—men like Vieri di Cambio de' Medici and Manetto di Giovanni Davanzati, but also some international merchant-bankers like Francesco Datini and Tommaso di Guccio Soderini—responded to the new opportunities to expand their business by opening new branches in overseas cities. In addition, a new generation of cambio bankers—men like Giovanni di Bicci de' Medici, Francesco di Simone Tornabuoni, and Giovanni di Jacopo Orlandini, descended from the earlier generation of cambio bankers—broadened their domestic base into international merchant-banking. A few newcomers, like Niccolò da Uzzano, did the reverse and extended their international trading origins into cambio banking. The specific issue is, how did this flow of domestic banking into international trading trigger the invention of the partnership system, which organizationally fused these two industries?

My answer has two parts: careers and practices. Before the Ciompi revolt, the guild system had channeled economic careers into industrial specialization, which also became one important basis for political representation. After the Ciompi revolt, the guild system was effectively dismantled and a more centralized system of elite monitoring of the activities of businessmen was imposed, through the Mercanzia. This breakdown of effective intermediation through corporatist organizations “individualized” the biographical flows of businessmen through the state, inducing political and eventually social stratification. Selected businessmen from various industries were placed onto the same political career tracks, through the Priorate, the *balie*, the Mercanzia, and other republican offices of the state. Thereby it became easier, through dialogue and shared position within leading formal and informal (*consulte e pratiche*) councils of the state, and without the constraint of corporate representation, for each major guild’s businessmen to see the world more easily from the perspective of the other major guilds. This is similar to the social-network concept of structural equivalence,⁵³ except here we have parallel career flows instead of highly correlated network profiles. The cognitive implication of career-flow equivalence, I hypothesize, was to replace the specialized perspective of industry and guild with the generalized perspectives of “Florence” and “business.”

⁵³ White, Boorman, and Breiger 1976.

The precise micromechanism that translated this new career-flow equivalence into partnership systems was the transposition of cambio bankers' existing master-apprentice way of making domestic partnerships⁵⁴ onto the international stage. In their domestic companies, cambio bankers were used to short-term (often three-year) renewable partnership contracts between cambio masters and a series of ex-apprentice younger junior partners, who fully expected to split from their master's company upon financial success to form their own firms. For compensation, the junior partner received a share of the profit higher than his share of the capital contribution as reward and incentive for hard labor. These were exactly the typical terms of formal contracts between founders and branch managers in partnership systems, except that in partnership systems there were simultaneously many such contracts with multiple branch managers, often spanning more than one industry. This cambio-banking guild partnering logic, previously constrained to be sequential because of its domestic and specialized-industry guild setting, was unleashed to become modular, cross-cutting multiple geographical settings and industries. Thereby it supplanted the older unitary patrilineage form of international merchant-banking, which after the 1340s was very much on the ropes in any event.

There were macroeconomic forces moving this industrially diversified partnering logic down the tracks of geographical diversification as well. The War of Eight Saints with the pope had altered the landscape of European trading outlets. Before this war, Florentine long-distance international trade, mostly in woolen cloth, traveled primarily along an almost straight line, from London and England in the north, down through Flanders, Paris and Avignon in France, to Genoa, Milan, and Pisa in northern Italy, and continuing on to Rome and Naples in southern Italy.⁵⁵ Venice⁵⁶ and other smaller Italian cities also were in Florence's international trading network, off this primary geographical axis. The spiritual interdict of the pope, with its mixed success in host cities of organizing boycotts and exiles of resident Florentine businessmen, helped diversify this economic geography. To simplify a complex topography: after the war, England and Avignon went down and Spain and Venice went up, as relative Florentine trading partners, in immediate response to their respective national profiles of cooperating—or not—with the pope.⁵⁷

⁵⁴ Padgett 2001, 227.

⁵⁵ E.g., Goldthwaite et al. 1995, pp. xlv-lxxx.

⁵⁶ Mueller 1997, 255-75.

⁵⁷ Trexler 1974, 44-108.

To be sure, the various political responses of host countries to anti-Florentine pressure from the pope reflected their own economic interests. That is, they reflected ongoing economic trends. The fact remains that after the war, the King of England expelled Italians for decades in his successful import-substitution effort to develop domestic wool production. Exports of high-quality raw English wool to Florence plummeted,⁵⁸ which had deleterious consequences for the Florentine wool-manufacturing industry.⁵⁹ Trading connections with Catalonia and Mediterranean Spain, on the other hand, centered on silk and raw wool, blossomed.⁶⁰ And Venice, also in response to its War of Chioggia with Genoa, liberalized its free-trade policy, thereby currying the favor of Florentine merchants.⁶¹

Thus when Florentine international trading revived after the Ciompi revolt, Florentine companies, using their new organizational tool of partnership systems, faced a more dispersed economic geography than before, centered as much on the western Mediterranean as on the old French route to London. This was the “demand side” facing the “supply side” of new partnership systems. Modularity had a wide variety of geographical sockets to plug into.

To summarize, my contention about organizational refunctionality is that when cambio bankers flowed through newly centralized political institutions, these institutions transposed existing ways of doing economic business into new purposes. Politically moderate elite leaders of the new regime were just trying conservatively to reestablish control and to rebuild their decimated economy. But the unintended consequence of their co-opting cambio bankers and select international businessmen into their electoral system was to catalyze cambio bankers and their international partners into reshaping themselves. Sequential cambio partnerships became transformed into modularized simultaneous partnerships, which spanned industries. This new organizational form permitted the ready exploration of geographically dispersed markets, which had been produced through the war with the pope.

Multiple-Network Catalysis: Embedding Partnership Systems in Elite Marriage

Political co-optation in response to revolt explains the transposition and refunctionality mechanisms of organizational genesis. But for novel innovation to become

⁵⁸Carus-Wilson and Coleman 1963.

⁵⁹ Franceschi 1993a.

⁶⁰ Lopez 1952, 347.

⁶¹ Mueller 1997, 266.

transformative invention, there must be something more. Innovation must reverberate out into collateral ways of doing business, thereby reshaping the interactive system in which the invention is embedded. This is the difference between the incremental evolution of banks, which is variation within species, and the punctuated evolution of banking, which is emergence of new species. The same post-Ciompi political process in Florence that induced organizational innovation, however, also rewired the social embedding of partnership into surrounding networks, thereby altering the contextual feedbacks that reproduced that invention. The Florentine partnership system was not just the incremental diffusion of a good organizational idea; it was part of a larger punctuated-equilibrium reconstitution of the Florentine elite, which resituated the Florentine business community within its surrounding social and political contexts. Some call this a shift from medieval to Renaissance.

To demonstrate this changing social embedding of economic partnership in late medieval Florence, I present tables 6.6 and 6.7, which disaggregate partnership systems into their constitutive parts—namely, cambio partnerships and international merchant-banking partnerships, viewed separately. Tables 6.6 and 6.7 present logit regressions on partnership dyads in these two industries over time. These logit-regression tables report the effects of many contextual social and political variables on economic partnership.

--- tables 6.6 and 6.7 about here ---

The strongest time-series message in these tables is marriage, but before I discuss those results I shall discuss three other statistically significant findings in tables 6.6 and 6.7, as interesting preliminaries. The first is essentially a reconfirmation of the discussion in the section about biographical transposition: Political mobilization of cambio bankers, through the 1380-99 priorate, the 1384 *balìa*, the 1393 *balìa*, and the 1393 *reggimento*, had a significant effect on the formation of cambio banking partnerships. Table 6.5 showed that cambio bankers were mobilized politically after the suppression of the Ciompi revolt. Table 6.6 shows that this mobilization had an impact on cambio bankers' partnership behavior—namely, mobilized bankers were significantly more likely to form partnerships. Table 6.7 shows the same not to be true for international merchant-bankers. While international merchants were also mobilized into the 1384 *balìa* and the 1393 *reggimento*, this lesser mobilization had no detectable effect on their partnering behavior. Political mobilization not only affected cambio businessmen, it also affected their banks.

Second, examination of the coefficients for natal (not in-law) family in table 6.6 reveals the following trend: The causal importance of family—both at the level of the nuclear family and at the level of the patrilineage—for predicting the likelihood of forming cambio-banking partnerships declined smoothly in magnitude over the 1348 to 1427 period. But it remained statistically significant throughout. The same trends are revealed in table 6.7 for international merchant-banking partnerships over the shorter observable time period of 1385-99 to 1427. These results confirm the gradual decline of natal family as an organizing principle of economic partnership throughout the early Renaissance, just as Goldthwaite (1968) has argued. On the other hand, these results also confirm the historical continuity of patrilineage in early Renaissance Florence, as Kent (1977) has counterargued. Both historians were correct in their assessments; they just emphasized different sides of the late medieval kinship transition. “Family” did not go away in importance in Renaissance Florence; its economic role changed. The medieval dominance of the patrilineal father-son relation became supplemented, and to some degree supplanted, by early Renaissance economic relationships among in-laws. More specifically in the kinship history of Florentine elite families, the *consorteria* horizontal solidarity of medieval families, rooted primarily in factional feuds, land, and the military,⁶² evolved into more internally differentiated Renaissance patrilineages, with sharp wealth distinctions between senior and cadet branches and with diffuse and negotiable membership boundaries.⁶³ Economic evolution and kinship evolution were linked.

Third, examination of the coefficients for neighborhood in table 6.6 reveals the following temporal pattern: Statistically significant effects of residence-in-same-*gonfalone* on cambio partnerships declined and then rose in magnitude over time. These results are consistent with those of Kent and Kent (1981; Kent 1987), who argued for the general importance of neighborhood in structuring sociality of all kinds in Renaissance Florence, at the level of the sixteen *gonfaloni* or administrative wards in the city. But they also are more specifically consistent with the overall thesis of the dissolution of guild, rooted in neighborhood, and then the consolidation of clientage, also rooted in neighborhood but in a different way. Like family, neighborhood never went away in its structuring impact in

⁶² Lansing 1991.

⁶³ Herlihy 1985; Fabbri 1991; Molho 1994.

Renaissance Florence; rather its specific catalytic relationship with economic networks was reconfigured. Before the Ciompi revolt, guild brought cross-class neighbors together in banking partnership through the social model of master and apprentice. After Ciompi, clientage brought cross-class neighbors together somewhat in banking partnership but even more so in credit,⁶⁴ through the social model of patron and client.

