

**Elite Transformation and
the Rise of Economic Credit in Renaissance Florence¹**

John F. Padgett
University of Chicago and Santa Fe Institute
jpadgett@midway.uchicago.edu

and

Paul D. McLean
Rutgers University
pmclean@rci.rutgers.edu

July 2002
Revised August 2003

currently in revise & resubmit status at [American Journal of Sociology](#)

word count = 21,871 without footnotes; 28,371 with footnotes

¹ The authors gratefully acknowledge a series of small grants from the Social Science Division of the University of Chicago, which helped in the collection of data, and a substantial grant from the Hewlett Foundation, which funds John Padgett's and Walter Powell's "Co-evolution of States and Markets" program at the Santa Fe Institute. SFI is the intellectual and research home of this project; we deeply appreciate its support over numerous years. David Sallach and Nick Collier, until recently at the Social Science Research Computing Center at the University of Chicago, kindly offered the gift of their services in helping to organize the data into relational database format. We have received helpful comments on an earlier draft of this article from Bruce Carruthers, Sam Cohn, Anna Grandori, Bruce Kogut, Alessandro Lomi, Woody Powell, Bill Sewell, Brian Uzzi, and especially from Richard Goldthwaite.

Abstract

Two of the crucial elements of modern capitalism – the development of current accounts and the rise of the limited liability partnership – arose in Florence in the late fourteenth century. These were related to an increased reliance on inter-company credit. Based on unprecedented primary-source statistical materials, we argue and document that organizational innovations in credit and in partnership were the economic sides of a deep and multifaceted transformation in elite networks and elite self-conceptions in the aftermath of the Ciompi revolt of 1378. Not just in economics, but also in politics and to some extent in the family as well, the rules of organizational and network formation in Florence were transformed from a late-medieval logic of patrilineage and guild to a Renaissance logic of patronage, marriage, and *amicizia* or friendship. Because both markets and economic actors are socially embedded, they are transformed as the multiple social relations and exchanges out of which they are constituted change through history.

INTRODUCTION

Not without reason is late medieval and early Renaissance Italy regarded as a critical time and place for the development of capitalism. Italian merchant-bankers virtually controlled and organized European international trade between roughly 1250 and 1500. While the Venetians and the Genoese for the most part controlled shipping, it was the Florentines who dominated international finance. Furthermore, although woolen and silk textile production was more geographically dispersed, the Italians, and especially the Florentines, became central participants in those industries: as suppliers of raw materials, and as producers and distributors of finished cloth.

Undoubtedly a key element of the Florentines' widespread and dominant economic success was the extension of *credit*, both commercial and personal, to each other. As the great economic historian Raymond de Roover noted (1944, p. 381), "A French satirist, in the fifteenth century, marveled at the ability of the Italians to do business without money. In dealing with them, he said, one never sees or touches any money; all they need to do business is paper, pen, and ink." Credit, and the notion of 'honor' upon which credit was based, was crucial in other domains of Florentine creativity as well: in fatherhood and friendship (Alberti [~1430] 1971, Trexler 1980), in politics (Brucker 1969, Najemy 1982), and in art (Baxandall 1972). But in the economic domain, credit was at the heart of business-exchange activity and growth. After centuries of medieval feuding and factional violence, in Florence as in other northern Italian cities (Waley 1969), the collective Florentine switch from inter-family violence to economic trust was no mean accomplishment, perhaps with lessons for us today.

The overarching argument in this article is that revolutionary Florentine innovations in business technology – in particular, the rise in the 1380s and 1390s of current accounts in credit and of limited-liability partnership in organizational form – were not techniques that can be understood through economics alone. These were the economic faces of a deeper set of social and political transformations in the meanings and generative rules of multiple social networks, which were taking place throughout Florentine society during the transition from the late Middle Ages to the Renaissance. In republican Florence, merchant-bankers were not just businessmen; they were politicians, patrons, friends and fathers as well.² In the domain of politics during this same time, merchant-bankers acting in their roles as politicians, not in their roles as businessmen, helped to construct an oligarchic republican regime, under which clientage exploded as a new type of politics (Brucker 1969, 1977; Molho 1968b). In the domain of kinship, merchant-bankers acting in their roles as fathers gradually restructured their own patrilineages from the solidaristic, even militaristic *consorteria* form of their medieval roots (Lansing 1991) to the looser, more hierarchical form of the Renaissance family (Goldthwaite 1968, Kent 1977).³ Political clientage, commercial loans and *parentado* marriage were distinct social relationships in Renaissance

² More precisely, the percentage of 1427 merchant-bankers who eventually served at least one term on city council was 39.7%. (This is not different from the global percentage of 41.0% for all of the 1427 businessmen in our dataset.) Conversely, banking usually was not a life-time occupation. During the 1348-1395 period for which we have complete data (*Arte del Cambio* 11, 14), the average number of years a banker was a banker was only 8.21 years.

³ This looser patrilineal model then diffused throughout the Florentine middle classes to an extent that the older elite *consorteria* model never did (Cohn 1988, 1992).

Florence. But they became causally linked, we argue, through being similarly rooted in new generative rules for building social relations in general – via credit, friendship and honor.

The master cultural trope or frame within which these parallel relational transformations occurred was *amicizia*, or friendship. The word and the ideal of friendship (and of its opposite, *nemico* or enemy⁴) were pervasive in Florentine economic and political correspondence (McLean 1996). *Amicizia* is frustratingly imprecise for those, like us, seeking measurement. But the very plasticity of the word was its power. Many Renaissance social, economic, and political obligations were interpreted and negotiated, through letters and through speech,⁵ within this new cultural frame. Via this framing, economic credit during the Renaissance became deeply personalized and relational, like personal friendship. The flip side was that personal friendship became instrumental, like economic accounting (Weissman 1982, p. 40). *Amicizia* supplemented without displacing the older kinship tropes of *padre* and *famiglia*. But it did effectively displace the alternative principle of guild, the political power of which was repressed after the Ciompi revolt (Najemy 1972, 1982).

Ultimately we shall argue that the motor driving the formation of these new basic social-organizational building blocks was politics – in particular, the reactions of the victorious counter-revolutionary elite, both intentional and unintentional, to the 1378 Ciompi revolt. The Ciompi revolt itself was the product of many forces, some of them economic; hence, in a broader view, causal feedback between politics and economics in Renaissance Florence was a two-way street. In this paper, however, we bracket the explanation of the revolt itself and focus instead on the economic and social consequences. In response to the revolt, merchant-bankers and their allies refashioned their political, social and economic relations – and their own identities in the process (Baron 1966, Trexler 1980). New norms trickled down through society through the congealing of a multifunctional open elite, which restructured (and restricted) the channels of social, political and economic mobility that co-opted new men into high status (Najemy 1982, Padgett 2001). Once in place, these norms channeled the cascading of Florentine organizational innovation in one domain into Florentine innovation in other, apparently unrelated domains.

This argument will be developed in the following stages. First, we shall provide textual evidence about the micro foundations of commercial credit in Renaissance Florence, both in accounts and in letters. Second, we shall describe our massive and unprecedented quantitative data on commercial credit in Florence in 1427 and provide descriptive statistics that measure industrial patterns and magnitudes of that credit. Third, we shall present statistical evidence about the social embeddedness of Florentine credit and partnering relations, based on logit regressions that measure the association between these ties and a wide variety of social and political networks and categories, any of which could have provided the social lattices for economic relations to grow on. Finally, we shall explain the historical emergence of this 1427 economy out of the Ciompi-revolt politics of the late fourteenth century. The theoretical purpose of this historical account is to show how the dynamics of multiple social networks, in autocatalytic feedback, can generate tipping and the sudden production of new institutions, new markets, and new actors.

⁴ See Weissman (1982) and Kent (1978) for insightful discussions of enmity and agonistic hatred in Renaissance Florence.

⁵ Political speeches are recorded in the *consulte e pratiche* advisory boards to the city council.

MICRO FOUNDATIONS

On-the-ground impressions of commercial credit in Renaissance Florence depend somewhat upon documentary source. Account books present the systematic and the formal sides of credit. Careful documentation of transactions and the mathematical precision of double-entry bookkeeping are the central features of Florentine commercial credit in evidence there. Contemporary business letters, on the other hand, present the opportunistic and the informal sides of Florentine credit. Particularistic discussions both of personal character (*honor/onore*) and social norms and of transient opportunity and luck are common there. Modernist eyes are prone to see the conjuncture of these two aspects as a paradox – expecting a contradiction between the impersonal world of the idealized market and the personalistic world of pre-modern times. The Florentines themselves, being simultaneously sophisticated capitalists and deeply embedded in social networks, saw no such contradiction. Credit to them was neither personal nor impersonal; it was both. As in anthropological social exchange (Mauss [1923] 1990, Strathern 1971), credit was the constitutive medium through which Florentines built ongoing social and economic relations with each other, to make money, status, and power. Unlike primitive tribes, however, Florentine businessmen invented formal and mathematical techniques of accounting for those exchanges and relations. These techniques transformed the means and even the goals of their business.

Because they were so thoroughly mercantile, Renaissance Florentines were remarkably numerate, down even to the level of artisans (Goldthwaite 1980, Grendler 1989, Cohn 1999, p. 39). Double-entry bookkeeping is a calculation algorithm, which ensures that “the books” (that is, credits and debits) balance, which aggregates information into synthetic summaries, and which calculates profit. This accounting technology first emerged, apparently independently, in a number of locations in northern Italy (Siena, Florence, Genoa) in the early 1300s, within the large family-based trading companies of the time (de Roover [1956] 1974). The first unambiguous surviving example dates from 1340 in Genoa. The most transparent and easy-to-calculate form of double-entry bookkeeping was the bilateral or tabular format, in which all the debts and credits of each person or company were assembled into a single account, recorded usually on facing pages. “The tabular or bilateral form did not win general acceptance in Tuscany until late in the fourteenth century” (*ibid.*, p. 143).

From the perspective of credit, double-entry bookkeeping *per se* is not as significant as the account – the relational unit at the foundation of bilateral double-entry bookkeeping. Before the 1380s, Florentine accounting was transaction oriented, not relational. In the 1200s, account books were just paragraph lists of uncompleted transactions and their eventual resolutions. By the late 1200s, more sophisticated “split account” formats developed, with debts and credits recorded twice in different parts of the books, with elaborate cross-referencing. Except for family members and employees, each transaction was handled separately.⁶ Relational accounting only developed in the late 1300s with external⁷ “current accounts” (*conti correnti*) among merchant-bankers and with

⁶ Referring to the Alberti accounts of 1348-58, Goldthwaite et al. (1995, p. 113) write: “Accounts with other firms or outside persons were opened, for the most part, for single transactions. If later a client presented himself another time, the accountant of the Alberti preferred to open new accounts.” (translation by McLean)

⁷ “External” meant “beyond family members and employees.” The mid-Trecento Alberti accounts were formally separated into *conti interni*, which were current accounts for family members and employees only, and *conti esterni*, which were transaction-specific (and cross-referenced) credit accounts for external trading partners.

“accounts for use” (*conti di esercizio*) between merchant-bankers and textile manufacturers.⁸ Current accounts and use accounts were essentially open-ended loans or ‘floats’, in which ongoing trading partners could charge their own transactional activity to financial accounts each held within the books of the other, expecting debts and overdrafts to cancel over time.⁹ Interpreted anthropologically, current accounts were like reciprocal gift-giving, with monetary ‘settling up’ only occurring episodically, if at all. Profits accrued to both sides not primarily through interest, which was sinful,¹⁰ but through the business each side brought to the other (Richards 1932).

According to Melis ([1972] 1987), the first known example of a *conto di esercizio* is to be found in a Pisan account book of 1354-1370. In the late Trecento, *conti correnti* and *conti di esercizio* diffused throughout the Florentine business community, until by the early Quattrocento it became standard practice (Goldthwaite et al 1995, p. 103; Dini 2001, p. 97). At the international level, where different currencies become involved, current accounts were complex and internally differentiated entities involving four separate financial accounts – *nostro/our* and *vostro/your* accounts for each merchant-banking side of the ongoing economic relation (de Roover 1944). Essentially companies began to maintain permanent ‘bins’ with each other into which credits or debts could be placed on a continuing basis. By performing discretionary actions on behalf of the other, and recording these in the account of the other within one’s own book, both sides acted as agent for the other, economically ‘making’ each other. Renaissance merchant-bankers’ liquidity, their access to trade, even their personal reputation and honor were constructed through current accounts and the economic relationships manifest in them. Large volumes of capital and of goods flowed liquidly across national boundaries through these methods. Interpreted economically, principal-agent relations among merchant-bankers were symmetric, not asymmetric. Interpreted anthropologically, to do international trading and financial business in Renaissance Florence was to become enmeshed in and empowered by formalized “ropes of moka” (Strathern 1971).

These were the formal techniques through which Florentines dominated the international finance of their time, by “doing business without money.” The rise of the current account was temporally coincident with the birth of a new organizational form – centrally controlled networks of limited-liability partnerships, with legally independent branches (Melis 1962, 1991, de Roover 1966). This second Florentine business innovation, to be discussed below, may or may not have been connected causally to the current-account innovation in accounting,¹¹ but at the very least these reinforced each other.

Turning now to the second type of documentary source for illuminating the micro foundations of Florentine credit – letters of Renaissance businessmen to each other – surviving letter collections are uncommon but impressive when they exist. The massive and complete records of Francesco Datini, the famous “merchant of Prato” – over 100,000 letters (Dini 2001, pp. 204-6) – cover the late Trecento period (Origo 1957, Melis 1962). Datini’s correspondence with

⁸ The expression “pay it and post it to our account” (*pagare e ponete a nostro conto*) becomes a common feature of business correspondence in the 1390s (Frangioni 1994).

⁹ In today’s Italian Civil Law (Chapter 26, articles 1823-24) *il conto corrente* refers to a contract between two private parties in which no money is exchanged but rather in which reciprocal credits are recorded. We thank Alessandro Lomi for bringing this modern descendant to our attention.

¹⁰ De Roover (1966, pp. 10-14) points out that the Church’s policy of “no guaranteed interest” created incentives for trading to go international, because fluctuating currencies gave scholastically permissible risky returns.

¹¹ These are not usually discussed together by economic historians.

his branch in Milan has been published (Frangioni 1994). De Roover (1966) utilized unpublished Medici correspondence for his history of the Medici bank from 1397 to 1494, and Grunzweig (1931) published some of the mid-fifteenth century correspondence of the Bruges branch of the Medici bank. Richards (1932) published extensive excerpts from the late Quattrocento business correspondence of Giovanni Maringhi and others. Melis (1972) has published a collection of miscellaneous Tuscan economic documents, which includes letters. We have space here only to illustrate social norms and framings from these published sources. McLean (1996, 1998) provides an extensive social-cum-linguistic analysis of 869 political favor-seeking letters from the period.

One example of an extremely close economic relationship between two Florentine traders comes from the very end of the Quattrocento. On October 29, 1501, an independent Florentine sales agent residing in Constantinople named Giovanni Maringhi wrote to ser Niccolo Michelozzi, owner of one of the three wool-cloth manufacturing companies back in Florence with whom he traded regularly, as follows:

“You have me in your hands, as transparent as a mirror and as unclouded as a pearl; may it be all for the best; what you like will be convenient for me to like, and I am perfectly satisfied.” (Richards 1932, p. 137)

It is easy for moderns to dismiss this as mere rhetoric, of which the Florentines certainly were capable, but on March 29, 1502 Giovanni backed up this statement with something more convincing:

“I therefore assure you that all which I have or may ever have in this world will be theirs [that is, Niccolo’s childrens’]. After my departure from this world, everything I have will go to them and such is my desire and my will, because all that I have has come from you and all is due you. I recognize that I have everything from you, so everything is to be left both to you and to yours. I need only my expenses because I do not in any way desire a wife, ever. And I wish to live and to die in your house,¹² and this is said, once for all.” (ibid., p. 170)

This almost father-son sentiment, and the years of loyal behavior behind it, were rewarded in 1506 by ser Niccolo elevating Giovanni into formal economic partnership with himself and with Francesco di Giuliano de’ Medici.

Not all trading relationships in Florence were this intimate, of course. Nonetheless, Maringhi describes two other of his ongoing trading partners in these terms:

“We have received the aforesaid Lionardo Venturi [Neri’s son] as we would a brother and have treated him in every way as we should desire for ourselves; in the future we shall be proceed according to his merit. The favors rendered us by *maggiore* Neri Venturi are of a character such as to deserve that consideration for both of them; for as you say, I owe more to Neri in every way than to anyone else. Be assured that I have no less concern for Lionardo’s interests than I have for my own; and that daily we shall be showing him the

¹² The Italian word *casa* refers to patrilineage, as well as to physical domicile. As this letter illustrates, the distinction between client and extended family was fluid in Renaissance Florence.

customs of the country so that in due time I think he will be able to undertake anything.” (ibid., p. 84)

“With regard to Galilei and company, I see that there is no more need of blandishments for in truth they do things like gentlemen. The letter which I have from them now is so full, so much to the point, and so agreeable that I feel under a permanent bond of obligation to them... Maintain close relationships with them and we over here will always perform our part duly as we do every day; of this you and they will be the judge.” (ibid., p. 85)

Character and honor, debt and obligation – these ideas were pervasive in Florentine economic (and political) correspondence. They referred overtly to economic exchange, but they also alluded to something deeper, more constitutive as well: merchants anthropologically ‘making’ each other – their wealth, their contacts, their careers, and their personal lives.

The same points can be illustrated in the famous correspondence of Francesco Datini, one hundred years earlier. Merchant-banker Manno di ser Iacomo in Milan wrote to Datini’s company in Barcelona on March 24, 1397, saying:

“Of the affairs you still have to do here, point yourself still towards Pisa with my company there, and also write often to me in Bruges, because I am going to live there, and in three days I am leaving here to go there. With the grace of God I will stay there a little while, and if there is anything I can do for you, write to me of it and I will do it, for you and for your whole company, as if it were for myself alone.” (Frangioni 1994, letter #657 [translations by McLean])

Earlier, the same author had written the following paean to the norm of reciprocity (cf. Gouldner 1960):

“As much as you offer to do with love in this matter, all of it we have observed, and we thank you for it, and we are certain you would do even more; and if anything occurs in Avignon or here that needs to be done, we will commit ourselves to you loyally (*confidanza*), advising you of it first.” (ibid., letter #606)

Similarly, in April 1400, the very wealthy competitor Giovanni Borromei wrote to Datini and his company in Barcelona, thanking him for helping them through some difficulties:

“Your offer we accept like dear friends (*chari amici*), and we see that by your Tommaso you have written concerning our condition and company: this he did as a worthy (*valente*) person and out of courtesy... And although here you have many friends (*amici*) who serve you, nonetheless we offer ourselves to all of your pleasures and, wanting advice concerning one thing or another, tell us and I will do it willingly.” (ibid., letter #751)

These letters, and many others like them, illustrate well the masterful observation Richard Goldthwaite made fifteen years ago about the nature of Florentine economic competition: “It has rarely been remarked how seldom a competitive spirit comes into play in the relations among these merchants. The vast correspondence of Datini and of the Medici themselves (the largest collections

of business letters to survive before the sixteenth century) yields hardly a hint of competition... However individualistic the Florentine business world appears in contrast with the tight corporate structures elsewhere – the Venetian senate, the Hanseatic league, the south-German cartels, the London regulated companies – it was still permeated with something of the spirit of medieval corporatism. This is what the *fiducia* Florentine business historians make so much of really comes down to – that sense of trust in one another that in a way also kept everyone in line.” (Goldthwaite 1987, pp. 23-24)

None of this implies that everything always went smoothly, with no treachery, bankruptcies or bad luck. But when treachery did occur, regrets also were interpreted in deeply personal terms, as is revealed in this anguished letter of Datini about an old partner who did him wrong:

“I am advised by many letters that Basciano is not there; that he has taken off, and you will have spoken with him about these blessed accounts that, by his shortcomings, are not settled, and truly it is a great wrong; this is not the friendship (*amicizia*) and brotherhood (*fratelanza*) that I had with him, and he has not done well scalping me (*pigliare gozzo*), and I don’t know why... And I must observe that when he made accounts with me in Avignone, that amounted to 40,000 pounds or so, there was not even a penny missing, we had such a great relationship, so that one could go so far as to say that if I owed him 1000 florins, I would approach him and say to him how I considered him more than a brother (*piu che fratello*), and I still do. And despite what he has done to me, I will never forget the love and brotherhood that was between me and him.” (Frangioni 1994, appendix, letter #8)

Similarly, as bankruptcy loomed, a silk merchant in our 1427 *catasto* data set named Goro Dati revealed to his private diary the deeply personal underside of Florentine economic behavior:

“Although my partner was in favor of going bankrupt [in our court case with Giovanni Serristori] so as to avoid some losses and expenditures, I was resolved to face ruin rather than loss of honor.” (Brucker 1967, p. 130)

Just as was discovered by Uzzi (1996) in a modern setting, such behaviors at the terminus of economic relationships are especially revealing of something going on within them in addition to the calculation of future economic gains.

