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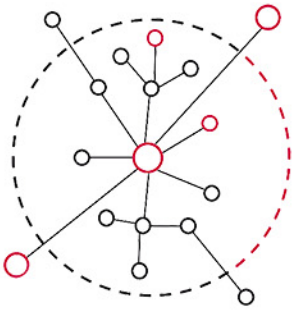
THE RISE AND DECLINE OF INDUSTRIAL DISTRICTS, 18TH-21ST CENTURIES



M. BOLDORF, *Verleger and impannatori*. A. RECKENDREES, *Dynamics of Overlapping Clusters*. J. CATALAN, *The life-cycle of the Barcelona automobile-industry cluster*. J. A. MIRANDA; B. MONTAÑO, *Technological innovation in industrial districts in Spain*. C. BELINI, *The Rise of the Textile District of Buenos Aires*. P.-Y. DONZÉ, *From the industrial district to the global firm*.

66

Contents

ARTICLES

"Verleger" and "impannatori" – The Reduction of Transaction Costs by Middlemen in 18th- and 20th-Century European Textile Districts

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Introduction

In the "Handbook of Industrial Districts", a connection is drawn between "the ancient guild system" and the "modern ID".[1] Alberto Guenzi emphasises the importance of human capital formation with "particular reference to the creation and transmission of informal knowledge". He summarises the "nature of the guild" briefly, describing the part they played in supervising the production process and distribution of goods. However, as the debate on guilds shows,[2] their impact on economic development is a complex issue. Some authors insist on the economic inefficiency of guilds and their obstruction of the innovation diffusion process. Taking this into account, Guenzi's conclusion that "the guild system resided precisely in the final aim of allowing workers to become entrepreneurs (head of the workshops)" seems hasty.[3] An experienced and skilled craftsman is not necessarily an entrepreneur. It has to be explained how the specific entrepreneurial know-how consisting of a combined knowledge of production and trade emerged. Research frequently draws a line from the proto-industrial putting-out system with its characteristic putting-out merchants (*Verleger*) to the onset of industrialisation. In this respect, Jean-Baptiste Say was already aware that an entrepreneur needed the skill of combining production factors.[4] Fluent capital was not a primary need because it could be lent from other capitalists. However, an instinct

1. Guenzi (2009), p. 5.
2. See for this debate: Epstein (2008), pp. 155-74. Ogilvie (2008), pp. 175-82.
3. Guenzi (2009), p. 5.
4. Parker (2009), p. 33.

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for innovation was crucial. In the course of this paper, the assumption will be tested that middlemen such as putting-out merchants were the right people with the right characteristics.

The cost reducing effect of middlemen is widely accepted in economics. For a fee, intermediate traders reduce transaction costs, i.e. the time, effort, and other resources needed to search out, negotiate, and complete an economic transaction: "Because it is costly for buyers and sellers to find each other and to negotiate the exchange, an entrepreneurial opportunity exists for people to become middlemen".[5] Many people think middlemen just add to the buyer's expenses without performing a useful function. However, high transaction costs can be a barrier to trade. Middlemen provide buyers and sellers with information at a lower cost and arrange trade between them. A good example of this is a grocer: buyers could deal directly with a producer, perhaps even at a lower cost, but at high opportunity costs. Furthermore, one can imagine that *middlemen* eliminated other types of market imperfections such as limited communication or "incorrect trades" at non-equilibrium prices.[6] In previous historical economic research, it is also hinted that middlemen were crucial at the onset of industrialisation: a familiar example is the role played by leaseholding farmers during the British agrarian revolution who held an intermediate position between the landlords and the rural classes.[7] Their capitalist activities had a major impact on the increase in productivity in British agriculture.

Up to now, the role of transaction costs has been neglected in the research on industrial districts. The concept of transaction costs is related to the theory of institutional change which highlights the impact of the economic framework. It focuses on the legal structures, property rights and economic regulations that affect economic performance. This paper examines the evidence provided by the theory of new institutional economics for the rise of industrial districts (ID). Some missing aspects – especially with regard to the formation of human capital, the diffusion of innovation and the emergence of a skilled entrepreneurship – may be explained by choosing this approach. Alfred Marshall pointed out the role played by the institutional setting. Although he argued from a strictly neoclassical position, he acknowledged "that institutional structure exerts an important influence on behaviour"[8] – yet the concept of "institution" is not defined. In more recent research on IDs, the term "institution" is also used,[9] but it usually only refers to organisations such as schools, vocational training centres, etc., which are studied because of their