On the core issue of the increasing social embeddedness of economic partnership in marriage, there are two modalities of marriage embeddedness presented in tables 6.6 and 6.7: (a) the intermarriage of the partners themselves, either at the level of their nuclear families or at the level of their patrilineage families, and (b) the marriage of partners into various social classes, elite or otherwise. The logic of the first modality is multiplexity: namely, intermarriage with one's partner meant that economic and in-law kinship roles were mixed, with normative framing consequences for each of those roles. The logic of the second modality is access: namely, marriage to popolani meant that businessmen and their companies had kinship access into socially elite and usually politically powerful families, whether or not they themselves were elite.

The simplest message about marriage in both tables is that both forms of partnership embeddedness in marriage increased after the Ciompi revolt. But there was a difference in the fate of these two marriage influences after the 1380-89 period of partnership-system invention. Direct multiplexity mattered in all periods from 1380 onward. For this reason, the economic logic of partnership and the social logic of marriage became intertwined in how partners viewed each other.

The second dimension of marriage access into the popolani social elite was crucial during the 1380-89 period of invention, but it faded from statistical significance thereafter. During the invention period of 1380-89, cambio-banker founders were diverse in social-class backgrounds, consistent with their roots in the guilds. It did not matter whether cambio bankers were themselves popolani; what mattered was whether they had married into the popolani elite. After the founding generation had passed, however, bankers of more prestigious popolani social-class backgrounds took over these new central economic roles.

⁶⁴ Padgett and McLean 2011.

New-men cambio bankers involved in innovative partnership systems were either absorbed through marriage into the newly reconfigured elite or were pushed aside.⁶⁵

All of these marriage results are far more muted for international merchants. Only in 1427 do the two direct intermarriage coefficients in table 6.7 for international merchant partnerships achieve statistical significance. And never is *parentado* marriage into the popolani important for international merchants forming partnerships among themselves. Consistently the pattern here is of deeply socially embedded cambio bankers linking up with relatively unembedded international merchants to form partnership systems. Cambio bankers, being physically resident in Florence, were more connected into (and presumably more constrained by) their social and political contexts than were Florentine international merchants, who lived much of their active business lives abroad. To put this another way, in the period after the Ciompi revolt, residentially domestic bankers, newly connected to international merchants through partnership systems, helped broker those sometimes new merchants into the dense social-network structure of their own Florence back home.

This increased correlation between partnership and marriage has the testable corollary that the economic value of marriage should increase. Chabod (1995, 103) provides information on average Florentine dowry prices over time among families established enough to write surviving *ricordanzi* (private diaries). Consistent with the time series that we expect, the average price of the Florentine dowry reported by Chabod rose from 592 florins (n = 18) in 1314-1349, to 845 florins (n = 24) in 1350-1399, to 925 florins (n = 54) in 1400-1449, to 954 florins (n = 35) in 1450-1499. The price of dowries rose so high, indeed, that money circulating among elite families through daughters came to be central in the maintenance of patrilineage economic position within the elite.⁶⁶

The post-Ciompi fusion of cambio bankers into the popolani elite, therefore, changed the Renaissance meaning of banking partnership in two ways. In the first transposition-plus-refunctionality stage, political mobilization brought master-apprentice logic out of the guild world into the international domain to produce partnership systems, as has already been discussed. But in the second network-catalysis stage, social incorporation of cambio bankers into the popolani elite brought the logic of marriage, and hence dowry, out of the world of

⁶⁵ Padgett 2010.

⁶⁶ Molho 1994.

popolani kinship into banking, reinforcing and rewiring the social embedding of banking partnerships into the elite. Dowries came to be used as start-up capital.⁶⁷ And marriage logic applied to partnership reinforced industrial diversification: one's son-in-law was often in a different occupation from oneself. Once economic partnership became correlated with and symbolically framed as marriage, it took on the normative overtones and the catalytic reproductive support of the older popolani and magnate elites who embraced it.

This second causal stage of catalysis-through-embedding-in-marriage also fits neatly into the temporal history of the oligarchic reaction to the Ciompi revolt, just as did the first causal stage of transposition-and-refunctionality-through-co-optation. In 1382, consensus-oriented major-guildsmen moderates reached out to their "right" of patrician exiles by inviting everyone home, to their "left" of new men through relatively open electoral access, and to the "center" of cambio bankers through direct mobilization. It was primarily rapprochement with conservatives, culminating in the rise of Maso degli Albizzi in 1393, that led to the renewed "oligarchic" political dominance of the popolani. Consistent with what Baron (1966), Molho (1968b), Witt (1976), and Najemy (1982) have argued, however, this popolani oligarchic dominance was not achieved through methods of exclusion. It was achieved through methods of political, economic, and kinship co-optation. This turned non-popolani families mentally and behaviorally into popolani wannabes.

Whether the leaders of the 1382 regime were as foresighted and strategic as this narrative makes them appear is doubtful. Unlike Cosimo de' Medici in 1434 a couple of generations later,⁶⁸ the almost forgotten 1382 moderates are not among the most famous and celebrated names in Florentine history. Just because they achieved lasting success does not imply that they were unusually clever. More plausible than rational choice as microdecisional foundation is learning—in which intelligent but adaptive agents are channeled by events into adopting a new perspective that redefines their own rationality.⁶⁹ Cosimo de' Medici appears both to us and to contemporaries like a genius because the same historical forces that produced him also constructed a glorified political position or stage for him, far above that of other men.⁷⁰ The 1382 moderates in contrast are forgotten because they knit together a

⁶⁷ Brucker 1967, 114, 121.

⁶⁸ Padgett and Ansell 1993.

⁶⁹ March 1999.

⁷⁰ Brown 1961.

“consensual” republican regime in which many citizens had at least the illusion of access and influence. Both Cosimo de’ Medici and the 1382 moderates were equally inventors—products of their time who changed their time. That they did so was not because they were superior in cognitive abilities, intelligent though no doubt they were. What they shared in common instead was the more profound perspicacity to observe the ways that others were moving tumultuously around them well enough to blend those others’ biographies into reproducing sequences that can be called careers. New self-reproducing biographical sequences, in turn, induce new perspectives and goals in those shaped by them.

No greater testament to the achievement of the 1382 elite moderates can be made than to point to the speed of the ideological demise of deeply entrenched medieval loyalty to the pope and of the subsequent rise of civic-humanist republicanism to take its place.⁷¹ The 1382 moderates did not themselves make the intellectual revolution of the Renaissance. But they altered the social-network feedbacks in Florentine history enough to make that intellectual cascade appear almost inevitable in hindsight.

ECONOMIC CONSEQUENCES: THE EVOLUTION OF BANKING

Most banks today are shining lobbies and offices, temples to modernism and the capitalist spirit. Renaissance banks did not look like this of course. They, too, had their *palazzi*,⁷² from which modern bank lobbies are descended, but they were smaller and more intimate in physical and manpower size. In spite of this difference, however, Renaissance banks also epitomized—indeed they were central in inventing—financial capitalism,—namely, partnership systems, limited liability, double-entry bookkeeping, and current accounts. The historiographical puzzle is the one that opened this chapter: How could such a traditionalist time and place, not motivated to innovate, nonetheless have invented so prolifically? In particular how did it invent financial capitalism? The political context of the Ciompi revolt and the post-Ciompi homology between partnership and marriage have taken us a considerable way toward understanding the changing Renaissance meaning of the partnership company. Now I show how this change in partnership logic transformed the banks internally.

⁷¹ Baron 1966.

⁷² Goldthwaite 1972.

Melis (1962) and de Roover (1966) have already documented at length these organizational changes. In this section I extend their strictly economic inquiry by analyzing this economic transformation more explicitly in its social context. I examine banks not as disaggregated sets of businessmen dyads, as in the logit regressions of the previous section, but holistically as coherent collective actors. In particular, I demonstrate transformation in the role of the lead banker from guild-based entrepreneur to partnership-system financier. Closely connected with the partnership system were important changes at the level of transactional practice—namely, widespread adoption of double-entry bookkeeping, current accounts, and economic credit. Together these organizational changes in partnership and credit transformed international banking and finance. But that subsequent diffusion is a story for another time.

Bookkeeping

At the level of bookkeeping, *conti correnti* (current accounts) registered repeat relational trading based on credit. These spread rapidly among Florentine bankers after 1380. *Conti di esercizio*, which emerged at about the same time,⁷³ were a similar bookkeeping device for registering credit between bankers and manufacturers. Double-entry bookkeeping as an algorithm, which for the first time permitted an integrated calculation of assets, debts, and profit, was invented decades earlier, perhaps in Genoa, perhaps in Tuscany. But in Florence this technique diffused widely only after 1380.⁷⁴ Bilateral or *contrapposto* format was a visualization of current accounts in Florentine bankers' account books: namely, a client's (person or company) debits (*dare*) were listed neatly on the left-side page (*verso*) of the company's account book, and the client's credits (*avere*) were listed on the right-side facing page (*recto*) of the same account book. With bilateral format, businessmen could see easily the state of each of their various economic relationships at a glance, laid out for them neatly on the pages. This is in contrast with earlier chronological listings of transactions with complex cross-referencing to how these were cleared. And it is in contrast with the earlier clustering of debits in the first half of an account book and credits in the second half, again

⁷³ Melis [1972] 1987; Dini 2001.

⁷⁴ de Roover [1956] 1974, pp. xxx.

with complex transactional cross-referencing to how these were cleared.⁷⁵ Bilateral format categorized transactions into economic relations, whereas earlier methods (including notarized contracts) coded transactions just as transactions. This conceptual transformation in business practice from transactional to relational accounting, I argue, was in Florence one corollary of the partnership system.

Piera Morlacchi and Ethel Santacroce have examined seventy-seven Florentine account books located in the Archivio di stato in Florence from the period 1259-1427 in order to trace the emergence of the bilateral format in Florence over time. This sample of account books was drawn from two exhaustive inventories of extant account books compiled by Richard Goldthwaite,⁷⁶ which covers the years 1211 to 1355, and Goldthwaite [private communication], which covers the years 1363 to 1427. Fifty-one of these account books were *libri di debitori e creditori* (and equivalents like *libri del dare e dell'avere*) company account books from merchant banking, cambio banking, and the wool and silk industries. For comparability, they coded only these books. The full coded data set, with citations to all qualifying account books, is provided by Morlacchi (2005).