Formal accounting and personalized business relations fit closely together in Renaissance Florence, because credit was simultaneously a way of building business and of building friends. In his MDS statistical analysis of the language contained in Florentine patronage letters, McLean (1998) found that the Italian words *amicizia* (friendship) and *utile* (profit, advantage) clustered tightly in Renaissance linguistic usage. Consistent with this, Weissman has observed that “the form of economic exchange that most clearly demonstrates its dependence on the entire cluster of beliefs and practices embedded in the personal economy of the Renaissance is the exchange of credit. There is scant reason to expect Renaissance economic exchanges, occurring within dense and multi-textured social networks, to lack the broader cultural meaning shared by other Renaissance exchange systems: gift giving, hospitality, the exchange of greetings, or the exchange of women.” (1982, pp. 35-36)

The cross-sectional social-embeddedness thesis in this article is that Renaissance Florentine businessmen and their markets cannot be understood without appreciating how economic trading networks were situated within and structured by their cross-cutting multiple-network context. A goal of the statistical analysis to follow will be to uncover the precise contours of that context. To repeat, Florentine merchant-bankers were not just businessmen; they were politicians, patrons, friends and fathers as well. From the letters we can add that Florentine merchants often acted like politicians, patrons, friends and fathers toward each other in their business, even when literally they were not.¹³ Florentine businessmen wanted to make profit, to be sure. But they also wanted to make status and power and babies. Florentine economic actions, like their political actions, were moves in many games at once (Padgett and Ansell 1993). This implies that emergent economic markets were structured by actors pursuing multiple objectives, not just profit alone. It also implies a more expansive conception of ‘self-interest’ than can be absorbed within methodologically individualist formulae like ‘maximize utility’, which axiomatically impose consistency (Coombs et al. 1970) and which practically assume autonomous agents. Florentine economic inventions had liquidity and efficiency consequences, but these consequences were the by-products (Elster 1983), not the causes, of the historical discoveries.

THE INDUSTRIAL STRUCTURE OF COMMERCIAL CREDIT

With these textual foundations as background, the second and third sections of this article will be statistical analyses of Florentine commercial credits in 1427. In this section, we shall describe our quantitative data and shall present descriptive statistics on how important credit was to all the major Florentine industries. We shall measure the extent to which current accounts and *corrispondenti* letters paint a representative portrait of commercial credit relations in the Florentine economy as a whole.

This statistical study is possible because of the 1427 *catasto* or tax census, described at length in the pioneering book of David Herlihy and Christiane Klapisch-Zuber (1985). Herlihy and Klapisch computerized large portions of this rich archival source¹⁴ and analyzed their data primarily from a demographic and family history perspective. In addition to the data these authors coded, however, the *catasto* also contains extensive lists of debtors and creditors, with amounts owed, for each household tax return. Business *debitori* and *creditori* were included as distinct accounts within the household tax return of the lead partner in the company – yet another indication of the incomplete separation of personal from business in the Florentine system. Such lists of debts existed in the tax records because this innovative *catasto* for the first time in history systematically assessed taxes on the basis of net wealth – that is, assets minus liabilities. Debts, in other words, were tax deductible. Florentine law required the itemization of outstanding credits as well as debts in order to give tax officials the ability to disallow deductions, if one person’s declared debit did not equal the other person’s declared credit.

¹³ A striking example of the coercive use of friendship framing even among enemies is the following excerpt from a letter Maringhi wrote to another sales agent, whose brother he was trying to get fired: “Do this as a friend and then let me know... Do as much as you can for the rest of my things in haste, since if you will assist me according to my wishes, you will see what I can do for you.” (Richards 1932, p. 66) Tit-for-tat reciprocal behavior was framed and discussed in Renaissance Florence in terms of the norms of friendship.

¹⁴ The Herlihy-Klapisch data set is publicly available on line at www.stg.brown.edu/projects/catasto.

This remarkable breakthrough in public finance was possible only because of the highly commercialized character of Florence's underlying economy. Basically, Florentine merchants filled out their 1427 tax returns by copying their account books into their tax declaration, as those account books existed as of the date of the tax submission.¹⁵ Hence the 1427 *catasto* is basically a high-resolution snapshot of the credits and debits of the entire Florentine economy at one specific, fleeting moment in time. Virtually all of the account books, out of which this information was originally drawn, subsequently have been lost.¹⁶ There exists no other comparable economic data set in early modern history,¹⁷ nor, given source constraints, is there ever likely to be one.

The details of our coding of these *creditori* lists are reported in McLean and Padgett (1997); hence these will not be repeated here. Both personal and business debts were coded, even though only business debts will be analyzed in this article.¹⁸ The main coding rules relevant to this article are (a) that only debts of value greater than 10 florins were coded, and (b) that only debts to other Florentines were coded. An effect of the first coding rule is mostly to exclude artisans from our data set. An effect of the second coding rule is that trading among Florentines (even when they were resident abroad) is the focus of the data set, rather than trading between Florentines and foreigners. The joint effect of both constraints is that the data describe, with great richness, the structure of the export-oriented sector¹⁹ of the Florentine economy, at least as of 1427. Since this was indeed the core of the Florentine economy, including as it does both merchant-bankers and cloth manufacturers, we are not disturbed by these coding restrictions.

Within these constraints, coverage is thorough. Numerous passes through the *catasto* were performed, essentially on the logic of snowball sampling, in order to code a high percentage of companies' accounts or *bilanci*. Ultimately, McLean succeeded in coding 65.4% of the *bilanci* of active companies in our core industries. Comprehensive coding was least successful for international merchant companies located abroad,²⁰ for small low-quality wool companies whose accounts were hardest to distinguish from the credits and debits of the household, and for a number of companies who were connected to the export-oriented sector but not formally located within any of the key industries we targeted. For Florence-based and Pisa-based merchant-banks and banks, silk manufacturing, high-quality wool manufacturing, and cloth-retail companies, the *bilanci* coding rate approached 80%. Debts were coded not among a predefined list of all

¹⁵ Much historical study has gone into the assessment of the accuracy of information in reported *catasti* tax returns. The consensus is that the 1427 *catasto* is basically accurate, while later *catasti* are not (for example, Emigh 1996). Apparently, while Florentines eventually learned how to cheat quite effectively, they did not do so immediately. In any event, below we analyze existence versus nonexistence of a credit, not the reported value of the credit.

¹⁶ Richard Goldthwaite has brought to our attention three exceptions, which we intend to consult in the future: the account books of Andrea Banchi, silk manufacturer; Alamanno di Iacopo Salviati, wool manufacturer; and Lorenzo di Palla Strozzi, merchant-banker.

¹⁷ The only other study of pre-modern credit on this scale of which we are aware is Hoffman et al. (2000). That study of Parisian bankers covers a period two centuries after ours. While not on credit per se, Carruthers (1996) has done an excellent study of the London stock market in the early 1700s, which is very much in the same spirit as our study.

¹⁸ The full data set contains 15,317 debts; the subset analyzed here, among companies, contains 4,735 debts.

¹⁹ As we shall see shortly, the export sector was the following industries: Merchant-banks, International; Merchant-banks, Florence/Pisa; Domestic Florentine banks; Silk manufacturers; Wool manufacturers, San Martino district (high quality); Wool manufactures, other districts (lower quality); and Cloth retailers.

²⁰ The compliance of these firms with *catasto* requirements evidently was handled with some flexibility, perhaps due to the special difficulties they faced in preparing and submitting their books for examination in Florence.

companies (which list, of course, does not exist), but rather among all companies and people meeting the above standards. As a result of this open-ended coding procedure, even the debts of companies whose accounts were not coded directly often were found indirectly in the credit accounts of coded companies. Because of such cross-ruffing, we were able to compile, for the first time, a complete census of companies active in the year 1427. A tabulation of this census, industry by industry, is presented in table 1. The detailed list of companies underlying table 1 is publicly available on Padgett's web page: <http://home.uchicago.edu/~jpadgett>.

[table 1 about here]

We estimate, through procedures explained in Padgett and McLean (2002, p. 45), that 33.4% of the total number of all debts and credits of companies participating in the export-oriented industries of the Florentine economy were finally included in our commercial-debt data set. And we estimate that 62.3% of the total monetary value of all such debts and credits are included in our commercial-debt data set.²¹

In the statistical analyses to follow, these commercial debts-credits, coded by McLean, will become the dependent variable. For the independent variables of social context, Padgett has coded a wide variety of other information about the non-economic attributes and social networks of these businessmen and others:²² namely, kinship (patrilineage²³ and marriage²⁴), neighborhood (*gonfalone* and quarter), personal wealth,²⁵ social-class background, political office-holding,²⁶ and

²¹ These numbers may appear low for what purports to be a comprehensive picture of the Florentine economy, but these reported percentages are somewhat deceptive. Two types of transactions, present in our complete data set, are systematically excluded from analysis in this article: credits and debts with most firms and artisans working outside the export-oriented economy, and credits and debts with individuals rather than with companies. Had it been possible to calculate the more correct denominator of "all debts and credits among companies in export-oriented industries," percent coverage would have been very much higher than the very conservative figures reported here.

²² These data, collected over fifteen years, were coded for purposes of Padgett's larger book project, which is documenting and studying the co-evolution of political, economic, and kinship networks in Florence over two hundred years, from 1300 to 1500. Currently there are 45,996 Florentine individuals in Padgett's ACCESS relational database: 33,230 males and 12,766 females. As mentioned in footnote 1, Padgett thanks David Sallach and Nick Collier for helping him to integrate fifty-one of his files into a relational database format.

²³ Parent-child relations were inferred (a) from last and middle names, since Florentine males took the name of their father as their own middle name: as in Giovanni di Francesco [in English, John (son) of Francis], and (b) from various types of dating information. Douglas White kindly wrote a computer matching program that greatly assisted in this linkage task, during our collaboration at the Santa Fe Institute.

²⁴ Dated marriages were coded from numerous sources, the most important being the *Carta dell'Ancisa*, located in the Archivio di Stato in Florence. Pierantonio dell'Ancisa was a seventeenth-century antiquarian who devoted his life to extracting and recording Florentine marriages out of extant dowry contracts. His purpose was to document the past glory of Florentine families. The bulk of the original dowry contracts, from which dell'Ancisa worked, have now been lost. There are 11,039 marriages in the current Padgett data set, estimated to comprise about 40-50% of all marriages between 1350 and 1500 of Florentines with last names (Padgett 1994).

²⁵ Information on neighborhood and taxable personal wealth, as of 1427, is contained in the *catasto* itself, and is publicly available at the Herlihy-Klapisch website mentioned in footnote 14.

²⁶ All 11,312 members of the Priorate or city council, from 1282 to 1500, were coded by Padgett from the early eighteenth-century copies of the *Priorista* volumes located at the Newberry Library in Chicago. All 3,316 members of the Mercanzia or commercial court from 1310 to 1500 were coded by both Padgett and McLean from the *Fondo della Mercanzia* located in the Archivio di Stato in Florence. Social class background, in the Florentine context, refers to the date of first entry of a patrilineal ancestor to the Priorate, and hence can be reconstructed from office-holding data. Subsequent to Padgett's independent coding effort, the more extensive *Tratte* office-holding data coded by David

factional affiliation.²⁷ These variables will be used to reconstruct the “dense and multi-textured social network” context in which Florentine commercial credit operated. The database as a whole, which spans two hundred years, is part of a long-term effort to study the co-evolution of state, market, and kinship through dynamic social networks.

The first questions we ask of these data are descriptive: How important was commercial credit to the Renaissance Florentine economy? In which markets did it figure most centrally? What was the ratio of relational to transactional credit in various markets? And in what types of economic exchanges was credit used?

One common way in finance of measuring the magnitude of credit is leverage: the ratio of outstanding debt to assets. The higher the ratio, the more important is credit in the operation of the company. Higher leverage can generate higher profits, but at greater economic risk. ‘Assets’ in the Florentine context means the startup capital specified in the partnership contract, called *corpo*, there being no production facilities or other fixed-cost investments to count as assets.²⁸ Table 2 reports leverage so defined, and it also provides two more liberal definitions of ‘assets’, which progressively add to *corpo* the partners’ reinvestments of past profit and company inventory.

[table 2 about here]

Using the strict definition of leverage, our findings are that Florentine merchant-banks were leveraged at about 5:1 of their *corpo*; that Florentine cloth retail and dyeing companies were leveraged at a little over 2:1 of their *corpo*; and that Florentine cloth production companies, wool and silk, were leveraged at about 1:1 of their *corpo*. These leverage ratios are not really comparable to modern figures, because modern firms borrow for the most part from banks, whereas these companies ‘borrowed’ for the most part from their exchange partners. Nonetheless, the ordering of these ratios is consistent with the known facts that merchant-banks were more profitable as personal investments, but also more risky, than were wool and silk production companies (Goldthwaite 1968). In general, it is fair to say that almost all Florentine companies were highly leveraged; a very high percentage of their business was conducted on credit.

On average, furthermore, we can say that larger and wealthier companies operated on higher leverage than did smaller companies.²⁹ The most extreme example in our data set was Cosimo de’ Medici’s bank branch in Rome, which had the highest outstanding debt of any company, yet no startup capital whatsoever of its own.³⁰ Such an extreme case makes it clear that name, reputation, and connections were more central in the generation of commercial credit in fifteenth-century Florence than were economic assets, narrowly defined. Given the pervasiveness

Herlihy before he died, have been put on the web, thanks to the labors of R. Burr Litchfield and his assistants: www.stg.brown.edu/projects/tratte.

²⁷ Factional memberships of the 1433-4 Medici and Albizzi “political parties” were reconstructed and reported in Kent (1978). These memberships were previously analyzed from a social-network perspective in Padgett and Ansell (1993).

²⁸ Cloth manufacturing occurred through the putting-out system, which essentially has no fixed costs.

²⁹ Of course they were larger and wealthier in the first place in part because of their reliance on credit.

³⁰ The rather astonishing total debt figure for this one branch was 158,238 florins. The corresponding total credit figure was 147,987 florins. Cosimo’s companies relied on massive volumes of two-way turnover and flow, grounded more by an organizational system of inter-branch cross-holdings and transfers than by direct investment (de Roover 1966).

of doing business on credit, without other firms being willing to extend credit to a given firm, that firm really could not be in business at all.³¹

Figure 1 describes more specifically the input-output pattern of how these volumes of commercial credit flowed within and among industries. In particular, figure 1 presents a graphical version of a Leontief input-output table, which shows observed credit flows relative to expected credit flows, the latter based on raw volumes of industry-level credit alone. Four trading patterns are worth highlighting in this global picture of inter-industry flow:

- (a) Credit flow among merchant-banks of all three sorts (merchant-banks located in foreign countries, merchant-banks located in Florence/Pisa, and domestic banks) was massive. Speaking metaphorically, the merchant-banking sector was a whirlwind of products, bills of exchange, and credits cycling around.
- (b) Woolen-cloth consignments, from woolen-cloth manufacturers (*lanaiuoli*), flowed more to local cloth retailers (*ritagliatori*) in 1427 than to merchant-bankers.³²
- (c) Silk-cloth consignments, from silk-cloth manufacturers (*setaiuoli*), in contrast, flowed more to merchant-bankers in 1427 than to local cloth retailers.³³ In reverse direction, *setaiuoli* received a higher flow of credits (including raw silk) from domestic banks, relative to statistical expectation, than did *lanaiuoli*.³⁴
- (d) Silk firms in 1427 heavily exchanged with and gave credit to each other, whereas wool firms definitely did not.

³¹ An example of this connection is provided in the diary of Gregorio Dati, one of the successful silk manufacturers in our data set: “As a result of the adversity which overtook us in Barcelona, and of the suspicions concerning Simone’s ventures and the calumnies that were spread about, we were very short of credit. So we were forced to withdraw from business and collect whatever we could pay our creditors, borrowing from friends and using all our ingenuity, suffering losses, high interest and expense in order to avoid bankruptcy and shame. And although my partner was in favor of going bankrupt so as to avoid some losses and expenditure, I was resolved to face ruin rather than loss of honor.” (Brucker 1967, p. 130) Judging from the facts that Dati was elected for the first time to political office (*onore*) in 1412 [“This was the beginning of my recovery” (ibid., p.124)] and that Dati was a moderately wealthy silk manufacturer in our 1427 data set, with a taxable wealth of 3368 florins, Goro Dati’s principled stand in 1408 did indeed reestablish him and his firm’s credit in his fellow merchants’ eyes.

³² Since figure 1 is based on number of debts, rather than value of debts, one could conceivably challenge this statement on the ground that the value of average woolen-cloth sales to merchant-bankers was much greater than value of such sales to *ritagliatori* (Goldthwaite, personal communication). Statement (b), however, remains true even when re-calculated on basis of total florin value. Namely, the total monetary value of Wool, San Martino credits to all merchant-banks combined (that is, merchant-bank international, plus merchant-bank Pisa, plus domestic bank) was 40,592 florins, compared to credits of 58,392 florins to *ritagliatori*. And the total value of Wool, Other credits to all merchant-banks combined was 18,247 florins, compared to credits of 32,260 florins to *ritagliatori*. In fact, within our coding constraint of greater-than-or-equal-to 10 florins, there was not much difference in average value of woolen-cloth sales to *ritagliatori*, as compared to those made to export-oriented merchant-bankers in Pisa and to domestic bankers. There was a substantial difference in the average value of wool credits offered to *ritagliatori*, compared to international merchant-bankers, however.

³³ Merchant-bankers still received roughly twice as much in volume of their cloth input from wool manufacturers as from silk manufacturers. Even though wool was on the decline, and silk on the rise, the older wool industry was still much larger in 1427 than the new silk industry.

³⁴ Again to measure this in terms of monetary value, rather than in terms of numbers of debts, domestic banks gave 33,662 florins of credits to *setaiuoli* in our data set; whereas they gave 27,080 florins to Wool, San Martino *lanaiuoli* and 15,682 florins to Wool, Other *lanaiuoli*. As baseline comparison, there were over two-and-a-half times more *lanaiuoli* companies than *setaiuoli* companies in 1427 (see table 1).

[figure 1 about here]

Credit pattern (a) documents statistically what we already know: Florentine merchant-banks were not an industry of autonomous competing firms. They were a cooperative banking and trading system, with merchant-bankers providing much liquidity and business to each other. This core fact, which we seek to explain, is one of the central reasons for the dynamism and adaptability of the Florentine economy in the first place.

Credit/trade patterns (b), (c) and (d) reflect the macroeconomic reorientation of the Florentine economy that was occurring in the early fifteenth century. The center of the Florentine economy in the fourteenth century had been the finishing, the production, and the export of woolen cloth. In the late 1200s and early 1300s, Florentine merchant-bankers in the *Calimala* guild imported unfinished cloth from Flanders and exported finished (including dyed) woolen cloth. By the mid 1300s, Florentine merchant-bankers in the *Cambio* and other guilds imported raw wool and exported completely manufactured woolen cloth. The Florentine wool-production industry, however, suffered serious and protracted contraction between 1373 and 1437, due primarily to aggressive expansion of woolen cloth production in England.³⁵ The raw-material flow of prized English wool, upon which the high-end *San Martino* segment of woolen cloth production in Florence had depended, diminished, forcing a higher percentage of production of lower-quality woolen cloth, called *garbo*. The *San Martino* woolen cloth still left was sold both to merchant-bankers – especially those with warehouses (*fondachi*) in Pisa – and to *ritagliatori*, whereas *garbo* woolen cloth in this period was sold overwhelmingly to *ritagliatori*.³⁶

The Florentine merchant community and government, under the political control of the *popolani*-based Albizzi oligarchy at the time, responded to this economic crisis by trying aggressively to develop silk-cloth production (Dini 1993, Franceschi 1995, Mola 2000, Mola et al. 2000, Tognetti 2002), in order to substitute for declining woolen-cloth production. Woolen-cloth production still exceeded the newer silk-cloth production in total volume, and also in total employment, but our data show that this centrally directed industrial transformation from wool to silk was well underway in 1427. Explaining how the Florentine economy so successfully adapted to its challenging international situation is a puzzle in the existing economic history of the period,³⁷ which we will help to illuminate in the penultimate section of this article.