5. Gwartney, Stroup, Sobel & Macpherson (2014), p. 22.
6. Hirshleifer & Glazer (2005), p. 433-4.
7. Mathias (1983), pp. 54-5. Buchheim (1994), p. 51.
8. Furubotn & Richter (2000), p. 1, referring to: Marshall (1920), p. 200.
9. Merlo (2009), pp. 32-42.

impact on knowledge formation. However, as Douglass North has already pointed out, institutions must never be confused with organisations.[10]

Eirik G. Furubotn and Rudolf Richter were following the line of thought of Oliver S. Williamson, who based his research on the "governance of contractual relations".[11] Contracts are regarded as the basis of all economic transactions because they fix the conditions of economic exchange. The cost of concluding contracts, the transaction costs, include all expenses that are necessary to transfer the property rights of a good from one individual to another. In brief, three kinds of transaction cost can be distinguished when a contract is concluded:[12]

a) Search and information costs and the preparation of contracts: a producer must search for a suitable party with whom to trade and this process results in costs. Or expressed in a more general way: measurement costs are based on the acquisition of information about markets, qualities etc..
b) Bargaining and decision costs when concluding contracts: these costs arise when a contract is being written and the concerned parties are bargaining and negotiating the conditions. In this context, there may be information asymmetries, i.e. one of the bargaining parties has more information about the contract than the other.
c) Supervision and enforcement costs for monitoring contracts: these costs relate to the need to monitor the agreed conditions over time, e.g. the inspection of product qualities or the control of price fixtures. A problem of the transaction cost-approach is that these costs only can be estimated or compared to opportunity costs. Although their relevance for economic development is not contested, this inconvenience is not fully satisfying.

The behaviour of middlemen, especially of 18th-century putting-out traders (*Verleger*), will be explored and compared to the 20th-century Italian *impannatori*. The examples chosen for the earlier period are taken from several regional studies. After this introduction (section 1), the impact of institutions on the diversification of trade in Northern Switzerland is explored in section 2. In section 3, the contrary case of Silesia highlights how a specific institutional setting could prevent the development of putting-out trade and lead to deindustrialisation. Section 4 expands our knowledge of the institutional setting by outlining some more cases in Ulster (Northern Ireland) and in the tex-

10. North (2005), pp. 59-64.
11. Williamson (1979), pp. 233-61.
12. Furubotn & Richter (2000), pp. 44-5.

tile districts of Saxony. This leads us to an initial conclusion about the impact of institutions on 18th-century IDs. Section 5 looks at the Central Italian textile district of Prato in the 20th century, which was characterised by a number of similarities in its institutional setting. In the conclusion (section 6), an attempt is made to find answers to the question of how the rise of textile districts depended on the implementation of efficient economic institutions.

Putting-out in Northern Switzerland

Cotton processing was introduced to the existing guild-organised crafts in Zurich in the 16th century. Freedom of production was guaranteed because the crafts code and guild rules were not applied to the newly established branch. Only a small number of cotton merchants were descended from the town gentry; the majority of them were former craftsmen who had had to work hard to rise through the town's class system. In the course of the following century, merchants became the most powerful group within the citizenry of Zurich. They established the *Kaufmannsdirektorium*, a collective governance organisation which was, however, not able to prevent the influx of new merchants into the cotton trade. A diversification of Zurich merchants resulted, ranging from wealthy bourgeois merchants to small traders who brought their textiles to the nearby Zurzach market using a basket or handcart.[13] This diversity can be interpreted as the result of the non-enforcement of guild rules, which presented an opportunity to combine the freedom of trade with the choice of settlement.

After the 30 Years War, long-distance traders in Geneva placed considerable quantities of cotton from Egypt and Syria on the Swiss market.[14] Most of the imported material was bought by merchants in Zurich who put it out to the town's female spinners and weavers. Manufacturing ceased at the town's border until the middle of the 17th century; afterwards it spread out into the surrounding countryside. Yarn and woven fabrics of average quality were produced on the West side of Lake Zurich whilst fine fabrics came from the east side of the lake. In the first decades of the 18th century, spinning and weaving expanded to the Winterthur region and beyond the cantonal boundaries.[15] The output of rural production was mostly sold on the Zurich market, with the exception of Eastern Switzerland.[16]

13. Guyer (1952), p. 25
14. Bergier (1990), pp. 170-1.
15. Pfister (1992), pp. 113-23.
16. On the growth of cotton weaving in the Canton of Appenzell, see Holderegger (1992), pp. 47-9. General information on the growth of the cotton industry: Bodmer (1960), pp. 181-6.

