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The North-Italian Cotton Industry 1200-1800

I. 1100-1300

In the medieval and early modern global economy, cotton was arguably the fastest growing branch of textile production. The first critical advance occurred between 700 and 1000 when cotton cultivation spread from India throughout the Islamic world. Owing to the dynamic growth of trade and towns and the development of sophisticated technologies of production, cotton was transformed from a luxury commodity into an ordinary article of daily use. The transmission of advanced techniques westward into the Mediterranean in the course of the eleventh century gave rise to centers of cotton weaving in Barcelona, Marseilles, and also in southern Italy where the cultivation and weaving of cotton had been introduced under Islamic rule. However, the industry first took firm root in northern Italy in the populous towns of the Po Valley, already important centers of woolen cloth production. The ports of Venice and Genoa, the Po and its tributaries, and the Alpine passes constituted vital commercial arteries for an industry of mass production which was dependent upon imported supplies of raw materials and international outlets for manufactured goods.

Northern Italy was at the epicenter of a burgeoning Mediterranean trade in crude cotton, dominated by Venetian and Genoese merchants. In the face of intense western demand, commercial cultivation expanded in the principal cotton growing zones of the Mediterranean. While the prime grades of Syria, Armenia and Cyprus were heavily represented in cargoes of Venetian and other ships, lesser qualities of cotton from Greece, Turkey, and southern Italy figured prominently in an ever widening radius of traffic. The provisioning of raw materials required a high level of capital investment and innovative solutions to the logistical challenges of transporting large quantities of a voluminous, lightweight commodity, at a contained cost.

The success of the industry also relied on effective marketing. Italian merchants successfully launched a broad array of novel products into European and Mediterranean trading channels where cotton goods competed in price with linens and light woolens. Cottons also complemented linens and woolens by offering consumers of all means the widest possible choice of fabrics for a variety of applications in apparel and household furnishings. The low cost and versatility of cottons, available in a range of pure and mixed fabrics and diverse colors and patterns, may help to explain the great elasticity of demand for cotton cloth. Consumers were offered quality products at affordable prices through a dense distribution network that extended from international dealers to urban retailers and itinerant vendors in country fairs and weekly markets. The quality and provenance of recognized “brands” was guaranteed by registered trademarks and guild seals.

Cotton required fewer steps in processing than wool, thus allowing higher volumes of output, upwards of 70-80,000 bolts per year in major urban centers. The bulk of production consisted of fustians with a linen warp and a cotton weft. The sustained delivery of a broad line of standardized low-cost goods for mass markets required coordination of the activities of thousands of urban and rural workers across a broad geographical zone. The cotton industries of northern Italy constituted an industrial complex characterized by a regional subdivision of labor in spinning, warping, and bleaching, and an intense traffic in semi-processed raw materials. The commercial viability of the system was dependent upon cooperation between guild and government officials and international merchants active in the cotton trade.

Cotton beating and weaving, and the finishing processes of dyeing and pressing were carried on by urban artisans under the supervision of specialized masters who often formed partnerships with leading entrepreneurs of the fustian guild. Bleaching in the Lake District, with its pure waters and well drained soils, was in the hands of independent contractors, employing a seasonal, largely female labor force.

However, the hub of the entire complex was the flax-producing region of Lombardy. The spinning of cotton, linen and hemp thread in numbered counts and the preparation of linen and hemp warp threads (*cavezzi*) according to strict guild prescriptions regarding length, weight and density were tasks put out to peasant women in the countryside. The supervision of spinning and warping fell to specialized wholesale thread merchants called *filaroli* or *telaroli* who worked on commission, or for their own account. There were heavy concentrations of spinners in the flax-growing districts around Milan (Gera d'Adda, Gallarate, Somma Lombardo), the city of Novara, Pavia (Pizzighettone) and especially Casalmaggiore, Castellone, Piadena, e Regazolo around the city of Cremona which was a major distribution center for crude cotton, thread and prepared warp threads. Spinners and warpers also had access to high grade hemp from Piedmont that was mixed with cotton and linen thread in the production of canvas and sailcloth.

The distribution of standardized *cavezzi* by the *telaroli* paralleled the use of prepared warps for mixed fabrics in the woolen and silk industries. The implementation of the system required a precise alignment of implements such as looms, heddles, interchangeable loom reeds, and warping frames. It was predicated upon the adoption of uniform linear measurements and weights across the entire zone of production. In the wake of organized migrations of Lombard artisans carrying the techniques of cotton production to cities in the Veneto, the Romagna, Tuscany, Umbria and the Marches, new centers aligned their linear measurements, loom reeds and other implements to the Lombard standard.

