This paper investigates the origin and evolution of the concept of the industrial district. The idea of industrial district is quite spread in modern industrial economics and in business studies, with a variety of meanings and typologies. Indeed, the true first original conceptualisation dates back to Alfred Marshall and the economists of the so-called Cambridge School. Quite often the concept of industrial district is considered as synonymous of agglomeration, localisation, and clustering. But, according to the meaning given originally by Marshall, these processes of industry “territorialisation” are quite different from the more “compound localisation” that is the Marshallian industrial district. Therefore, the aim of our contribution is focused on disentangling its original meaning from other subsequent interpretations, referring particularly to the debate on this subject arisen among the economists of the Cambridge School in the early fifties of the XX century.

JEL: B0; L11; R12; O14;O18
Key words: industrial district, Cambridge School, external economies, agglomeration

1. Introduction

Alfred Marshall is the founder of the Cambridge School of Economics. He attained the Chair of Political Economy in 1885. From his arrival at Cambridge, his main aim was “to raise the status of economic studies within Cambridge (…) by giving it a Tripos of its own” (Groenewegen 2006). Marshall achieved his aim in 1903 when he established the Economics and Political Sciences Tripos as distinct from the Moral Sciences Tripos after a long battle in the Academia (Groenewegen 1995). Economics became an important part of Cambridge intellectual life and for many decades the “Cambridge School of Economics” played a dominant part in the decisions of economic policy in Britain (Hutchison 1981) and in Academic debates (Harcourt 1972).

In truth, as rightly underlined by Becattini (1990), we should distinguish between two different Cambridge Schools of Economics. The first is the more widely known and is the one born around J.M. Keynes; among those belonging to this school we find: Richard Kahn, Joan Robinson, Gerald Shove, Nicholas Kaldor, Austin Robinson and also Piero Sraffa (p. 275).
The second is far less known and is the one born around Alfred Marshall; among those belonging to this school we find: A.C. Pigou, D.H. Robertson, Arthus L. Bowley; Sydney Chapman, D.H. MacGregor, Charles Sanger, Ch.R. Fay, Philip Sargant Florence and many others (see Becattini 1990). Becattini calls the latter school “the Old Cambridge School” in order to distinguish it clearly from the other which developed later. The two schools are very different (Becattini 1990: 275-77).

In particular the Old Cambridge School comprises those pupils of Marshall who studied and developed the research fields dear to Marshall and according to a certain methodological approach. Among the various areas of interest the most important is that of industrial economics considered in a wide sense: the detailed and painstaking study of the organisation of labour, firms, industry and trade, especially international trade (Becattini 1990: 305).

As we know, Marshall is also the “father” of the modern concept of Industrial District. Alfred Marshall “discovered” the existence of industrial districts quite early, probably in his “Wanderjahre among factories” (see below § 2.3), and dealt with them from his first approach to economic science. Significant references to industrial districts are made, for instance, in *The Pure Theory of Domestic Value*, a work that can be dated between 1873-77 (see Whitaker, 1975, II: 3-236).

Industrial districts were the key element that, according to Marshall, could rescue the British economy. Accordingly, the study of industrial districts has been one of the legacies Marshall left at Cambridge, to his pupils, as we shall see in the following paragraphs.

The paper is structured as follows: section 2 inquires into the main features of the Marshallian industrial district and highlights its subsequent developments and the changes made by Marshall’s pupils. Particular emphasis is given to the Lancashire industrial district, the one most investigated at that time in Cambridge. Section 3 explores the meaning and the consequences of the important connection between competition and cooperation existing in the Marshallian industrial district; section 4 investigates the early signs and the causes of the decline of the textile industrial district as representative of many English industrial districts. Section 5 draws some final conclusions.

### 2. Alfred Marshall and Industrial Districts.

#### 2.1. The Marshallian Industrial Districts: a matter of time

“Industrial district” means an area (a district) where a concentration of firms has settled down; but, it is not simply a localised industry, as Marshall clarifies well in his *Principles of Economics*.