³⁵ The Florentine wool industry suffered a horrendous 72% decline in production from 1373 to its nadir of 1437 (Franceschi 1993a, p. 13; Hoshino 1980, pp. 227-31; Tognetti 2002, p. 16). Debates continue about the causes of this crash, but the argument in the literature that seems the most convincing to us is the rapid growth of English woolen-cloth production in this same period (Carus-Wilson and Coleman 1963), which deprived Florence of much of its primary input – high-quality English raw wool (Hoshino 1980, p. 233).

³⁶ Hoshino (1980) showed that eventually, in the last half of the century, due to the Ottoman conquest of Byzantium, *garbo* woolen cloth found favor in international trade with the Levant. This is exactly the trade described in the Maringhi correspondence cited above: shipping raw silk to Florence from the east, and selling finished woolen cloth to the Turks. However, these events occurred well after 1427.

³⁷ There is a long and contentious literature, ably surveyed in Brown (1989), about whether or not there was a “depression in the Renaissance.” Lopez and Miskimin (1962) anchored one end of the debate; they pointed to the decline of the wool industry, among other things. Goldthwaite (1993) anchors the other; he points to the rise of the silk industry, among other things. No study based on a one-year cross-section, no matter how thorough, can resolve a debate about economic trends. We do regard the fifteenth-century adaptation of the Florentine economy as a success story, however, in the specific sense that the silk industry was developed to offset decline in the wool industry.

Motivated by our knowledge of current accounts, in table 3 we subdivide aggregate credit flows into transactional and relational streams. “Relational credits” we define to mean credits between trading companies who had more than one cross-sectionally observed credit between them. “Transactional credits,” in complement, are those credits between companies who had only one observed credit between them.³⁸ Relational credits can be of two types: (a) reciprocal credits, where credits flowed in both directions, and (b) multiple credits, where more than one outstanding credit existed in a single direction. Relational credits can be both reciprocal and multiple.

[table 3 about here]

The sheer existence of multiple and reciprocal credits in our data set is worthy of comment. ‘Relational’ is a fair label for multiple credits, because multiple credits means extending to someone a second (or more) credit even before they have paid off their first debt. Some underlying character assessment or trust by the creditor of the debtor is virtually a prerequisite for such behavior. ‘Relational’ is a fair label for reciprocal credits, because reciprocity epitomizes classic social exchange. It is notable in the Florentine case that credits flowed back and forth (for example, two credits one way and three credits the other way), without them being cancelled out into a net balance (for example, into one net credit owed). Each credit had to be cleared separately, even if not in cash. Sometimes reciprocal credits occurred through two-way transactions being itemized and recorded individually; sometimes they occurred through multiple accounts that each party held in the books of the other (de Roover 1944). In the case of multiple accounts, a reciprocity relationship could also be called a *corrispondenti* relationship, since letters went back and forth requesting and reporting various actions. In either variant of reciprocity, what we have here is a highly formalized expression of anthropological exchange logic: instead of canceling offsetting debts, both parties remained mutually indebted to each other.

Within the high-volume merchant-banking sector, table 3 shows that 45% of the credits in our data were reciprocal credits, that 50% of the credits were multiple credits, and that 63% of the credits were relational credits of one version or the other. Relational trading, in other words, was fundamental to the operation of Florentine merchant-banks: consistent with what we observed in the letters, the very high volume of credits observed in table 2 and figure 1 within the merchant-banking sector was composed, for the most part, of relational exchange.

Between banks and other companies, and among other companies, relational trading was not as extreme in volume as it was among banks themselves, but it was still substantial. 33% of the credits in our data between banks and other companies were relational credits. Consignments

Whether the successful development of silk was quantitatively enough to offset the sharp contraction of wool is a topic we must leave to others to decide.

³⁸ Having only one outstanding debt at a time, of course, does not preclude that debt being part of an iterated sequence of debts, which we cannot measure with cross-sectional data. We can offer one piece of anecdotal evidence from the *catasto* records to support our strong sense that many of our so-called “transactional” credits were iterated. Parigi di Tommaso Corbinelli’s *bilanci* stand out for reporting the dates on which credits were initiated. One entry, a credit he had with the firm of Zanobi di Gherardo Corigiani & Co. for fifty-three florins, is crossed out and marked *pagato* on May 20. Subsequently, he records a credit with the same firm dated November 14. It is certain, therefore, that these reported relational-credit figures underestimate the ‘true’ rate, were it possible to include ‘repeat business’ in our operational definition of relational exchange.

between merchant-bankers and cloth producers – of raw materials in one direction and of finished cloth in the other – operated more on a one-at-a-time transactional-credit basis than on a “keep the books open” relational basis, even though a third of those credits were relational. 29% of the credits among non-bank companies were relational. Within the non-banking markets, relational trading often provided the foundation of a company’s business, with the company seeking to expand transactionally around its relational base.

If we further ask what specific goods were funded by relational and transactional credits, table 4 provides the answer. Unfortunately, only 11% of our credits had their content or purpose listed in the *catasto*. No doubt all of these purposes were given in the original account books, but there was no tax reason for businessmen or their scribes to copy this textual information into the tax returns. Nonetheless, even an 11% sample gives an adequate picture, as long as one is satisfied with coarse-grained resolution.

[table 4 about here]

The modal activities reported in table 4 are what any economic historian would expect. Namely, among merchant-banks, the modal type of credit was the account. Between merchant-banks and other companies, the modal credit activity was trading raw material for cloth. Among other mostly cloth-producing companies, the modal activity was buying and selling cloth. But the real message of table 4 is diversity. With the exception of trading among cloth producers and *ritagliatori*, which was fairly specialized in character, the goods and services exchanged among merchant-banks and between merchant-banks and other companies were remarkably wide ranging in content. Merchant trading activities, banking activities and account activities (which really could cover anything: merchandise, bills of exchange, even daughters’ dowries) all were mixed up in exchange relationships, not just among merchant-banks but also between merchant-banks and others. While sharply distinct in terms of guild membership, Florentine industries were not sharply distinct in terms of actual exchange behavior. On the margins, Florentine industries blended into one another.³⁹

On the right-hand side of table 4, we have tabulated the dispersion of multiple credits across content categories, among specific exchange partners, in those few cases where we were lucky enough to have more than one type of content reported. On average, exchange relations were more specialized between merchant-banks and others than they were among merchant-banks themselves. But still one should not imagine any iron-clad distinctions between industries; rather,

³⁹ On the subject of domestic banks, Sergio Tognetti (1997) usefully has corrected one of Raymond de Roover’s few mistakes. De Roover (1966, p. 14-15) had argued, very influentially, that Florentine banks were sharply divided into three distinct and unrelated types: *banchi di pegno* (pawnshops), *banchi a minuto* (small domestic banks), and *banchi grossi* (large international banks). De Roover himself studied only the latter. Based on a careful study of the extensive account books of the Cambini bank, Tognetti instead argued that overlap of the latter two types was substantial: international banks frequently had domestic bank branches, and domestic banks frequently were involved in lucrative international business. Our *catasto* data, based on 100% of the banks extant in 1427, strongly supports the position of Tognetti. On the other hand, Goldthwaite’s study (1985) of the small Cerchi *banco a minuto* in the 1450s reinforces de Roover’s original description. The resolution of this confusion is simple: there were two types of ‘domestic banks’, one of which was involved intimately in international business, and one of which was not. Our data on credits to and from the Domestic Bank industry are dominated by the former type of bank, because those banks were much bigger and more central in the Florentine economy than were the *banchi a minuto*, in 1427 at least.

there was a dyad-level continuum between specialism and generalism of goods and services traded, along which companies moved as their relations developed.⁴⁰ This built-in fluidity in content of exchange created a micro-behavioral capacity for adaptation in the Florentine economy as a whole.

In descriptive sum, commercial credit was foundational to the Renaissance Florentine economy, especially among merchant-bankers but also between merchant-bankers and textile producers. Relational credit, often recorded in *conti correnti* and *conti di esercizio*, was the logic through which much of this commercial credit worked. The content of exchange financed through credit was diverse across the economy and fluid between trading partners. Next we turn to our statistical analysis of the social-network context that gave these business relations their character.

SOCIAL EMBEDDEDNESS

A. Economic Partnerships

Before we analyze the social context of commercial credit relations in Renaissance Florence, it will be useful first to understand the people and the partnership nodes in this credit network. Credit between companies is related to who those companies are to begin with. Companies in our period are economic partnerships.⁴¹ Studying partnership ties, therefore, is studying the formation process of companies.

Table 5 gives the social-class backgrounds, by industry, of the active businessmen in 1427 Florence. Defined as the age at which one's ancestors first entered the ruling elite⁴² (see table 5), social class was not the only classification of relevance to identity in this period – family, neighborhood, and guild being salient others – but it was the core republican definition of status (Brucker 1962, 1977). Social class was correlated with, but was by no means identical to, economic wealth (Martines 1963) and political power (Najemy 1982).

[table 5 about here]

Two-thirds of merchant-bankers at this time were socially upper class, either *popolani* or magnates (48% *popolani*, 18% magnates). In the political-emergence section below, we will trace

⁴⁰ The fifteenth-century business and career of Andrea Banchi, magnificently studied by Florence Edler de Roover, is a perfect illustration of this industrial fluidity of Florentine firms. Banchi without any doubt was a silk manufacturer (*setaiuolo*). Nonetheless, as Banchi went around all over Europe searching for silk-cocoon raw materials to buy and silk cloth to sell, he sometimes was paid in wool or other commodities, which then he had to dispose of (1966, p. 271). Banchi also acted like a banker, giving loans at interest to other *setaiuoli* “competitors” and to merchant-bankers (1966, p. 227). The Maringhi correspondence (Richards 1932) similarly has numerous examples of how the core woolen-cloth-for-raw-silk exchange was augmented with all sorts of other goods flowing between the parties: various types of cloth, ribbons, cotton, rugs, pepper, rhubarb, drugs, fox pelts, horses, cheese, sausage, even caviar (the latter four items seeming very close to personal gifts). Indeed in the Maringhi correspondence it seems clear that the stronger the personal relationship between the traders, the wider the range of commodities exchanged.

⁴¹ The word ‘company’ derives from *compagni* or companions.

⁴² Because of this Florentine definition, social status was profoundly rooted in Florence’s tumultuous political history; indeed class was the social sediment of political history. The demographic boundaries between Florentine social classes were very distinct because past political upheavals were very distinct (Padgett and Ansell 1993, p. 1262).

the rise of the *popolani* into this position of industrial dominance. The same physical people were not necessarily equally active in both domains, but the *popolani* as an (internally complicated) group were in control both of the ‘oligarchic’ Albizzi political regime and of international markets. Almost half of the economically declining, but still important, wool producers (*lanaiuoli*) were also upper class. But the cloth retailers (*ritagliatori*) and the economically ascendant silk producers (*setaiuoli*) were socially more mixed in 1427 – about two-thirds being new men (*la gente nuova*) or even lower status.

How did these businessmen form themselves into partnerships? Table 6 presents logit regressions of binary economic-partnership dyads on various social and political background variables: same kinship (nuclear family, in-law nuclear family, natal extended or patrilineage family, and in-law extended or *parentado* family), same neighborhood (*gonfalone* or ward, and quarter), same social class (*popolani* + magnates, new men + new-new men, and families never admitted to the Priorate), political office-holding (Priorate and Mercanzia), and same political faction (Medici party vs. Albizzi party). In the left-hand column of this table, we report the marginals – that is, the percentage of observed economic partnerships that fell into these various social categories. We summarize our regression findings first for kinship, then for social class and neighborhood, finally for political office-holding and faction.

[table 6 about here]

It will surprise no Florentine economic historian that kinship at the level of nuclear family was a powerful force in company formation in the Quattrocento. The centrality of father-son partnering had declined from its measured peak in the early fourteenth century (Padgett 2001, pp. 246-7), but partnerships among brothers remained very common. 20% of all partnerships in all companies in this 1427 data set were among members of the same nuclear family.

In contrast with universal acknowledgment among historians of the role of the nuclear family in firm formation, however, there is considerable controversy about the cognitive salience and the continued function of the extended family, or patrilineage, during the Renaissance. No one doubts the importance of patrilineage in the formation of companies during the time of Dante. But Richard Goldthwaite (1968, 1983) has argued for the diminished significance of patrilineage, especially in economics, in the later fourteenth and fifteenth centuries. F.W. Kent (1977) has forcefully denied the irrelevance of patrilineage during the Renaissance. Since both arguments were carefully grounded in family archives, the debate remains unresolved.⁴³ On this contested matter, our own research finds cross-cutting patterns; this may itself account for the controversy. For economic partnerships, the *catasto* data support Kent: in 1427, patrilineage was a strong generator of companies. For commercial credit, however, we shall see that the *catasto* data support Goldthwaite: in 1427, patrilineage underwrote credit only among banks. Patrilineage remained an important social structure throughout the Renaissance, and perhaps even diffused in influence among the middle classes (Cohn 1988, 1992), but its role in economic markets was more variable: still powerful in partnership, less so in commercial credit. Compared to the extreme importance of patrilineage in Florence in the late medieval period, this mixed economic role in 1427 represents a diminution of significance.

⁴³ It is fair to say that majority sentiment among historians currently favors Kent’s position over Goldthwaite’s. But this depends upon how much emphasis is given to the economic side of the family (Jacks and Caferro 2001, pp. 7-8).

The comparable findings about the impact of social class are as follows. Before controlling for other variables, the zero-order structuring impact of social class on partnership was overwhelming, as can be seen in table 6. Economic partnerships formed along social-class lines, in all industries within the upper classes, and in banking within all social classes. Much of this inbreeding, however, was the corollary of kinship. Controlling for this and other variables, social-class endogamy still is observed consistently to be a feature of the banking industries: *popolani* and magnates formed banks with other *popolani* and magnates; new men and new-new men formed banks with other new men and new-new men; and no admits formed banks with other no admits. In addition, *popolani* and magnates strongly avoided forming banks with new men and new-new men.⁴⁴ Banking partnerships, in other words, were stratified by social class. Not only in demography but also in the organization of companies, merchant-banking was overwhelming an upper social-class affair in 1427.

Wool production was also somewhat class stratified in partnership, though less so. But silk production was not. In a Florentine social environment otherwise drenched in status concerns, the relatively recent Florentine industry of silk production was apparently an island of class neutrality⁴⁵ – at least in 1427.

Perhaps the biggest surprise in these partnership findings concerns neighborhood: *gonfalone* and quarter.⁴⁶ There was an interaction effect between social class and *gonfalone*. Namely, living in the same *gonfalone* increased the likelihood that merchant-bankers would form partnerships with each other, when those merchant-banker neighbors were new men or had never been admitted to the Priorate. But the *popolani*, the dominant group, formed banking partnerships among themselves city-wide, independently of neighborhood. Given the dense *piazza* and parish centered urban ecology of Florence, neighborhood heavily influenced the sheer frequency of encounter, and thereby the generation of both friends and foes. D. Kent (1978), D. Kent and F.W. Kent (1980), F.W. Kent (1987), and Eckstein (1995) have emphasized the importance of *gonfalone* in shaping basic sociality patterns of friends and enemies in Renaissance Florence.⁴⁷ And Klapisch-Zuber (1985) has painted a vivid portrait of the Florentine fixations with *parenti*, *amici* and *vicini*. Given the dense social matrix that Florentine neighborhoods provided, finding economic partnerships to be shaped by neighborhood comes as hardly a surprise. Florentine merchants, after all, were also Florentines. The surprise is that merchant-bank partnerships among *popolani* were not so influenced.

⁴⁴ The aversive effect of *popolani* being repelled by new men in banking partnership was actually stronger than the direct endogamy of bank partnering among the *popolani*. This is a serious clue about dynamics.

⁴⁵ Gradually, after 1434, many *setaiuoli* became absorbed into the Medici political ‘machine’, thereby infusing status concerns in a new form.

⁴⁶ The city was divided administratively into four quarters (Santo Spirito, Santa Croce, Santa Maria Novella, and San Giovanni). Each quarter, in turn, was subdivided into four *gonfaloni* or political wards, making 16 *gonfaloni* in total.

⁴⁷ Sam Cohn (1980, pp.115ff.) has pointed to the even smaller unit of parish as the locus of daily sociality, especially for workers and artisans. *Gonfalone* is the smallest spatial unit consistently measured in Florentine records. We coded parish memberships for many 1427 Florentines, from non-standardized text in the *catasto*. Unfortunately, coverage of parish in our data set was not substantial enough to include it in the regressions, in order statistically to distinguish the argument of Kent and Kent (1980) from that of Cohn (1980).

This *popolani* profile, however, is very similar to what was going on in Florentine marriage at the time. Within the *popolani* and magnate social elites, neighborhood-based marriages were on the decline, and city-wide class-based marriages were on the rise (Cohn 1980, Padgett 1994). This coincidence in social profile was no accident: during the post-Ciampi Albizzi political regime, Florentine banking partnerships came increasingly to be correlated with marriage.⁴⁸ Neighborhood remained central in the social landscape of most Florentines during the Renaissance, just as Kent (1987) asserts, but the *popolani* and magnate social elites transcended neighborhood in their internal social-network organization,⁴⁹ apparently with direct consequences for the partnership structure of their banks.

Finally, it is easy to summarize the impact of our political office-holding and faction variables⁵⁰ on economic partnership: there was none.⁵¹ Florentine businessmen showed remarkable ability to keep micro-political calculations out of their firm-formation decisions, precisely as has been pointed out by Goldthwaite (1987). This is not to say that politics was unimportant for the structuring of markets. Quite the contrary, as we shall describe below, politics profoundly transformed the cultural and institutional ‘air’ that the Florentines breathed, thereby changing the generative rules that organized their markets. But politics did not affect economics in the crudely direct way of partnerships being formed for political reasons (or vice versa). If one is to discover how politics shaped markets, one needs to go deeper than the level of individual motivations. Politics and economics operated in the short term as autonomous spheres, even as they molded each other’s organizational logics in the long run.

B. Commercial Credit

What are the analogous social-embedding results for commercial credit itself? Because of length, we report our logit regressions of numerous social-context variables on commercial credit in an appendix. The dependent variable there is presence or absence⁵² of observed credit between

⁴⁸ Within Padgett’s larger data set, in the 1350-1379 “guild period,” 3.4% of domestic bank partners were intermarried, at the level of their nuclear families. In the 1380-1433 Albizzi or “*popolani* period,” in contrast, 12.1% of domestic bank partners were intermarried, again at the level of their nuclear families. Since Padgett’s data set includes about half of last-named marriages during these periods, actual intermarriage rates were undoubtedly substantially higher than can explicitly be documented.

⁴⁹ Cohn (1980, p. 37) reports that notaries in the 1300s routinely recorded all names with neighborhood appended, whereas elite names in the 1400s were recorded only as *cives Florentinis* or “citizen of Florence.” Even more evidence supporting this observation comes from Eckstein (1995), who noted the withdrawal of social elites from *gonfaloni* councils during the early Medici period, without their losing political control from afar (as long as they were on the right side of the Medici, that is).

⁵⁰ For both economic partnership and commercial credit, we evaluated three sets of political variables: (a) 1430-34 factions: membership in the Medici party and membership in the Albizzi party; (b) Priorate: membership in the city council, both before 1427 and after 1427; and (c) Mercanzia: membership in the commercial court, both before 1427 and after 1427. The secondary [for (a)] and primary [for (b) and (c)] sources for these data were explained above.

⁵¹ The Medici faction shows a negative impact on economic partnership, but this is due to the well-known relationship between the Medici and the Bardi. When many of the Bardi patrilineage joined the Albizzi faction in 1433, even though some of their members had been in economic partnership with the Medici for decades, the Medici bank internally split and reorganized along different partnership lines (de Roover 1966, p. 56).