The reason for the development of a putting-out system lay in the extensive growth of the rural production area and its geographical location. Scattered settlement characterised the Zurich hinterland, i.e. hamlets and farmsteads instead of closed-off settlements. These rural settlements were adapted to the natural surroundings, e.g. on the slopes of Lake Zurich. The population in these areas depended on ambulant traders such as pedlars and hucksters for the delivery of consumer goods. Bakers or wine dealers delivered their products to the rural population as well, often combining their trade with the delivery of cotton.[17] Scholars debate the impact of geographical factors on economic development by looking at institutions as opposed to climate and geomorphological conditions.[18] In the case of Switzerland, geography had an impact because the given territorial circumstances increased transaction costs, especially for transport. With the ambulant traders, an occupational group was prepared to arrange the collective transport of raw materials and semi-finished goods such as yarn. This helped reduce the transaction costs in a scattered rural manufacturing system. Thus, the cost of economic transactions was directly linked to the geographical situation.

Since the 1670s, rural yarn jobbers and cloth collectors (*Tüchler*) had established their trade independently from the Zurich merchants.[19] Before the end of the century, they had expanded their business to rural cotton manufacturers who controlled spinning and weaving in a radius of about ten kilometres. While the business of these putting-out traders increased, cotton manufacturing in Zurich declined. In the early 18th century, the *Kaufmannsdirektorium* opposed the rise of rural manufacturers by endeavouring to hamper their putting-out trade, e.g. in a bill from 1709. However, their ability to supervise rural trade was not enough to enforce the intended trading prohibition. Having lost the control of rural manufacture, the big merchant houses turned to foreign trade. To replace the previous trade relations with town-based producers, they established connections to the rural manufacturers. The class of intermediate merchants put out the yarn to weavers and sold the resulting cloth in Zurich.

Since their initial occupation as pedlars, ambulant bakers or wine dealers, the yarn jobbers had given credit to the weavers. It became common practice for the weavers to pay back their credit in textiles, promoting the establishment of *Verlage* with circulating capital. Putting-out merchants were interested in lowering production costs and looked for ways to lower the purchase price of cotton and squeeze the weavers' wages. The spatial expansion of the production area not only led to a rise in transport costs, but also in monitor-

17. Pfister (1992), pp. 250-1.
18. Acemoglu & Robinson (2012), pp. 45-69; see the chapter on "Theories that don't work". A critique response was given by Sachs (2012), pp. 142-50.
19. Pfister (1992), pp. 65-8.

ing costs. These higher costs contributed to an increase in selling prices. At the same time, the putting-out merchants had more market power than individual sellers. They could stock textiles in the countryside, withhold them from the market and watch the price fluctuate. As a result, they had three ways of reducing their own costs: they curbed the cost of purchasing inputs, organised cost-efficient transport and received better prices when selling the textiles on the market. In addition, the extent of their activities led to an increase in their business know-how.

Beyond the extensive growth of rural manufacturing, there was an improvement in the quality and selection of products available. The range of products grew from the putting-out trader's habit of spreading innovation. Growing knowledge about foreign markets brought new ideas into the textile district. Traditionally, the export of Swiss textiles was oriented towards France and Spain. On these foreign markets, there was a strong demand for luxury textiles such as *indiennes*, *mouchoirs* and *mousselines*.[20] Added value was created by innovating the manufacture of traditional products, e.g. by printing the woven cloth. The cotton branch became the most dynamic sector of the Swiss textile industry. After 1770, the big rural manufacturers mainly produced *mousselines*, which led to a structural change in the textile districts of Central Switzerland.[21] According to the census of 1787, the number of looms for producing *mousselines* was twice the number for producing *indiennes*.[22] As a result, the putting-out manufacturers acquired valuable knowledge in producing different types and qualities of textile.

When the innovation of machine-driven cotton spinning was established in Switzerland, the putting-out merchants belonged to the pioneering entrepreneurs in the Zurich district. Under the protection of the Napoleonic continental system, a boom in cotton mill foundations had been taking place in the Helvetian Republic since 1808.[23] More than 70 per cent of the 155 machine-driven Swiss cotton mills were in the Canton of Zurich. The majority were small and medium enterprises, which were established by putting-out manufacturers. The founders of the ten biggest cotton spinning mills (with more than 4,000 spindles) in Switzerland were all former *Verleger*. In most cases, the technical equipment was of a poor quality and, exposed to competition from British products after the wars, the boom came to a standstill. However, the base for industrial textile production was in place. As in other European countries, this development was grounded in cotton manufacture.

