
PROBLEMS

Financing Pre-Modern European Industry: an Example from Florence 1580-1660

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Studies of the functional relationship between industry and financial systems have tended to focus on historical periods since the late eighteenth century. For the most part, they have concentrated on the financing of the stages of industrialization. Three main aspects of this problem have received special attention: the relationship between circulating and fixed capital formation, the degree of mercantile and bank involvement in production finance, and the response of the financial system to increased demand from the industrial sector for financial assistance. Based on the works of a number of scholars, it is possible to present the consensus view that the historical relationship between banking and finance was complex; that in the early stages of industrialization financing circulating capital was more pressing than financing fixed capital; that mercantile capital played a crucial role in relieving pressure on financing circulating capital; and that contrary to Gerschenkron's thesis, bank finance of industrial production was not an economic feature solely of late industrializers.¹

* I would like to thank Katrina Honeyman, Stuart Woolf and Donald Coleman for their valuable advice and suggestions on aspects of this paper.

¹ For England see the excellent summary and bibliographical essay by P. MATHIAS, "Capital and Credit in the Industrial Revolution", *Journal of European Economic History*, 2 (1973), pp. 121-143, and a more recent study covering a longer period by P. L. COTTRELL, *Industrial Finance, 1830-1914* (London, 1980); for Europe see R. CAMERON (ed.), *Banking in the Early Stages of Industrialization* (London, 1967) and R. CAMERON (ed.), *Banking and Economic Development* (London, 1972). The state of research on industrial finance in early modern Europe is surveyed in G. PARKER, "The Emergence of Modern Finance in Europe, 1500-1730", in C. M. CIPOLLA (ed.) *The Fontana Eco-*

Undoubtedly historians now have a clearer understanding of the recent historical dimension of financial intermediation and economic change. But the perspective is too limited. By focussing on recent industrial history and especially on periods witnessing an increasing capital-output ratio in industrial production, there has been a tendency to view certain kinds of industrial finance, especially bank finance as a relatively recent phenomenon.

Why this should be the case is not difficult to see. To start with, it is often assumed and with good reason that before the late eighteenth or nineteenth century, the funds necessary to operate industrial enterprises were so small as not to warrant any formal financial intermediation — formal capital markets for industrial securities did not exist. When the industrial entrepreneur needed external funds to supplement his financial resources, the informal capital market was tapped: kin and friends were contacted; lucrative marriages were arranged.

If short-term credit was needed, then it was possible, at least theoretically, to be granted trade credit from a mercantile institution. As far as banks are concerned, the view seems to be that private banks did not generally finance industrial enterprise except in the form of debt finance or through discounting bills of exchange.

The real problem with this view is that it turns on a theoretical relationship between the nature of the capital demands of industry and the nature of the capital supply. That is, that modern forms of finance, namely bank debt and equity finance, are presumed to emerge at the historical moment when the absolute level of industrial capital requirements and the share of fixed capital investment rise beyond some critical level. The corollary of this theory is that in pre-modern industrial enterprises, characterized by almost negligible fixed assets and the corresponding overwhelming charge of circulating capital, no level of increase in total capital requirements warranted the intervention of some financial institution. This position, though plausible, nevertheless invites historical investigation.

What did happen in pre-modern industry when circulating capital requirements suddenly exceeded the entrepreneur's financial resources? In any given economy, what was the full set of alternatives open to him?

Consider how mercantile and financial institutions could meet this demand. Theoretically, they could supply funds in various ways; by discounting bills of exchange; by extending trade credit; by lending; by holding equity in the industrial enterprise. Of these only the latter involved the exchange of property rights as equity could only be held under a partnership agreement. Historians often argue that equity in the industrial enterprise was held only by individuals

conomic History of Europe, Vol. II (London, 1974), pp. 527-594, and E. E. RICH and C. H. WILSON (eds.), *The Cambridge Economic History of Europe, Vol. V* (Cambridge, 1977), pp. 290-548, and J. DE VRIES, *The Economy of Europe in an Age of Crisis, 1600-1750* (Cambridge, 1976), pp. 210-235.

as financial institutions were not liable to risk their customers' deposits or assets.² This statement depends on the assumption that there are no legal safeguards in the partnership agreement which would protect the financial institution's customers — for example through limited liability. Historically such an assumption is untenable: in some parts of Europe since the fifteenth century, there have been forms of partnership which formally recognized the limited liability of some parties to the agreement.³

Generally, it can be stated that the kind of external finance to which a pre-modern industrial enterprise turned depended on the relative costs of such funds from a variety of sources and on the particular legal environment within which these enterprises operated. The aim of this paper is to examine this statement in a particular place and historical period — Florence in the late sixteenth and seventeenth century.

The Florentine silk industry between 1580 and 1660 offers a test case of the problem of industrial finance in pre-modern Europe. In the early part of the seventeenth century, Florentine silk cloth manufacturers experienced rapid and mounting pressures on their stock of circulating capital. Though silk manufacturers were deeply imbedded in an extremely sophisticated trade credit system, the solution to their financial problems did not involve being granted more trade credit. Rather, an increasing share of the manufacturers' equity came to be held by Florentine mercantile and banking companies, both on the account of the partners of these companies and, more importantly, on the account of these companies themselves.

This paper is divided into three sections: the first section examines cash flow in the firm and argues that because of a change in the supply of raw silk, the firm experienced an increasing demand for cash: the second section argues that this increased demand became a demand for more circulating capital, increasingly provided by mercantile and banking companies: and, the final section argues that the financial gains to be made by becoming a partner in a silk manufacturing firm induced mercantile and banking companies to hold equity in the industry rather than finance the cash demand by short-term lending.

² P. MATHIAS, *The First Industrial Nation* (London, 1969), p. 176; M. LEVY-LEBOYER, *Les banques européennes et l'industrialisation internationale dans la première moitié du XIXe siècle* (Paris, 1969), p. 479.

³ For example, French commercial law established the *société en commandite* in 1672, cf. J. ADELSON, "The Early Evolution of Business Organization in France", *Business History Review*, 21 (1957), pp. 226-243. Lucca ratified the *accomandita* in 1554, cf. M. CARMONA, "Aspects du capitalisme toscane aux XVIe et XVIIe siècles", *Revue d'histoire moderne et contemporaine*, 11 (1964), p. 83. For a comparative view of the evolution of European commercial law see C. LESCOEUR, *Essai Historique et Critique sur la Législation des Sociétés Commerciales en France et à l'Étranger*, (Paris, 1877).