The availability of thread and prepared warps allowed the proliferation of many small industries. Cotton workers in Mantua, for example, produced a mere 300 pieces of fustian a year for the domestic market. Other towns in Tuscany and Central Italy produced niche products such as sheer veils and other products utilizing *cavezzi* and cotton imported through Venice, Pisa and Ancona. Cotton products from the Regno where the industry had an independent development, also achieved commercial visibility.

2. 1300-1500

After two centuries of rapid expansion, the north-Italian industry reached a peak of production around 1300. In the early fourteenth century, Italian fustian producers (*fustagnari*) faced new competition from rural linen centers of Germany where there was a gradual shift toward fustian weaving. When the Italian economy was expanding, such new entrants to the field would have had little impact on the “giants” of the industry. However, higher transaction costs were beginning to take a toll on the Italian industry. In 1338 the *fustagnari* of Milan complained about declining exports of a certain type of fabric to Germany, owing to a run-up in the wholesale price of unfinished fustians. The guild attempted to fix the price in order to limit speculation by wholesalers and bleachers. They also sought relief from impost duties on thread and *cavezzi*.

In a revealing statement issued in 1347, just a few months before the plague struck Europe, the *fustagnari* of Milan attributed the high costs of raw cotton to speculative transactions between wholesale merchants. The guild attempted to restrict cotton sales to its own members. Caps were placed on the amount of cotton purchased weekly by guild members, while the number of looms owned by individual masters were limited to fifteen.

Speculation in raw materials, a practice which the *fustagnari* of Milan considered so detrimental to their interests, was heightened in the second half of the fourteenth century when German firms made large purchases of raw cotton in Venice and Milan to provision an expanding Swabian industry, actively promoted by the Emperor Charles IV. According to a complaint by officials of the *Fondaco dei Tedeschi* of Venice in 1373, German merchants purchasing Levant cotton in Venice were guilty of manufacturing cheap imitations of Italian brands, complete with counterfeit copies of well known trademarks used by Italian producers.

The aggressive marketing of low-priced Swabian *Barchent* limited the exports of medium to low-grade Italian cottons to Germany and Central Europe. Large consignments of high-quality Lombard fabrics were still exported over the Alpine passes to south Germany for shipment to the Hanse towns, and to Prague and Vienna. However, the trade was now dominated by

German and Swiss merchants who had displaced Italians as the primary dealers in cotton cloth north of the Alps.

Italian producers suffered a further setback between 1411 and 1433 during the trade wars between Sigismond of Luxemburg, king of Hungary, and Venice which resulted in the establishment of an import-substitution industry in cotton cloth in Hungary. The continued expansion of cotton production in Central Europe led to saturated markets and placed upward pressure on the price of raw cotton.

In the fifteenth century, massive exports of German cottons to France, Spain, and northwest Europe eroded traditional outlets for Italian products. The invasion of Italian markets was met with a series of protectionist measures. In 1417, noting the detrimental effects of imports of German cloth on the industries of the hinterland, Doge Michael Steno levied a heavy tax on imports of “foreign” fustians from Germany and other parts of Italy. An exception was made for the fustians of Milan and Cremona that were destined for exportation overseas. In 1477 Venice banned all imports of fustians, bedding and ready-made apparel such as cotton doublets and tunics except those in transit to overseas destinations.

In Lombardy, protectionist measures were directed against the export of thread and *cavezzi* and implements such as loom reeds and heddles. In 1414 Milan issued a ban on the unlicensed export of thread and *cavezzi* from the duchy. The ban was reinstituted in 1425 and in 1444 when new regulations required all thread and *cavezzi* to be transported to the capital city before a license for export could be granted. In 1448 a petition from the fustian guild of Milan complained about illicit exports of thread to Cremona and Florence.

3. 1500-1800

While contraband was rife, these measures undoubtedly resulted in higher thread prices for cities dependent on Lombard supplies. It also signaled the breakdown of the integrated system of production that had sustained north-Italian cotton manufacture until the end of the fourteenth

century. The combined impact of German competition and the higher cost of Lombard thread led to the collapse of cotton production in many traditional centers of the Venetian mainland and the Romagna. The industry was virtually extinct in Verona and Bologna by the early sixteenth century. In 1585 Bergamo requested an exemption from the Venetian ban on foreign fustians, given the total absence of production in that city. In 1599 the *fustagnari* of Venice opposed the lifting of the ban, noting that the 170 looms in the port city were sufficient to satisfy local demand. By calculating the annual output of a loom at 30 pieces a year we arrive at a total production of 5,000 pieces, of which 2,000 were destined for the Arsenal. That is a sharp drop from the more than 60,000 pieces woven in Venice at the end of the fourteenth century.

The urban industries of Milan and Cremona maintained a competitive edge over German producers by virtue of their superior dyeing and finishing techniques. Milanese fustians were actively traded throughout Germany and the Netherlands and at the fairs of Geneva and Lyons. They were also well-represented in the markets of Vienna, Prague and Buda. There was a heavy demand for the costly cottons of Milan and Cremona in Barcelona, Valencia and other Spanish markets. In the fifteenth century, Lombard producers found new outlets for their cotton (and woolen) goods in the Ottoman Empire.