⁵² Since our original dependent variable, “number of credits,” was actually a count, not a binary variable, first we performed all these regressions within a zero-inflated negative-binomial statistical context, rather than in the simpler logit framework reported here. After a great deal of futzing around, we learned that, for us at least, there was no difference in substantive results between these two different statistical approaches. Therefore we decided that the

companies, subdivided by type of credit: all credits, relational credits, and transactional credits.⁵³ This subdivision allows us to uncover differential patterns of social embedding for different types of economic credit relation. The full model, reported in the appendix, includes numerous statistical controls: (a) expected number of credits, based on the two companies' total volumes of credits; (b) whether the observed credit came from *bilanci* directly coded from the *castasto* or was coded indirectly, from the other company's accounts; (c) the total personal wealth of the companies' partners; (d) 'company system', that is, whether the companies were linked via common partners into holding companies;⁵⁴ (e) 'brokerage', that is, the number of indirect ties or third-party credit relations that the two companies shared in common;⁵⁵ and (f) a full set of market-interface dummies, to deal with specific market idiosyncrasies, technological or otherwise.

Net of all these controls, our social-context findings are as follows.

Nuclear-family connections between the partners of two companies are important predictors of commercial credit relations between those companies. Natal nuclear family connections affected both relational and transactional credit; in-law ties at the level of nuclear family affected relational credit only. Today, we might be tempted to label such intra-familial behavior 'nepotism' or 'cronyism', but Renaissance Florentines would have been perplexed by these modernist terms, since they believed the gracious treatment of family and friends to be moral. Normative expectations were strong that requests from close kin, both natal and affinal, should be satisfied, if at all possible.⁵⁶

Unlike the case of economic partnerships, however, where 20% of partnerships were formed among nuclear family members, the sheer volume of nuclear-family credits was not high in relative terms. Nuclear-family connections between companies affected credit, when those connections existed, but these were not so voluminous as to exert a shaping effect on the economy as a whole. For the most part, such commercial credits were simply the economic expression of normal kinship obligations.⁵⁷

Beyond the nuclear family, patrilineage affected commercial credit in those industries where *popolani* were in demographic dominance: among merchant-bankers, among wool producers, and between merchant-bankers and wool producers. Patrilineage remained

fancier statistical technology was not worth the costs – in ease of explication, in parameter parsimony, in fragility of convergence, and in flexibility in dependent-variable decomposition.

⁵³ Further logit-regression decompositions of relational credits into reciprocal and multiple, and of transactional credits into asymmetric and solo, are available upon request. Nothing inconsistent with the appendix appeared there; in particular, reciprocal and multiple credits loaded on the same social-context variables, thereby justifying their union.

⁵⁴ This is the variable that Melis (1962) and de Roover (1966) make so much of, to be discussed below.

⁵⁵ Brokerage is subdivided into the different types of indirect ties: transitive credit connections, cyclic credit connections, incoming credit connections, and outgoing credit connections. See Holland and Leinhart (1971) for a description of these triad types and a theoretical motivation in terms of classic balance theory. Gould and Fernandez (1989) reinterpreted these balance-theory triad types in terms of brokerage.

⁵⁶ The treatise on the family by the famous humanist Leon Battista Alberti ([~1430] 1971) is the standard reference on (idealized?) natal family norms in Renaissance Florence. Marco Parenti (Phillips 1987) is the most well-documented case, from the mid-fifteenth century, of very close nuclear in-law bonds.

⁵⁷ The economic consequences of nuclear-kin ties, however, could become massive if ever a firm teetered on bankruptcy. Gregorio Dati (Brucker 1967, p. 140) is only one of many cases that could be cited where large, crucial loans from brothers or other close kin saved a firm in tough times.

fundamentally an upper-class kinship form, even if it slowly had been weakening among the upper classes, and even as it diffused as a model to the new men. The fact that patrilineage was statistically significant in industries dominated by the *popolani* (and to a lesser extent the magnates) points to a non-linearity: patrilineage mattered in markets where many patrilineages were present, but it did not matter when demographically it was less common. Possibly patrilineages were like “seeding crystals”, around which social-class structuring of commercial credit grew, once saturation thresholds of social class had been passed.

Turning now to social class itself, controlling for kinship, the main finding once again is the interaction between social class and neighborhood. But the details of this interaction differ for partnership and credit. As we saw above, among powerful *popolani* merchant-bankers, economic partnerships (i.e., companies) were structured city-wide, like marriages, transcending *gonfaloni*. In contrast, commercial credits among merchant-bankers were offered within *gonfaloni*, among neighbors. Merchant-banker *popolani* reached out to their fellow *popolani* merchant-banker neighbors through relational credits (*conti correnti*). And they reached out to their new-men merchant-banker neighbors less deeply through transactional credits. At the bottom end of the banking industry, ‘no admits’ reached out to fellow no admits within their *gonfaloni* in commercial credits, just as they did in partnership. All in all, 42% of all commercial credits among merchant-bankers flowed through *gonfaloni* (including patrilineage), usually within social class.

The network structure of the merchant-banking elite itself was formed from this concatenation, through the category of social class, of relational credits within neighborhood and of partnerships across neighborhoods.

By “within *gonfaloni*,” it is important to realize that *gonfaloni* is measured here as official residence, in particular tax residence, not as place of employment. International merchant-bankers were living all over Europe at this time, and even domestic merchant-bankers did not necessarily work in their own residential neighborhood. The statistical significance of neighborhood as residence, not as place of employment, points to a deeper social embedding than can be explained by sheer economic interaction frequency.

In the wool industry, class-neighborhood interactions in credit, to the extent that they existed, operated more at lower class levels. Relational credit among *lanaiuoli* was structured by social-class-cum-*gonfaloni* endogamy, but there was very little of that to begin with. Transactional credit among *lanaiuoli* was not socially structured. Between the wool and merchant-banking industries, commercial credit was structured by social-class endogamy within neighborhood among new men and no admits, but not among *popolani*. In the high-volume and lower-quality sales between *lanaiuoli* and *ritagliatori*, commercial credit was unstructured by social class or neighborhood. Overall our impression of the wool industry is that of an impersonal consignment system – more commodity-oriented with lower-quality textiles than silk, selling more to *ritagliatori* than to merchant-bankers. *Lanaiuoli* were predominantly still *popolani*, but credit (as opposed to partnership) was not actively organized by *popolani* relational principles. Again, the historical context of these cross-sectional patterns is that 1427 was the nadir of the Florentine wool industry; high-quality *San Martino* wool production was in sharp decline.

In the rising silk industry, in contrast, class-cum-neighborhood statistical patterns were more distinctive. No class or *gonfaloni* effects on credit were found among the *setaiuoli* themselves – even though there was a much higher base level of transactional credit among silk producers than among wool producers in general.⁵⁸ *Setaiuoli* were solidaristic and cooperative internally for reasons that we cannot explain with our data.⁵⁹ Import-export relationships, on the other hand, were socially anchored. In relational credit (*credito di esercizio*), exchange relations between *setaiuoli* and merchant-bankers were structured by neighborhood, independent of social class. In transactional credit, exchange relations both between *setaiuoli* and merchant-bankers and between *setaiuoli* and *ritagliatori* were structured by social class among no admits, independent of neighborhood. The primary picture that comes through our analysis of silk is that of a solidaristic and classless industrial structure (perhaps like the guilds of the earlier 1300s) interacting with deeply class-oriented banking. At the upper end of the market, a banking-style relational-credit logic dominated the interaction; at the lower end of the market, a consignment transactional-credit logic dominated the interaction. A recent case study by Tognetti (2002) of the Serristori family documents in detail the active sponsorship role that merchant-bankers played in the development of the Florentine silk industry.

For ease of memory, figure 2 presents a graphical summary of the main social-embeddedness findings regarding neighborhood and class.

[figure 2 about here]

Our social-embeddedness findings for political office and political factions are the following. There was no statistical relationship between 1427 credit and 1430-34 factional membership.⁶⁰ The statistical relationships between commercial credit and Priorate and Mercanzia office memberships were strong. Regardless of whether they participated as creditor or as debtor, the more likely economic partners were engaged in commercial credit, the more likely they were to appear as members of the Priorate, the governing body of republican Florence,⁶¹ at some time or another. And the more their company was a commercial debtor, the less likely partners were to be selected to the Mercanzia, the Florentine commercial court.⁶²

⁵⁸ See the Silk_Silk market dummy variable in the appendix.

⁵⁹ Unlike other industries, *setaiuoli* seemed corporatist and guild-like well into the fifteenth century, as evidenced among other things by their collective sponsorship of the famous Florentine foundling hospital, the *Ospedale degli Innocenti* (Gavitt 1990).

⁶⁰ This only apparently contradicts the findings of Molho (1979) and of Kent (1978) that personal loans, out of the Medici bank, were used by Cosimo de' Medici in helping to consolidate his factional support. Although we do have the data to investigate this question, the subset of data used in this article cover only commercial credits, not personal credits. Political considerations may well have shaped the Medici bank's credit relations with its personal customers, but they did not shape its credit relations with other firms.

⁶¹ Florence was a republic, which meant active participation of citizens in government. Specifically, the *Signoria* or Priorate was a city council of nine members, each of whom served only for two months each, so as only temporarily to disrupt their businesses. Despite the inconvenience, virtually all Florentines anxiously awaited the opportunity to serve in unpaid public office, because of the prestige and honor entailed. Choice of membership was a quite complicated and secret process of election, essentially by one's peers and higher (Najemy 1982).

⁶² The Mercanzia was a commercial court charged with settling and adjudicating disputes among internationally oriented Florentine businesses. Being situated within the Florentine republic, it was not an independent judiciary; it was comprised of businessmen, elected by businessmen. [However, Franceschi (1993b, p. 888) has discovered greater centralized control over this election process, and over the analogous one for guild consuls, during the post-Ciompi Albizzi regime than in previous periods.] Our data show that being a commercial creditor did not affect one's

From data on relative timing, the majority of the evidence points to commercial-credit engagement being a prelude to political success, rather than the reverse. For the most part, in a typical Florentine businessman's biography, election to the Priorate followed active business participation, rather than the reverse.⁶³ Business engagement and success, in other words, was rewarded with political office.⁶⁴ Indeed election to political office was the republican method for translating economic wealth into public recognition and status. Through this electoral method, economic and political elites, while not identical, became correlated.

Given the temporal sequence in biography mostly from economics to politics, we argue that the electoral connection affected markets through its shaping of the multiple-domain career structure of businessmen. Elections were an institutional device that created a political incentive for Florentine businessmen to behave in social-exchange as well as in economic-exchange terms when they conducted their business. Otherwise, they would not get elected to political office by their fellow (mostly elite) citizens, with all the status consequences for themselves and for their families which that implied.

Now that we have uncovered both the micro foundations and the distinctive social embedding of economic markets in Renaissance Florence, we are left with the key dynamic question of how these micro foundations and that social embedding emerged.

POLITICAL EMERGENCE

A. The history of “*popolani*” and “*gonfalone*” as social categories

In history there is never complete data, although the case of Renaissance Florence is remarkable not least because of the astonishing richness of its archives.⁶⁵ The statistical analyses above pointed clearly to the centrality of social class and neighborhood, in interaction, in the economic organization of Renaissance Florence, especially in merchant-banking. In any complex social system, there is never a single “social structure” – there are always multiple networks and orderings that overlap, reinforce and contradict each other, providing to the actors their constrained opportunities for action. For us, this means that “*popolani* social class” and “*gonfalone*

likelihood of becoming a Mercanzia judge, one way or the other. But being a commercial debtor definitely lowered one's chances of being a Mercanzia judge, in the past or in the future. The Mercanzia was a technically competent arbitrating body, which was not biased in the sense of a having membership that positively was packed with creditors. But, on average, it served the interests of creditors, since it systematically excluded debtors from its membership.

⁶³ To be more precise, among the merchant-bankers in our 1427 data set, 64.4% (i.e., 114/177) of their Priorate seatings occurred after 1427. Similarly, among the wool and silk producers in our data set 61.4% (i.e., 164/267) and among the *ritagliatori* in our data set 54.8% (i.e., 34/62) of their Priorate seatings occurred after 1427. For the most part, in other words, our 1427 businessmen were looking forward to being elected to the Priorate in the future.

⁶⁴ In regressions for another article, yet to be written, Padgett and Heaney have found that membership in the industries of merchant-bank international, domestic bank, wool manufacturing, and silk manufacturing significantly predicted election to the Priorate throughout the 1343 to 1500 period.

⁶⁵ The richness of the Florentine archives stems both from the fact that Florence was such a mercantile and literate society, and from the fact that they self-consciously considered themselves important in world history, worthy of documenting. The more one comes to know, however, the more one becomes aware of limits to the knowability of any time and place.

neighborhood” did not in and of themselves predetermine economic organization; they were ‘just’ available social-interactive models. In this closing section, first we describe the historical roots of these social models, and then we describe how the Ciompi revolt and its aftermath transformed these social models into economic organization. In a coda, we briefly discuss the macroeconomic consequences of these social-economic-political feedbacks.

Let’s start with neighborhood. In physical ecology, medieval and Renaissance Florentine urban neighborhoods were dominated and structured by patrician⁶⁶ *palazzi* or family compounds (Waley 1969, Goldthwaite 1972). These were large⁶⁷ quasi-castle buildings, which the late-medieval patricians’ patrilineages used to intimidate their neighbors and to protect themselves from each other. By 1427, some (but not all) of these structures had been torn down to make room for public buildings, in response to recurrent violent civil warfare between patrician factions (Lansing 1991). Smaller immigrant families lived clustered around these *palazzi*, and sometimes worked in them when ground floors were available for *botteghe* or shops. Local parishes were usually funded and dominated by one or a few neighboring patrician families, as was typical of the mixed ecclesiastical-aristocratic control of the Church at that time (Tierney 1964).

Gonfaloni were political wards created in 1343, for the administrative purposes of holding elections and of raising pre-1427-reform taxes.⁶⁸ Historically these grew out of *popolo* militias, formed to combat patrician factional violence and vendettas (Najemy 1982). By 1427, *gonfaloni* had settled down into neighborhood committees (Kent and Kent 1981), through which local electoral politics and tax assessments were carried out. These committees did not so much supplant older *palazzi* and parish methods of patrician control as construct higher-order geographical arenas within which competing patrician and *popolo* political logics could contend (Najemy 1991).

The social-class category of *popolani* dates from a period and process not too different from this. In 1289, the patricians split again into warring factions, as was their late-medieval wont. This time, however, there was a weak correlation between factions and economic activity; a correlation generated by the thirteenth-century recruitment of Guelf-alliance Florentines into international banking by the pope. In 1293, the feudal-style losing faction was formally declared “magnates” – a legal status that prohibited them and their descendants from ever holding public office⁶⁹ (Lansing 1991, Klapisch-Zuber 1988). “*Popolani*” was just a label for the winners. The name was misleading in that winning faction leaders were hardly “the people”; yet the *popolo* reference, alluding back to the *Primo Popolo* of the 1250s, did reflect a political alliance between victorious patricians and the middle classes, built through the guilds in which both were members. A new constitutional order, labeled “guild corporatism” by Najemy (1982), was formed in 1282 as a federation of these cross-class, trade-based guilds. A new city council, with republican electoral procedures, was named the “Priorate” in allusion to its guild-federation roots.

⁶⁶ ‘Patricians’, as we use the term here, were the ruling-class *popolani* and magnates together, before their split.

⁶⁷ The word *palazzo* means ‘apartment building’ in contemporary Italian. Similarly, the double meaning of the Italian word *casa* is no linguistic accident.

⁶⁸ Before 1343, instead of the 16 *gonfaloni*, Florence administratively was divided into 6 *sesti*.

⁶⁹ The only exception was if descendants publicly and officially renounced their family and changed their name – an exception that itself created incentives for splintering magnate patrilineages (Klapisch-Zuber 1988). Such families created many headaches for reconstructing descent and lineage in Padgett’s relational database.

It would be wrong to think that these institutional changes, fundamental as they were, induced an immediate change in identity within the elite. Rather the newly constructed *popolani* political class was Janus-faced: connected by occupation and the state to fellow guildsmen; connected by marriage and kinship to fellow patricians, including their ‘enemies’ the magnates. *Popolani*-as-guildsmen versus *popolani*-as-patricians – both of these identities co-existed until after the Ciompi revolt, the contradiction between them structuring the turbulent politics of the 1343-1393 period (Brucker 1962, 1977). In other words, at the beginning “*popolani*” was just the political cohort category of top-office-holders in the early republic, and their families, not a coherent collective actor or group. Magnates and new men, virulently hostile to each other, were more politically coherent at this time than were the cross-cut *popolani*, who bridged between the two. The long-run story of our case is the transformation of this contradictory *popolani* political cohort into a coherent, open-elite network, which co-opted mimics into its ranks. Economic innovation in markets was one side of this network transformation in elites.

Prior to the Ciompi revolt, the network structures underlying these social-class categories, at a coarse-grained level of description, were as follows:

- (a) During the period 1289 to 1378, *popolani* marriages were being transformed, shifting from marriage within neighborhood to marriage city-wide⁷⁰ (Cohn 1980, Padgett 1994).
- (b) During this same period, economic partnerships in domestic banking declined from 75% intra-family to ‘only’ 40% intra-family, the decline attributable to the virtual collapse of father-son partnerships.⁷¹ Outside family, following the guild model, banking partnerships were formed disproportionately in neighborhoods⁷² and were class-blind (Padgett 2001).
- (c) According to account books of the great Alberti companies of the mid-Trecento (reprinted in Goldthwaite et al., 1995), commercial credit in 1348-1358 was transactional credit, not relational credit (except for that offered to family and employees). Outside of family, transactional credit was class-blind. And unlike in 1427, among internationally-oriented Florentine traders it was also neighborhood-blind. With local domestic *banchieri*, it was neighborhood focused.⁷³ There was a sharper distinction between international and domestic companies in 1348-1358 than there was in 1427.

⁷⁰ The exact figures over two centuries were 42.9% *popolani* males marrying females within quarter in 1282-1312, 36.6% in 1313-1342, 33.4% in 1343-1377, 28.3% in 1378-1404, 29.8% in 1405-1434, 29.5% in 145-1464, and 28.0% in 1465-1494. With four roughly equal-sized quarters in the city, 25% can be considered to be the random baseline. (Source is Padgett’s marriage dataset, which draws most heavily from *Manoscritti Carte dell’Ancisa*.)

⁷¹ Padgett’s banking dataset, which draws from *Arte del Cambio* guild records, volumes 11 and 14, documents that 75.3% of domestic banking partnership dyads in the period 1299-1323 were among bankers with the same last name. This percentage declines to 58.6% in 1329-1346, to 43.9% in 1348-1362, and then to 39.1% in 1363-1376.

⁷² 46.1% of non-family banking partnership dyads were within quarter in 1340-1362. This percentage dropped to 30.4% in 1363-1376. Along with the decline in “no admit” in figure 3 during these same years, this drop might be a sign of internal trouble within the guilds, prefiguring the decisive Ciompi events (cf. Najemy 1981).

⁷³ These three empirical assertions are based on the following: (a) 30.4% of the partners of Florentine merchant companies (including *banchieri*) with whom the Alberti company traded in 1348-58 were *popolani*. In 1427, the comparable percentage for all merchant-bankers was 51.8%. (b) 5.5% of the partners of Florentine merchant companies (excluding *banchieri*) with whom the Alberti company traded were located in the Alberti *gonfalone*. In 1427, the comparable ‘same *gonfalone* among merchant bankers’ figure was 9.9%. (c) 20.8% of the traders of self-identified Florentine *banchieri* with whom the Alberti company did business were located in the Alberti *gonfalone*. These figures were produced by combining, on the one hand, the indexed list of companies doing business with the 1348-58 Alberti company, kindly extracted by Goldthwaite et al. (1995, pp. 650-690) from the account books themselves, with, on the other hand, *gonfalone* information in the 1351 *Estimo*, extracted by Padgett.

- (d) In politics, cross-class clientage was less important in structuring alliances than was the struggle between guild corporatism and elite factions (Brucker 1962, Najemy 1982).