I

The typical firm in the silk industry held negligible amounts of fixed assets; its stock of capital was almost entirely in circulating form, represented in stocks of raw materials, unfinished and finished goods and in wages and salaries. The purchase of raw silk accounted for between 60% and 70% of the total costs of production.⁴ As long as the firm purchased its raw silk from a merchant, as was the case with imported supplies, the firm obtained credit in respect of these purchases and used its cash balance to meet the wages and salaries bill.⁵ As sales were also on credit terms, the silk manufacturer commonly used the financial services of the merchant to offset silk purchase by sales receipts. In this situation then, cash balances were but a small proportion of the firm's overall financial commitments. This seems to have been the case until the early part of the seventeenth century.

During the seventeenth century and especially in the early decades, as the data in Table 1 indicate, the share of domestic (Tuscan) silk in Florentine production increased substantially, so that by the middle decades of the century, only some 30% of total silk supply was imported. The shift to domestic supplies was dramatic and can largely be attributed to the success of government policies aimed at reducing the dependence on imports of raw silk and at tipping the balance of payments away from southern Italy from where Florentine silk manufacturers drew most of their requirements.⁶ Florentine mercantile and

⁴ This is calculated from account books of silk manufacturers from 1598 to 1676 in Archivio di Stato di Firenze (hereafter A.S.F.), *Archivio Guicciardini-Corsi-Salviati*, n. 178-186, 231-235, 240-246. A more detailed breakdown of production costs is in J. GOODMAN, "The Florentine Silk Industry in the Seventeenth Century", (Ph. D. dissertation, University of London, London, 1977). The structure of production costs in the woollen cloth industry was the exact opposite, cf. R. DE ROOVER, "A Florentine Firm of Cloth Manufacturers: Management and Organization of a Sixteenth Century Business", in J. KIRSHNER (ed.), *Business, Banking and Economic Thought* (London, 1974), p. 118.

⁵ Wages and salaries were paid at specific and regular times. See the extant wage journals covering the years 1616-1625 in A.S.F. *Carte Panciatichi-Fondo dei Pecori*, n. 35, 36, 39.

⁶ A law dated 16 June 1576 ordered that mulberry trees be planted in certain districts in Tuscany under the threat of a pecuniary penalty; further laws were passed in 1577, 1580 and 1593: see R. GALLUZZI, *Istoria del Granducato di Toscana* Lib. IV (Leghorn, 1781), pp. 112-113; A. DE MADDALENA, "Il mondo rurale italiano nel cinque e seicento", *Rivista Storica Italiana*, 76 (1964), p. 403; A.S.F., *Pratica Segreta*, n. 10, ins. 16. According to Galluzzi, at the end of the sixteenth century, Florentines were spending 300,000 *scudi* annually to purchase raw silk in Sicily and the Kingdom of Naples; R. GALLUZZI, *op. cit.*, Lib. V, p. 176. For sericulture in southern Italy see the following works: M. AYMARD, "Commerce et production de la soie sicilienne aux XVIe-XVIIe siècles", *Mélanges d'archéologie et d'histoire*, 77 (1965), pp. 609-640;

banking companies who had been particularly active in the main commercial centres of southern Italy, in Naples, Palermo and Messina, principally trading Florentine woollens for the products of these regions, seem to have withdrawn from this trading area by the early part of the seventeenth century.⁷ Much of this change can be attributed to the rapid growth of Tuscan silk production and the falling output of Florentine woollens. But the mercantile interest in the silk industry did not evaporate, for as the next section will show, the change in the supply of raw silk imposed new financial constraints on the manufacturing firm, which were largely eased by the Florentine mercantile and banking community.

TABLE 1
SOURCE OF SUPPLY OF RAW SILK TO FLORENTINE
SILK INDUSTRY 1595-1766
Percentage of Total Supply

Year	Domestic	Imported
1595 ¹	12.5%	87.5%
1610 ²	25.0%	75.0%
1649 ³	66.9%	33.3%
1653 ⁴	75.0%	25.0%
1659 ⁵	69.2%	30.7%
1715-1725 (Average) ⁶	64.6%	35.4%
1726-1736 (Average) ⁷	74.4%	25.6%
1766 ⁸	83.0%	17.0%

- Sources: 1. A.S.F. *Pratica Segreta* n. 14, fol. 334r
 2. A.S.F. *Miscellanea Medicea*, n. 994 (Vecchio)
 3. *Ibid*
 4. *Ibid*
 5. *Ibid*
 6. A.S.F. *Carte Bartolommei*, n. 214, ins. 57, fol. IV
 7. *Ibid*
 8. Calculated from L. Dal PANE, *Industria e Commercio nel Granducato di Toscana nell'età del Risorgimento* (Bologna, 1971), Vol. I, pp. 44, 67

C. TRASELLI, "Ricerche sulla seta siciliana (XIV-XVII secoli)", *Economia e Storia*, (1965), pp. 213-258; F. BRAUDEL, *The Mediterranean* (London, 1972), p. 347; G. GALASSO, *Economia e Società nella Calabria del Cinquecento* (Naples, 1965), pp. 143-152 and 345-353. For imports of southern Italian raw silk into other Italian states see L. BULFERETTI and C. CONSTANTINI, *Industria e Commercio in Liguria nell'età del Risorgimento* (Milan, 1966), p. 198; G. SIVORI, "Il tramonto dell'industria serica genovese", *Rivista Storica Italiana* 84 (1972), pp. 909-910; C. MASSEI, *Dell'Arte della Seta in Lucca* (Lucca, 1843), p. 30.

⁷ J. G. DA SILVA, "Au XVII^e siècle: la stratégie du capital florentin", *Annales: E.S.C.* (1964), pp. 480-491; M. AYMARD, *art. cit.*, p. 609; R. MAZZEI, "L'economia lucchese agli inizi del seicento", *Archivio Storico Italiano* (1970), pp. 435-437. There

The first discernible financial impact of the shift to domestic supplies was that purchases were less erratic and concentrated on the months from July to September. When silk had to be imported, not only was there a significant time-lag between the purchase in southern Italy and the arrival in Florence, but also because of the uncertainties in shipping, arrivals were erratic.⁸ The contrast in the periodicity of purchases as between imported and domestic supplies can best be seen by the example of one Florentine silk firm, Francesco Rondinelli and Company in 1603 and 1618, during which time imported supplies were superseded by domestic supplies (See Figure 1).