Without double-counting multiple account books in single companies, the results of this survey were as follows: (a) during 1259-1299, 0/10 = 0 percent of the companies kept their books in bilateral format or *contrapposto*; (b) during 1300-1349, 0/7 = 0 percent of the companies were *contrapposto*; (c) during 1350-1377, 0/3 = 0 percent were *contrapposto*; (d) during 1382-1399, 5/5 = 100 percent were *contrapposto*; (e) during 1400-1427, 12½ /14 = 89 percent were *contrapposto*. There was a sharp and unambiguous transition to bilateral format in Florentine company account books, exactly around 1382, the date that the partnership system was born.

To verify this apparently causal connection between the partnership system and bilateral format more closely, we examined carefully the first Florentine cases of bilateral format that survive: Paliano di Falco and Francesco Datini. Ethel Santacroce transcribed the *ricordi* of Paliano di Falco, the first known Florentine to adopt bilateral format on October 12, 1382. Paliano di Falco was a cambio banker who enrolled in the Arte del Cambio in 1369 and soon afterwards began running his own small bank as a solo *cambiatore* in 1370 and

⁷⁵ de Roover [1956] 1974.

⁷⁶ Namely, Goldthwaite, Settesoldi, and Spallanzani 1995, cxxvii-cxxxiii.

1371. Paliano next appears in our records, through his *ricordi*, as a Perugia-resident partner within the Florentine partnership system of Giovanni Portinari and Ardingo Ricci, who themselves were Florentine cambio bankers; they started their company in Florence in 1372. The home-office account books of Portinari and Ricci have been lost, but the fact that Paliano initiated bilateral format on exactly the same day on which the partnership in Perugia between Paliano and Ardingo Ricci was formed⁷⁷ suggests a linkage between these two adoption events, even though Paliano's *ricordi* was actually a personal, not a company, account book. Paliano does not say so explicitly, but we presume that Paliano's bookkeeping practice conformed with that of his new senior partners. Very telling is the notation *scrivierollo alla viniziana* at the outset of Paliano's account book, suggesting that he knew that he was adopting an accounting technique borrowed from the Venetians.

To confirm even further this connection between partnership systems and bilateral-format bookkeeping, Piera Morlacchi consulted many of the account books of Francesco Datini, preserved in the Archivio di Stato in Prato (and hence not part of the previous sample). As hypothesized, Datini's adoption of bilateral format in his bookkeeping procedures coincided perfectly in date with his adoption of the partnership system. Datini did not use bilateral format early in his career when he ran his unitary trading company in Avignon. Indeed, even after he left that city, his original company in Avignon lagged behind in adopting *contrapposto*, not switching to bilateral format until 1398. Rather, Datini's first adoption of bilateral format and double-entry bookkeeping was in his new Pisa branch in 1383, where he initiated his partnership system. Subsequent branches adopted bilateral format as they were founded: in Florence in 1386, in Genoa in 1391, and in Barcelona in 1393.

The final example of the microconnection between partnership system and bilateral double-entry bookkeeping is Averardo di Francesco de' Medici. A ninety-page fragment of Averardo's account book has survived from 1395, two years after Averardo in Florence formed a partnership system with his father, Francesco, in Genoa. This account book was in bilateral-format double-entry bookkeeping.⁷⁸

⁷⁷ A.S.F., *Carte Stroziane*, serie II, 7, p. 4.

⁷⁸ Ceccherelli 1913.

Therefore, if the account-book survey and the first three known examples of usage are any guides, in Florence the adoption of the partnership system and the adoption of *contrapposto*-format bookkeeping were two sides of the same organizational invention. Florence did not itself invent bilateral-format bookkeeping, but it perceived this accounting technique as facilitating the management of its new partnership system.

My interpretation of the causal linkage is as follows: Bilateral format and double-entry bookkeeping were useful in managing centrally the heterogeneous companies that the partnership system created because bilateral format lumped dense and recurrent flows with clients into easily visible current accounts. Cross-branch, within-system transfers were the densest flows that required such inspection and central approval.

Heavily used current accounts among inside partners and employees, called *conti interni*, existed in older unitary companies. In older Florentine companies, *conti esterni* with outside clients were transactionally specific, with little recurrent use.⁷⁹ Partnership systems almost tautologically took *conti interni* and turned them into *conti esterni*. As such, the logics governing internal transfers became externalized into the domain of intercompany relations, especially as external business relations became more correlated with the enforceable “trust” inherent in Florentine elite structure. Intrasystem transfer of credits among branches was the transitional step toward intercompany transfer of credits across systems. As the partnership system diffused, credit protocols, such as current accounts and bilateral format, were standardized and rapidly spread.

Economic Credit

Bookkeeping evolution was not an expression of some impersonal and teleological “spirit of capitalism” that left traditionalism behind, à la Weber. Current accounts, bilateral formats, and double-entry bookkeeping were the formalization and measurement of deeply personalistic and multivocal relationships, which transcended economics. It is within these relationships themselves, and not in the formal accounting of them, that the secrets of Florentine financial capitalism—namely, merchant trust or *fiducia*, organizational flexibility, and credit liquidity—are to be found.

⁷⁹ Goldthwaite et al. 1995, cxiii, cxvi.

In Padgett and McLean (2011), which analyzes commercial credits among 406 export-oriented companies in the 1427 *catasto* (tax register), these claims are documented. Among international merchant-banks, large domestic merchant-banks, and wool- and silk-manufacturing companies, extensive, deep, and recurrent commercial credit relations developed, all of which were managed through current accounts in bilateral accounting format. Total credit-to-asset leverage ratios rose to industry averages of 5:1 in the banking sectors. Export-oriented companies routinely extended each other commercial credit, in the course of their repeated business with each other, even without having paid off previous debts. Statistical analyses in that article revealed that repeat-business commercial credit relations between companies were highly correlated with personal and political relations between businessmen in different companies. Personal embedding of cross-company commercial ties included relations of kinship and neighborhood, which linked partners in different companies. Political embedding of cross-company commercial ties included the participation of businessmen in the elected political office of Priorate or city council. Election to city council, indeed, was like a public certification of one's honor. (The Italian word *onore* means political offices as well as personal honor.) This had implications for the creditworthiness of one's company as well as for the marriage-worthiness of one's daughter.

Sophisticated account books may look to insufficiently knowledgeable observers as the epitome of an impersonal mathematical measurement that abolishes personal favoritism. The Florentines knew better. Underneath their dry account-book entries was a rich social-network world full of dense knowledge about each other.⁸⁰ Clients were not strangers or automatons to whom businessmen were "objectively" loaning money and goods. Florentine businessmen knew tons about each other, beyond what was written in their books. This personalism behind the account books was not a marginal aspect, on the edges of impersonal markets. The densest and most high-volume flows of Florentine commercial credit and business coursed through personal and political ties, precisely measured and documented in bilateral current accounts.

⁸⁰ McLean 1998, 2007.

From Entrepreneur to Financier

For the remainder of this chapter, I focus on data from the annual census of cambio-bank partnerships, administered by the Florentine banking guild,⁸¹ as a regulatory check on usury. The full registration of such banks is heterogeneous in nature, ranging from individual money changers, to domestic deposit banks, to international merchant-banks, to headquarters of partnership systems. But this was the soil out of which partnership systems first emerged. With these data I can demonstrate, with a temporal precision not possible for other industries, changing organizational form at the level of individual component companies, not just of ensembles of companies. In particular in this section, I document organizational change in the role of senior partner from entrepreneur to financier, before and after the Ciompi revolt. In the next section, I show how guild and family principles fused into a mixed-kinship form of cambio banks after Ciompi.

Figure 6.2 sets the stage. Immediately after the suppression of the Ciompi revolt, there was a dramatic growth in the demographic representation in cambio banking of partners with popolani social-class backgrounds. Other social classes were not purged, but popolani families captured almost all of the successful post-Ciompi economic rebound in banking after the war with the pope. Partnership systems were how this economic rebound was achieved. The disproportionate social-class character of this rise is consistent with the political-mobilization and social-incorporation mechanisms already identified. These popolani bankers were men like Vieri di Cambio de' Medici—located physically in Florence, deeply involved in politics, simultaneously building internationally oriented partnership systems and transforming their cambio banks into the headquarters of those partnership systems. In the original transposition-and-refunctionality stage of organizational innovation, the inventors of partnership systems were not all popolani, but in the catalysis stage of organizational reproduction, cambio bankers with popolani social-class backgrounds took over.

--- figure 6.2 about here ---

Table 6.8 presents a cross-tabulation of these 1348-1399 cambio-bankers, arranged into partners and subdivided by social class, where the partnership dyad is ordered by relative experience in banking. That is, the rows contain the more senior partner, as defined by years of active experience in the industry, and the columns contain the more junior partner, defined

⁸¹ A.S.F., *Arte del Cambio* 11, 14,

the same way. Only non-family partnerships (including the nonfamily component of mixed-kinship companies) are cross-tabulated in this manner because partners within families are by definition within the same social class. The right-hand half of table 6.8 provides a simple tabular compression to help the reader see quickly the asymmetries in this table.

--- table 6.8 about here ---

Before the Ciompi revolt nonfamily cambio banking partnerships were organized according to the guild logic of master and apprentice. In the context of this table, this means that relative experience and relative social prestige were, in the aggregate, highly correlated. A junior partner of lower social class would “apprentice” himself with no status difficulty to a senior partner of higher social class. But junior partners of higher social class never violated (in the aggregate) the Florentine status hierarchy by “apprenticing” themselves to senior partners of lower social status than themselves. Just because banking was based on guild did not mean that bankers were not deeply conscious of status and social class distinctions among themselves. The only exception to this pre-Ciompi “rule” of occupational authority mimicking social-class status was the peculiar position of magnates—high social status within feudal patrilineage logic but low social status in guild corporatist thinking. All in all, guilds were internally socially stratified, as was all of Florence, but these cross-class partnerships acted as a powerful engine of economic mobility for lower social classes.