Throughout most of the Trecento, guild instead of social class was the master trope through which economics and politics related to one another – guild being the constitutive principle in each domain. Under guild corporatism, guild was the institutional framework both within which economic partnerships formed and within which political representation was defined. The *popolani* as a set of lineages politically controlled the state and international markets through major guilds and the Mercanzia (Najemy 1972, Astorri 1998). After the Black Death of 1348, new men were ascendant both in partnerships and in the Priorate. This rise of the new men was consistent with *popolani* in their identities as guildsmen but inconsistent with *popolani* in their identities as patricians. *Popolani* marriages and friendships were present in the pre-Ciompi period, of course, but neither were used as organizing logics in politics or in economics.

B. The Ciompi revolt and its aftermath

There is no space here properly to analyze the 1378 Ciompi revolt. Others have already done so (Rodolico 1905, Brucker 1968, Cohn 1980, Istituto nazionale di studi sul Rinascimento 1981, Najemy 1981, Stella 1993). Suffice it to say that, after years of intra-elite factional struggle and after an economically damaging war with the pope, non-enfranchised wool workers, called *ciompi*⁷⁴ (employees of the *lanaiuoli*), rose up to demand their own guilds, and thereby citizenship in the existing regime. Some liberal *popolani*⁷⁵ and new men, especially from the Ricci faction, supported and helped to instigate this democratic widening of the franchise. But many others violently did not. Civil war ensued, with numerous patrician houses burned. A brief revolutionary Ciompi regime (“workers’ state”) was installed, which lasted two months. That regime exiled many ruling-class *popolani*, burned state documents, and imposed pro-worker fiscal policies. Conservative exiles regrouped in country estates⁷⁶ and, in alliance with scared middle-class guildsmen left behind, reestablished control and executed Ciompi leaders, both workers and liberal *popolani*. In two stages (1382 and 1393), under the leadership of Maso degli Albizzi and Niccolò da Uzzano, a new oligarchic regime was constructed through electoral ‘reforms’ that forever repressed guild as an independent organizing principle, both in politics and in economics (Molho 1968a, Najemy 1972, Brucker 1977, Franceschi 1993b).

As definitively analyzed by Najemy (1982; see also Molho 1968b, Witt 1976), these political reforms centralized power through electoral individuation, by increasing the stochastic numbers of participants within tightly (and secretly) controlled ‘scrutiny’ bags of eligibility. Through ‘impartial’ technical means, Albizzi oligarchs simultaneously spread office participation more widely within existing ruling families, elevated many isolated and dependent new individuals into the Priorate, and after 1393 closed the door to new families. Najemy powerfully summarizes these developments in this way:

⁷⁴ *Ciomo* was a contemporary nickname for ‘comrade’. Many *ciompi* were ex-soldiers and hence were perfectly capable of military action.

⁷⁵ For example, Salvstro d’Alamanno de’ Medici. Padgett and Ansell (1993) follow the consequences of his actions for the subsequent political fortunes of the Medici family.

⁷⁶ The diary of Buonaccorso Pitti (Brucker 1967, pp. 28 ff.) gives a vivid first-hand account of the exiles’ exciting and dangerous movements during this period.

“Having eliminated the guilds as foci of dissent, the post-1382 elite succeeded in making thousands of middle-rank Florentines completely dependent on an electoral process that was beyond their power to influence or even comprehend. By combining the numerical expansion of the political class with techniques of control that undermined the ‘promise’ of office to each successful candidate, the system managed to maintain the illusion of increasing mobility and general equality at the very moment that the flow of new men into high office was being diminished... 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,⁷⁷ 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 on which the stable and elitist polity of fifteenth-century Florence was built.” (1982, pp. 299-300)

Usually this backlash is analyzed solely as a political phenomenon, but the economic consequences of the political-regime transition, for partnership, are shown in figures 3 and 4. Figure 3 presents the social-class demography of partners active in *Arte del Cambio* banks from 1340 to 1400.⁷⁸ These data were extracted from the annual industry-census records of the Florentine banking guild (Padgett 2001). The graph makes it very clear that *popolani* dominance in banking dates specifically from the immediate aftermath of the Ciompi revolt. Data for international merchant traders show the same sharply increasing *popolani* dominance.⁷⁹

[figure 3 about here]

The mechanisms behind this expansion in *popolani* representation within merchant-banking were political:

⁷⁷ Primary evidence in support of Najemy’s point, also noticed by Najemy (p. 302), is provided in the diary of Goro Dati, a *setaiuolo* in our data set whom we have quoted before: “On 28 April, my name was drawn as Standard-bearer of [my *gonfalone*.] Up until then I had not been sure whether my name was in the purses for that office, although I was eager that it should be both for my own honor and that of my heirs... On the very day my name was drawn for this office, only fifteen minutes before it was drawn, I had taken advantage of the reprieve granted by the new laws and finished paying off my debt to the Commune. That was a veritable inspiration from God, may His name be praised! Now that I can obtain other offices, it seems to me that, having had a great benefit, I should be content to know that I have sat once in the Colleges and should aspire no further. So, lest I should ungratefully give way to the insatiable appetites of those in whom success breeds renewed ambition, I have resolved and sworn to myself that I shall not henceforth invoke the aid of any or attempt to get myself elected to public offices or to have my name included in the purses... I shall abide by God’s will, accepting those offices of the guilds or Commune for which my name shall be drawn, and not refusing the labor but serving and doing what good I may... And if I should depart from this resolve, I condemn myself each time to distribute two gold florins in alms within a month. I have taken this resolution my fiftieth year.” (Brucker 1967, pp. 125-6)

⁷⁸ Unfortunately, due to a guild book being lost, this graph cannot continue through 1427. Table 5 assures us, however, that 1427 was not substantially different from the 1390s. Nor should we expect it to be, since 1382 through 1433 was coherently the oligarchic Albizzi regime.

⁷⁹ Florentine international traders using the port of Pisa in 1369 (Silva 1908) were 40.7% *popolani* in social-class background. After the 1378 Ciompi revolt, Florentine international traders with whom Francesco Datini did business in 1385-1399 (Melis 1962) were 54.8% *popolani*. These data also were used in the construction of figures 4a and 4b.

(a) Guild officials became subject, after 1382, to approval by the Mercanzia, rather than being freely elected by active industry businessmen as before (Franceschi 1993b, p. 888). In 1393, the reforming *Balia* took the even more drastic action of instructing the Mercanzia to burn all guild electoral bags and appoint consuls directly (*ibid.*, p. 889; see Molho 1968a for context). The result of this change in ‘election’ procedures for the *Arte del Cambio* was an increase from 42.2% of bank consuls being *popolani* in 1343-1377 to 60.1% of them being *popolani* in 1378-1434.⁸⁰

(b) Guild membership remained a prerequisite for industry participation, but matriculation fees for new entrants were more than doubled.⁸¹ For sons of guildsmen, on the other hand, matriculation into guilds was hereditary and free, regardless of actual participation in the industry. Under these matriculation rules, the demographic guild majority increased its majority, even as the linkage between guild and industry weakened.

(c) Once *popolani* endogamy in partnership developed, then internal sponsorship and recruitment automatically reproduced *popolani* demographic dominance, without further official manipulation.

Whereas figure 3 presents trends in the social-class profile of businessmen, figures 4a and 4b shows changes in the partnership organizations these businessmen made. As shown in figure 4a, most Florentine businessmen in 1369, before Ciompi, were in only one industry. Multiple guild memberships were possible, but the master-apprentice dynamics of guild careers pushed toward industrial specialization. As shown in figure 4b, in dramatic contrast, by 1385-1399 shortly after the Ciompi revolt, the numbers of ‘generalist’ Florentine businessmen, who participated in more than one industry, had exploded. Partnerships by single businessmen in multiple companies, across industries, were the mechanism that allowed this. Inspection of the names located in the ‘spider web’ of coupled partnerships linking industries reveals virtually a ‘who’s who’ of the economic-cum-political elite of this time. Therefore, the emergence of a new form of economic partnership and the emergence of a new financial elite, sitting astride multiple industries, were two sides of the same process: on the one hand, a new form of partnership generated economic elites that transcended industry; on the other hand, the new elites (composed of old families) used this new form of partnership as an alternative to guilds for controlling markets.

[figure 4a and 4b here]

This new organizational form of partnership is well known to economic historians – Melis (1962, 1991) called it ‘company systems’ (*sistema di aziende*), de Roover (1966) called it ‘holding companies’ – but this economic innovation is not usually connected to political history,⁸² nor to

⁸⁰ Data extracted from *Arte del Cambio* 12.

⁸¹ In 1347, the matriculation fee into the *Arte del Cambio* had been set at 10 florins for a brand new entrant, 5 florins for a sponsored apprentice with 5 years experience. At that time, but not after 1400, fees were paid when the new banker first became a partner or solo proprietor. These matriculation fees remained fixed until 1384 when they were raised to 25 florins (12 ½ florins for sponsored apprentice). In 1394, these fees were raised again to the exorbitant level of 50 florins (25 florins for sponsored apprentice), but this proved unsustainable, so in 1403 fees were returned to 1384 level. This data was extracted from guild statutes (*Arte del Cambio* 5; see Marri 1955 for published statutes covering the earlier period of 1299 to 1316).

⁸² Perhaps this is because of typical academic specialization. Perhaps this is because most historians interpret their data more cautiously than do most social scientists. But perhaps also this is because the timing of this emergence in economic organization has not been this sharply delimited before.

elites. Earlier in time (~1250-1350), internationally-oriented Tuscan companies had been ‘family firms’ – that is, centralized, unlimited-liability, and long-lasting partnerships, composed mostly of partners from a single patrilineage, with geographically dispersed branches financially unified into a single set of account books (Peruzzi 1868, Saporì 1926, 1955, Hunt 1994). Later in the century, ‘company systems’ arose – that is, networks of overlapping ‘limited-liability’⁸³ partnerships, unified by common owners with separate (and shorter-term) founding contracts with different branch managers-now-owners. Subject to periodic review by the center, each branch maintained separate account books and dealt with other branches of the networked assembly as if they were separate companies, which legally they were (cf. Powell 1990). These ‘company systems’ might be considered to be the partnership version of Chandler’s (1977) decentralized ‘multidivisional firm’, except that the power of individual owners at the center actually increased, due to the elimination of patrilineal boards of directors (de Roover 1966, p. 78). In this transformation in legal and accounting relations between center and branches, the role of the central owner often shifted from entrepreneur to actively managing financier.⁸⁴

‘Company systems’ do not automatically imply cross-industry diversification, since branches can span geography as well as industry. But the modularity of this form permitted its easy and plastic extension across industries, once no guild career structure remained to inhibit that spread. In particular, as international merchant-bankers started to link through partnership with domestic bankers and textile producers, the distinctiveness of these industrial perspectives and interests increasingly began to blur: domestic bankers and textile producers began to think and do more international trading, and traders began to think and do more finance and production. Indeed this blending of industrial perspectives and interests became socially natural, as the people running these various industries became more alike.

The implication of this organizational change in partnership for accounting, and for the commercial credit that flowed through accounting, is that current accounts – previously the private preserve of family members and employees at the heart of the family firm – turned ‘inside out’. That is, what had been the formal technique for recording private relational exchanges within the company, enforced by common patrilineage and father, became the formal technique for recording public relational exchanges between companies, enforced by common owner and by social-class and neighborhood embedding.⁸⁵ The statistical data show that inter-company relational credit diffused far more widely than just within organizational systems. But subject to further research, we believe that the crucial accounting breakthroughs of externalized *conti correnti* among banks and *conti di esercizio* between banks and producers, technically so prerequisite to this credit

⁸³ The partners of each individual branch still had unlimited-liability legal responsibility for the debts of their branch company, but being separate legal entities different branches no longer were liable for the debts of other branches. In this way partners indirectly could shelter some of their ‘unlimited-liability’ risk. True limited-liability – the *accomandita* form of partnership, with ‘silent partners’ liable only up to their investments – did not legally exist in Florence until 1408 and even then diffused only very slowly until the early 1500s (Goodman 1981).

⁸⁴ Indirect evidence for this point about roles is that *popolani* partners had more industry experience on average than their bank partners before Ciompi, but they had less industry experience on average than their partners after Ciompi (Padgett forthcoming).

⁸⁵ This is the ‘company system’ dummy variable in the logit regressions in the appendix. Operationally two firms were so linked if they shared a common owner. Not surprisingly, this was a very strong predictor of relational credit, but not of transactional credit.

diffusion, were triggered (or at least fueled) by this change in organizational form. The two innovations supported each other.

C. Transposing social into economic

How do these post-Ciampi economic transformations in organizational form and in accounting relate to social-interactional models available in their non-economic context? Transformation in partnership from family firm to ‘company systems’ is like the step in kinship from inherited descent to negotiated marriage. Even though economic partnership was not intended to last as long as marriage, in the Renaissance both were negotiated formal contracts made in order to pool assets,⁸⁶ in order to generate ‘profits’ (both economic and social⁸⁷), and in order to construct ‘corporate actors’ with the legal capacity to commit. Under the new system, moreover, partnership linked companies, like marriage linked families. This analogy between partnership and marriage was more than mere metaphor to the Florentines.⁸⁸ Before Ciampi, in 1350-1379, only 3.4% of *Cambio* guild banking partnerships were between partners linked through marriage between their nuclear families. However, by 1380-1400, after the Ciampi revolt, that network-overlap figure had almost quadrupled to 12.1%.⁸⁹ Just as the family firms in Dante’s time were built on the social integuments of patrilineage, company systems in the early Renaissance were built on the social model of marriage. This social model automatically, without intention, pushed toward industrial diversification. Making partners with your son did not take you outside of a guild. But making partners with your son-in-law did.⁹⁰

For commercial credit, as opposed to partnership, we have already established through textual evidence that relational credit adopted a language of friendship, and through statistical evidence that relational credit flowed significantly within neighborhoods, especially between neighbors of the same social class. “*Parenti, amici, vicini*: these three words are constantly found closely associated in the thoughts of Tuscans of the fourteenth and fifteenth centuries” (Klapisch-Zuber [1976] 1985, p. 68). But operationally what did these plastic concepts mean in the Renaissance?

In a brilliant analysis of the 1379-1421 diary of Lapo Niccolini, Christiane Klapisch-Zuber provides the answer:

“In choosing his affines in other *quartiere*, Lapo created a sort of void between his blood relatives, crowded into their grouped houses, and *parenti* established farther away. This

⁸⁶ Dowries were not only like start-up capital (revealingly called *corpo*), they frequently were used by new husbands as start-up capital (Brucker 1967, pp. 114, 122) Negotiations of course were typically between fathers of the spouses, or between husband and prospective father-in-law, not between husband and wife.

⁸⁷ See Alberti ([~1430] 1971) for the investment perspective on marriage, babies, and sons.

⁸⁸ Even today, economic partnership in law has overtones of marriage (Uzzi, personal communication).

⁸⁹ The source for these figures is Padgett’s data set, described above. Since there is “only” 40-50% coverage of marriages in Padgett’s data set from 1350 on, the actual rates in both eras were higher than can be documented explicitly. Calculating overlap rates is impossible for 1401-1434, because that *Arte del Cambio* guild book has not survived. Temporal sequence between marriage and partnership was unimportant: about half of the time economic partnership preceded inter-marriage of nuclear families, about half of the time the sequence was the reverse. The point we are making is the *simpatico* fit between these relational logics, not direct causality at the micro level.

⁹⁰ The most detailed primary-source portrait of son-in-law relations in Renaissance Florence is the memoir of Marco Parenti, son-in-law to the famous Strozzi family (Phillips 1987). He acted as their agent in many domains of life.

void was filled by ‘allies of choice’, the *amici* whose presence had the task of insuring the harmonious proximity of neighboring lineages... Lapo presents an extremely small number of people as friends⁹¹... Friendship usually involved important social functions. Friends were a ready source of obliging intermediaries, lenders or guarantors of non-interest loans, sometimes arbiters in amicable settlements, and godfathers to the children... It is, first of all, in the give and take of daily business that these privileged relations of *amore* and confidence, which contemporaries naturally associated with kinship but which also characterized friendship, seem to be initiated... The exchange of free favors seems to characterize relations between friends, and – in a society in which every penny was counted – *amore* introduced a certain freedom of action. Behind this exchange, when it was disinterested, we can divine a certain desire to leave accounts perpetually open between friends, not to hold friends to an exact accounting in the repayment of loans.” ([1976] 1985, pp. 87-89)

Business did not use friendship simply for its own instrumental purposes. Rather credit in business, like in other domains, was an integral part of the Renaissance Florentine conception of what friendship was. Business credit was one part of constructing multifunctional economic-cum-political-cum-social *amici* relations, often within neighborhood.

Formal current account was to *amicizia* in business as formal rhetorical style was to *amicizia* in patronage. Both Trexler (1980) and McLean (1996) emphasize the very stylized linguistic manner in which Florentines went about negotiating and constructing all their social relations. *Conti correnti*, in other words, were not only formalizations of preexisting friendships; they were also recognized formal tools for constructing, deepening, and testing friendships. Personal ties between businessmen and corporate ties between companies, while not exactly identical, were tightly coupled in the Renaissance. *Amicizia*/current account combined emotion with contract just like marriage/partnership did, only less so.⁹²

To situate this temporally, we present here an interpretation which is consistent with the wide variety of data at our disposal, but which nonetheless is subject to further testing in the future: In the early Renaissance, within the *reggimento* ruling group, the concept and patterning of ‘friends and neighbors’ opened out from its pre-Ciampi corporate anchoring in parish and *piazza* into the more open-ended and status-conscious realm of social class.⁹³ Partnership was transposed from the social model of patrilineage to the model of marriage. Commercial credit was transposed from the social model of *piazza* to this newer version of friendship. “The rise of financial capitalism” in Florence was a byproduct of this reconfiguring of relations among multiple social networks within an adaptive elite.

⁹¹ For the famous case of Francesco Datini, Richard Trexler emphasizes the quasi-contractual character of Renaissance friendship: “Francesco wrote to Mazzei in Florence at this time, ‘donating’ his friendship and asking the notary to take the merchant for his friend. Lapo responded ‘With all affection and love I accept being your younger brother and friend in every thing. And in me, such as I am, take that heartfelt liberty that you would take with yourself.’” (1980, p. 135)

⁹² Silver (1990) dates the separation of emotion from instrumentality in the Western concept of friendship to the eighteenth-century Scottish Enlightenment.

⁹³ Becker (1968) argued that the weakening of corporate groups in Renaissance Florence was due to the actions of a bureaucratizing state. This weakening trend we agree with, but unlike Becker (and Weber) and more in line with Molho (1995), we emphasize that the formalism and personalism went hand in hand.

The political motor behind both of these network transpositions was backlash against the Ciompi revolt. Markets were not reorganized intentionally, with the goal of political repression. Rather causality was indirect: multifunctional elite self-conceptions and identities were refashioned, in the short term through immediate emotional response, in the long run through new political instruments of control.

Before the Ciompi revolt, the *popolani* political cohort had been split internally by patrilineage, guild, neighborhood and faction. Elite fragmentation and feuding indeed had opened the door to revolt in the first place (Brucker 1962). Guild corporatism, originally set up in response to magnates, was the constitutional framework through which *popolani* families had earlier controlled both the state and markets. But that framework also encouraged any challenge from below to spill over between the citizenship and the economic domains, thereby increasing its intensity. Revolution fused most of the old ruling group into a ‘unitary’ class in set-complement response,⁹⁴ at least temporarily effacing lateral distinctions. Fusion was non-trivial because of the intensity of intra-elite feuding. But, on the economic class dimension, a common enemy – the violent wool workers – seared together the political-cum-economic interests of international merchant-bankers and domestic *lanaiuoli* wool producers. And on the dimension of intra-elite factions, discredited ‘class traitor’ liberal supporters of the Ciompi moved the reactionary Albizzi faction, rather than the more tolerant Ricci faction, into the collective-good position of ‘defenders of the state.’ Together these two oppositions merged the conservative Albizzi faction – previously the less economically progressive of the two – with international export-oriented businessmen.

Had binary oppositions been the only dynamic, these fusions might well have been transient. After Albizzi electoral ‘reforms’, however, political election to the republican state, even more than patrilineage or guild, became the focal referent, the career capstone, toward which other roles – patron, partner, even husband and father trying to protect their families – pointed. For newcomers, election came to mean incorporation, acceptance, and validation of hard-earned reputation. For old-time families, almost automatic election emphasized the saliency of their *popolani* identity – a celebration of past political participation by their ancestors that reinforced their current status and power. Viewed over the perspective of a century, from Dante’s time, *popolani* families gave up monopoly control over the Priorate (and the Mercanzia) in exchange for the abstract celebration of themselves as an ideal, to which others could aspire.⁹⁵ The social category itself changed its logical structure from a bounded set to an exemplar (Lakoff 1987), as *popolani* control extended deeper into the society’s *mentalite* by means of political cooptation⁹⁶ and kinship emulation,⁹⁷ instead of exclusion.