If this had been the only result of a change in supply, the business of off-setting might have become more complicated, but little change would have taken place in the firm's financial position. But a shift to domestic supplies coincided with a move away from credit purchases, thus putting immense and concentrated pressure on cash balances.⁹ Referring again to the example of Francesco Rondinelli, in Figure 2, it is clear that, in the early decades of the seventeenth century, as domestic supplies increased in importance, an increasing proportion of purchases was made in cash.

Why the change from credit to cash took place is not entirely clear from the records. It is possible that the Silk Guild in Florence intervened in the purchasing system, as it is known that the guild controlled silk prices in Tuscany — but to what extent they actually affected the nature of purchases is not known.¹⁰ What is clear is that Florentine merchants did not enter the domestic silk trade in the way they had done in the southern Italian silk trade. The argument presented in this paper is that Florentine merchants did not finance the purchase of domestic raw silk because it was more profitable for them to finance the manufacturing firms' circulating capital directly. In other words, the shift from credit to cash purchases may have been partly the result of a decision by Florentine mercantile and banking companies to enter directly into the finances of the silk industry.

What happened to the manufacturing firm's financial position when silk purchases were made in cash? Clearly the firm's cash balance had to increase

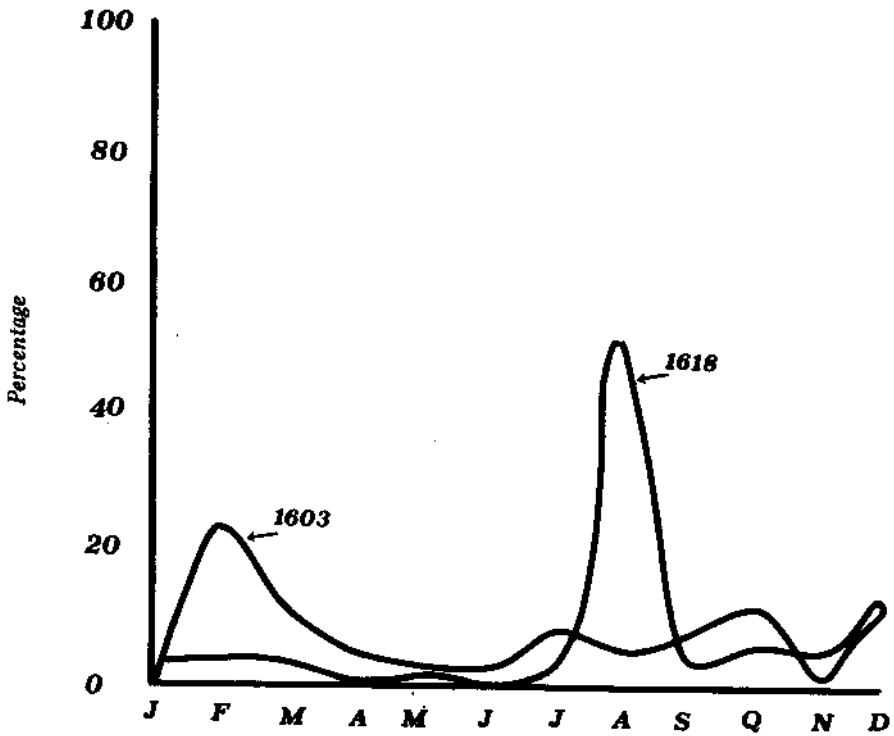
is an excellent collection of business records of a number of Florentine merchants active in Naples, Palermo and Messina in A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 1-32, 49-59, 136-155.

⁸ A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 204-207. For arrivals of raw silk at Leghorn at the end of the sixteenth century see F. BRAUDEL and R. ROMANO, *Navires et Marchandises a l'entrée du port de Livourne* (Paris, 1951), p. 114. Some shipments came overland, *ibid.*, p. 93. When supplies fell short of a manufacturer's needs, he commonly made up the difference by purchasing silk from another manufacturer. See A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 178-186 and 233-247 for numerous examples.

⁹ For the purchasing system of Tuscan silk see J. GOODMAN, *loc. cit.*, pp. 99-104

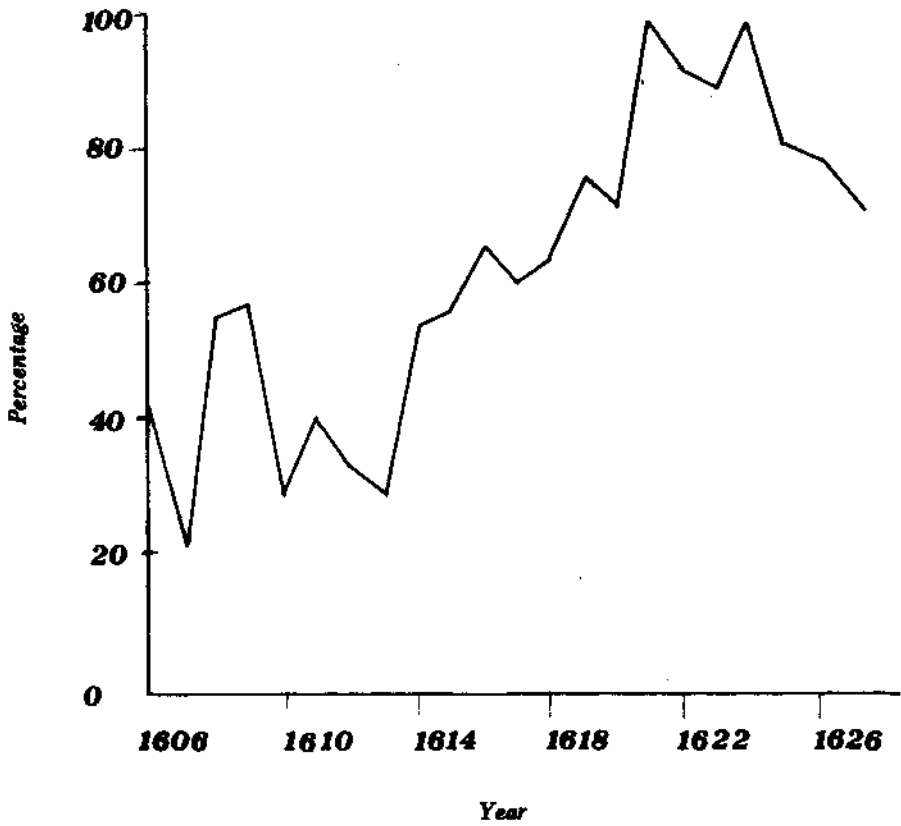
¹⁰ *Ibid.*, p. 104.