A localised industry is “an industry concentrated in certain localities” (1920, p. 268). The reasons for a geographical concentration of firms may be various: first, the needs of the manufacturers (especially in the early stages of civilisation) to be close to the resources on which they depended. This primitive localisation is especially due to physical conditions (such as climate, soil, mines, quarries, access by land or water) and characterises the origin of many English districts like Staffordshire, Bedfordshire and Buckinghamshire. Second, “the patronage of a court” that produces a “demand for goods of specially high quality”. This cause worked in Lancashire and the greater part of England’s manufacturing industry” (1920, p. 269). Third, the presence of a town: “almost every industrial district has been focussed in one or more large cities (...)” [But] after a time factories, requiring more space than was easily to be had where ground values were high, tended to the outskirts of the city; and new factories grew up

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increasingly in surrounding rural districts and small towns. Meanwhile the trading functions of the city developed” (1919, p. 285). Once a district is well developed, it is probable that in the central sites of a large town rent is higher. This makes the factories congregate in the outskirts of large towns “and in manufacturing districts in their neighbourhood rather than in the towns themselves” (1920: 273). This movement has characterised textile manufactures: Manchester, Leeds, and Lyons.

This “primitive” localisation, if it lasts long enough, becomes a “more compound” localisation, that is, it is transformed into an industrial district. The passing of time allows firms concentrated in a particular area to gather a number of advantages:

1) **Hereditary skill.** In a concentrated area “the mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously” (1920, p. 271). Special capabilities are thus transmitted from one generation to another and become the characteristic qualification of that area.

2) **The growth of subsidiary trades.** When a number of firms are established in a particular area, it is likely that subsidiary firms “grow up in the neighbourhood, supplying it with implements and materials, organizing its traffic, and in many ways conducing to the economy of its material” (1920, p. 271).

3) **The use of highly specialised machinery:** This advantage comes from the high division of labour and specialisation that characterises a district “in which there is a large aggregate of production of the same kind, even though no individual capital employed in the trade be very large” (1920, p.271).

4) **Local market for special skill:** a localised industry offers “a constant market for skill” (p.271) so that employers do not have any problem when they are looking for workers. On the contrary, “an isolated factory” may have problems finding workers.

To these advantages listed by Marshall, we may add another one, inferred from his various writings:

5) **Industrial leadership.** This aspect “derives from an industrial atmosphere” in which firms are immersed that stimulates “more vitality than might have seemed probable in view of the incessant change of techniques” (1919, p.287).

6) **Introduction of novelties** into the production process. As Marshall argues, good ideas are promptly adopted, because they are in the “air” of the district, embedded into the social local networks.

These characteristics are the keynote of industrial districts that can be considered in this first approximation to be the result of long-lasting localisation.

Through the passing of time and the development of the aspects enumerated above, the district acquires what Marshall calls a special atmosphere, as in the case of Sheffield and Soligen that have acquired an industrial “atmosphere” of their own; which yield gratis to the manufactures of cutlery great advantages, that are not easily to be had elsewhere: and an atmosphere cannot be moved (1919, p.284).

This special atmosphere gives a number of advantages to the firms gathered together in a particular area. In *The Pure Theory of Domestic Value* (1873-7), *in Economics of Industry* (1879), in the *Principles* (1890), with regard to the characteristic aspects of industrial districts,

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2 Of course, Marshall recognises that “localised” industries have also some disadvantages. The most serious problem is connected with the fact that in a district the demand for only one kind of labour may become too extensive. This problem is easily solved: it is enough that in the same area industries of a supplementary character grow. When the problem of the labour market is solved, localised industry can experience a “continued growth”. Here Marshall speaks of manufacturing towns (1920, p. 272).

3 The term is also found in the subject index of the volume.
Marshall underlines the widespread knowledge and information that are “in the air”\(^4\) (1975, II, p. 197), so that “mysteries of the trade become no mysteries; (...) and children learn many of them unconsciously” (1920, p.271). In *Industry and Trade* “air” is replaced by “atmosphere”, a broader term, in order to mean a “milieu” (or a “creative milieu”, Becattini, 1991), characterised by the six features mentioned above and a source of important innovations. An “atmosphere”, in order to become established and characterise a district, requires that a long period of time pass after localisation has begun.

Summing up, according to Marshall the most important features that characterise and identify an industrial district are: the presence of a special “atmosphere”; its settlement for a long period of time (more than one generation); the presence of an “automatic organisation”, that is a high degree of technological complementarities; a continuous interplay between competition and cooperation.

Not all these aspects have been underlined by the economists that at Cambridge have dealt with the concept of industrial district, as we shall see in the following paragraph.