Marriage and friendship had been the primary social networks binding together this *popolani* political-cohort category all along. (The patterning of these networks with respect to

⁹⁴ This occurred in two steps: 1382 and 1393. See Brucker (1977) for details.

⁹⁵ Cohn (1980, pp. 37, 208) has noted that official identification of *popolani* (only) names, appearing on notarized contracts and documents, changed during this period from including neighborhood residence to the more transcendent *cives Florentinis* or ‘citizens of Florence.’

⁹⁶ As mentioned above, Molho (1968b), Witt (1976), and Najemy (1982) have studied in depth the Florentine paradox of simultaneously expanding political participation and restricting political control.

⁹⁷ Cohn (1988, 1992) shows through two studies of wills over time how the patrilineage ideal diffused to the middle classes, who frequently paid for genealogies (Klapisch-Zuber 2000) to stake their claim to nobility.

neighborhood, not with respect to social class, was what had altered over time.) Without political and economic organization, however, a social-class category remains only that – one identity among many contending for saliency. Building that social category into powerful institutions and then into biographies and careers of mobility, however, elevates that contending identity into hegemony (cf. Douglas 1986). Marriage and friendship were mobilized into politics and into economics to control these new institutions and to pursue these new identities – with organizations and elite structure changing as a byproduct. The concrete cohort of *popolani* was crucial in 1289-1342, and the abstract ideal of ‘*popolani*’ was crucial in 1378-1433, but these were not identical social objects in the two periods.

One corollary of this interpretation is that political organization should have altered along these ‘marriage and friendship’ lines, just as did economic organization. And it did. “[Patron-client relationships] became particularly frequent in the period of ‘oligarchic’ government after 1382.” (Brucker 1969, p. 97).⁹⁸ Clientage was the transposition of friendship, particularly cross-class intra-neighborhood friendship (Kent and Kent 1981, Kent 1987, Kent 1991), into the political domain, just as relational credit was its transposition into the economic domain.⁹⁹ Some assume clientage to be a timeless feature of Mediterranean society, without a specific history. But Lansing (1991, p. 172) shows that evidence for clientage is hard to find in Florence in the early 1300s. Across the Trecento, predominant cross-class relations with neighbors shifted from late-1200s protection and coercion within the military domain (Lansing 1991), to mid-1300s master-apprentice style partnerships within the economic domain (Padgett 2001), to late-1300s patron-client relationships within the political domain.¹⁰⁰ The latter two network ties were routes to social mobility for the new men, but one was through companies, while the other was through credit and the state. Instead of inviting new-men neighbors into their houses and partnerships, as they had in the past, *popolani* lineages now offered them loans, favors and credit instead.

D. Macroeconomic coda: the rise of silk

Elite transformation had this macroeconomic payoff: it increased the flexibility and adaptability (in certain directions) of the Florentine economy as a whole. Goldthwaite (1993) and Tognetti (2002) have emphasized quite forcefully the importance to Florence, in the early fifteenth century, of the rise of its silk industry, to offset (either in whole or in part) the decline of its wool industry. Florence was not the technical innovator in Italian silk that Lucca had been (Edler 1930). But the achievement of Florence in so radically restructuring its own economy in the face of economic crisis, exploiting the decline of Lucca, demonstrated an impressive capacity for industrial flexibility and adaptation.

⁹⁸ See also Connell (2000). Marriage is well known to have had strong alliance-building overtones in the Quattrocento (Fabbri 1991, Molho 1994), but we have no specific dates on the changing political functions of marriage.

⁹⁹ The client product of this transformation is well illustrated by the new-man perspective of Giovanni di Pagolo Morelli, writing sometime around 1405: “Now, be courteous: make an effort to acquire one friend or more in your neighborhood, do whatever good you can for him, and don’t trouble yourself about putting yourself in his care. If you are rich, be content to buy friends with your money, if you can’t obtain them otherwise; try to marry into families of good citizens, both well-loved and powerful; and if there is in your neighborhood someone to help you (or, to whom to attach yourself) and to put yourself close to, draw near to this person. If you are able to do this by marriage, do it; if not by this means, hang out with him, work with his (associates), contrive to serve him, offer yourself to him when you see his need.” (Branca 1986, pp. 190-91. Translation by McLean.)

¹⁰⁰ Wars and taxes in the early 1400s gave to the latter real economic value (Molho 1971, McLean 1996).

Our analysis helps to explain two organizational features of this observed macroeconomic flexibility: first, the collective-action ability of Florentine merchant-bankers to generate a coherent state industrial policy, and second, even more impressive, the implementation ability of Florentine merchant-bankers to sponsor and to support new-men *setaiuoli* in order to develop a new industry.

Florentine merchant companies were flexible already, even before the Ciompi revolt, in their ability to adapt to short-term geographical fluctuations in supply and demand (Goldthwaite et al. 1995, Melis 1962). Longer-term structural trends, like the drying up of English *San Martino* wool, however, required a more coordinated response, and this from a decentralized set of geographically dispersed merchants. Faced with a well-recognized economic crisis in wool, Florentine merchants in historical fact did not try to “solve their collective action problem” through conscious institutional design. For reasons quite unrelated to their economic needs, the Florentine electoral connection had already structured and solved this problem for them.¹⁰¹ Florentine republicanism almost automatically elected merchants and other businessmen to the city council. Along with its penumbra of informal *consulte e pratiche* advisory boards, the Priorate during the Albizzi regime became virtually a rotating ‘central committee’ for internationally oriented merchants, within which they could debate, explore and discover their own interests, in conjunction with other *simpatico* voices.¹⁰² A centralized political decision to develop a new silk industry, as well as another centralized decision to develop a new fleet to help the wool industry, thus emerged from the Priorate fairly smoothly and ‘naturally’ (Brucker 1977, Franceschi 1994).

The reason why macroeconomic adaptation in textiles took the form of state-led industrial policy, rather than possible counterfactual possibilities, such as price cutting, technological innovation or imperial conquest, was the institutional context in which Florentine merchants jointly discussed their economic interests.¹⁰³ The Priorate setting not only coordinated their own special-interest discussions as international merchants; it also framed these discussions in terms of the “general interest of Florence.” Florentine merchants in the Priorate were not speaking to each other merely as merchants. They were also speaking to each other as kin, as neighbors, as *popolani*, and as republicans. In addition to their multiple social roles, they were indeed speaking to each other as merchants, and as such, they came from and participated in a variety of industries.

¹⁰¹ We agree with Greif (1994) that northern Italian political institutions had definite consequences for economic growth. We disagree with him in his functionalist view that these institutions existed for that purpose. There were deeper historical reasons for the character of Florentine political institutions than trade (cf. Trexler 1980). In lieu of economic functionalism, we find Elster’s (1983) byproduct view of causality (see also Padgett 1986) to be more consistent with the historical processes that we observe. Najemy (1991) presents a deeply informed view of Florentine political institutions as dialogic settings for discovering and creating interests through refracted conflict, which is consistent with our network account. His dialogic view of political institutions stands in sharp contrast to an instrumentalist perspective, which presumes fixed interests independent of social interaction.

¹⁰² In the earlier fourteenth century period, the Mercanzia had served this function (Najemy 1972, Astorri 1998), turning the commercial court essentially into a powerful special interest group. By 1427, however, international merchant-bankers had been blended more smoothly into the Priorate itself, thereby on the one hand turning the Priorate into a more ‘consensual’ and elitist body (Najemy 1982), controlled by clientage, and on the other hand turning the Mercanzia into a more ‘impartial’ judicial authority. Brucker (1962, 1977) and Kent (1975) explain well the informal, but important, advisory role of the *consulte e pratiche*.

¹⁰³ For a modern example of the use of political institutions by industrialists to discover and indeed to construct their own interests, see Herrigel (1996).

Given the cohesion that cross-cutting social ties provided to the discussion, a collectively corporatist analysis of their economic predicament became virtually a background assumption.¹⁰⁴

Even in their company-specific interests, Florentine merchants were not very specialized, as was shown in table 4. Socially and corporately the gap between merchant-bankers and *setaiuoli* could be vast, but in terms of concrete economic behaviors, merchant-bankers and silk manufacturers were not all that distinct (Edler de Roover 1966, Tognetti 2002). Merchant-bankers actively reached out to their new-men neighbors with relational credit and with company systems (Tognetti 2002), and they introduced them to their international circles.¹⁰⁵ Perhaps the Florentines paid an efficiency cost for their generalism in term of marginal productivity, as Adam Smith would have argued. But offsetting this, the benefits in economic flexibility and in political collegiality were profound. Helping *setaiuoli*, helping merchant-bankers, helping Florentine workers, helping Florence at large: framed within the Priorates and *consulte e pratiche* of the Albizzi regime, and socially united by an abstract commitment to a *popolani* republican ideal, the gaps between the discussions of these various ‘interests’ was hardly large. Of course, the Albizzi regime was so ‘consensual’ in the first place precisely because the Ciompi revolt had been crushed.

CONCLUSION

To sum up: After the Ciompi revolt, the Florentine *popolani* elite refashioned itself by making marriage and friendship, instead of guild, constitutive of economic and political organization. ‘Limited-liability’ partnership systems, relational commercial credit and *conti correnti*, and patron-client relations – all these organizational innovations were byproducts of elite transformation. Attempting merely to survive and to maintain control in the face of violent revolution, deeply conservative *popolani* families during the Albizzi regime reconstructed their companies (Melis 1962, 1991), they reconstructed their accounting (de Roover [1956] 1974), they reconstructed their families (Goldthwaite 1968, Kent 1977), they reconstructed their friendship and clientage networks (Brucker 1969, Kent 2002), they reconstructed their republican state (Najemy (1982), they reconstructed their ideology (Baron 1966), they reconstructed art (Baxandall 1988), and they reconstructed themselves (Burckhardt [1878] 1990). Renaissance Florence was among the most innovative societies in history, but not because of any desire to innovate.

Certainly each emergent organizational form locked in because it ‘worked’ in its own specialized domain. More profoundly, however, each form locked in because it ‘worked’ in all domains at once – economic, political, family and neighborhood. These organizational forms also reinforced each other by reshaping late medieval social-interactive and self-conception models into a more generalized Renaissance linguistic and behavioral tool-kit (Trexler 1980, McLean 1996). International Florentine merchants became elite ‘Renaissance men’, who were interested in profits, status, power, friends and taste all at once. Multi-functionality implies that incremental

¹⁰⁴ This economic analysis has a cultural parallel: the rise of elite-unifying civic humanism (Baron 1966). We take this opportunity to salute Baron’s underappreciated work as curator at the Newberry Library in Chicago. We have consulted numerous manuscripts from the excellent Renaissance Florentine collection at the Newberry, which Baron patiently acquired during his lifetime.

¹⁰⁵ Edler de Roover (1966) also shows the limits of this: *setaiuoli* like Andrea Banchi had a hard time getting access to merchant-bankers’ favorite elite customers (princes, bishops and the like), but no trouble getting access to international fairs. There was plenty of diversity as well as volume in trading for this to threaten no one.

innovation is harder in any coherent social system.¹⁰⁶ But it also implies that when something tips, innovations (for good or ill) cascade across domains. Once stabilized, and if stabilized, not only do organizations and networks change but also the biographies, identities and collective cognitions that knit these together.

Granovetter (1985) did a service for the field of economic sociology by underscoring the importance of “social embeddedness” in the operation of markets. Like Carruthers (1996), we have taken the step of moving the topic deeply into historical context, in order better to understand the dynamics through which one type of social framing of economic exchange occurs rather than another. In the course of this, we have demolished, for one more case at least, that old teleological modernization shibboleth about “the impersonal market displacing pre-modern personalism.” In Florence, the “birth of financial capitalism” was constructed by reconfiguring personalized social networks. *Amicizia* was the blood that flowed through and kept alive formal *conti correnti* veins; initially external current accounts in turn were the byproduct of transposing partnership from patrilineage to marriage.

Finally, we have endogenized identity and interest. The generalist ‘Renaissance man’ was the abstraction of a particular *popolani* cohort of patrilineages into a republican citizenship ideal, in principle (but not in likelihood) attainable by anyone. Interests and goals are not primordial: goals are properties of social roles; interests are anticipated future role sequences (White 1992, Padgett 1990, Padgett and Ansell 1993). Identities are self-images of such sequences. Change the chains of mobility, therefore, and identities are altered (Padgett 2001). The Florentines transformed Western psychology because they unintentionally discovered the ‘open elite’: elite control over individualized self-fashionings via restricted multi-role mobility. New Guineans intuited this social-exchange principle in their metaphor of the ‘rope of moka’ (Strathern 1971). Florentines recognized it through the metaphor of ‘making each other’ – fathers making sons, friends making friends, patrons making clients, partners making partners, and current accounts making current accounts. Economic credits were business loans, but they were also more than that. Credit was the currency through which Florentines reached into each other to construct each other’s biographies.

To understand how a society moves through history, not just responding to events but also actively shaping and reinventing itself, we need to uncover the logics through which its people interact and shape each other. Contingent events are relevant (Sewell 1996), but patterns of multiple-network overlay channel the trajectories of possible recombinations (Stadler et al. 2001). These trajectories of accessible transformations are poorly understood, mostly because the issue infrequently has been studied. More detailed cases of dynamic multiple-network system transitions are necessary for a general evolutionary theory to become possible.¹⁰⁷ To make progress, in our opinion, this search needs to be grounded not in ahistorical stick men of stereotyped motivation, but in the multifaceted people who actually made our history. Their interactions, their mutual framings, and their transformations of each other are the nonlinear motors driving human evolution and invention.

¹⁰⁶ See Wagner and Altenberg (1996) for a general discussion of epistasis versus modularity, and their respective impacts on evolutionary trajectories.

¹⁰⁷ See Padgett, Lee and Collier (2003) for a minimalist autocatalytic chemistry version of the argument. Padgett and Powell, with others, currently are working on a Santa Fe Institute edited volume that compares a wide array of ‘market transformation’ historical cases, from a dynamic multiple-network perspective.

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Table 1. CENSUS OF 1427 COMPANIES/PARTNERSHIPS IN MAJOR INDUSTRIES

	High Certainty Companies			Low Certainty Companies		
	Florence	Overseas	Old	Florence	Overseas	Old
International Merchant-Banks	0	45	7	0	10	2
Florence/Pisa Merchant-Banks	0	20	1	0	1	0
Domestic Banks	53	0	10	12	0	4
Cloth Retail	32	3	5	4	1	2
Silk Production	38	8	4	11	1	1
Wool Production						
San Martino	36	5	10	2	0	0
Via Maggio	27	0	2	1	0	0
San Pancrazio	8	0	0	0	0	0
S Pier Scheraggio	9	0	1	0	0	0
Unclear Location	34	4	9	21	4	4
All Wool Firms	114	9	22	24	4	4
Cloth Dyers	18	0	3	7	0	2
Other Industries (partial)						
Fur	6	0	0	4	0	0
Gold	3	0	0	5	0	0
Linaioli	6	0	0	10	1	0
Merciai	6	1	0	5	1	1
Rigattieri	7	1	0	4	0	1
Speziali	11	0	2	1	0	0
Miscellaneous	6	1	5	6	0	1
Unknown Industry	9	9	10	110	20	15
Totals	312	94	69	203	39	33

Table 2. CAPITAL STRUCTURE OF 1427 CATASTO COMPANIES

Average Capital/Corpo Size of Companies, in florins:

	n	corpo1= corpo only	corpo2= corpo1 + soprac. + profit	corpo3= corpo2 + inventory
Merchant Banks (Int'l. + Pisa)	23	5080	5751	6973
Domestic Banks	24	6375	9941	10119
Cloth Retail	21	4305	5348	7102
Silk Manufacturing	25	3568	3928	4851
Wool Manufacturing (San Martino)	30	3239	3654	4373
Wool Manufacturing (other)	24	2030	2233	2517
Cloth Dyeing	8	1095	1195	1595

Average Leverage = Σ_i (total debt) / Σ_i (capital)

	n	corpo1= corpo only	corpo2= corpo1 + soprac. + profit	corpo3= corpo2 + inventory
Merchant Banks (Int'l. + Pisa)	12	5.42	4.98	3.62
Domestic Banks	14	4.93	3.29	3.20
Cloth Retail	14	2.20	1.66	1.15
Silk Manufacturing	19	0.94	0.86	0.66
Wool Manufacturing (San Martino)	23	1.17	1.04	0.84
Wool Manufacturing (other)	16	0.54	0.48	0.41
Cloth Dyeing	7	2.27	2.03	1.44

Table 3. Percentage of Credits flowing through Economic Credit Relationships

(a) RECIPROCAL CREDITS:

creditor companies:	Banks	debtor companies: All Other Companies	Total
Banks	$427/953 = .448$	$117/749 = .156$	$544/1702 = .320$
All Other Companies	$115/662 = .174$	$232/1959 = .118$	$347/2621 = .132$
Total	$542/1615 = .336$	$349/2708 = .129$	$891/4323 = .206$

(b) MULTIPLE CREDITS:

creditor companies:	Banks	debtor companies: All Other Companies	Total
Banks	$474/953 = .497$	$169/749 = .226$	$643/1702 = .378$
All Other Companies	$160/662 = .242$	$400/1959 = .204$	$560/2621 = .214$
Total	$634/1615 = .393$	$569/2708 = .210$	$1203/4323 = .278$

(c) RELATIONAL CREDITS:

creditor companies:	Banks	debtor companies: All Other Companies	Total
Banks	$601/953 = .631$	$234/749 = .312$	$835/1702 = .491$
All Other Companies	$230/662 = .347$	$562/1959 = .287$	$792/2621 = .302$
Total	$831/1615 = .514$	$796/2708 = .294$	$1627/4323 = .376$

N.B.: (c) is the union of (a) and (b).

“Banks” equals {M.B. Int’l., M.B. F/Pisa, and Domestic Banks}.

“All Other Companies” equals {Cloth Retail, Silk Producers, Wool producers: both San Martino and other conventi, and Dyers}.

Table 4. Content of Credits (when known)

I. AMONG BANKS:

Relational Credits:	Transactional Credits:	Specialization of Credits: (when two contents known)
70 Accounts	17 Accounts	51 Different categories
17 Banking activities	16 Banking activities	21 Similar: Accounts
19 Merchandise	6 Merchandise	45 Similar: Other categories
19 Cloth	6 Cloth	
16 Raw materials	3 Raw materials	
5 Other	4 Other	

II. BETWEEN BANKS AND OTHERS:

Relational Credits:	Transactional Credits:	Specialization of Credits: (when two contents known)
17 Accounts	10 Accounts	5 Different categories
8 Banking activities	27 Banking activities	7 Similar: Accounts
3 Merchandise	4 Merchandise	19 Similar: Other categories
45 Cloth	38 Cloth	
28 Raw materials	52 Raw materials	
0 Other	3 Other	

III. AMONG OTHERS:

Relational Credits:	Transactional Credits:	Specialization of Credits: (when two contents known)
0 Accounts	2 Accounts	0 Different categories
3 Banking activities	4 Banking activities	0 Similar: Accounts
0 Merchandise	1 Merchandise	2 Similar: Other categories
15 Cloth	34 Cloth	
1 Raw materials	14 Raw materials	
0 Other	4 Other	

N.B.: "BANKS" = {Merchant-Banks International, Merchant-Banks Florence/Pisa, Domestic Banks}

"OTHERS" = {Cloth Retailers, Silk Producers, Wool Producers: San Martino, Wool Producers: Other conventi, Cloth Dyers}

"Specialization" = contents in similar or different categories, when two contents known.