FIGURE 1 - Silk Purchases 1603, 1618 - Francesco Rondinelli and Company. Monthly Expenditures as a Proportion of Annual Total



Source : 1603 - A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 179.
1618 - A.S.F., *Ibid.*, n. 183, 184.

FIGURE 2 - Francesco Rondinelli and Company. Silk Purchases 1606-1626
Value of Cash Transactions as a Proportion of the Value of all Transactions



Source: A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 180-186.

substantially and this could only be done by increasing its stock of circulating capital. Consider the firm's trade credit position. The firm's stock of capital consisted of equity and trade credit. Trade credit is defined as the sum of outstanding bills and accounts which arise out of transactions among firms or between firms and individuals.¹¹ Trade credit given is the amount of money owed to the firm by its customers, and trade credit taken is the amount of money owed by the firm to its suppliers. If a firm experiences an increase in the amount of net trade credit given, owing to an increase in trade credit taken, then the firm must offset the increased pressure on the cash balances required for transaction purposes. The firm will try to do this by either decreasing its assets, that is converting illiquid assets into liquid form, or increasing its liabilities. The value of the firm's assets were negligible, so the first option did not really exist — the only way to proceed was to increase liabilities.

If the change in the firm's trade credit position had been short-term, then the firm could have drawn on its profits or borrowed the necessary funds from a mercantile and banking company. But as the change was long term, neither of these alternatives would have been satisfactory. Profit levels were entirely unpredictable and therefore could not be relied upon to meet the firm's demand for cash. Borrowing funds, commonly by an overdraft, though possible, obviously required the willingness of the merchant to lend, but for the merchant this action was not without risk.

Rather, the pressure on the manufacturing firm's cash balance fell directly on its stock of circulating capital and as the next section will show, this increased enormously during the seventeenth century. The way in which this was financed altered the entire structure of the industry.

II

By the seventeenth century, silk cloth production had become Florence's largest industrial activity and its most valuable export. Output during the seventeenth century was relatively stable at an average of 600,000 yards (10,000 pieces) per annum — it began to increase in the eighteenth century by the end of which annual output stood at 900,000 yards.¹² Employment in this industry remained stable over the period; about 20% of the Florentine population worked silk in one form or another.¹³

¹¹ This discussion draws on R. G. LIPSEY and F.P.R. BRECHLING, "Trade Credit and Monetary Policy", *Economic Journal* 73 (1963) pp. 620-622 and R. F. HENDERSON, "Trade Credit", in R. F. HENDERSON and B. TEW (eds.), *Studies in Company Finance* (Cambridge, 1959).

¹² J. C. BROWN and J. GOODMAN, "Women and Industry in Florence", *Journal of Economic History* 40 (1980), p. 77; J. GOODMAN, *loc. cit.*, pp. 34-37.

¹³ J. GOODMAN, *loc. cit.*, pp. 34, 37, 69. Still in the eighteenth century, silk pro-

Production was organized on the putting-out system in common with textile production in other parts of Europe. What is noteworthy about the organization is that in a period which saw dramatic shifts in the geography of the European textile industry, the production stages remained urban based, with the important exception of silk throwing.¹⁴

Control over this large-scale enterprise rested in the hands of a relatively small number of firms constituting the financial and managerial centre of the industry. These firms were formal business enterprises under articles of partnership (in the silk industry and in other industries in Florence, the sole proprietor firm was the exception not the rule).¹⁵ Since the fifteenth century, Florentine commercial law recognized two types of partnership — the simple partnership in which partners shared in the firm's liability in proportion to their contribution; and the *accomandita*, a partial limited liability association in which the liability of the 'active partners' was treated as in a simple partnership while dormant or sleeping partners (those in *accomandita*) shared the firm's liability up to the amounts they subscribed.¹⁶

Dormant partners were protected not only because of the nature of their risk, but also because of the short-term nature of the association; contracts were drawn up normally for a period of three or five years, after which time, if mutually agreed, the contract could continue on a yearly basis.¹⁷

The *accomandita* made it possible for individual investors to spread their investments within and over various types of enterprise thereby diversifying their portfolio and minimizing overall risk. For the industrial entrepreneur, the *accomandita* offered an incentive to attract outside funds to the enterprise, especially when the capital requirements for effective production were substantial. But there was one major drawback to accumulating investment by

duction employed 19% of Florence's active labour force. A. ZOBBI, *Storia Civile del Granducato di Toscana* (Florence, 1850-55) Vol. II, p. 36.

¹⁴ J. GOODMAN, *loc. cit.*, pp. 63-68. For the geography of European textile production, see D. SELLA, "European Industries, 1500-1700", in C. M. CIPOLLA (ed.), *The Fontana Economic History of Europe*, Vol. II (London, 1974), pp. 413-421; J. DE VRIES, *op. cit.*, pp. 84-110.

¹⁵ J. GOODMAN, *loc. cit.*, pp. 73-78. See also F. EDLER DE ROOVER, "Andrea Banchi: Florentine Silk Manufacturer and Merchant in the Fifteenth Century", *Studies in Medieval and Renaissance History*, 3 (1966), pp. 256-257; R. DE ROOVER, "A Florentine Form of Cloth Manufacturers: Management and Organization of a Sixteenth Century Business", in J. KIRSHNER (ed.), *Business, Banking and Economic Thought in Late Medieval and Early Modern Europe* (London, 1974), pp. 102-105; R. MORELLI, *La Seta Fiorentina nel Cinquecento* (Milan, 1976). For a comparison with a Genoese firm see P. MASSA, *Un'Impresa serica genovese della prima metà del cinquecento* (Milan, 1974), pp. 25-34.