2.2. The use of the Marshallian industrial district: the “Cambridge School”

2.2.1. “Time in” and “time out” in the concept of industrial district

Sydney Chapman is one of the best pupils of Alfred Marshall. His main interest is in industrial economics and, as we shall see below, his main contribution is given in “The Lancashire Cotton Industry. A Study in Economic Development” (1904). Reading his book, we can easily find Marshall’s influence, as Chapman himself implicitly recognises in the preface: “more than once Professor Marshall has aided me with counsel and criticism” (p. iii).

Localisation is one of the various aspects of the Cotton Industry investigated by Chapman. Localisation (or “centralisation” as Chapman also calls it) does not characterise any kind of industry: some others are, on the contrary, characterised by “dispersion”. Accordingly we find that iron and steel industries are localised in a few places, engineering is less localised, and the textile industry is concentrated in one district only.

Chapman underlines only one important cause of localisation, the geographical one: “the natural advantages offered by different places” as for instance natural resources, sources of power, climate. In some cases, localisation is due to “no particular reason”, as for the Lancashire industry (p. 154).

Localisation is decisive for two main important economies: “specialisation of businesses” and “the proximity of subsidiary industries and their specialisation” (p. 152 and 155).

Chapman does not dwell much on the characteristics of localisation; he focuses on the evolution of the Lancashire Industry from its early beginning to “modern times”. In particular Chapman is interested in analysing “the close dependence of the forms of distribution on the forms of production”: that is the reason why he focuses on Trade Unions, Employers’ Associations, methods of paying wages and factory legislation.

The important role of time that in Marshall signs the passage from “simple localisation” to “industrial district” has no place in Chapman’s analysis even though he seems to take it for granted when he underlines the evolution of Lancashire industry from its “early forms”. Together with time, other aspects of industrial districts – strictly connected with it – are obscured in Chapman’s analysis: the presence of an industrial atmosphere, hereditary

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\(^4\) Where large masses of people are working at the same trade, they educate one another. The skill and the taste required for their work are in the air, and children breathe them as they grow up (1879, p.53)
specialisation, the role of knowledge and innovation. All these aspects are implicit in his
historical excursus but perhaps are not sufficiently emphasised.
On the contrary, a great relevance to the elapsing of time is given by Robertson and MacGregor.
In the Control of Industry, Robertson recognises localisation as one of the “miscellaneous forces
which are strongly at work in modern industry” (p.26). Robertson underlines various causes for
localisation. We can have
1) Localisation due to access to supplies of raw material
2) Localisation due to access to sources of power
3) Localisation which, whatever its cause, is continued from force of habit and from the
miscellaneous but solid benefits which it confers” (ibidem)
The first cause - access to raw material – was, according to Robertson, not important any more.
The development of transport and communication have allowed finished products and raw
materials to be transported cheaply.
The second cause – access to power – has been the most important since the Industrial
Revolution, as Robertson notes. But power – once created by coal – is now oil and electricity,
easy to transfer from one place to another.
The very important cause of localisation is indeed the third one – obscure reasons of climate or
history – since in this case localisation “often perpetuates itself by reason of other advantages
which it brings in its train” (29). Whether climate or history, the most important form of
localisation is connected with “time”

Once a trade has become firmly established in some
particular spot, generations of skilled workmen are brought
up to practise it from an early age: firms work up its by-
products or make the machinery which it needs spring up in
the neighbourhood: its problems become the common topic
of conversation and saturate the atmosphere (p. 29)

We find in this quotation a clear resemblance with Marshall’s description of industrial
atmosphere, with all its most important ingredients: elapsed time (generations), the role of men
and women, the circulation of ideas.
This is the most important kind of localisation, according to Robertson, the one that “shows an
astonishing persistence in survival” (ibidem). Nonetheless Robertson’s analysis of industrial
districts differentiates from Marshall’s in one important aspect: according to Robertson,
contrary to Marshall (see below §2.3), the most evident effect of localisation is an “increase in
the size of the individual firm” (p. 30). A group of localised firms have a wider market than an
isolate firm: and the width of market “is the essential condition alike for localisation and for the
development of the large firm, and in giving rise to the one it may well give rise to the other” (p.
30). In other words, according to Robertson “firms which are already localized are more likely
to coalesce by fusion into a larger industrial unit” (ibidem).
This is not true in all cases. Robertson recognises that some localised industries are made of
small and medium firms (as in the Lancashire Industry): there localisation with all its
advantages permits the “survival of small firms” (p. 30). But, in concluding his analysis of
localisation, Robertson recognises a main trend: “the local concentration of industry has been
bound up with the concentration of its government into a few powerful hands” (ibidem).
In tracing the evolution of English industry, MacGregor underlines the very local dimension of
early social and economic life in Britain (1929: 26-27). Through the passing of time, industry
has evolved from its early stages to its modern shape. According to MacGregor, localisation is
an outcome of the evolution of industry, the other being what he calls “centralization”:
The forces of industrial evolution have made it profitable for the great industries of a country not only to be centralized – that is to say to work in one district given over specially to the production of certain goods; but also to be localized – that is, to work in certain districts having special advantages for their own forms of production (1929: 203).