20. Pfister (1992), p. 67.
21. Bodmer (1960), p. 223.
22. Pfister (1992), p. 80.
23. Dudzik (1987), pp. 74-5; Bodmer (1960), p. 291

Contrasting example: Failure of Silesian linen manufacture

The impact of the institutional setting becomes clearer when we examine a contrasting example: the failed introduction of a putting-out system in Lower Silesia. Linen production began in the early 14th century in this Habsburg province as a guild-organised town-based craft. Until the 17th century, the producers' guilds signed contracts with foreign merchants who mostly lived in Nuremberg or other Southern German trade towns. They fixed sales conditions for at least one year. During that period, the institutional setting was characterised by the lowering of transaction costs by the town's collective contracting.[24] However, as in the Canton of Zurich, weaving spread out into the surrounding rural areas after the 30 Years War. Some of the Lower Silesian towns lost their importance as production centres and specialised in export trade.

Around 1700, merchant guilds were established in the export towns of Hirschberg, Landeshut and Greifenberg. They created a catalogue of rules with the intention of preventing competition, i.e. by excluding non-members from linen purchase or by safeguarding the guild monopoly on foreign trade.[25] To maintain their supremacy in the regional market, they tried to align themselves with the Prussian state. By forming a supra-guild, the *Gebirgshandelsstand*, the wealthiest merchants succeeded in exerting considerable political influence. Their cartel not only claimed control of exports but also of trade within the linen district, using various institutional arrangements. Firstly, the institutional rules were fixed in the market orders of the market towns in accordance with the guilds' requirements for bulk purchasing. Secondly, linen legislation set regulations for the entire province, beginning with the first decree in 1724. These ordinances were renewed in 1742 after the Prussian annexation of Silesia and again in 1788. They gave town-based merchants the exclusive right of export.[26] The regulations were aimed at preventing the rise of competition from outside the towns.

Compared to the Zurich textile ID, the spatial supervision in Silesia was more intense. The number of market towns increased significantly in Silesia during the 18th century. Besides the export towns, linen markets also existed in smaller towns for the turnover of goods from nearby villages. As a result, the old *Kaufsystem* (workshop system) remained strong, with each weaver going to the market himself to sell his weekly woven piece of cloth. Some 15 linen markets emerged in the Silesian district, which were regularly attended by merchants from the export towns or their employees. The organisation of the

24. Pfister (1998), pp. 15-16.
25. Boldorf (2006), pp. 58-62.
26. Zimmermann (1885), pp. 37-43, 79-82, 176-82.

market system complied with the requirements of the export guilds of the *Gebirgshandelsstand*, securing their export monopoly. At the same time, the town markets were convenient for controlling trade. The Silesian system strengthened the position of smaller towns which had been reduced to carrying out intermediate trade. This framework was different from that of other European regions where proto-industrial development weakened the economic power of small towns.[27]

However, there was a tendency for rural traders to undermine the market town's monopoly.[28] The town-based merchants often complained that their great number endangered their trading profits. Indeed, these intermediate traders could be useful to the weavers as they reduced their cost of transport to a market town or the search and information costs at the crowded linen markets. However, they were pursued by *Landdragoner* and other police forces. The town-based merchants proposed a licensing system to control the spread of rural traders.

The licensing system was first introduced in the town of Hirschberg, which had held a special right to produce veils since 1630. Collective transportation was cost-efficient because the production area extended to a radius of 20 kilometres around the town. The Hirschberg merchants signed contracts with middlemen, so-called linen collectors, who lived in remote villages and bought the veils from local producers. As these exports were often based on foreign orders, the collectors frequently stored the veils in order to meet the purchasers' demands. The Prussian chambers of Glogau and Breslau (*Kriegs- und Domänenkammern*) were involved in the organisation of subcontracting, their task being the issuance of licences according to lists prepared by the merchants. The licence holder was only authorised to deliver linen to a specific buying merchant. The putting-out of yarn that was practised in the weaving district was the exclusive right of yarn collectors. The issue of licences for the collection of linen and yarn simultaneously was proscribed, thus excluding a combination of the two tasks. The Prussian authorities worked hand in hand with the *Gebirgshandelsstand* by effectively controlling the number of rural traders. There was hardly any opportunity for the licence holders to develop and become independent putting-out traders themselves by combining the lucrative delivery of yarn with linen collection. The regulations protected the town-based merchant's rent monopoly and prevented the rise of competitors in the rural areas. Towards the end of the 18th century, subcontracting with license holders was also introduced in areas where coarse linen was produced. A reduced number of linen collectors was oriented towards other export towns.