¹⁶ The law dates from 1408. R. DE ROOVER, *The Rise and Decline of the Medici Bank* (Cambridge, Mass., 1948), p. 41.

¹⁷ M. CARMONA, *art. cit.*, pp. 82, 83, 87.

using the *accomandita* association. The *accomandita* was drawn up by and for the dormant partners. Control over the association lay with them — they decided on the length of the association, and generally on the selection of management within the enterprise.¹⁸ An entrepreneur who sought outside funds by contracting an *accomandita* had to trade off control for capital.

The capital ascribed to the firm was entirely circulating capital; labour owned the fixed assets. The firm could in principle draw on the following sources for its circulation capital. The largest source was the firm's equity represented by the initial investments of the partners concerned. This could be supplemented by trade credit, by the holding of net distributed profits which partners often kept on deposit with the firm, by undistributed profits carried over from a previous accounting period and by undiscounted bills of exchange. In practice the supply of circulating capital and the share from each source varied considerably over time.

Only account books can yield the necessary data on the amount and structure of the effective capital with which a firm operated. Unfortunately, the number of silk firms for which such documents survive is insufficient to provide an adequate working sample for an examination of the capital structure of the whole industry. But the register of *accomandita* contracts compiled by the Merchants Court acts as a reasonable proxy for business records, except for two drawbacks.¹⁹ The first is that the *accomandita* contract refers only to the value of the firm's total equity at the time of formation, and thus we are dealing with a largely unknown proportion of the firm's total capital. Given what was said above concerning the sources of the firm's total capital, there is little that can be done about this problem. The second drawback relates to the question of the representativeness of source. Only *accomandita* associations had to be legally registered in Florence; sole proprietorships and simple partnerships could be formed without the legal sanction of the Merchants' Court. Thus the register of *accomandita* contracts represents only a proportion of all the firms in the silk industry, and that proportion tends to consist of the largest firms in terms of their equity value. This proportion must be known before the register can be used to analyze the capital structure of the entire industry. Fortunately, it is possible to calculate this proportion for selected years. In 1593 just over 6% of the firms in the industry were formed as an *accomandita*; in 1629, the next year for which such a calculation can be made, the proportion stood at 50% and in 1663, the corresponding figure was 80%.²⁰ Thus, at the beginning of the period of investigation the *accomandita* is fairly uncommon

¹⁸ J. GOODMAN, *loc. cit.*, pp. 157-158, 212-214.

¹⁹ A.S.F., *Mercanzia*, n. 10833-10845 for the period 1570-1670.

²⁰ The information is based on calculations from A.S.F., *Mercanzia*, n. 10833, 10835, 10839, 10845; A.S.F., *Pratica Segreta*, n. 14, fols. 116v-118r., n. 178, fol. 25r; A.S.F. *Miscellanea Medicea*, n. 994 (vecchio).

whereas at the end it dominates the forms of association. In the foregoing analysis then, inferences about the industry at large, drawn on the evidence of the *accomandita* become more confident over time.

According to law, parties to an *accomandita* association were obliged to register publicly the act of partnership in the *Libro d'Accomandite*. The article of association was entered in full giving the following information; the name, title, nationality and amount of capital contributed by each partner; location and type of business of the firm; the date of commencement and duration of the association; the obligations of each partner in the case of bankruptcy; and the nomination of the managerial staff.

From the late sixteenth century an increasing amount of equity was invested by way of the *accomandita* association in the silk industry. Investments of this type increased at an average rate of 1.02% per annum from the beginning of the seventeenth until the late 1660's. As the data in Table 2 show, the rise in investment was faster and more sustained than the number of firms which were registered; over the period represented, investments increased by a factor of ten, while the number of firms registered increased by 3 to 4 times. This suggests that during this period, the average equity of the firm must have increased considerably, an assertion supported by the data on the average value of equity per firm also shown in Table 2 overleaf.

In the period from 1575 to 1610 the equity value of the average *accomandita* firm in the silk industry was between 5,000 *scudi* and 8,000 *scudi*. Judging from accounts of the industry in the fifteenth and early sixteenth century such a figure would represent a degree of stability in the size of firms over a long period.²¹ But it is clear from Table 2 that this stability ended in the second decade of the seventeenth century as the average value of equity per firm increased more than three times.

Thereafter, despite a slowing down in the rate of change, the trend of increasing size of the firm continued so that by the 1660's, the average value of equity stood at just over 26,000 *scudi*.²²

Despite the fact that the analysis above refers only to firms with *accomandita* associations, it can be stated generally that during the seventeenth century, firms were increasing in size, reflecting the increased demand for circulating capital.

Moreover, over this same period, the larger firm was becoming the norm. A frequency distribution of firms according to the value of their equity shows that their average size was increasing while their variation in size was decreasing

²¹ F. EDLER DE ROOVER, *art. cit.*, p. 227; R. MORELLI, *op. cit.*, pp. 16-17.

²² In the eighteenth century firms were of similar size. R. B. LITCHFIELD, "Les investissements commerciaux des patriciens florentins au XVIIIe siècle", *Annales: E. S.C.*, (1969), p. 702.

TABLE 2

CAPITAL SUBSCRIBED IN ACCOMANDITA
IN SILK MANUFACTURING FIRMS 1571-1665

(Five-year Periods)

	Number of firms registered	Capital subscribed per annum (<i>Scudi</i>)	Average capital subscribed per firm (<i>Scudi</i>)
1551-75	2	500	1,250
1576-80	.1	1,600	8,000
1581-85	7	7,792	5,566
1586-90	1	1,280	6,400
1591-95	5	8,220	8,220
1596-1600	5	7,220	7,220
1601-05	5	5,860	5,860
1606-10	10	16,500	8,250
1611-15	11	41,440	18,836
1616-20	12	47,200	19,666
1621-25	10	35,700	17,850
1626-30	19	73,160	19,253
1631-35	22	79,900	18,180
1636-40	20	78,900	19,725
1641-45	20	89,728	22,432
1646-50	18	86,100	23,917
1651-55	17	76,575	22,522
1656-60	18	82,343	22,873
1661-65	16	85,100	26,594

Source: A.S.F., *Mercanzia*, n. 10833, 10835, 10837-10839, 10841-10843, 10845.