Both these two forces allow industry to acquire “common economies in which each business shares” (ibidem). The key variable for the evolution of industry is “invention”; more precisely, “the evolution of industry is the history of this force” (p. 17-18). Through the development of invention in time, industry has evolved from its early beginning to its modern shape. According to MacGregor, it is “the nature of invention to create surpluses. An invention means that the same results are got with less outlay of resources” (p. 31). Invention can be of two types: 1) invention of resources, with the discovery of new products; 2) invention of processes, the effect of which is “to get the same result with smaller use of natural supplies” (p. 20-21). In MacGregor, invention comes from the “energy of persons” (p. 31) and allows the development of “specialization (p. 29)”. It requires time to come into being and could resemble the outcome of the Marshallian industrial atmosphere. But there is a fundamental and important difference: while Marshall conceived creativity as a result of the proximity of ideas that in the air could spread in the district and enrich it, in MacGregor we find a different position. He notes that “a local body of people cannot have the full advantage of industrial progress unless they share it with wider bodies of people” (p. 28) outside the locality; or again he maintains that “a locality cannot get the use of inventions unless it shares them” (p. 29) with other places and people. Local dimension does not make it possible to use inventions fully and to achieve all the advantages of progress.

2.2.2. Between ubiquitous and localised industries: the studies of Sargent Florence

The visible traces of Marshall’s discovery regarding the concept of the industrial district, and the special characteristics belonging to the “localised industries” - even if in a kind of diluted form – are prolonged up to the 1950s, with the contributions of Sargent Florence. The works by Sargant Florence point out the passage from the analysis of the industrial district as a specific and idiosyncratic form of agglomeration, historically embedded in a given territorial system, to the analysis of the industrial district as a pure abstract territorial entity, with loose boundaries (often selected in relation to the existing statistical or administrative sources), individuated only through the criterion of "specialization index". Long before the upheaval of the American regional studies school (Isard, 1960), Florence develops numerous methods for studying the industrial location patterns through the location quotient, the coefficient of localisation, and the comparison among different industry ranking5.

5 His Marshallian theory of localisation is very different from the prevailing standard analysis, like the one put forward by Weber, in *Standortstheorie*, where location patterns are associated only with transportation costs. Florence explains on this subject:

> Where high localisations of industry exist and survive is not …because of low transportation costs, but to other economy (Florence, 1957, second.ed. p. 85).

As regard the forces pushing toward the localisation of plants, firms and industries, general rules emerge: in dispersed industries, smaller plants prevail; in localised industries, larger plants. A corollary is that in industries with no representative size, plants tend to be ubiquitous (they are industries with a particularly low degree of localisation), while in industries with higher localisation statistically (coefficients between 0,30 and 0,49) large or largish plants are representative. Small towns typically do not have large plants, but big cities, on the contrary, both in the US and the UK, have smaller manufacturing plants. According
Large cities, districts, and localised industries appear to Florence to benefit from “external economies” (1964, p. XVIII). They offer economic advantages of access to transport, communication, and large markets, opportunities of linkage with other industries, of access to pools of labour, management and finance skills, and, in the long run, for intercommunication between designers and inventors. Disadvantages are shortages of land, congestion, costly commuting, and distance from raw materials. When many small firms co-exist in a place often large plants are upstream or downstream in the productive chain. He observes that the localisation of industry follows urban concentration but many industries are neither near to their market, nor to their material.

Why do highly localised industries exist? First he quotes the pool of expert labour, second, the division of labour between plants in linked processes, products and services industries.

The advantage of full use of specialist plants can be combined with proximity. [They] may have much the same economy of a large plant. (Florence, 1957, second.ed. p. 85).

Here Florence adds some thoughtful explanations.