After the Ciompi revolt, in sharp contrast to this guild-based equation of vertical occupational experience with vertical social class, two complementary horizontal layers of class-endogamous “alliances” developed: (a) popolani and magnates were more likely to form banking partnerships with each other than with the middle and the lower social classes, and (b) new men and new-new men were likewise more likely to form cambio banking partnerships with each other than with upper classes, presumably in response to fewer opportunities extended to them by the upper classes. A two-tiered segmentation of companies within the domestic-banking industry therefore developed—an upper-class tier of popolani and magnates, which integrated international-merchant and domestic-banking businesses into partnership systems, and a middle-class tier of new men and new-new men, carrying on the traditional domestic banking.

The most striking information contained in table 6.8 is the inversion of the occupational experience ordering of the popolani before and after the Ciompi revolt. In the

pre-Ciampi guild logic, high-status popolani were also more occupationally experienced, on average. These were entrepreneurs: founding, owning, and running their own companies. In sharp contrast, after the Ciampi revolt, popolani surprisingly descended to the bottom of the occupational experience hierarchy. This did not necessarily mean that popolani had few years of experience in the industry. But it did mean that, whatever their own experience levels, popolani tended to partner with others of even more experience in the industry than themselves. No more reaching down to youngsters, except perhaps their own kin, in-laws, or clients. Instead they searched out and hired branch-manager partners who really knew the business and then turned over daily management of that business to them, with close supervision of course.

This is evidence not just for the evolution of organizational forms but also for the evolution of authority roles. Instead of senior partners doing the daily work themselves they delegated that to branch partners, assuming for themselves the role of investor-supervisor—something roughly akin to the actively monitoring of venture capitalists today.⁸² In addition to measuring clients, account books helped senior partners to keep tabs on their branch managers and to evaluate their relative performances from afar.

In the previous section I did not mention Padgett and McLean's negative finding (2011, 22) that social class was not a statistically significant determinant of commercial credit among companies in 1427. This is in contrast to the strong social-class basis of cambio-bank partnerships, just demonstrated. Putting these two findings together, economic relations across social classes were transposed from guild partnership before the Ciampi revolt to commercial credit after the Ciampi revolt. This bears an eerie resemblance to contemporary social-network developments in politics. Especially after the third conservative stage of 1393, victorious political elites closed in on themselves within oligarchic-republican institutions like *balie*, *Mercanzia*, and *consulte e pratiche*, even as they absorbed lower-class supporters into the Priorate through clientage and marriage. In economics they did something similar—social closure through partnership, but social openness through commercial credit. In both the economic and political domains, elite control was increasingly exercised not directly but from behind the stage of active daily decision-making by others.

⁸² Cf. Gompers and Lerner 1999.

Popolani Mixed-Kinship Banks

How did these mostly popolani cambio bankers reconstruct their Florentine domestic banks to link into and indeed to become central nodes within their partnership systems? Table 6.9 gives over-time data on the differential kinship character of cambio banks that participated in partnership systems with both international and domestic activities versus cambio banks that did not. “Not” means those traditional domestic bankers who maintained their guild roles as deposit bankers and money changers, in the parlance of the day called *banchieri*, *cambiatori* or *tavolieri*.⁸³ The first half of table 6.9 subdivides cambio banks (actually partner-years of cambio banks) into (a) whether the bank had only a single owner, (b) whether the partners all came from the same family (nuclear or patrilineage), (c) whether they came from a mixture of same family and nonfamily backgrounds, or (d) whether they all came from different families. The second half of the table records whether this kinship modality of cambio banks affected participation in international trading, above and beyond normal domestic deposit-bank business.

The message in table 6.9 is the growth in importance, after the Ciompi revolt, of the mixed-kinship or hybrid type of cambio bank. In raw numbers, the percentage of partner-years involved in the mixed type of cambio bank rose from 17 percent before Ciompi to 31 percent in 1427. More important to us, the likelihood of partners in such mixed-form banks engaging in international trading rose from 26 percent before Ciompi to 40 percent in 1427. Always the mixed form was more likely to engage in international trading than family or nonfamily cambio banks, but this differential grew after Ciompi. The key point is this: At the nodal center of the new partnership systems lay cambio banks that had been restructured through blending family (patrilineage) and nonfamily (guild) logics into hybridized economic headquarters.

These internal organizational developments can be illustrated perfectly with the Medici banks. As can be seen in more detail in Padgett and McLean (2006, 1549-50), the original Medici bank of Vieri di Cambio de' Medici started out as a domestic cambio bank, which had been founded in 1349. Before 1380, that successful cambio bank had been built entirely on the basis of non-family partnerships with many social classes, in classic guild manner. In 1382 or 1384 for the first time, however, Vieri di Cambio built his partnership

⁸³ LaSoursa 1904; Usher 1943; de la Roncière 1973; Goldthwaite 1985.

system by using his distant nephew (and past apprentice) Francesco di Bicci de' Medici both to diversify internationally into Genoa and to make his domestic bank into a mixed-family form. Francesco's brother Giovanni di Bicci soon followed as partner-cum-branch-manager of Vieri's new Rome branch in 1385. After 1382, even the meaning of "nonfamily" partner changed: for example, one of Vieri's domestic banking partners, Niccolò di Riccardo Fagni, married Vieri's sister Cilia in 1399 after her first husband and Vieri had died.

The timing of these economic system-building moves was not accidental: Vieri was very active in Ciompi and post-Ciompi politics. Like the classic guildsman that he was, Vieri participated heavily in his own Arte del Cambio guild, serving as consul seven times before the Ciompi revolt. Despite his long years of guild service, however, Vieri never attained the exalted levels of the Mercanzia or the Priorate until after the Ciompi revolt—in 1383 and 1392, respectively. This institutional elevation was status recognition of Vieri's very active Ciompi and post-Ciompi involvement in the political reconstruction of the republic: Vieri was a member of every one of the reforming *balie* in our data set (1378, 1382, 1384, and 1393). Leading up to the Ciompi revolt, Vieri di Cambio de' Medici had been a conservative leader of the Parte Guelfa, clearly aligned with the Albizzi faction and personally involved in anti-Ghibelline persecutions.⁸⁴ Despite his undoubted personal conservatism, Vieri served on the revolutionary 1378 *balia* under the leadership of his firebrand cousin Salvestro d'Alamanno de' Medici.⁸⁵ In reward for this service the Ciompi regime knighted him in 1378.⁸⁶ Even as late as 1393, artisans in street battles appealed futilely to Vieri, and to his cousin Michele de' Medici, for leadership.⁸⁷ This contradictory political behavior by Vieri can only be understood in the context of the cross-cutting social-network position of the Medici family itself.⁸⁸ To call Vieri a "political moderate" is too simple, but he clearly operated on both sides of the fence, whatever his own conservative views. His cross-cutting network position pushed Vieri late in life into a position of inventive leadership within both the republican state and economic partnership systems.

These points could be illustrated at even greater length by the more famous Medici bank of Giovanni di Bicci and Cosimo di Giovanni, which descended from Vieri di Cambio,

⁸⁴ Brucker 1962, 204, 340, 343n.

⁸⁵ Anonimo Fiorentino [1389] 1876, 505.

⁸⁶ Stefani [1385] 1903, 324.

⁸⁷ Brucker 1977, 141n.

⁸⁸ Brucker 1957; Padgett and Ansell 1993.

but de Roover (1966) has already done that job. The only aspect of that later famous Medici bank I would like to highlight here is their increased reliance on a higher social class of general and branch managers. In the early Medici bank of Vieri di Cambio, only 30 percent of the nonfamily partners had been either popolani or magnates. In the later Medici bank of Giovanni di Bicci and Cosimo di Giovanni, 64 percent of the nonfamily partners before 1427 were popolani or magnates.⁸⁹ In 1413 Cosimo himself married into the Bardi family of his bank's general managers. These changing personnel policies of the two Medici banks were quite consistent with overall trends in Florentine banking during the Albizzean republican era.

The popolani economic behavior of constructing mixed-kinship forms of cambio banks at the peak of one's career was consistent, I suggest, with the social behavior of any popolani patriarch—supporting through patronage and generosity one's own kin, in-laws, friends and neighbors⁹⁰ in pursuit of the honor and glory of the patrilineage one leads. This generalized *padrone* role came to be gradually well-known within Florentine elite circles during the Renaissance.⁹¹ What was new in this role, right after the Ciompi revolt, was the combination of this behavior from the kinship domain with behavior in the economic domain, thereby displacing the previously dominant role of guild master. First the cross-network relationship between banking and politics was rewired, and then the cross-network relationship between banking and kinship was rewired, locking in the first so tightly that it operated almost automatically. To be a calculating merchant and to be a generous patriarch-patron were no longer so distinct: a merchant was a patron, and a patron was a merchant.

Open Elite?

Throughout this study and throughout the historiography on the Florentine Renaissance, there has lurked the recurrent interpretative dilemma of oligarchy versus republicanism. On the one hand, there is plenty of evidence to support the oligarchic interpretation: After the Ciompi revolt, popolani elites took over backstage political institutions, even as they opened up election to city council. Clientage was the new method of elite control over the Priorate. And economically, socially elite popolani families moved

⁸⁹ de Roover 1966, 377-78.

⁹⁰ Klapisch-Zuber 1985, 68-93.

⁹¹ Alberti [1433] 1971.

into a position of dominance over newly created partnership systems, even though those systems distributed commercial credit widely. It is easy to see the force of Najemy's resolution of this interpretative dilemma: namely, that republican "consensus" was a sham to legitimate reconsolidated elite domination. My economic data on partnership, indeed, support Najemy's (and Molho's) view.

On the other hand, on balance I lean more toward the republican interpretation. How can that possibly be? Padgett (2010) presented extensive data to show not only that across two centuries popolani families married very widely across social classes but also that their social openness in marriage was at its peak in the supposedly oligarchic period under discussion. Therefore to say that economic and political elites were reorganizing themselves around high social-status popolani marriage (a true statement) is not to say that these elites were exclusionary in the core networks that constituted themselves. Political and social co-optation was not a sham. It reorganized the very elites doing the co-opting. The openness of Florentine elite families to organizational and social-network change was the secret to their resilience across tumultuous history. Out of conservative motivations they adjusted their networks, thereby unintentionally reconstituting themselves.