(Table 3). The contrast between the beginning and end of the period is striking: between 1606 and 1615, only 13.6% of the firms registered had total equity exceeding 20,000 *scudi*; between 1656 and 1665 the corresponding proportion had jumped dramatically to 93.7%. Between the same periods, the coefficient of variation decreased from 83.3% to 14.0%.

By the 1660's, it is clear that manufacturing firms, as judged by financial considerations, tended to be quite similar to one another. In addition they were also responsible for an increasing share of the industry's output as it is evident

TABLE 3

DISTRIBUTION OF FIRMS BY CAPITAL SUBSCRIBED IN ACCOMANDITA
1606-1665
Percentage

Range (<i>scudi</i>)	1606-1615	1616-1625	1626-1635	1636-1645	1646-1644	1656-1665
39,000	9.1	10.0	14.6	15.4	25.7	25.9
25,000-29,999	0	5.0	4.9	7.7	20.0	32.3
20,000-24,999	4.5	5.0	22.0	33.3	28.6	35.5
15,000-19,999	18.2	55.0	29.3	33.3	17.1	3.2
10,000-14,999	40.9	20.0	17.1	7.0	0	3.2
5,000- 9,999	9.1	0	2.4	2.6	8.6	0
less than 4,999	18.2	0	9.8	0	0	0
N	22	20	41	39	35	31
20,000 +	13.6	20.0	41.5	56.4	74.3	93.7
\bar{x}	14,236	19,575	17,897	21,336	23,216	24,463
SD	11,852	7,541	7,874	7,211	7,236	3,431
CV	83.3%	38.5%	44.0%	33.8%	31.2%	14.0%

Sources: Same as in Table 2.

that the number of firms in the industry fell during this period; by 1673 there were 50% fewer firms than in 1593.²³

Underlying changes in size and distribution were important interrelated financial movements; a substantial shift towards the use of the *accomandita* association away from other business associations, a dramatic decrease in the share of equity contributed by silk manufacturers, and a concomitant shift in financial control to dormant partners.

As to the first of these changes, the data presented earlier on the proportion of firms bound in an *accomandita* association provides evidence that over the period, the *accomandita* association became the preferred way of raising capital in the silk industry. This change seems to have been unique to silk industry

²³ The number of firms in the industry are as follows:

Year	Number	Source
1593	49	A.S.F., <i>Pratica Segreta</i> , n. 14, fol. 116v.
1629	41	<i>Ibid.</i> , n. 178, fol. 25r.
1630	35	<i>Ibid.</i>
1642	26	<i>Ibid.</i> , n. 169, fol. 237r.
1648	27	A.S.F., <i>Miscellanea Medicea</i> , n. 311
1658	28	<i>Ibid.</i> , n. 994 (<i>vecchio</i>)
1663	26	<i>Ibid.</i>
1673	25	<i>Ibid.</i>

for in 1662, in the wollen industry, Florence's second largest industry, only 27% of wool firms had *accomandita* associations.²⁴

As the use of the *accomandita* grew in the silk industry, the financial role of the silk manufacturer collapsed. Looking just at the *accomandita* firms, the proportion of equity owned by manufacturers at the time of formation of the firm fell from 18.1% in the period from 1606 to 1610 to 4.8% from 1656 to 1660. Bearing in mind the substantial shift towards the *accomandita* discussed above, the actual decrease in the financial contribution of the silk manufacturer in all firms, regardless of their form of association, must have been far greater than the figures above suggest. In fact, it can be crudely estimated that the manufacturer's share of equity fell from as high as 70% in the earlier period to as low as 6% in the latter period.²⁵ As the financial control of the silk manufacturer was eroded over the period under consideration, it is quite likely that manufacturers became more dependent on their dormant partners even as far as their managerial role is concerned. Some evidence supporting this assertion can be found in the actual *accomandita* contracts which tended to restrict the manufacturer's obligations to the firm, normally to that of manager.

What emerges from this discussion is a picture of an industry which, while exhibiting general stability, was undergoing significant changes at the level of the firm. These changes were predominantly financial, culminating in increasing concentration of production, uniformity of firms and a significant division between ownership and management.

III

Analogous to the financial concentration discussed above, control over silk production devolved on two main groups; a small group of five patrician families, and a number of mercantile and banking companies. Though our interest is mainly with the latter, some comments are in order about the former.

The Florentine patriciate had always impressed their contemporaries by their direct involvement in the economy of the city. This was no less true in the seventeenth and eighteenth centuries. As R. Burr Litchfield has convincingly shown, the patriciate continued to offer financial support to the more dynamic sectors of the Florentine economy in the eighteenth century at a time when it is frequently believed that the patriciate had retired to their estates.²⁶

The two sectors of the Florentine economy which clearly had the mark

²⁴ M. CARMONA, *art. cit.*, p. 98.

²⁵ Calculations based on sources as in note 23.

²⁶ R. B. LITCHFIELD, *art. cit.*, pp. 685-721. In 1720, the patriciate subscribed 65% of capital invested in *accomandita* associations; in silk firms, the corresponding figure was 79.3% (p. 694).

of nobility, both in terms of the social structure of investment and the status which it conferred, were banking and the silk industry. In the mid-sixteenth century, a detailed census of the firms in the silk industry reads like a roll call of noble Florentine families.²⁷ The great names that are commonly associated with the patriciate are in profusion as silk manufacturers, but one century later, according to a nominal list of silk firms in 1663, these names and other noble families are absent.²⁸ The patriciate appear to have withdrawn from the industry, but in fact they remained major investors and had simply moved into the background. Protected by the *accomandita*, the patriciate, not surprisingly, comprised the major part of the industry's dormant partners.

Of the dormant partners, it is possible to identify five families as emerging to form a significant financial strength within the industry — the Corsi, Franceschi, Gherardi, Guadagni and Riccardi families.²⁹ Their combined financial control over the industry emerged quickly and effectively. Between 1629 and 1663, the share of the firms controlled by these families increased from 10% to over 40%. In 1663, members of these families owned 35% of the total equity of the industry while accounting for only 8% of the nominal investors.