However, these short-term successes masked a sea change in the structure of north-Italian cotton manufacturing. In the course of the fifteenth century, the entire landscape of the industry was profoundly altered by the rise of new centers of cotton cloth production in rural districts of Lombardy, Piedmont, Savoy and Liguria.

Lombard artisans may have introduced cotton weaving into the Piedmont around Asti and Pinerolo in response to incentives offered by the dukes of Orleans. It later spread into Alba and Ceva. The duke of Savoy recognized the cotton guild of Chieri in 1482. Cotton workers are also recorded in Chambery, Novara and Valessia in the sixteenth century. In the same period Genoese merchants organized cotton weaving in rural districts around Acqui, Alessandria, Gavi, Serravalle, Bussala, Voltaggio and Savona. The region was known for its

heavy, coarse fabrics that combined local flax and hemp with cheap grades of Italian and Turkish cotton imported through Genoa. The annual output of Chieri reached 100,000 pieces by the year 1560, comparable to the output of Ulm in the same period. From the Piedmont 6-7,000 bales of fustian were exported annually through Genoa in the early sixteenth century. In Lyons in the sixteenth century the fustians of Piedmont sold for a little over half the cost of German cottons.

While the cities of Milan and Cremona retained a monopoly over fine cloth production, a proto-industrial industry also expanded in the Lombard countryside. In the early fourteenth century, the fiscal levies of the Visconti dukes on textile production, combined with the high cost of labor, drove some producers of ordinary cloth into provincial towns and boroughs. In 1425 the duke of Milan recognized the rights of *fustagnari* of Melegnano to freely export thread and *cavezzi* from the city of Milan to provision their weavers. Dyeing and finishing were to be done exclusively in Milan. In 1448 under the Ambrosian Republic, the merchants of Saronno, Gallarate and Varese gained recognition of these localities as supplementary centers for the distribution of thread and *cavezzi* to other parts of the duchy, thus by-passing Milan. Subsequently *fustagnari* from Busto Arsizio, Monza, Melegnano and other boroughs were granted the privilege of inscription as full members of the Milanese guild, with the right to maintain shops in the Capital and enter into partnership with leading masters. They were also free to assume apprentices from the district.

The reformed statutes of the Milanese cotton guild in 1467 sanctioned the employment of artisans in the district subject to the issuance of a license and the registration of all workers with the heads of the guild. Guild officials were empowered to inspect the shops of cotton producers in the district to ensure compliance with the technical prescriptions of the guild.

These concessions led to a restructuring of the cotton guild. The original corporation comprised masters, beaters and weavers in the city and suburbs with jurisdiction over spinners in the countryside. It was now reconstituted as a guild of licensed master producers both in Milan and throughout the duchy. Affiliated guilds of weavers, nappers (*cimatori*) and beaters

inscribed both urban and rural workers. All masters and workers were registered with the guild. The abbots were empowered to inspect all workshops and private domiciles of licensed members to assure conformity to guild norms of production. The final inspection and sealing of all fustians produced in the duchy was reserved exclusively to the abbots of the guild of *fustagnari* in Milan.

The restructuring reflected the growth of proto-industrial enterprises in the Lombard countryside which controlled the entire cycle of production from spinning and warping through the finishing processes of bleaching, dyeing and pressing. Production was limited to middling and lower cost fustians that could compete effectively with German products.

The interests of Milan and the new rural centers inevitably diverged. In a series of petitions dating from 1478, the guild abbots complained repeatedly about defects in the dyeing and finishing of cotton cloth in Monza and Melegnano. Despite these pleas, in 1497 Ludovico il Moro recognized the economic importance of rural producers when he abolished all import/export levies on the commerce in fustians throughout the entire duchy.

In 1546 the guild attempted to reestablish the city's monopoly over cotton beating by banning beaters from carrying on this activity in any city, borough, *castello*, district or village outside the city of Milan, including those centers where this process was already well established. This set the stage for violent encounters between the guild and rural artisans in the sixteenth century. In 1548 sanctions imposed by the abbots on masters and workers in the borough of Abbiategrasso were fiercely resisted. Residents rejected attempts by the guild to fix the length, weight, and density of cloth produced in the borough and to force all fustians to be brought to Milan for sealing, noting that adherence to these rules would damage the livelihood of "thousands" of workers in the borough.

These measures were clearly ineffective. In the statute of the guild of *fustagnari* of 1585 masters, beaters and weavers in Milan and elsewhere in the Duchy were obliged to register with the guild in order to assure collection of dues and other fees because many workers "in

remote places” withheld payment. In addition, masters were prohibited from employing unregistered weavers and beaters. This was obviously a drive to increase membership. In 1603 the guild recognized the right of new entrants formally inscribed in these guilds to open a workshop anywhere in the duchy.