Padgett (2010) also presented data on the consequences of political and economic co-optation for Florentine kinship. Over two centuries, generations of Florentine middle-class parvenu mimicked and absorbed the patrilineage kinship model of their social superiors, thereby extending the social reach of this patriarchal ideal. During the same time, however, the magnate citadel of this patrilineage model of kinship collapsed. The Florentine middle classes, in other words, increasingly imitated an upper-class kinship ideal (exemplified by magnates) that was in serious demographic decline. It was not as much upper-class families that emerged victorious, as it was the upper-class-family ideal, which diffused downward to parvenu. This ideal transformed middle-class families that aspired to it. Evolution of Florentine families during the Renaissance is yet another example of the mantra of our book: In the short-run, actors create relations; in the long-run, relations create actors.

"Republicanism" is open; "oligarchy" is closed. The Renaissance Florentine resolution to this contradiction, I suggest, was a politically and socially open elite that conceptualized itself as purer and higher than the rest of humanity. It was not only the older

popolani elite that found this vision of merchant-plus-citizen-plus-patron (the cultured and generalist “Renaissance man”) attractive to walk toward.

All of this system building and political reorganization added up to great wealth for Florentine bankers. Padgett and McLean (2006, 1536) document a progressive increase in the wealth of domestic bankers, relative to upper levels of the population as a whole, from 1351 to 1378 to 1403 to 1427, especially among the upper reaches of bankers, before its decline in 1460 after the period of our study. Coupled with the transformation in multiple social identities that produced this wealth, great wealth for Florentine bankers as individuals also translated into wealth for all artists and clients they now sponsored. Perhaps we need not belabor the point that the artistic inventions traditionally associated with the onset of the Renaissance—for example, the new linear perspective of Brunelleschi, Masaccio, and Donatello—are dated around 1400, the terminus of the twenty-year banking and political consolidation that is analyzed here. The creation of great wealth and social-network patronage are the links between the well-known artistic story of the Renaissance and our own economic-political account.⁹²

CONCLUSION

Despite the fact that Renaissance Florentines invented financial capitalism and much else that we associate with modernity, Paul McLean and I agree with contemporary historians who stress the traditionalist *mentalité* of the era. Florentines were too drenched in concerns with family, marriage, status and clientage, not to mention the ever looming threat of early mortality,⁹³ to appear cognitively to be very much like us, even though they frequently did things that were like what we do. Social science efforts to impose modernist models of ourselves on the past do violence to our comprehension of that past. More important, they lead us to miss the opportunity to learn what the ancients have to teach us, about social science among other things. Listening to—not testing preconceived ideas about—the past is how to learn.

Vasari ([1550] 1991) and Burckhardt ([1878] 1990) created the concepts of individual genius and Renaissance to explain the remarkable achievements of late medieval Florence.

⁹²Cf. Kent 2000.

⁹³ Cohn 2002.

But if we try to listen to the Florentines of the past through systematic sifting of their voluminous records, then we can learn about those achievements' institutional and social-network dimensions, which do not speak straightforwardly to us in words. What those aggregated thousands of archival voices have told us, albeit in our own descriptive language, not in theirs, is transposition, refunctionality, and catalysis. Organizational inventions (as opposed to innovations) are transpositions of relational logics from one domain to another, which attain new purposes in the new domain, whose reproduction is positively reinforced to the point that it alters interactions among others in the new domain. Florentine inventions were more than good ideas. They were discontinuous system tippings, rooted in reproductive feedbacks among dynamic multiple social networks. This process explains how genesis and path-dependence historically go hand in hand.

Transposition, refunctionality, and catalysis are “network folding” mechanisms that collectively produce organizational inventions. Important as Renaissance Florence is in its own right, the discovery of these mechanisms is a theoretical contribution beyond even this paradigmatic case because it opens the black boxes of “stochastic process” and “genius,” the usual two nonexplanations of invention. In biology, life is the self-organization and reproduction of two forms of chemical flow: metabolic flow of food among species within generations and genetic flow of DNA within species across generations. Speciation is the reorganization and reproduction of these chemical transformations. This chapter has proposed an analogous perspective on the emergence of actors out of intersections of social-relational flows within a multiple-network architecture. “Metabolic flow” among organizations was operationalized as personal biographies. Biographies wend through organizations and transform the people flowing through them, usually into reproducing the roles and interests contained within those organizations. Not often but occasionally when catalyzed to do so, biographies and the people flowing along mobility paths tip their own self-regulation and transform themselves. “Genetic flow” was operationalized as organizational reproduction of relational logics. Selection in the multiple domains of markets, politics, and kinship lock in sets of relational logics that catalyze each other, not always optimally, through co-evolution. Interdependent “ways of doing things” usually require predictability in inputs and outputs collectively to function. But occasionally, the rewiring of old logics into new purposes opens a new trajectory for path-dependent system

transition. We look to transformational feedback between interlinked biographies, on the one hand, and the reproduction of relational logics, on the other, to analyze the poisedness of a multiple-network system either to equilibrational lock-in or to organizational tipping and invention.

Specifically, the Florentine invention of the partnership system was a hybridization of the two relational logics of patrilineage and guild through the means of political republicanism. Rechanneling the political biographies of guildsmen, after the guild system had been politically defanged, broke down the previous segregation of patrilineal logic in international business and guild logic in domestic business. And it blended modular guild partnership methods from domestic *cambio* banking into the patrilineal world of international trade. A decisive system-tipping move into politics (not entirely by choice) dramatically increased the number of Florentines eligible for and nominated to political office at the same time as selection procedures for those offices were centralized. The more or less direct effect in politics was an explosion of patron-client relations. Organizational change in economics was an indirect effect as the *padrone* role emerged in Florence to influence the partnership and credit logics of the upper tier of business as well. In kinship continued pressure on the patrilineage internally to differentiate may have been a third consequence, although that was also a long-term trend. All of these interlinked organizational changes were aspects of the emergence of a new style of elite—part businessman, part politician, part patriarch, part intellectual esthete—that we have come to call the Renaissance man. In network terms, we interpret this emergence as an expression of an underlying transformation in the core relational logics of the society from patrilineage and guild to marriage and clientage.

This chapter has focused more on mechanism than on structural preconditions. More research into the earlier period⁹⁴ is required to uncover the exact topology of the patrilineage-guild ensemble that tipped into the Ciompi revolt. But even at our current level of understanding, it is clear why Florence had a different evolutionary trajectory than did Venice and Genoa, the two most obvious comparative cases. Namely, even though the relational logic of patrilineage was similar in all three cities, the relational logic of guild was strong only in Florence.

⁹⁴ Cf. Brucker 1962; Najemy 1982; Padgett 2006.

Venice and Genoa had their own forms of economic invention, to be sure, but not in international finance or partnership systems. Patrilineage was pervasive everywhere within the elites of northern Italy,⁹⁵ but guild corporatism was politically weak in the comparison cities, depriving those cities of the guild half of the Florentine fusion. Perhaps related to this historical fact, neither city experienced the degree of social mobility-driven political turmoil that Florence did. Venice exhibited great stability in its legally closed aristocracy; hence it was known as the *serenissima* (most serene) republic. The corollary in Venetian banking of this almost caste-like political stability was a strict segregation between domestic deposit banking, in which the small number of specialized Rialto bankers excelled, and international banking, which was delegated to the Florentines.⁹⁶ Rich Venetian merchants were shippers and traders,⁹⁷ not mixed-mode merchant-bankers like the Florentines. And Genoa, like Florence before the Black Death, had deep and persistent factional feuds and civil wars based on patrilineage.⁹⁸ The corollary in Genoese banking of this intra-elite turmoil and distrust was a strong transactionalist focus, with economic actors on both the domestic and international levels spreading around short-term economic partnerships, investments and accounts among many alters to cushion risk.⁹⁹ In coarse-grained contrast to Venice on the one side and to Genoa on the other, post-Ciompi Florence appears to be relational and oligarchic with porous (because of co-optation) elite boundaries.

Besides the deep interconnection between organizations and elite networks, one final matter about which the Florentines can teach us is the perspectival construction of identity. As developed by Brunelleschi and Masaccio and explained by Alberti ([1435] 1991), visual perception of objects operates through linear perspective, in which the two-dimensional spatial arrangement of objects in a painting are artfully arranged to create the illusion of a third dimension—a line stretching from a focal-point location on the horizon in the painting back toward the viewer, which invites the viewer to movement into the painting. I believe that the partnership system, with its array of account books at its base, had a similar effect on the perceptions of Florentine businessmen. In a modularized partnership system, the senior owner is both inside (entrepreneur) and above (financier) his array of companies at the same

⁹⁵ Waley 1969.

⁹⁶ Mueller 1997, 3-32, 255-287.

⁹⁷ Lane 1967.

⁹⁸ Hughes 1975a, 1975b, 1977; Epstein 1996.

⁹⁹ Heers 1991, 77-80, 136-141.

time. The multiplicity of heterogeneous account books that he is forced to manage, keeping track of complex cross-flows of goods, finance, and credit, necessitated systematization and abstraction analogous to the arrangement of space in a linear-perspective painting.¹⁰⁰ Current accounts, which really were reified people and customers, were arrayed mathematically, with double-entry bookkeeping used to calculate the financial flows and the businessman's own line of movement, called profit. Businessmen always want to make money in some loose sense, as well as do other things. But the precision involved in "maximization of profits" over multiple streams of transactions is inconceivable without the array of cross-connected account books that lies at the base of the partnership system. In the sense of perception, the account books themselves induced the Florentine businessman to walk into this line of movement. More generally, I conclude that goals are our cognitive perspectives on the trajectories of flows, financial and biographical, to which organizational networks subject us in their processes of reproduction.

I end on this note of appreciation: innovation in the sense of getting someone to try something new is relatively easy. Invention in the sense of getting an entire system to tip into a new trajectory of evolution is extremely hard. Because of this, I salute both the *ciompi* and the forgotten 1382 moderates for helping make the Florentine Renaissance and in the very long run, part of us.

¹⁰⁰ Cf. Baxandall 1972.