The common pattern of the investments by these families was to control several firms at the same time; in some cases, separate families invested jointly in the same enterprise. It has been demonstrated earlier in this essay that silk firms were becoming similar in terms of their financial size, reaching an equilibrium size for their operations. This uniformity was matched by a remarkable similarity among the firms' partnerships where large numbers of firms were controlled by the same principal investor. It can be argued that over the period under consideration firms operated less and less independently of one another, and that inter-firm competition must have been significantly reduced. In fact, one excellent example of this movement is shown by the partnership configurations of the firms held by the Marchese Giovanni Corsi in which manufacturers and other active partners in one firm were dormant partners in several others. The complexity of this partnership arrangement is illustrated in Figure 3 below.

This kind of organization had become quite common in the silk industry by the end of the period under investigation. The main casualty was the manufacturer who seems to have been submerged under the weight of other financial interests. Clearly such a situation would fly in the face of the guild since it was only through the manufacturer that the guild could exercise its strength in the industry. The shift of control away from manufacturers did not go unnoticed, for in the mid 1650's, the Silk Guild carried out an investigation of the financial structure of the industry.³⁰ Though the scope and objectives of the investigation cannot be determined from surviving documents, it is clear that one

²⁷ A.S.F., *Decima Granducale*, n. 3784.

²⁸ A.S.F., *Miscellanea Medicea*, n. 994 (Vecchio).

²⁹ For more detail see J. GOODMAN, *loc. cit.*, pp. 175-179, 215-221.

FIGURE 3 - Marchese Giovanni Corsi: Capital Structure of Silk Firms, 1636

Rinieri Scarlatti and Co.		Lorenzo del Frate and Co.	
Marchese Corsi	sc. 10,000	Marchese Corsi	sc. 16,000
Orazio Corsi *	2,000	Orazio Corsi	2,000
Antonio Rondinelli *	1,000	Lorenzo del Frate	2,000
Rinieri Scarlatti	1,000		
Palmerino Palmerini	4,000		
Anton Francesco Geri	2,000		
Palmerino Palmerini and Co.			
Marchese Corsi	sc. 14,000		
Orazio Corsi	2,000		
Palmerino Palmerini	4,000		

* Orazio Corsi and Antonio Rondinelli were the joint active partners in the mercantile and banking company of Orazio Corsi and Antonio Rondinelli. Marchese Giovanni Corsi contributed 36,000 *scudi* of a total equity of 50,000 *scudi*. Rinieri Scarlatti was also a partner. (A.F.S., *Archivio Guicciardini-Corsi-Salviati*, n. 1, ins. 60).

of its major goals was to ascertain the degree of financial involvement of Florentine mercantile and banking companies in the industry.

The investigation revealed that mercantile and banking companies had direct or indirect interests (that is investments made by partners of these companies on their own account) in 18 out of a possible 25 firms in the industry. That this represented a marked change from earlier in the century can be demonstrated by looking particularly at the direct rather than the indirect investment by mercantile and banking companies. The relevant data are presented in Table 4, clearly showing that this kind of financial involvement increased during the century and that the guild was correct in both its concern and assessment of the situation.

TABLE 4
BANKING PARTNERSHIPS IN SILK FIRMS, 1601-1645

Years	Number of Registered Firms	Percentage with Mercantile and banking companies as partners
1601-1611	15	6.7%
1611-1620	23	11.5%
1626-1635	41	12.5%
1636-1645	40	27.5%

Sources: Same as Table 2.

³⁰ A.S.F., *Miscellanea Medicea*, n. 994 (vecchio), "Nota di tutte le Banche che sono interessate in Arte di Seta".

In fact in 1663, for which year it is possible to present a profile of the financial structure of the industry, mercantile and banking companies were partners in at least 50% of the firms, representing at the very least approximately 20% of the total equity of the industry.³¹

It is important to remember that Florentine mercantile and banking companies were not financial institutions in the modern sense of the word. Though they were called banks (*banco*), their business included commercial activities as well as financial services. Thus their interest in the silk industry was not purely one of holding financial assets in the form of equity. But before examining their role in a more detailed manner, it is necessary to present some evidence on the attraction of the silk industry as an investment area.

As the information in Table 5 indicates, rates of return on capital were reasonable and though fluctuations in performance were present, on the whole, the data suggest that the silk industry was profitable. Moreover, referring to the same table, turnover of capital was rapid and partners in the firms listed

TABLE 5

RATES OF RETURN AND TURNOVER OF CAPITAL 1599-1656

Firm	Accounting period	Average annual Profit ^a	Average annual rate of turnover ^b
Francesco Rondinelli ¹	1599-1601	8.05%	1.14
	1601-1605	9.41%	1.22
	1605-1608	6.60%	1.30
	1608-1611	9.47%	1.15
	1611-1614	12.95%	1.39
	1614-1618	19.26%	1.52
	1618-1621	10.68%	1.40
	1621-1624	14.4%	1.40
	1624-1627	17.7%	1.36
Lorenzo del Frate ²	1627-1630	12.07%	1.68
	1630-1633	15.73%	1.62
Lorenzo del Frate ³ & Zanobi Passerini	1647-1650	7.08%	1.62
	1650-1653	7.61%	1.20
	1653-1656	8.08%	2.26

Sources: 1. A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 176-186

2. *Ibid.*, n. 231-232

3. *Ibid.*, n. 233-235

Notes: a. (revenue-costs) ÷ total equity

b. revenue ÷ total equity

³¹ Calculated on the basis of A.S.F., *Mercanzia*, n. 10845 and A.S.F., *Miscellanea Medicea*, n. 994 (vecchio).

saw their investment return at least once every year. Considering that much of the firm's circulating capital was depleted over the year, high rates of turnover reflect the buoyancy of the investment, and the significant fact that in the event of bankruptcy, it would take relatively little time to liquidate the firm.

Though it is not possible to compare these data to those from other investments at the time, nevertheless, it can be argued that the silk industry had all the necessary merits to attract investment. But by itself, evidence on the performance of the industry does not explain why mercantile and banking companies, in particular, were attracted as partners. To a large extent this is explained by their role in marketing.