27. Epstein (2001), p. 22.
28. In more detail, see Boldorf (2009), pp. 173-98.

Moreover, the described framework presented the problem of monitoring production. The licence holders were not motivated in the same way as the putting-out merchants to supervise the production process. At the beginning of the 18th century, a certified inspector was designated in every linen-producing village.[29] They were appointed by the government, but paid by the weavers for each piece of linen they inspected. The weavers themselves were meant to be reimbursed by the guilded merchants. At local level, however, the inspector depended on advance payment by the weavers to secure his livelihood. Inspectors and weavers had much more in common than inspectors and merchants. This asymmetry led to hurried inspections, often conducted carelessly. As a consequence, the weavers were happy if the quality of their work was of a minimum standard. Their sole aim was to get their pieces sealed as quickly as possible. Moreover, the inspection system was detrimental to innovation because the dimensions of the cloth were specified precisely in the linen bills. The inspector certified that the linen met the minimum requirements only. A genuine inspection of quality and a flexible approach to changing design were lacking. The Silesian inspection system was only suitable for bulk purchasing.[30]

The institutional setting explains the failure of the putting-out system in the linen region. Four points explain why the prevention of rural trade was more efficient in Silesia than anywhere else: (a) the close interaction between the regional authorities, the Prussian chambers in Glogau and Breslau, with the *Gebirgshandelsstand*, the merchants' cartel organisation at the top level of regional governance affecting trade – their collective actions were responsible for the enforcement of the linen bill of 1742 which was revised in 1788; (b) the efficient methods used by police forces such as the Prussian *Landdragoner* to enforce the law; (c) the licensing system which was supervised by the guilds and the Prussian chambers – double licensing was not allowed in order to prevent one person working as a yarn and linen collector, and this prevented the development of putting-out trade; (d) the prohibition of the storing of yarn in the countryside – these depots were indispensable to a diversified putting-out system. In Switzerland, these types of regulations could not be enforced because the means for prosecution were inadequate and the strategical alliance with a powerful regional government was missing.

Raw cotton was hardly established in the district because the linen export merchants refused to trade with this material, which needed to be imported. They feared that the production of cotton would force them to start a putting-out business and pretended that this would ruin their traditional way of trading linen. To explain their behaviour, the merchants declared explicitly

29. Zimmermann (1885), p. 38.
30. Boldorf (2006), p. 129.

that they did not want to be forced into organising putting-out trade. Thus, the introduction of cotton in Silesia was limited to a small area around the Owl Mountains (*Eulengebirge*) near Reichenbach (*Dzierżoniów*), where town-based merchants put out yarn and weaving. Regulations were then decreed which were reminiscent of the linen bills in the neighbouring linen-trade towns. They introduced a strict linen inspection, which was suitable to produce a standard quality. As a result, a larger putting-out system for weaving developed around 1830 only in some villages, such as Langenbielau and Peterswaldau, which would later became famous because of the weavers' insurrection in 1844. However, most of the yarn used for weaving was not produced by local spinners but imported from Britain.[31]

Institutions, human capital and innovation in early industrialisation

Unsuccessful examples can be distinguished from partly successful ones by simplifying the complexity of the individual cases. The transformation at the end of the 18th century often led to de-industrialisation or to a lower degree of mechanisation. This could be seen in most of the linen regions, e.g. in Flanders. In this traditional textile region of Belgium, the transport of yarn was of minor importance because of the density of linen markets in the production area, meaning weavers were able to go to a market themselves and sell their cloth. As a consequence, the putting-out system emerged at a late stage and only in a small district around the town of Ghent, where cotton was manufactured.[32] This shows that sometimes only sub-regions transformed successfully: in these cases we can speak of different districts within one textile region. Similar phenomena can be seen in other European regions. Before drawing a general conclusion, we need to broaden our understanding of the variety of institutional arrangements by looking at cases in the Northern Irish province of Ulster and the textile districts of Saxony in Germany.