Table 5. SOCIAL CLASS COMPOSITION OF PARTNERS IN 1427

number:	M-B, Intl.	M-B, F/Pisa	Dom. Banks	Cloth Retail	Silk	Wool, S.M.	Wool, Other	Cloth Dyers	Total
Magnates	22	5	15	8	6	1	7	0	64
Popolani	33	15	62	21	23	49	46	4	253
New Men	1	1	11	15	19	10	24	4	85
New-New Men	5	3	10	15	11	9	20	3	76
Not Admitted	<u>16</u>	<u>17</u>	<u>13</u>	<u>14</u>	<u>23</u>	<u>14</u>	<u>31</u>	<u>16</u>	<u>144</u>
Total	77	41	111	73	82	83	128	27	622

percentage:	Merchant-banks		Cloth Retail	Silk	Wool	Cloth Dyers	Total
Magnates + Popolani	.664		.397	.354	.488	.148	.510
New Men + N.N.Men	.135		.411	.366	.299	.259	.259
Not Admitted	.201		.192	.280	.213	.593	.232

Definition of social classes, according to political cohort:

- 1) "Magnates" are those families legally excluded from membership in the Priorate in 1293-95 (see Lansing 1991).
- 2) "Popolani" are those families who first entered the Priorate between 1282 (birth of republic) and 1342.
- 3) "New Men" are those families who first entered the Priorate between 1343 (Duke of Athens) and 1377.
- 4) "New-new Men" are those families who first entered the Priorate between 1378 (Ciompi revolt) and 1427.
- 5) "Not Admitted" are those families who had never entered the Priorate by 1427 (date of *catasto*).

Table 6. PREDICTING PARTNERSHIPS: Logit Regressions on Partnership Dyads

Independent variables:	Percentage of partnership dyads in indep. vars.	Dependent variable = partnership dyad (i.e., in partnership or not)	
		class-only baseline	full model
<u>Kinship:</u>			
Nuclear Family	20.2		4.313 ^{***}
In-law Nuclear Family	0.5		2.783 ^{***}
Patrilineage Family (excl. nuclear)			
among banks	8.8		1.804 ^{***}
among silk producers	14.3		3.524 ^{***}
among wool producers	11.1		2.742 ^{***}
among cloth retailers	7.8		3.395 ^{***}
In-law Parentado Family (excl. nuclear)			
among banks	6.4		1.529 ^{***}
among silk producers	0.1		3.536 ^{**}
among wool producers	0.1		1.630 [*]
among cloth retailers	0.0		---
<u>Neighborhood Relations:</u>			
Same Gonfalone (after interactions with class)			
among banks	16.9		-.167
among silk producers	20.4		.438
among wool producers	17.6		-1.120
among cloth retailers	19.6		.624
Same Quarter (excl. gonfalone)			
among banks	37.8		.326 [*]
among silk producers	30.6		.423
among wool producers	41.7		.496 ^{**}
among cloth retailers	25.5		.513

Independent variables:	Percentage of partnership dyads in indep. vars.	Dependent variable = partnership dyad (i.e., in partnership or not)	
		class-only baseline	full model
<u>Social Class:</u>			
Among Merchant-bankers:			
Popolani + Magnates	64.2	.831 ^{***}	.264 [*]
within gonfaloni			.067
(Pop.+Mag.) x (NM+NNM)	2.5	-.757 ^{**}	-.783 ^{**}
within gonfaloni			.000
New men + New-new men	4.7	1.123 ^{***}	-.875
within gonfaloni			3.444 ^{**}
No Admits	7.4	1.134 ^{***}	.344
within gonfaloni			2.756 ^{**}
Among Wool Producers:			
Popolani + Magnates	41.7	.597 ^{***}	-.350
within gonfaloni			2.188 ^{**}
(Pop.+Mag.) x (NM+NNM)	6.3	-.402 [*]	-.402 [*]
within gonfaloni			.000
New men + New-new men	13.0	.088	-.500 [*]
within gonfaloni			2.127 [*]
No Admit	3.7	-.096	-.572
within gonfaloni			1.964
Among Silk Producers:			
Popolani + Magnates	22.4	1.008 ^{***}	-.143
within gonfaloni			.419
(Pop.+Mag.) x (NM+NNM)	1.9	-.191	-.247
within gonfaloni			---
New men + New-new men	26.5	1.177 ^{***}	.323
within gonfaloni			1.119
No Admit	8.2	.619	.664
within gonfaloni			.000
Among Cloth Retailers:			
Popolani + Magnates	29.4	1.397 ^{***}	.869 ^{**}
within gonfaloni			-.142
(Pop. + Mag.) x (NM + NNM)	4.1	.581 ^{**}	.367
within gonfaloni			1.089
New men + New-new men	13.7	.477	-.369
within gonfaloni			-.327
No Admit	2.0	.314	-.317
within gonfaloni			---

Independent variables:	Percentage of partnership dyads in indep. vars.	Dependent variable = partnership dyad (i.e., in partnership or not)	
		class-only baseline	full model
<u>Political Relations:</u>			
Medici party (future)	2.2		-.648*
Albizzi party (future)	0.3		-1.473
Priorate (past): first partner	19.9		-.036
Priorate (past): second partner	19.9		-.039
Priorate (future): first partner	20.2		-.021
Priorate (future): second partner	20.2		-.017
Mercanzia (past): first partner	5.2		.116
Mercanzia (past): second partner	5.2		.117
Mercanzia (future): first partner	22.7		.075
Mercanzia (future): second partner	22.7		.070
<u>Constant:</u>		-4.658***	-4.793***
Number of observations		56,284	56,284
Number of non-zero observations		732	732
Log likelihood		-3804.02	-3213.73
Likelihood ratio		203.66	1384.24
Number of parameters		16	54
Probability > chi-squared		.0000	.0000
Pseudo R-squared		.026	.177

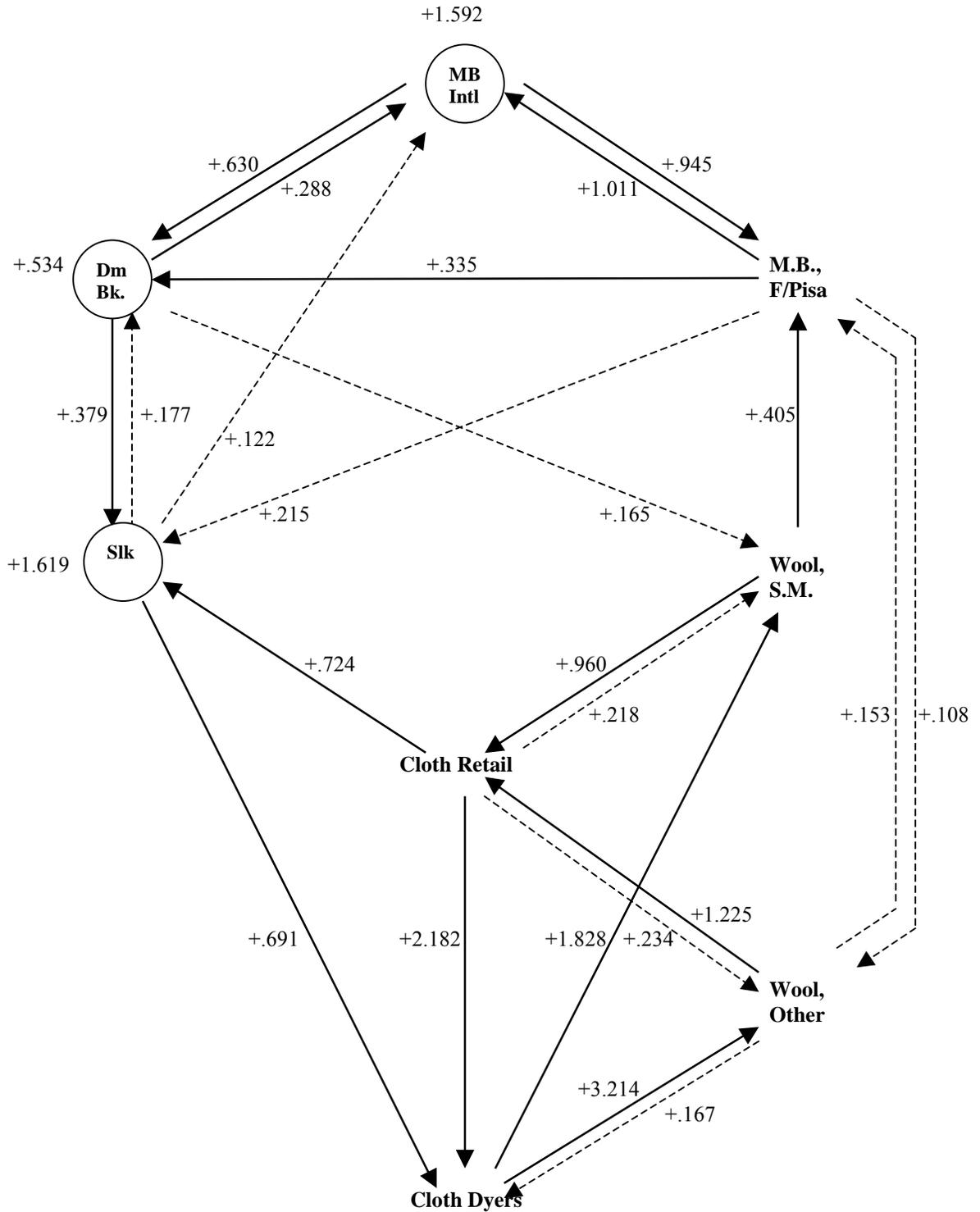
Notes:

(a) Percentages do not add up to 100.0 because of omitted categories, but mostly because of singleton partnerships – namely, firms owned and run by a single businessman, with no partner.

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

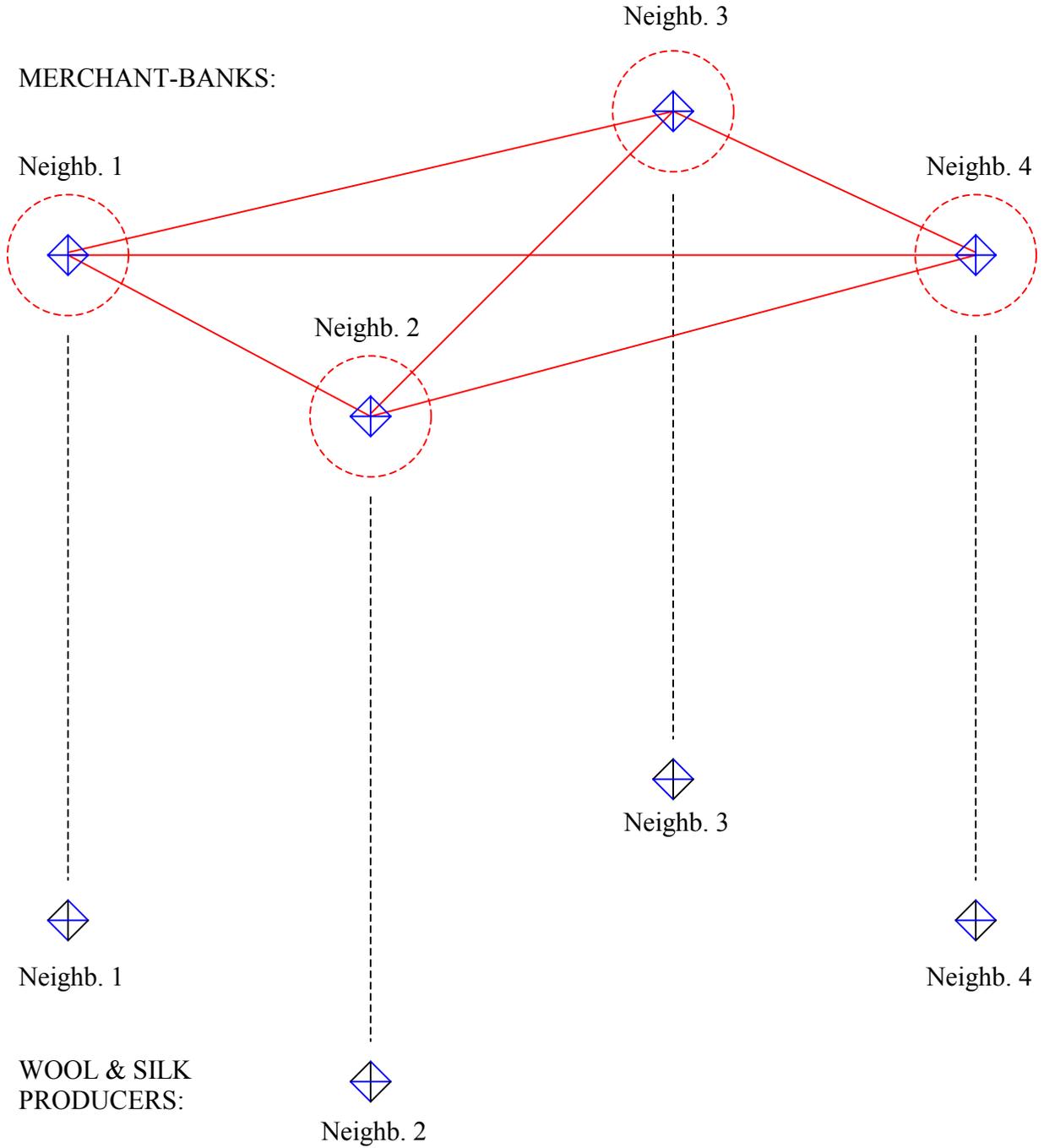
(c) “---” means “not enough cases to estimate.”

Figure 1. INPUT-OUTPUT VOLUME OF CREDITS BETWEEN INDUSTRIES:
 shown if $[(\text{Observed Credits} - \text{Expected Credits}) / (\text{Expected Credits})] > .10$



N.B.: $[(O-E) / E]$ controls for raw volume of credit effects. Dotted lines show weaker ratios.

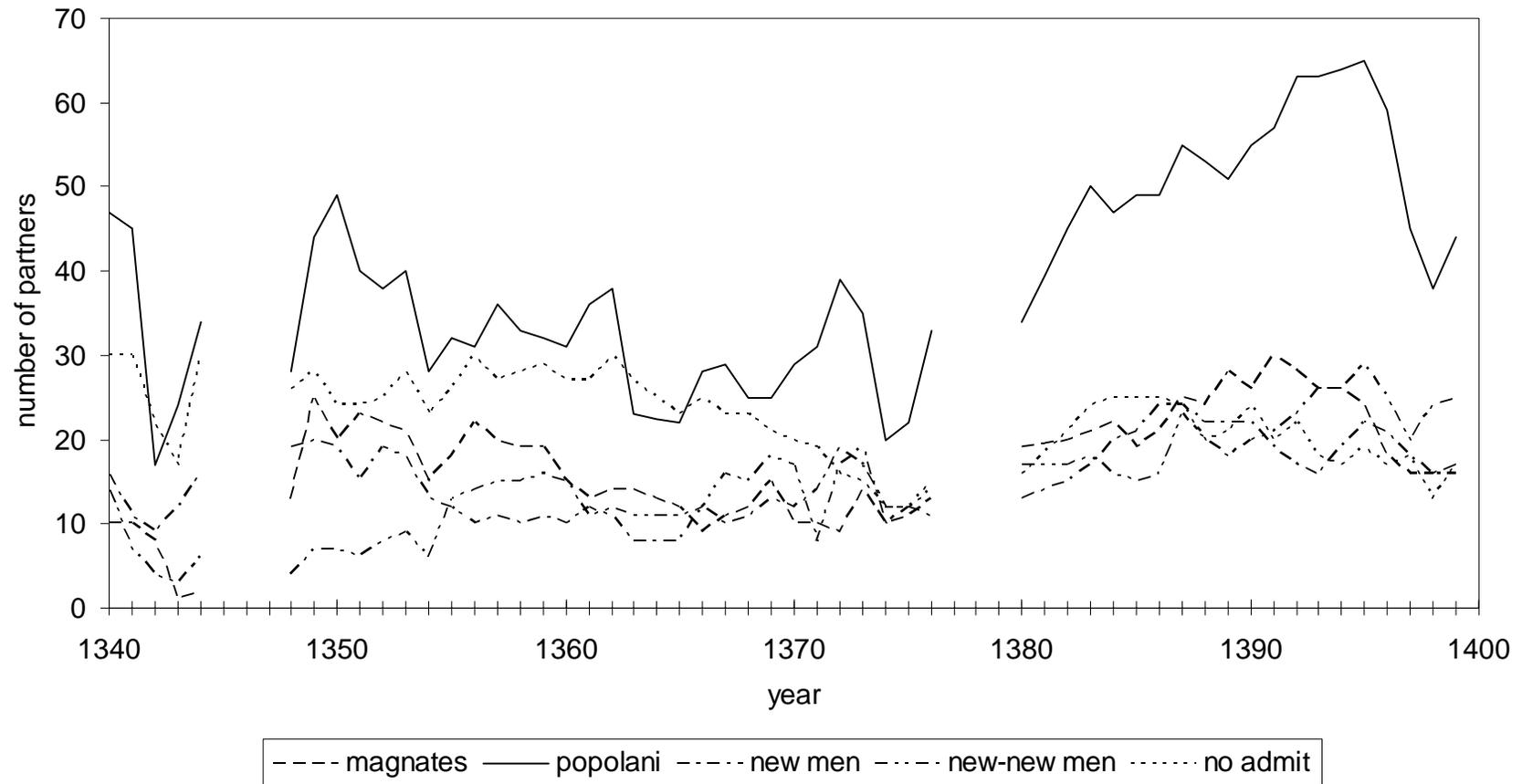
Figure 2. Summary of Statistically Significant Social-Embeddedness Coefficients



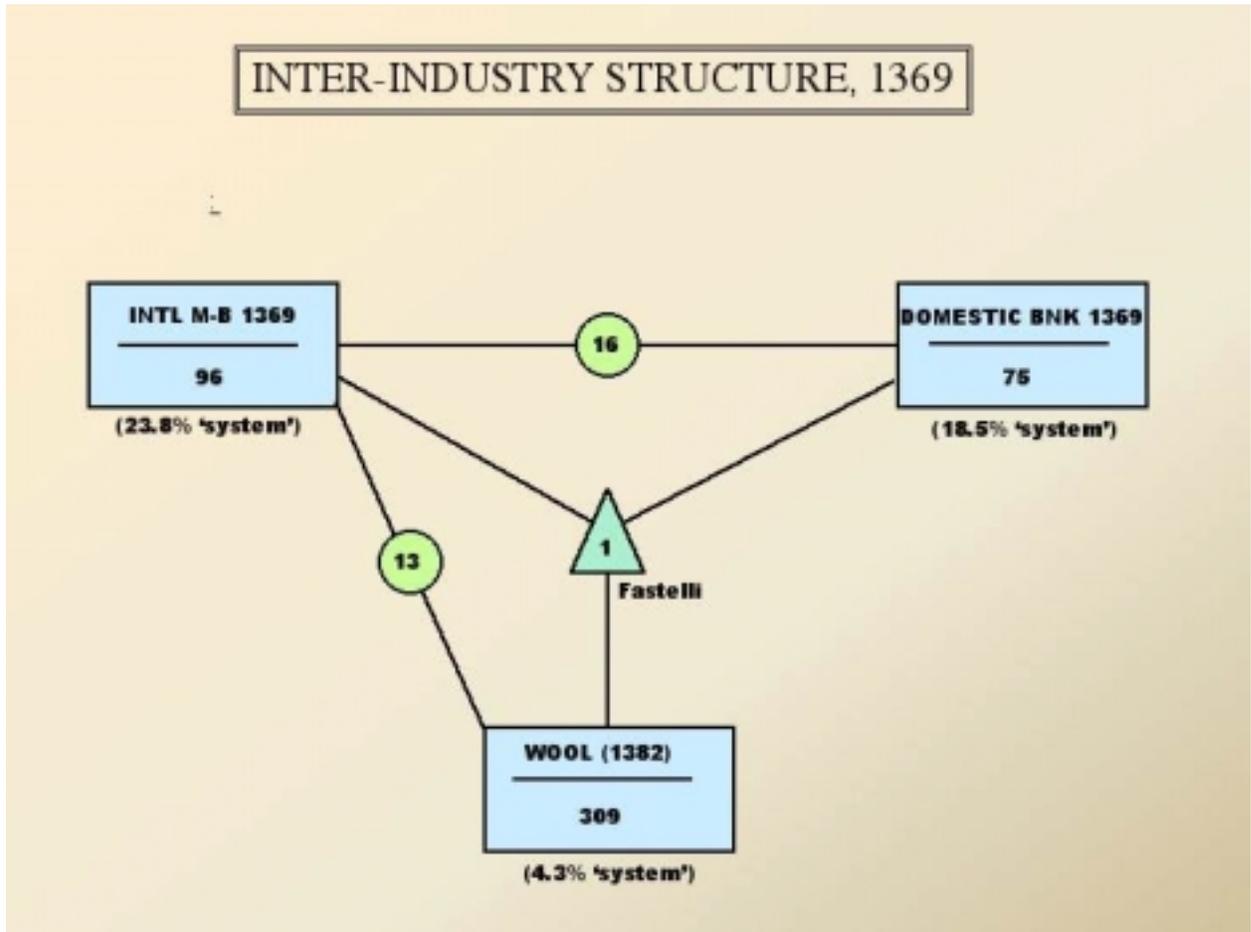
Color codes:

- | | | | |
|---|--|-----------|--|
| — | Partnership (any social class) | ----- | Credit (any social class) |
| — | Partnership (popolani + magnates) | - - - - - | Credit (popolani + magnate, plus any social class) |
| — | Partnership (new men + new-new men, and no admits) | | |

Figure 3. Number of Domestic Bankers, by Social Class: 14th century

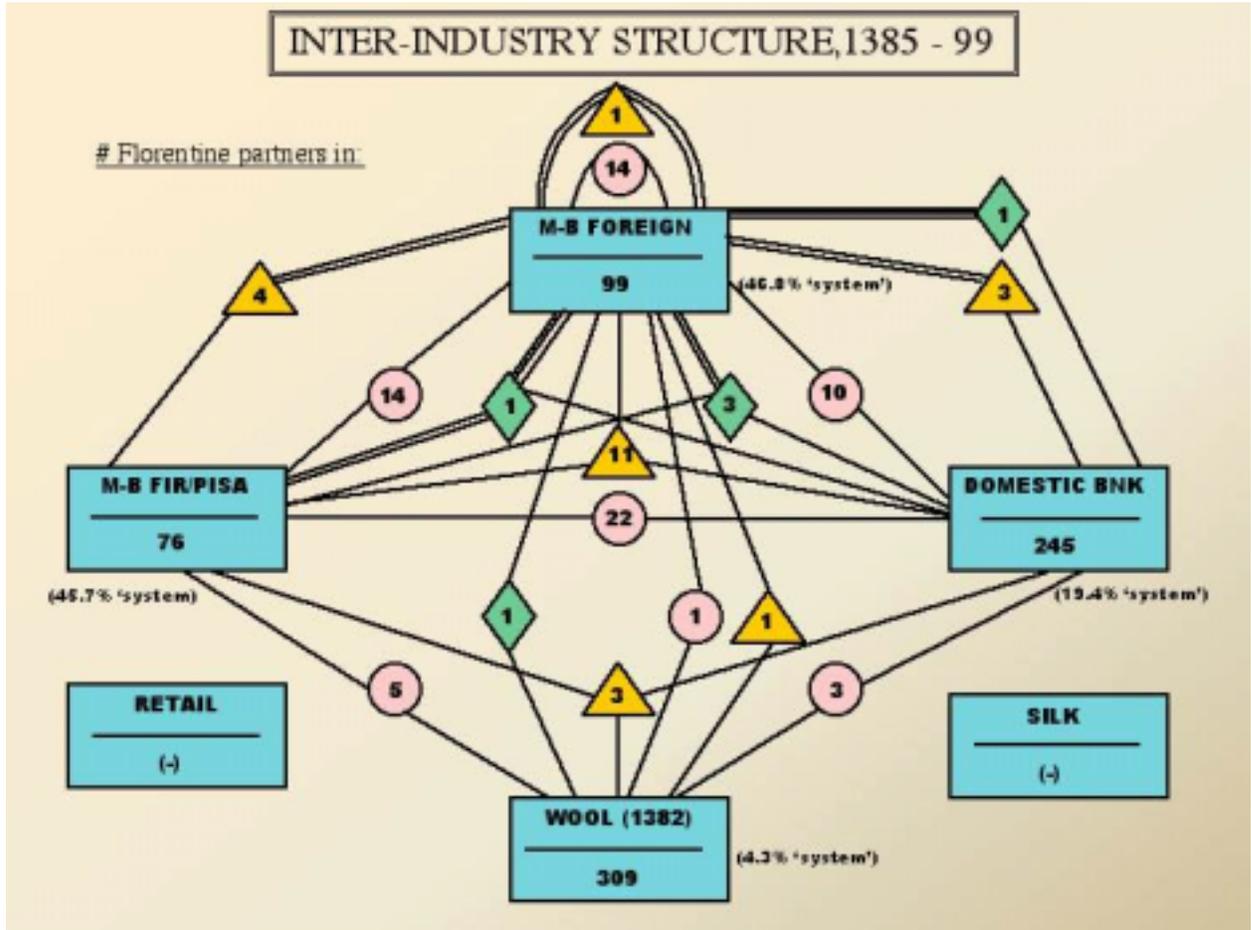


source: Archivio di Stato, Florence, *Arte del Cambio* 11, 14.

Figure 4a. Organizational “systems” in 1369

Sources: Silva (1908, pp. 679-83) for merchant-bankers in 1369; *Arte del Cambio* 11 for domestic bankers in 1369; *Arte della Lana* 46 for wool manufacturers in 1382.

Figure 4b. Organizational “systems” in 1385-99



Sources: Melis (1962: tavole 27, 28, 31, 32, 35, 36, 39, 40) for Florentine merchant-banking companies trading with Francesco Datini in 1385-99; *Arte del Cambio* 14 for domestic bankers in 1385-99; *Arte della Lana* 46 for wool manufacturers in 1382.

Appendix: PREDICTING COMMERCIAL CREDIT: Logit Regressions on Credit Relations

	Dependent variable = dichotomized credit (i.e., credit received or not)		
Independent variables:	all credit relations	= relational credits	+ transactional credits
<u>Statistical Controls:</u>			
Expected Credits (firm sizes)	6.577 ^{***}	4.011 ^{***}	3.888 ^{***}
Creditori bilancio seen	.533 ^{***}	.888 ^{***}	.515 ^{***}
Debitori bilancio seen	.482 ^{***}	.518 ^{***}	.562 ^{***}
Creditori partners' wealth	-0.13e-06	0.78e-06	1.00e-06
Debitori partners' wealth	-2.87e-06 [*]	-1.31e-06	-2.83e-06
<u>Economic Relations:</u>			
Company system (same partner)	6.261 ^{***}	7.061 ^{***}	.665
<u>Indirect Third-Party Ties:</u>			
# transitive credit connections	.063 ^{***}	.027	.094 ^{***}
# cyclic credit connections	.008	.113 ^{***}	-.036
# incoming credit connections	.050 ^{***}	.052 ^{**}	.043 ^{***}
# outgoing credit connections	.073 ^{***}	.064 ^{**}	.094 ^{***}
<u>Kinship Relations:</u>			
Nuclear Family (excl. self)	3.431 ^{***}	3.899 ^{***}	2.372 ^{***}
In-law Nuclear Family	2.302 ^{***}	3.624 ^{***}	.261
<u>Patrilineage Family (excl. nuclear)</u>			
among banks	1.462 ^{**}	1.394 ^{**}	.673
banks and silk	.501	.594	-.072
banks and wool	.854	1.894 ^{**}	.627
among silk producers	---	---	---
among wool producers	1.602 [*]	1.668	1.502
among cloth retailers	-.052	.000	.277
cloth retail and wool	2.211	.000	2.730 [*]
cloth retail and silk	---	---	---
<u>In-law Parentado Family (excl. nuclear)</u>			
among banks	.365	.165	.242
banks and silk	.627	-5.099	2.090
banks and wool	.415	1.942	-.246
among silk producers	---	---	---
among wool producers	-.805	.000	-.379
among cloth retailers	1.049	2.113	.534
cloth retail and wool	-18.66	-.475	.000
cloth retail and silk	.000	.000	.000

Dependent variable = dichotomized credit
(i.e., credit received or not)

Independent variables (cont.): all credit relations = relational credits + transactional credits

Neighborhood Relations:

Same Gonfalone (after interactions with class):

among banks	.235	.278	.163
banks and silk	.775	1.529*	-.513
banks and wool	.378	.764	.350
among silk producers	-.331	-2.201	-.327
among wool producers	-.362	-2.724	-.165
among cloth retailers	1.254	2.918***	-1.914
cloth retail and wool	-.057	-1.133	.220
cloth retail and silk	-2.626	-3.327***	-3.154

Same Quarter (excl. gonfalone)

among banks	.319	-.184	.480*
banks and silk	.275	-1.108**	.509**
banks and wool	.243	.266	.184
among silk producers	-.660*	-1.579	-.409
among wool producers	.183	-.308	.253
among cloth retailers	.081	.433	-.038
cloth retail and wool	.390	-.153	.354
cloth retail and silk	-.637	-.828	-.563

Political Relations:

Medici party (future)	.234	.359	-.147
Albizzi party (future)	1.081	.866	.956
Priorate (past): Creditori	.155	.040	.241
Priorate (past): Debitori	.237*	.160	.275*
Priorate (future): Creditori	.291*	.439*	.270
Priorate (future): Debitori	.211*	.363	.125
Mercanzia (past): Creditori	-.073	.001	-.119
Mercanzia (past): Debitori	-.286*	.150	-.364*
Mercanzia (future): Creditori	-.027	-.252	.086
Mercanzia (future): Debitori	-.309**	-.174	-.290**

Dependent variable = dichotomized credit
(i.e., credit received or not)

Independent variables (cont.):	all credit relations	=	relational credits	+ transactional credits
<u>Social Class:</u>				
Among Merchant-banks:				
popolani + magnates	-.215		-.207	-.063
within gonfalconi	1.115 ^{***}		1.382 ^{***}	.419
(pop. + mag.) x (nm + nnm)	-.101		.291	-.201
within gonfalconi	.804 [*]		.542	.975 [*]
new men + new-new men	.135		.150	.070
within gonfalconi	1.037		1.426	-.661
no admits	-.829		-.041	-1.262 [*]
within gonfalconi	1.803 [*]		1.410	1.589
Between Merchant-banks and Silk:				
popolani + magnates	.152		.617	-.088
within gonfalconi	.113		-.066	.471
(pop. + mag.) x (nm + nnm)	.360		.518	.267
within gonfalconi	.347		.233	.689
new men + new-new men	.693 ^{**}		.420	.560
within gonfalconi	-.894		-.037	-.513
no admit	.952 ^{**}		.504	.774 [*]
within gonfalconi	-1.355		-1.258	-.902
Between Merchant-banks and Wool:				
popolani + magnates	-.045		.062	-.067
within gonfalconi	-.467		-.253	-.487
(pop. + mag.) x (nm + nnm)	.017		.800 ^{**}	-.096
within gonfalconi	.117		.391	-.036
new men + new-new men	-.179		-.450	-.082
within gonfalconi	.812 [*]		.733	.733 [*]
no admits	.241		.629	.166
within gonfalconi	.945 [*]		1.645	.373
Among Wool Producers:				
popolani + magnates	-.110		1.090	-.145
within gonfalconi	.223		3.075 ^{**}	-.471
(pop. + mag.) x (nm + nnm)	-.049		1.013	-.164
within gonfalconi	.075		-.445	.296
new men + new-new men	-.213		-1.637	-.264
within gonfalconi	.707		6.394 [*]	.205
no admits	.327		.072	.456
within gonfalconi	.811		6.385 ^{**}	-1.086

Dependent variable = dichotomized credit
(i.e., credit received or not)

Independent variables (cont.):	all credit relations	=	relational credits	+ transactional credits
<u>Social Class</u> (cont.):				
Among Silk Producers:				
popolani + magnates	-.567		.000	-.492
within gonfalconi	-1.120		.000	.069
(pop. + mag.) x (nm + nnm)	-.161		.596	-.361
within gonfalconi	.548		2.257	.155
new men + new-new men	-.484		-1.380	-.507
within gonfalconi	.841		5.417**	-.618
no admits	-.704		-.656	-.680
within gonfalconi	.713		.000	.810
Between Cloth Retailers and Silk:				
popolani + magnates	.193		-.304	-.176
within gonfalconi	-.564		4.741**	-1.899
(pop. + mag.) x (nm + nnm)	.167		-.005	.043
within gonfalconi	1.205		2.040*	1.308
new men + new-new men	.364		.410	.229
within gonfalconi	.437		-1.663	2.050
no admit	1.192*		-.479	1.409*
within gonfalconi	.934		.000	2.095
Between Cloth Retailers and Wool:				
popolani + magnates	.011		.493	.094
within gonfalconi	2.645		.209	-.101
(pop. + mag.) x (nm + nnm)	.024		.460	.085
within gonfalconi	.508		.266	.374
new men + new-new men	.091		.299	.384
within gonfalconi	-.404		-1.523	-.204
no admits	.115		.411	-.115
within gonfalconi	.248		.000	1.131
Among Cloth Retailers:				
popolani + magnates	-1.164		-3.345	-1.039
within gonfalconi	3.227**		---	3.866*
(pop. + mag.) x (nm + nnm)	-1.307**		-3.693**	-1.071**
within gonfalconi	-1.371		1.197	-.119
new men + new-new men	.040		-1.840	.176
within gonfalconi	.252		.779	1.464
no admits	-1.236		-3.606*	-.880
within gonfalconi	-1.499		---	.000

Dependent variable = dichotomized credit
(i.e., credit received or not)

Independent variables (cont.):	all credit relations	=	relational credits	+	transactional credits
<u>Individual Markets:</u>					
Among merchant-banks:					
M.B., Int'l. → M.B., Int'l.	.004		1.129***		-.096
M.B., Int'l. → M.B., F/Pisa	.018		1.383***		-.020
M.B., F/Pisa → M.B., Int'l.	.120		1.342***		-.057
M.B., F/Pisa → M.B., F/Pisa	-.449		-.781		-.150
M.B., F/Pisa → Dom. Banks	-.173		.319		-.222
Dom. Banks → M.B., F/Pisa	-.238		.692		-.602
Dom. Banks → Dom. Banks	.129		1.195***		-.096
M.B., Int'l. → Dom. Banks	-.297		.469		-.438
Dom. Banks → M.B., Int'l.	-.118		.867**		-.362
Between banking and silk:					
M.B., Int'l. → Silk	-.288		.301		-.424
Silk → M.B., Int'l.	-.577*		.205		-.503*
M.B., F/Pisa → Silk	-.026		.026		.196
Silk → M.B., F/Pisa	-.515		.338		-.442
Dom. Banks → Silk	-.235		.434		-.178
Silk → Dom. Banks	-.092		.575*		-.145
Between banking and wool:					
M.B., Int'l. → Wool, S.M.	-.262		-1.379*		-.098
Wool, S.M. → M.B., Int'l.	-.404		-.133		-.466
M.B., Int'l. → Wool, Other	-1.113*		-1.582*		-1.214*
Wool, Other → M.B., Int'l.	-1.632***		-1.552*		-1.826***
M.B., F/Pisa → Wool, S.M.	-.025		.235		-.162
Wool, S.M. → M.B., F/Pisa	.135		-.683		.142
M.B., F/Pisa → Wool, Other	-.298		-.443		-.168
Wool, Other → M.B., F/Pisa	.130		-.458		.458*
Dom. Banks → Wool, S.M.	.041		-.099		.155
Wool, S.M. → Dom. Banks	.124		-.631		.212
Dom. Banks → Wool, Other	-.212		-.449		-.280
Wool, Other → Dom. Banks	-.375*		-1.090*		-.411*

Dependent variable = dichotomized credit
(i.e., credit received or not)

Independent variables (cont.):	all credit relations	=	relational credits	+	transactional credits
Among wool producers:					
Wool, S.M. → Wool, S.M.	-.281		-1.199		-.359
Wool, S.M. → Wool, Other	-.362		-1.110		-.448*
Wool, Other → Wool, S.M.	-.437		-1.292		-.515
Wool, Other → Wool, Other	-.530*		-2.026		-.560*
Between wool and silk:					
Wool, S.M. → Silk	-.344		-.618		-.552*
Silk → Wool, S.M.	-1.104***		-1.244		-1.113***
Wool, Other → Silk	-2.093***		-1.396		-2.411***
Silk → Wool, Other	-1.514***		-2.148*		-1.674***
Among silk producers:					
Silk → Silk	.857***		.237		1.102***
Between cloth retail and silk:					
Silk → Cloth Retail	.090		.782*		-.009
Cloth Retail → Silk	.238		.965*		.263
Between cloth retail and wool:					
Wool, S.M. → Cloth Retail	.407*		-.012		.577**
Cloth Retail → Wool, S.M.	-.228		.856**		-.896**
Wool, Other → Cloth Retail	.653***		.518		.811**
Cloth Retail → Wool, Other	-.148		.355		-.448
Among cloth retail firms:					
Cloth Retail → Cloth Retail	.491		1.029*		.646
Between banking and cloth retail:					
M.B., Int'l. → Cloth Retail	-.538*		-.593		-.560
Cloth Retail → M.B. Int'l.	-.483		-1.073		-.570
M.B., F/Pisa → Cloth Retail	-.089		.278		.035
Cloth Retail → M.B., F/Pisa	-.179		-.438		-.058
Dom. Banks → Cloth Retail	.083		-.165		.182
Cloth Retail → Dom. Banks	.024		-.490		.076
<u>Constant</u>	-5.225***		-7.382***		-5.219***

Number of observations	153,272	153,272	153,272
Number of non-zero obs.	3,991	954	3,037
Log likelihood	-12,200.57	-3,714.68	-11,561.59
Wald chi-square	8,167.71	6,714.93	5,523.59
Number of parameters	163	153	161
Probability > chi-square	.0000	.0000	.0000
Pseudo R-squared	.341	.359	.225

Notes to Appendix:

(a) *** = ($p < .001$); ** = ($p < .01$); * = ($p < .05$)

(b) “---“ means “not enough cases (< 10) to estimate.”

(c) All variables were constructed to avoid nesting, which induces massive collinearity. That is, by construction, “same nuclear family” between firms excludes “same person” (which equals “organizational system”) between firms; “same patrilineage” excludes “same nuclear family”; “same parentado” excludes “same in-law nuclear family”; and “same quarter” excludes “same gonfalone.”

(d) All social variables constructed on a “percentage of possible partnership dyads” basis. For example, if firm A had two partners, one of whom lived in *gonfalone* x, and firm B had three partners, two of whom lived in *gonfalone* x, with no further *gonfalone* overlaps, then the A-B firm pair received a “same *gonfalone*” score of $2/6 = .333$. The “organizational system” variable, the kinship variables, the neighborhood variables, the social-class variables, and the political-party variables were all constructed this way.

(e) The political-office variables were constructed, on the other hand, on “percentage partners holding office” basis. To use the same example as the previous note, if (A → B) was the firm dyad being evaluated, and if one of B’s three partners were elected to Priorate before 1427, then (A → B) would receive a “Pirate (past): Debitori” score of $1/3 = .333$. If later in time two of B’s three partners were elected to Priorate after 1427, possibly including a repeat election of the same partner first elected before 1427, then (A → B) would receive a “Pirate (future): Debitori” score of $2/3 = .667$.

(e) The “baseties” variable was constructed in order to control explicitly for differences in firm size, as measured by the raw credit volumes of the firms. Specifically, “baseties = expected number of credits” was calculated as (total number of commercial credits given out by creditor firm) x (total number of commercial credits received by debtor firm) / (total number of commercial credits in data set).

(f) Various types of indirect ties – transitive, cyclic, common in-ties, and common out-ties – were calculated in order to control for possible balance-theory-type network interdependencies among observations. We used the UCINET social-network statistical package to calculate the number of

such indirect connections, and then imported this UCINET output into STATA. P-star (Wasserman and Pattison 1996) is an alternative way to perform such controls. In an ongoing project with Pattison, we are exploring this new statistical technique.

(g) Controls for market interfaces, e.g., “M.B., Int’l. → Dom. Banks”, are all dummy variables.

(h) Logit regressions were run using STATA’s “cluster option,” in order to control for correlation of credits disbursed by the same companies, due to unmeasured factors. Specifically, as implicitly recommended by Huber (1967), we clustered by company ID, in order to adjust standard errors. In reality, this adjustment changed very little, since we already had included so many explicitly measured controls. The cluster option, touted in recent sociological methodology (e.g., Sorenson and Stuart 2001), produced little more than coefficients bouncing around the “ $p = .05$ ” cutoff a little. We thank Brian Uzzi for this procedural recommendation.