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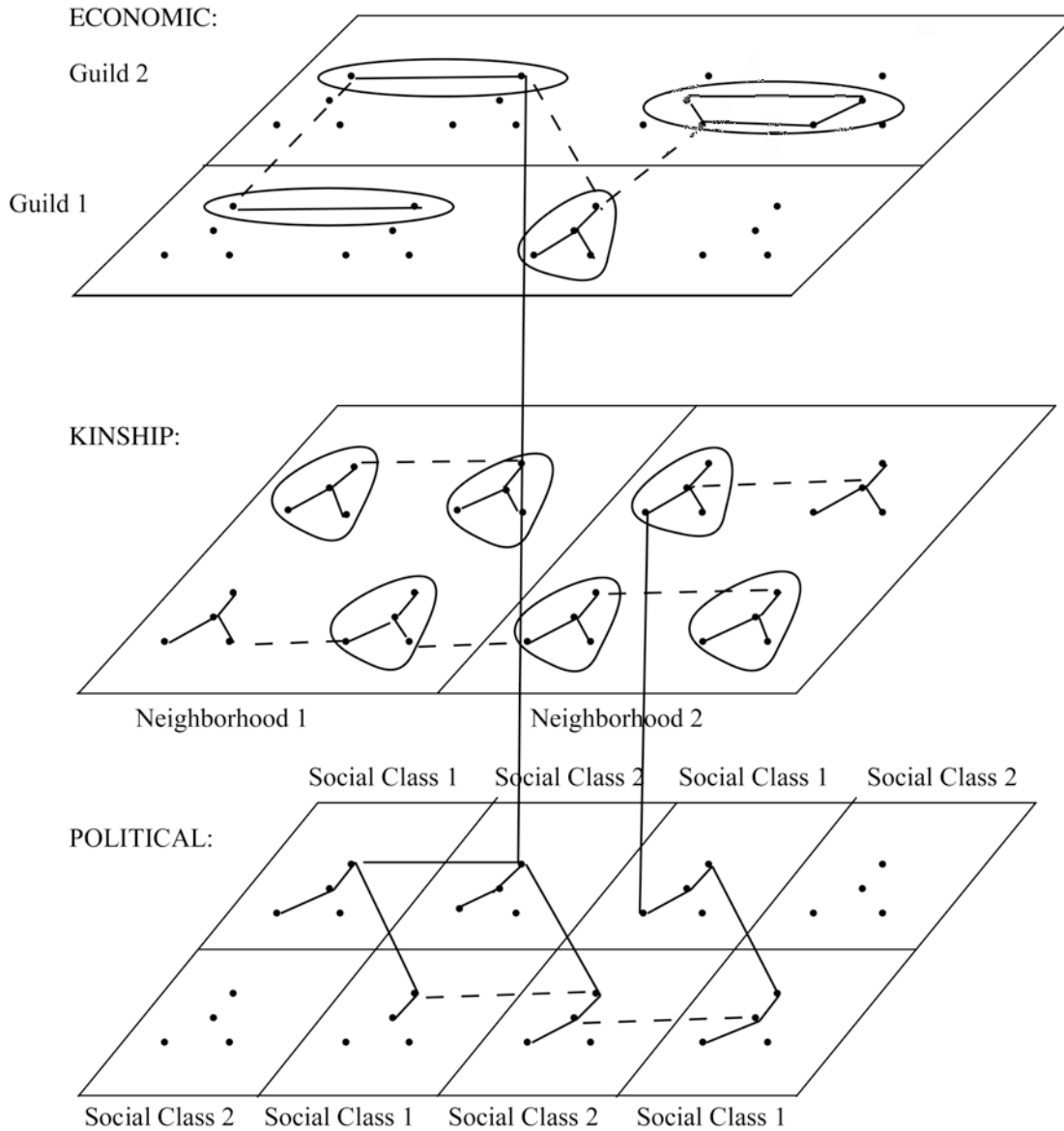
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Figure 1. Multiple-network ensemble Renaissance Florence



Note: (a) Solid lines are constitutive ties. Dotted lines are relational social exchanges. Oblongs are formal organizations (families and firms.)
 (b) People in multiple roles are vertical lines connecting corresponding dots in the domains of activity in which people are active. (Only two are shown for illustration.)

Figure 4. Number of Cambio Bankers, by Social Class, in 14th century

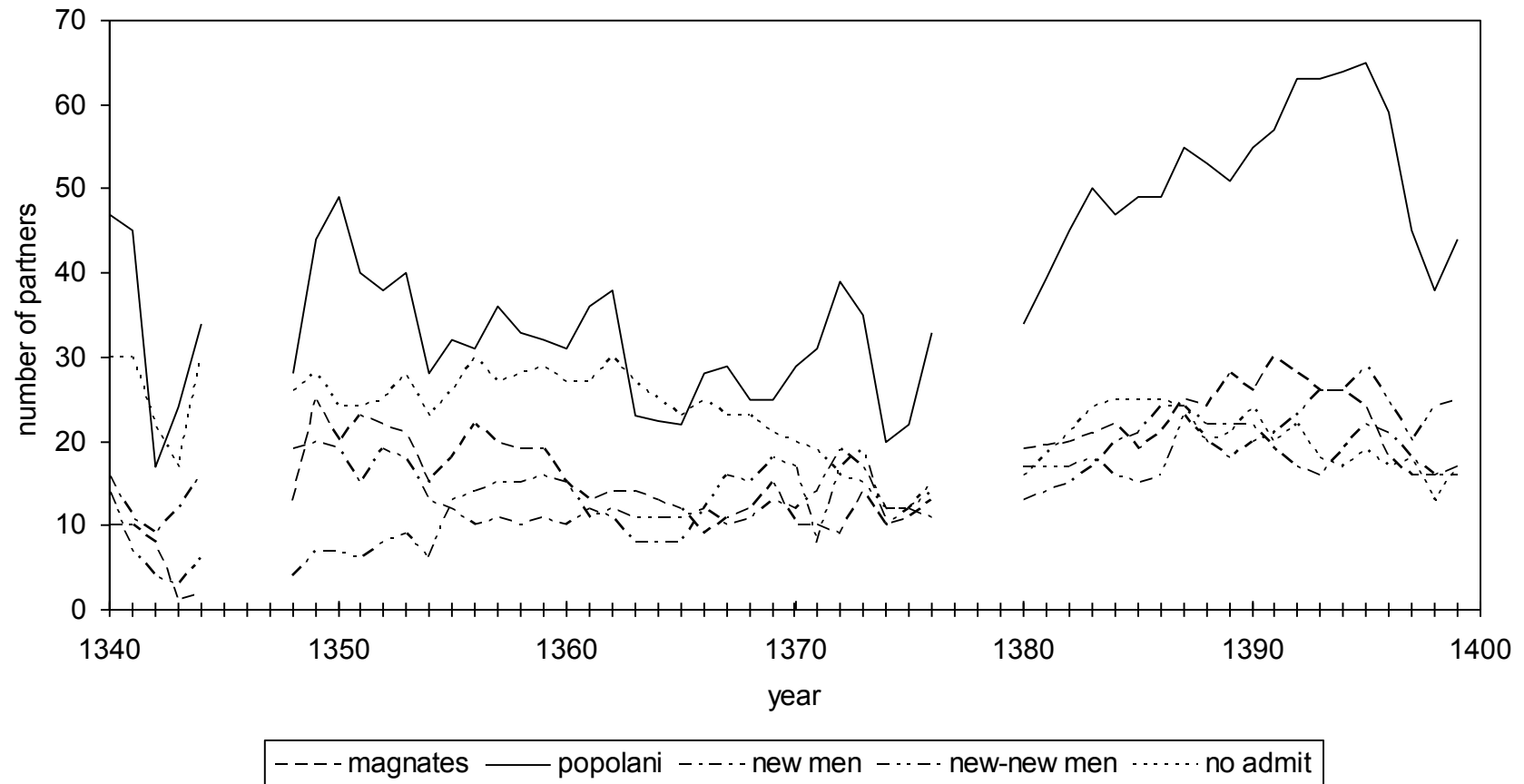


Table 6.1. **Industrial composition of 1385-99 partnership systems:**

# partnership systems	Int'l trading + cambio bnk	Int'l trading only	Int'l trading + wool mfct	Cambio bank + wool mfct
3+ partnerships	13 (11)	7 (4)	1 (0)	0 (0)
2 partnerships	11 (10)	9 (3)	3 (0)	3 (2)
Total	24 (21)	16 (7)	4 (0)	3 (2)

() indicates the number of centralized partnership systems.

Source: appendix A.

Table 6.2. **Social and Political Embedding of Businessmen in Multiple Companies**

Poisson regression coefficients over time:

	<u>Number of Industries</u>		<u>Number of Partnerships</u>	
	<u>Alberti int'l. 1348-58</u> + Cambio 1348-58 + Wool 1353	<u>Pisa 1369</u> + Cambio 1369 + Wool 1382	<u>Datini 1385-99</u> + Cambio 1385-99 + Wool 1382	<u>Catasto 1427</u> (all industries except 'other')
<u>Social Class:</u>				
Popolani	1.110	1.003	.342	.688**
Magnate	[collinear]	[collinear]	.608	1.030**
New Man	.718	1.465	.110	.007
<u>Social Class of Wife:</u>				
Popolani	.736	.541	.673**	.766***
Magnate	.559	.147	.365	.713*
New Man	1.722	.815	.497	-.079
<u>Political Office:</u>				
Priorate	-2.144	.054	-.288	.160
Calimala Consul	[-∞]	1.299	.985*	-.307
Cambio Consul	1.572*	2.691***	.198	-.341
Lana Consul	.907	2.389***	-.744*	.322
Mercanzia	1.909	-.993	-.345	-.470
Balia 1378			.408	
Balia 1382			-.234	
Reggimento 1382			-.574	
Balia 1384			.746*	
Balia 1393			-.200	
Reggimento 1393			.995**	
<u>Political Factions:</u>				
Albizzi	[-∞]	.523	.726	
Ricci	.602	1.178*	-.333	
Anti-ciompi			.331	
Pro-ciompi			-.818	
Albizzians				.095
Mediceans				1.371***
<u>Quarter:</u>				
Santa Croce	1.187	.068	-.217	.057
Santa M. Novella	.126	.520	-.345	-.169
San Giovanni	-.022	-.183	.042	.260

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

Log likelihood	-54.4	-79.2	-311.0	-287.1
# obs. (persons)	850	502	829	533
L.R. χ^2	17.31	88.6	79.3	93.9
prob > χ^2	.185	.000	.000	.000
pseudo R ²	.137	.359	.113	.141

Sources:

1. Numbers of industries and partnerships: see table 1 for list of sources.
2. Social class:
 - (a) Magnates: Lansing (1991: 239-242) records original patrilineage membership in 1293 and 1295. See Klapisch-Zuber (1988) for important qualifications about changing membership in this group over time.
 - (b) Popolani, new men and new-new men: defined by the date that an ancestor from patrilineage first entered Priorate, as recorded in A.S.F., *Manoscritti* 248-252. "Popolani" are defined by first date in priorate between 1282 and 1342; "new men" are defined by first date in priorate between 1343 and 1377; "new-new men" are defined by first date in priorate between 1378 and 1433. See Padgett and Ansell (1393: 1261) for a time-series plot of rates of new entry of families into the priorate, which makes obvious the discreteness of the political cohorts of families defined by these particular dates.
3. Marriages: recorded from multiple sources, but primarily A.S.F., *Manoscritti Carte dell'Ancisa* 348-361.
4. Political offices:
 - (a) Priorate: Newberry library copy of A.S.F., *Manoscritti* 248-252.
 - (b) Mercanzia: A.S.F., *Mercanzia* 129.
 - (c) Merchant guild consuls: www.stg.brown.edu/projects/tratte.
 - (d) Banking guild consuls: A.S.F., *Arte del Cambio* 12.
 - (e) Wool guild consuls: www.stg.brown.edu/projects/tratte.
 - (f) 1378 balia: Gherardi ([1389] 1876): 505.
 - (g) 1382 balia: Stefani ([1385] 1903): 394-96; later additions or *arroti* in A.S.F., *Balia* 17: 22.
 - (h) 1384 balia: A.S.F., *Arte della Lana* 46: 154-66.
 - (i) 1393 balia: A.S.F., *Balia* 17: 80-86, 105-107.
 - (j) Reggimento 1382: Ildefonso di San Luigi (1770): 125-260.
 - (k) Reggimento 1393: A.S.F., *Tratte* 357: 7-20.
5. Political factions:
 - (a) Albizzi and Ricci: Brucker (1962): no specific pages, narrative references throughout book.
 - (b) Pro-Ciompi and anti-Ciompi: Stefani ([1385] 1903):
 - (c) Albizzeans and Mediceans: Kent (1978: 1352-57).
6. Neighborhood, both *gonfalone* and quarter:
 - (a) 1351: A.S.F., *Estimo* 306.
 - (b) 1378: A.S.F., *Prestanze* 367-369, *Estimo* 268.
 - (c) 1427: A.S.F. *Catasto* 64-85.

Notes:

(1) Given that businessmen participated as partners in at least one company or industry (see table 1), the dependent variable is number (minus one, to fit Poisson format) of partnerships, or industries in the first two periods, that Florentine businessmen owned or participated in. "Number of Industries" is used as proxy for number of companies in 1348-58 and 1369 periods, because organizational systems, where companies were legally split into multiple partnerships, did not exist then. Nonetheless single unitary firms sometimes participated in multiple markets in these earlier times, at the low rates shown in table 1.

(2) On the independent variable side, only those marriages and political offices with dates prior to the last date of the logit regressions (i.e., 1358, 1369, 1399, 1427 respectively) are included in these estimations. Negative binomial regressions performed slightly better than Poisson regressions for the latter two periods, though the differences in estimated coefficients are quite minor. Nonetheless, Poisson regression were used throughout table 3 in order to preserve comparability across all four regressions. The first two regressions would not converge using negative binomial, due to the absence of fat tails (see table 1).

Table 6.3. **Political Mobilization of Cambio bankers and International merchants**A. Cambio Banking:

	% Bankers in:					% Partnerships in:				
	1348- 1362	1363- 1376	1380- 1389	1390- 1399	1427	1348- 1362	1363- 1376	1380- 1389	1390- 1399	1427
Governing offices of the state:										
Priorate	.254	.147	.262	.356	.272	.353	.376	.514	.587	.405
Mercanzia	.063	.043	.235	.244	.087	.057	.113	.436	.482	.108
Balie:										
1378 Balia			.027					.069		
1382 Balia			.040					.073		
1384 Balia			.154					.362		
1393 Balia				.106					.255	
Reggimenti:										
1382 Scrutiny			.248					.512		
1393 Scrutiny				.313					.605	

B. International Trading:

	% Merchants in:				% Partnerships in:	
	1348- 1358	1369	1385- 1399	1427	1385- 1399	1427
Governing offices of the state:						
Priorate	.297	.479	.167	.100	.263	.149
Mercanzia	.122	.028	.131	.100	.175	.108
Balie:						
1378 Balia			.012		.035	
1382 Balia			.024		.018	
1384 Balia			.083		.088	
1393 Balia			.048		.105	
Reggimenti:						
1382 Scrutiny			.107		.105	
1393 Scrutiny			.167		.228	

N.B.: On the left, these are percentages of businessmen on the identified political bodies. On the right, these are percentages of partnerships with at least one partner on the identified political bodies. For priorate and Mercanzia, time periods refer, for example, to “bankers active in 1348-62 who were ever on Priorate before 1362.”

Table 6.4. Political and Social Embedding of Cambio Bankers

Logit coefficients:	1348-62	1363-76	1380-89	1390-99	1427
<u>Patrilineage:</u>					
Cambio patrilineages	1.624^{***}	3.229^{***}	2.199^{***}	2.534^{***}	2.196^{***}
<u>Social Class:</u>					
Popolani	.267	-.765 ^{**}	-.008	-.388	.098
Magnate	.210	-.130	.347	-.138	.732[*]
New man	.815[*]	.106	.541	.483	-.003
<u>Social Class of Wife:</u>					
Popolani	.961^{***}	1.258^{***}	.689[*]	.660^{**}	1.836^{***}
Magnate	.022	-.550	.180	.008	1.113[*]
New man	1.595^{**}	1.799^{**}	1.437^{**}	.164	1.343[*]
<u>Political Offices:</u>					
Priorate	1.091^{***}	-.060	.339	.319	1.211^{***}
Mercanzia	1.021[*]	.835	1.486^{***}	1.219^{***}	.296
Balia 1378		.198	.185	.524	
Balia 1382		.081	-.394	.005	
Reggimento 1382		.669[*]	.231	-.625	
Balia 1384		2.658^{***}	1.622^{***}	1.283^{**}	
Balia 1393			-.756	-.354	
Reggimento 1393			1.192^{***}	1.694^{***}	
<u>Political Factions:</u>					
Albizzi	.234	-.548	-.131	-.158	
Ricci	.997 ^(*)	.122	-1.526	-1.230	
Anti-ciompi		1.289[*]	.503	.721	
Pro-ciompi		1.089[*]	-.474	-.517	
Albizeans					.564
Mediceans					1.405^{**}
<u>Quarter:</u>					
Santa Croce	.074	-.198	.331	.070	.372
Santa Maria Novella	.467	.796^{**}	.712^{**}	.606[*]	-.177
San Giovanni	.384	.313	.771^{**}	.597[*]	.477

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

Log likelihood	-576.7	-467.7	-574.2	-594.2	-416.1
# observations (persons)	5005	7129	7129	7129	8376
L.R. χ^2	138.2	250.1	299.1	342.9	180.8
prob > χ^2	.000	.000	.000	.000	.000
pseudo R^2	.107	.211	.207	.224	.179

Sources: See citations in table 6.2.

Notes:

(1) In each logit regression, the universe of persons to whom these cambio bankers were compared was the time-appropriate tax census (that is, 1351 *Estimo*, 1378 *Prestanze* or 1427 *Catasto*) of household heads, plus those household heads' fathers.

(2) Only those marriages and political offices with dates prior to the last date of the logit regressions (i.e., 1362, 1376, 1389, 1399, 1427 respectively) were included in estimations.

(3) "Cambio patrilineages" were patrilineages with three or more members in the cambio banking industry, during the time period in question.

Table 6.5. Political and Social Embedding of Merchant-bankers

	Alberti 1348-58 (Int'l+Pisa +Florence)	Pisa 1369 (Int'l+Pisa +Florence)	Datini 1385-99 (Int'l+Pisa)	Catasto 1427 (Int'l+Pisa)
Logit coefficients:				
<u>Patrilineage:</u> Int'l m-b patrilineages	2.287^{***}	2.964^{***}	2.937^{***}	2.098^{***}
<u>Social Class:</u>				
Popolani	-.665	-.375	.048	-.089
Magnate	-1.367 ^{**}	-1.413	-.352	-.060
New man	.392	-.113	.320	-1.492 [*]
<u>Social Class of Wife:</u>				
Popolani	1.368^{***}	.781	.821^{**}	2.333^{***}
Magnate	1.492^{***}	1.243[*]	-.431	1.579^{**}
New man	1.173	1.755[*]	.550	1.364
<u>Political Offices:</u>				
Priorate	.977^{**}	2.385^{***}	-.985 ^(*)	-.865
Mercanzia	1.581^{**}	-1.657	.730	1.675^{**}
Balia 1378		1.260^{***}	-.557	
Balia 1382		.128	.436	
Reggimento 1382		1.038^{**}	-.010	
Balia 1384		1.598^{**}	1.510^{**}	
Balia 1393			-.649	
Reggimento 1393			1.376^{**}	
<u>Political Factions:</u>				
Albizzi	1.431[*]	.983	-1.150	
Ricci	1.863^{**}	1.550[*]	.057	
Anti-ciompi		.529	.746	
Pro-ciompi		1.907^{***}	.028	
Albizeans				1.425^{**}
Mediceans				2.202^{***}
<u>Quarter:</u>				
Santa Croce	.396	.529	-.509	-.247
Santa Maria Novella	.487	.616	-.189	-.653
San Giovanni	.771[*]	.081	-.519	-.174

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

Log likelihood	-313.9	-257.9	-389.0	-321.6
# observations (persons)	5005	7129	7129	8376
L.R. χ^2	142.8	279.9	135.1	166.0
prob > χ^2	.000	.000	.000	.000
pseudo R^2	.185	.352	.148	.205

Sources: See citations in table 6.2.

Notes:

(1) In each logit regression, the universe of persons to whom these international merchant-bankers were compared was the time-appropriate tax census (that is, 1351 *Estimo*, 1378 *Prestanze* or 1427 *Catasto*) of household heads, plus those household heads' fathers.

(2) Only those marriages and political offices with dates prior to the last date of the logit regressions (i.e., 1362, 1376, 1389, 1399, 1427 respectively) were included in estimations.

(3) "International merchant-banking patrilineages" were patrilineages with three or more members in the international merchant-banking industry, during the time period in question.