In the final third of the 18th century, linen production in the Belfast region and County Down was under pressure from cotton production.[33] The shortage of labour resulting from wage competition was an incentive for linen producers to reorganise their traditional manufacturing processes. They introduced fine quality cloths such as diaper and damask, but this change necessitated the establishment of a putting-out system. Manufacturers' credit was needed to purchase new, modern looms. In addition, a regular outlet was required by the producers of these quality products. Only putting-out could

31. Boldorf (2006), pp. 195-8.
32. Aerts & Delbeke (1983), p. 26. Mokyr (1976), pp. 14-15. Lis & Soly (1997), p. 298.
33. Crawford (1988), p. 35. See also Boldorf (2006), pp. 203-66.

guarantee regular sales for the weavers and facilitate the application of new techniques and more sophisticated spinning looms. A single self-employed craftsman, however, did not have the financial means to purchase one of these looms without financial aid. The manufacturer's activity thus fostered the spread of innovation. The entrepreneurs in the linen sector had to react by improving their methods of production, and their commercial activities too. On the eve of the machine age, the Belfast district became the heartland of mechanised spinning mills in Ireland.

In some parts of Saxony, the putting-out system emerged in the late 18th century, fostering the spread of textile weaving.[34] Most pioneer entrepreneurs were former guild-organised cotton weavers from Chemnitz. Although restricted by guild regulations, they acquired the freedom to put out cotton for spinning. They also had the right to dye the yarn, acquiring the skill of calico printing, which they added to their weaving activities.[35] The regional centres of Chemnitz and the neighbouring Vogtland became Germany's main area of mechanised cotton spinning. The first spinning mill was opened in 1799, and one year later 2,000 spinning jennies were running in the Saxon textile districts.[36] Sheltered by the Napoleonic Continental Blockade, Saxon entrepreneurs succeeded in setting up more sophisticated mills between 1807 and 1815.

A specific institutional setting – i.e. the putting-out system – can be regarded as an important precondition for human capital formation within the district. At the beginning of the industrial era, putting-out traders were frequently among the first founders of spinning mills, making use of their knowledge of commerce and production. This was a crucial step towards building more and more factories. On the other hand, practically no progress was made in proto-industrial regions where this kind of entrepreneurship was missing, as seen previously for the Silesian IDs. The withdrawal of the guilds or, at least, the breaking of their monopolies was an essential precondition for the diversification of trade.

The most important function of the putting-out traders was their contribution to lowering the transaction costs:

a) Transport costs: the intermediate traders brought the raw material to the weavers' homes and sold the product at local or distant markets. By organising collective transport, the cost of transport for the producers was reduced because they no longer had to go to the market alone.

34. Zachmann (1997), pp. 509-35.
35. Hahn (1996), pp. 109-27.
36. Kiesewetter (1988), pp. 441-2.

b) Contract enforcement: the putting-out system was attractive to rural producers because contracting could be relied on – compared to the *Kaufsystem* – as a way of selling the woven products. Putting-out traders could provide credit, facilitating the modernisation of rural industries.
c) Search and information costs: putting-out traders had specialised knowledge of production. They were also aware of any new trends in foreign markets, i.e. they had access to information about changes in taste. This enabled them to provide information, which was used to improve local production. By pre-financing weaver investment in better machinery, they promoted the spread of new technology and product innovation.
d) Monitoring costs: the old way of coping with the problem of controlling output quality was to use trademarks and seals to guarantee official control by the authorities. However, the putting-out traders monitored quality in a rural industry with numerous different producers. They took over the job of verifying standards of production, saving the cost of other types of inspection and control.

But the putting-out traders were not only middlemen who reduced transaction costs: they were also innovators. They sometimes created, but more often copied fashionable goods. Their introduction of new articles was an important product innovation. The putting-out system itself can be regarded as a process innovation. Cotton was essential to this transformation because cotton spinning was mechanised much earlier than linen spinning. But it was not the only way of transformation: the Ulster case shows that it was possible to return to the former raw material when the technical problem of mechanising flax spinning was solved. Putting-out traders were, therefore, the central figures in the transformation of textile districts. They are frequently to be found among the pioneering founders of spinning mills. At the beginning of the industrial textile era, a profound knowledge of production and commerce predestined them to become the main promoters of development in the industrial districts.

In the 19th century, skilled entrepreneurs were crucial to the rise of locally concentrated textile industry. This was a common feature of the textile branch and distinguished this sector from the iron industry, for example, where other preconditions were more important.[37] Although freedom of movement existed, the founding entrepreneurs were rarely outsiders. The new Prussian capital of Berlin during the 1830s and 1840s was an example for the migration of entrepreneurs in Germany; in Ireland, there were some manu-

37. Landes (2003), p. 174.