What has not been valued at its true importance in a large localisation of an industry is the possibilities of division of labour between plants in “linked” processes, products and services industries…. The characteristic of highly concentrated industries based on the small size is the existence of “plant disintegration but local integration” (p. 92).

Other advantages of the local concentration of plants (apart from any natural advantages of the locality) are the reputation that certain goods derive from production in certain places. Besides, the concentration of a given industry allows specialised experts and purchasers to shop around. Juxtaposition allows lower transportation costs and above all lower communication costs between: a) the suppliers and consumers of materials or products, b) specialised producers, and auxiliary services (Florence, 1948, p. 52-53).

Juxtaposition permits all plants to be visited, en masse, in one journey by selling and buying agents (Florence, 1948, p. 52)

His analysis is still very Marshallian, but is no longer focused on the description of real industrial districts, like those cited by Marshall “where numerous specialised branches of industry have been welded almost automatically into an organic whole” (1919, p. 599?). Florence’s interpretation of the industrial district is in fact, mainly based on the consideration of the co-location parameter. For this reason he argues that “a precise demarcation of distinct districts is of course impossible, as many of the districts are contiguous and basic industries of contiguous districts most frequently overlap in their location near the margin of the areas”. However, particularisation and sub-division of manufacturing districts could be continued ad infinitum (p. 141). The districts defined by Florence are very close to the concept of industrial regions, or as admitted by the author, they may claim the title of “conurbation” (p. 140). And

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6 Using data on export in 1907 Sargant Florence (1948, p. 54) was able to correlate the export performance of industries with their coefficient of localisation. He reached the conclusion that the majority of industries that have a high coefficient of localisation (over 0.49), were industries with an export proportion clearly higher than the average for industries as a whole. The following localised industries were mentioned as heavy exporters: Jute, Tinplate, Lace, Linen, Cutlery, Cotton, Fish curing and canning, Dyes, Saddlery, and Textile machinery.
conurbation, or megalopolis, are created by the existence of several different types of industry; they are not characterised by the dominance of a specialised sector. The main intellectual effort of Florence is limited by the identification of the geographical specialisation of large urban areas. The largest industrial districts mentioned by Florence and his collaborators are large UK regions like Greater London (8,303,000 inhabitants), Birmingham and District (2,190,000), Manchester and Cotton District (3,741,000), and so on (Wensley and Florence, 1940, p. 146).

In Florence this new “meso perspective” is adopted in comparing industrial districts and localised industries within national industrial systems (like his study on the US and British industry), and their statistical regularities related to ubiquitous (dispersed) and spot (localised) industries (Florence 1953, p. 39)⁷.

In his approach “the growth of each district is … dependent on its “basic industry”, rather than upon the development of industries new to the district (Wensley and Florence, 1940, p. 158)”. For this reason, the destiny of highly localised areas depends on the course of national events. Florence takes the “obsolescence” of some “localised industries” as “a natural phenomenon”⁸ and the changing patterns of relocation are quite deterministic:

The movement…after 1920 from the North and from the south Wales to the Midlands … has, in fact, been mainly due to this very tendency of particular industries to stick to their locality. The … Midlands increased their industrial employment because their particular local industries … were prospering (Florence, 1953, p. 42)⁹.

And:

In UK regions, where stagnant … industries were localised, a losing of population was observed. The crisis of a town…was related to the loss of employment of a particular industry that moved elsewhere (Florence, 1964, p. 84).

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⁷ Comparing American and British industry (Tab. IIb p. 71), Florence highlights that about 1/3 of the considered sectors belong to the category of highly localised industries, but with strong variations in the prevailing size is registered. Large plants prevail in industries like motors, cotton weaving, and rayon; smallish or medium sized plants prevail in cotton yarn. However, industry variation in size, scope, scale and localisation often appears to be an analytical rebus for him. If the law of increasing returns is at work why “instead of large-scale production of a few commodities” is there “everywhere small-scale production of a multitude of sizes, shapes, and quantities of the same sort of articles” (p. 80). One important point which favours the small-scale organisation is the entrepreneurship. As Florence argues “a given scale of production by several small firms will undoubtedly offer more points where the powerful profit incentive is applied than a large plant with a salaried servant of a joint stock company in charge (Florence, 1948, p. 86-7)”.