(4) The first two of these regressions include merchant bankers whose companies were resident in Florence, as well as those whose companies were resident elsewhere (i.e., international + Pisa), because the primary data in these two periods did not differentiate residence well. Because of this, some of the overlap across industries, in these two periods only, is tautological.

Table 6.6. Political and Social Embedding of Cambio Banking Partnerships

Logit coefficients:	1348-62	1363-76	1380-89	1390-99	1427
<u>Patrilineage:</u>					
Nuclear family	8.273 ***	7.998 ***	6.296 ***	5.830 ***	4.006 ***
Patrilineage (excl. nucl.)	3.720 ***	2.435 ***	3.245 ***	2.966 ***	2.487 ***
<u>Marriage:</u>					
Nuclear inlaw partners	.851	1.055	2.888 ***	1.102 **	1.379 **
Patrilineage inter-marriage to Popolani	.684 *	-.602	1.566 ***	.382 (*)	.915 ***
to Magnates	.182 *	.300 **	.455 ***	.115	.014
to New men	-.215	-.184	-.331	-.626***	-.024
	.433 **	.680 ***	.036	-.594***	-.579
<u>Neighborhood:</u>					
Same Gonfalone	1.268 ***	.956 ***	.483 ***	.614 ***	1.129 ***
Same Quarter (excl. gonf.)	.384 ***	-.034	.270 **	.457 ***	.327
<u>Social Class:</u>					
Both Popolani	-.168	.018	-.099	-.028	.883 **
Both Magnates	-2.515***	.235	.315	-1.092***	1.240 *
Between Pop. & Magnates	-.317*	.113	-1.377***	.703 ***	1.006 **
Between Pop. & New men	-1.409***	-.446**	-.545***	-.600***	.288
Both New men	-1.293***	-.176	-.695***	.422 **	2.343 ***
Both New-new men			-.256	.211	.577
<u>Political Offices:</u>					
Priorate	-.100	.388 **	.340 ***	.124	-.138
Cambio Consuls	.414 ***	-.388***	-.348***	.008	.068
Mercanzia	-.528**	-.722***	-.146	-.068	.025
Balia 1378		.004	.152	.014	
Balia 1382		.353	-.198	.213	
Reggimento 1382		.181	.136	.016	
Balia 1384		.128	.181 *	.087	
Balia 1393			.384 ***	.286 **	
Reggimento 1393			.369 ***	.200 *	
<u>Political Factions:</u>					
Albizzi	-.435*	.762 ***	-.116	-.964**	
Ricci	.145	.874 ***	-.841**	-.552*	
Anti-ciompi		.113	-.327*	.152	
Pro-ciompi		.074	-.049	-.181	
Albizeans					-.037
Mediceans					-.161

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

Log likelihood	-3837.6	-2340.1	-3546.9	-4332.2	-628.3
# observations (dyad-year)	81,535	36,688	75,288	97,060	12,430
L.R. χ^2	3044.4	1306.1	1605.3	2173.6	349.0
prob > χ^2	.000	.000	.000	.000	.000
pseudo R^2	.284	.218	.185	.201	.217

Sources: See citations in table 6.2.

Notes:

(1) The (0/1) logit dependent variable equaled one if the dyadic partnership actually formed sometime in the time period in question, and it equaled zero if the dyadic partnership was possible but never formed in the time period in question. The universe of “possible partnerships” was constructed by dyadically crossing all cambio bankers who were observed to have been active as partners in the industry, solo or with somebody, during the time period in question.

(2) Only those marriages and political offices with dates prior to the last date of the logit regressions (i.e., 1362, 1376, 1399, 1427 respectively) were included in estimations.

(3) “Patrilineage intermarriage” was calculated on basis of existence of at least one intermarriage between patrilineages (excluding a direct nuclear inlaw) in the 30 years prior to last date of regressions.

(4) Political offices, factions, and marriages with social class were coded as (0/1/2), depending on the number of partners in the category in question.

Table 6.7. **Political and Social Embedding of Merchant-banker Partnerships**

Logit coefficients:	Alberti 1348-58	Pisa 1369	Datini 1385-99	Catasto 1427
<u>Patrilineage:</u>				
Nuclear family			5.138^{***}	3.865^{***}
Patrilineage (excl. nuclear)			3.591^{***}	2.058^{***}
<u>Marriage:</u>				
Inlaw partners			[-∞]	2.395[*]
Patrilineage inter-marriages to Popolani			[-∞]	.682^{**}
to Magnate			.056	-.152
to New Men			-.229	-.327
			-.753	-.391
<u>Neighborhood:</u>				
Same Gonfalone			.970^(*)	-.264
Same Quarter (excl. gonfalone)			.193	.619^{**}
<u>Social Class:</u>				
Both Popolani			.118	-.080
Both Magnates			.226	-.670
Between Pop. & Mag.			-1.337	.319
Between Pop. & New men			[-∞]	[-∞]
Both New men			.417	[no cases]
Both New-new men			[-∞]	1.485
<u>Political Offices:</u>				
Priorate			.347	-.161
Calimala Consuls			-.699	1.006[*]
Mercanzia			-.997	-.205
Balia 1378			[collinear]	
Balia 1382			.426	
Reggimento 1382			-.183	
Balia 1384			.073	
Balia 1393			-.595	
Reggimento 1393			.534	
<u>Political Factions:</u>				
Albizzi			.836	
Ricci			2.621	
Anti-ciompi			1.127	
Pro-ciompi			-1.478	
Albizeans				.130
Mediceans				.268

*** = (p < .001); ** = (p < .01); * = (p < .05); (*) = (p < .06)

Log likelihood	[insufficient	[insufficient	-275.1	-623.2
# observations (dyads)	data]	data]	13,366	7,260
L.R. χ^2			185.7	199.0
prob > χ^2			.000	.000
pseudo R^2			.252	.138

Sources: See citations in table 6.2.

Notes:

(1) The (0/1) logit dependent variable equaled one if the dyadic partnership actually formed sometime in the time period in question, and it equaled zero if the dyadic partnership was possible but never formed in the time period in question. The universe of “possible partnerships” was constructed by dyadically crossing all international merchant-bankers who were observed to have been active as partners in the industry, solo or with somebody, during the time period in question.

(2) Only those marriages and political offices with dates prior to the last date of the logit regressions (i.e., 1362, 1376, 1399, 1427 respectively) were included in estimations.

(3) “Patrilineage intermarriage” was calculated on basis of existence of at least one intermarriage between patrilineages (excluding a direct nuclear inlaw) in the 30 years prior to last date of regressions.

(4) Political offices, factions, and marriages with social class were coded as (0/1/2), depending on the number of partners in the category in question.

(5) $[-\infty]$ means “independent variable = 1 predicts partnership = 0 perfectly,” so variable dropped from logit regression.

Table 6.8. **Relative Experience of Non-family Cambio Banking Partners (including non-family subset of mixed companies)**

1348-1376:

More Experience:	Less Experience in Cambio Banking:						%MExp.> LExp.	More Experience:	Less Experience:					
	P	NM	NNM	M	ND	Total	P		NM	NNM	M	ND	Total	
Popolani	191	49	56	78	157	531	+ .424	Popolani	0	+	+	++	++	+++
New Men	36	13	17	45	52	163	+ .716	New Men	-	0	+	+	+	++
N.N. Men	38	4	52	22	40	156	+ .083	N.N. Men	-	-	0	+	+	+
Magnates	27	6	12	26	60	131	- .388	Magnates	--	-	-	0	+	--
No Date	81	23	7	43	100	254	- .379	No Date	--	-	-	-	0	---
Total	373	95	144	214	409	1235		Total	---	--	-	++	+++	

1380-1399:

More Experience:	Less Experience in Cambio Banking:						%MExp.> LExp.	More Experience:	Less Experience:					
	M	NM	ND	NNM	Pop.	Total	M		NM	ND	NNM	Pop.	Total	
Magnates	13	17	29	18	131	208	+ .518	Magnates	0	0	0	0	++	++
New Men	8	16	25	55	65	169	+ .174	New Men	0	0	0	+	0	+
No Date	30	22	36	6	99	193	- .045	No Date	0	0	0	0	0	0
N.N. Men	17	27	15	24	82	165	- .098	N.N. Men	0	-	0	0	0	-
Popolani	69	62	97	80	240	548	- .110	Popolani	--	0	0	0	0	--
Total	137	144	202	183	616	1283		Total	--	-	0	+	++	

N.B.: “+” $\equiv [(i,j) - (j,i)] \geq 10$; “++” $\equiv [(i,j) - (j,i)] \geq 50$
“-” $\equiv [(i,j) - (j,i)] \leq -10$; “--” $\equiv [(i,j) - (j,i)] \leq -50$

Source: A.S.F. *Arte del Cambio* 14.

Table 6.9. Family Types of Cambio Banking Partnerships

A. Aggregate percentage distribution:

	Solo	Family	Mixed	Non-family	Total
1357-1366	.265	.159	.177	.399	1.00
1367-1376	.325	.171	.173	.332	1.00
1380-1389	.275	.153	.190	.382	1.00
1390-1399	.254	.173	.217	.357	1.00
1427	.152	.161	.312	.375	1.00

B. Percentage also in other merchant-banking activities or partnerships:

	Solo	Family	Mixed	Non-family	Total
1357-1366	.078	.239	.266	.107	.149
1367-1376	.094	.130	.264	.134	.143
1380-1389	.090	.095	.350	.123	.153
1390-1399	.096	.125	.316	.268	.210
1427	.118	.333	.400	.190	.269

Source: Annual cambio bank censuses, plus 1427 catasto.

Notes:

1. Unit of analysis is partner-year.
2. "Solo" defined as company with only one owner. "Family" defined as company with all partners in the same nuclear or patrilineage (= 'same last name') families. "Non-family" defined as company with all partners in different families. "Mixed" defined as company with some partners in same family, but also with some other partners from different families.
3. For overlaps of cambio banking with other industries/companies, 1357-66 and 1367-76 periods use "merchant banker" to be 1369 Pisa list – hence the word "activities" in the title. 1380-89 and 1390-99 periods use Melis' Datini list of partnerships. 1427 uses industry = 1,2,3 in catasto. Starting date of 1357 chosen to make 1357-76 period comparable (20 years) to 1380-99 period.