As these companies were instrumental in providing equity capital so they came to dominate the marketing of cloths produced by those firms in which they were partners. And, as far as the record allows, marketing seems to have become a specialized and seemingly less risky, and more routine business. The essential elements of marketing were the order and the commission. Customers ordered cloths through Florentine mercantile and banking companies who in turn distributed the work to the firms in which they held equity.³² The companies charged customers a commission, ranging from 1.5% to 3% of the total value of the consignment on order. To those companies involved in financing the silk industry, earnings from commissions represented a substantial proportion of their business. For example, Orazio Corsi and Antonio Rondinelli and Company declared that between 1633 and 1644, commission charges alone accounted for 40% of its annual profit while financial statements in the 1650's of another company, Francesco Buontalenti and Giannozzo Dondori show that as much as 80% of its profits came from this source.³³

Although more research is needed on this point, the available evidence suggests that the marketing system described above was an innovation; and, significantly, it seems to have developed in conjunction with the increasing financial involvement of the mercantile and banking companies. In fact, the role of these companies in marketing cloths combined with their role in industrial finance amounts to a case of vertical integration. This process was clearly the most novel aspect of the industry's organization and one which cut right across traditional boundaries between production and marketing.

It cannot be argued, however, that this marketing system was unique to Florence nor that it resulted from the process of financing equity. For there is evidence that specialized marketing using orders and commissions was beco-

³² A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 215-216 (1607-21), 226 (1626-32), 314-319 (1632-1634); A.S.F., *Archivio Gherardi*, n. 218-224 (1648-59), 225-236 (1655-60), 267-285 (1635-61), 286-322 (1660-90). More detail on marketing is in J. GOODMAN, *loc. cit.*, pp. 116-121.

³³ A.S.F., *Archivio Guicciardini-Corsi-Salviati*, n. 287, fol. 104, n. 290, fol. 478; A.S.F., *Archivio Gherardi*, n. 230, fol. 290.

ming a common feature in the European economy.³⁴ The argument presented here, however, is that mercantile and banking companies responded to the silk industry as they did because the economics of this particular marketing system and the increased cash demand from silk manufacturer assured them of financial gains far greater than could be made simply by supplying short-term credit for purchases of raw silk.

Providing equity finance was tantamount to vertical integration silk firms became the production departments of mercantile and banking companies. What were the financial implications of this organization? Essentially, the circulating capital of the manufacturing firm was wedded to the circulating capital of the mercantile and banking company providing a complex array of short-term financial arrangements for both. Moreover, as information between the two flowed easily, this guaranteed that the mercantile and banking company possessed adequate knowledge of the firm's financial position. As to costs, it can be argued that integration achieved financial economies through the reduction of transaction costs. The manufacturing firm marketed its products directly through its mercantile and banking company with the result that costs incurred in searching, negotiating and enforcing production contracts would have been negligible, or at least substantially less than if firms and mercantile companies were distinct and independent units. Moreover, integration increased the scope for making production more routine because normally individual orders contained requests for producing cloth in large quantities. This was helped by the fact that during the seventeenth century, manufacturers were mostly producing three simple cloths (satin, taffeta and sarcenet), which were relatively easy to make.³⁵

Thus, mercantile and banking companies not only shared in the profits of the firm, but also, by their marketing role, were able to achieve financial economies in production and distribution. Whether these companies actually conceived of these economies is clearly impossible to tell. But, judging from the downward trend of interest rates during the seventeenth century and the stable rates of return on capital in the silk industry, it is reasonable to argue that mercantile and banking companies were responding rationally to market opportunities.³⁶

³⁴ See W. BRULEZ, *De Firma della Faille en de internationale handel van Vlaamse firma's in de 16e eeuw* (Brussels, 1959), pp. 568-587; H. MISKIMIN, "Agenda for Early Modern Economic History", *Journal of Economic History* 32 (1971), p. 180; R. DAVIS, *The Rise of the Atlantic Economies* (London, 1973), p. 98; C. G. REED, "Transactions Costs and Differential Growth in Western Europe in the Seventeenth Century", *Journal of Economic History* 33 (1973), pp. 177-190.

³⁵ See J. GOODMAN, *loc. cit.*, pp. 50-53. This represented a change from the sixteenth century when apparently much of the output consisted of luxury cloths. R. MORELLI, *op. cit.*, pp. 86-92.

³⁶ J. DE VRIES, *op. cit.*, pp. 211-212; C. M. CIPOLLA, *Before the Industrial Revolution* (London, 1976), pp. 211-213; G. PARKER, *art. cit.*, pp. 539-540.

The seventeenth century witnessed a proliferation of silk production in many new areas of Europe. Northern Italy's near-monopoly was under attack primarily from France but also from Holland, Germany and Switzerland. If Florentine manufacturers were to remain in the market then they would have to respond imaginatively to the increased competition. As the argument in this paper suggests, they responded partly by linking their interests directly with Florence's mercantile and banking sector, and partly by concentrating their production on goods which, though being at the bottom end of the silk market, were largely immune from the vagaries of fashion. On the whole the strategy was successful, as is borne out by the trend of output in the seventeenth and eighteenth centuries. The industry, however, paid a price in that its manufacturers lost significant power in affecting production decisions.

It is interesting to note that during the seventeenth century, according to investments made in all *accomandita* associations, Florentine capital progressively retreated from placements abroad and increasingly concentrated on Tuscany and Florence in particular.³⁷ In addition, and especially after 1620, investments placed in Tuscany were channelled equally into the mercantile and banking sector and into the silk industry.³⁸ According to one recent study of the silk industry during the sixteenth century, Florentine merchants were instrumental in promoting silk production in Florence by situating themselves in Europe's main silk cloth markets, and in Italy's main silk growing areas.³⁹ In the seventeenth century, Florentine merchants were in a sense less aggressive but their relationships with the silk industry became more direct and internalized in the very heart of the industry.

³⁷ J. G. DA SILVA, *Banque et Cr dit en Italie au XVIIe si cle* (Paris, 1969), p. 100; M. CARMONA, *art. cit.*, pp. 102-103; P. MALANIMA, "Firenze fra '500 e '700; l'andamento dell'industria cittadina nel lungo periodo", *Societ  e Storia* 2 (1978), pp. 249-253.

³⁸ J. G. DA SILVA, *op. cit.*, pp. 98, 104.

³⁹ R. MORELLI, *op. cit.*, pp. 92-95.