The extent of the displacement of cotton manufacturing toward the Lombard countryside is clearly described in the statutes of 1585 where the guild claims jurisdiction over fully seventeen boroughs and industrialized villages located in a wide arc around the city of Milan. These include Monza, Melegnano, Cassino Scanasio, Senago, Magnago, Biate, Buscate, Venzago, Legnano, Busto Arsizio, Borsano, Gallarate, Castellanza, Abbiategrasso, Samarate, Verghera and Olgiate. In the 1600s production expanded into Maleo Lodigiano where *traidaine*, *bombazine*, *valessi* and types of cotton fabric were woven with thread and warp threads imported from Gera and Pizzighettone. Notably there is very little overlap between rural zones of cotton and linen manufacturing and those of woolen weaving which suggests a very high degree of industrial specialization in the Lombard countryside in the sixteenth century.

As capital and labor moved from city to country, new networks of distribution arose for both raw cotton and finished goods that often bypassed the capital city. Interruptions in supply and rising prices for Levant cotton, owing to political and military vicissitudes, took a toll on traditional producers. While prime grades of cotton imported via Venice still sustained reduced levels of urban cloth production, it was the lesser varieties of Turkish, Sicilian and Maltese cotton entering through the port of Genoa that fueled the expansion of rural production. In the sixteenth century, costly cottons of Milan and Cremona as well as cheaper fustians from Lombardy, and heavy “jeans” from the district around Genoa found markets north of the Alps in direct competition with German fabrics and with imitations of Milanese fustians produced in new manufacturing centers. Large quantities were shipped to England and Spain, of which a portion were re-exported in transatlantic trade.

The decline of the south-German fustian industry during the Thirty Years' War did not rebound to the benefit of the North Italian urban producers who still faced competition from a proliferation of new European centers making counterfeit fabrics in the style of Milan or Cremona. High wages and fiscal imposts, including tolls and direct levies, limited the ability of Italian urban producers to lower prices. In the early seventeenth century traditional suppliers also faced a slump in sales to the Ottoman market owing to diminished consumer purchasing power and the availability of cheaper, local cotton goods supplied by an expanding domestic industry. The subsequent importation of painted cottons into Europe and the craze for *indiennes* in the late 1600s signaled a shift in taste that dealt a further blow to the struggling urban industries of northern Italy which had already entered a stage of visible decline.

In Cremona the number of cotton manufacturing firms fell from a peak of 138 in 1627 to 60 in 1631, following the plague, declining further to 41 in 1648. In that year the remaining guild members declared themselves too "poor and miserable" to pay their share of the fiscal levy imposed on the guild. The guilds of bleachers and doublet-makers were said to be almost extinct. In a separate document of 1627, the guild noted a loss of artisans to Brescia, owing to a Venetian ban on foreign fustians sold in its territory which kept Cremona's fustians from local markets. The redactors claimed that the commerce in fustians in that city had virtually "ceased" in the face of foreign competition. A post-mortem assessment of the decline of cotton manufacturing in the city redacted in 1749 noted the ineffectiveness of bans on imports of German cloth and of prohibitions against the export of warp threads which had greatly damaged the industry. In 1761 the city exported a mere 8,000 pieces of fustian. An industry that once employed thousands of laborers now provided work for a mere three hundred. Still, that figure compares well with the miniscule output in Pavia where the industry was virtually moribund by 1700.

In 1798, on the eve of the Industrial Revolution, the remaining *fustagnari* of Milan assessed the damage caused to the industry by taxes imposed by the Habsburg monarchy in 1780 on fustians, *bombazine* and other types of cotton cloth which amounted to one third the value of the goods. They noted that over one-half the traffic in cotton goods was then carried on by

merchants of Busto Arsizio, Gallarate and other surrounding localities. In fact, seventy families from Milan -“victims of necessity”- had emigrated to Busto Arsizio alone. In the view of the guild officials, the lack of expertise of rural workers was offset by their ability to acquire prepared warp threads and thread from surrounding districts, free of tolls. In that period the combined annual output of both Busto Arsizio and Gallarate was around 100,000 bolts of fustian.

From 1100 to 1800 the structure of the north-Italian cotton industry evolved within a specific historical context that bears comparison with the experience of other regions in the pre-modern global economy. The Italian pattern of proto-industrial growth represents one path to industrialization that was highly responsive to free market forces. In different cultural settings, institutional factors such as interventions by states or ruling elites, control over the labor force by corporate entities or castes, and legal and financial structures affecting capital formation could lead to alternate forms of industrial organization and divergent trajectories of economic growth.