⁸ For Florence the growth of localised industries or industrial districts had to be related to the existence of perpetual external economies (cumulative tendencies deriving from the proximity to markets, labour, supply, and auxiliary services). Unfortunately, he does not manifest a particular interest in investigating the causes of crisis of the most important British districts, selecting the specific internal factors that trigger or obstacle innovation, growth, diversification processes, reduction of local labour costs, and firm’s internationalisation strategies that can contrast the lock-in risk. But industries were changing very fast at that time, and British entrepreneurs in industrial districts were both retarding the adoption of elsewhere-invented innovations, losing at the same time their original innovative capability. In the 1940s most of the British districts were already gone or were desperately facing an irremediable collapse.

⁹ Highly localised industries are often situated in urban areas. Florence notes a significant pattern of urban decentralisation. “Movement of the particular industries themselves has occurred not so much between regions as in the same region from the centre of cities to suburbs (Florence, 1953, 43)”.
Florence came to study the phenomenon of spatial agglomeration not so much from individual case studies of industrial districts (the only exception is the case of Birmingham\textsuperscript{10}) but from his long-lasting inquiry into the nature of the industrial structure. The unit of analysis is for him the individual plant and the firm: the unit of governance under capitalism. His main aim is to study the logic of aggregation into:

a) *industry*, which is not just the additive sum of firms and plants, because industries are formed by organisations, which are added up starting from plants (a firm may have plants which operate in different industries), and not randomly assembled plants, because they perform specific transactions which are easily distinguishable by the type of work or activity done, and characterised by a progressive specialisation; and

b) “localised” congregation of factories and workers, that make up industrial centres.

The local concentration of plants (apart from any natural advantages of the locality) appears to Florence to offer an economic advantage “in certain places”. This element is related to the local synergies that are connected to the localisation of the district filière. Highly localised industries are typically populated by small firms and for this reason they greatly favour the births of new firms. The existence of profit-incentives is more extended in a decentralised system than in a hierarchical organisation where there is only one subject representing the interest of the shareowners. Within districts workers can satisfy their sense of achieving by becoming entrepreneurs through new firm start-ups. As Florence argues,

> It is easy where there is a pool of skilled labour for foremen or any others with ambitions to break away from the old firm and set up on their own with hired labour. Few firms survive, but this ease of entry into the trade does enable many to try (…) those who survive among the small men are presumably the more “fit” and they are presumably also trained at least by experience. (…) Next comes the provision of incentive (…) the spur of profit is certainly more widely diffused among small entrepreneurs than in a few large joint-stock companies where managers are paid by salary (p.79).

And again:

> a given scale of production by several small firms will undoubtedly offer more points where the powerful profit incentive is applied than a large plant with a salaried servant of a joint stock company in charge (Florence, 1948, p. 86-7).

In this last passage, Florence clearly identifies the trade-off between scale economies, on one side, and internal governance costs, on the other side; profit-seeking individuals tend to perform better than foremen of a large factory with a limited autonomy, and prescriptive rules to follow. One is dealing here with an important Marshallian theme, centred on the advantages of the market disciplines (later on also developed by Hayek against the planned economy) that brought him to manifest a non soothed scepticism towards the Scientific Management.

“Highly localized industries” for Florence are not necessarily specific individual districts. If specialisation in several different types of industry is added, the area is liable to become a conurbation or megalopolis. Large conurbations, and towns “are extremely important factors in the development of industrial techniques (p. 15)”. It is clear from Florence’s analysis of that we no longer encounter the Marshallian industrial “atmosphere” where knowledge and information

\textsuperscript{10} See Florence (1948).
spread quickly in the local community, but an anticipation of the Jacobs’s understanding of how economically healthy and diverse urban areas are essential for creating dynamic economies, through diversification rather than specialisation.

Florence is extremely interested in the issue of industrial urbanisation. In fact, a city may offer external economies to the several plants of an industry as a large factory offers internal economies in coordinating its several departments (1964, p. XVIII).

A vivid picture emerges from his writings (Florence, 1964), but his analyses, in comparison with Marshallian articulation, are mainly limited to the study of the parameter of the specialisation of industry at local level. So, we find that the Detroit area is specialised in motor vehicles (with a 7.58 location quotient); in Pittsburgh there is a concentration of blast furnaces and steel mills, in New York of garment factories (4.95 location quotient), and of medical instruments (5.00), etc. Certain service industries and services tend to localise in a country’s largest conurbation, such as London, Paris, or New York in which financial activities, scientific research, publishing, arts, applied design, entertainment, and business services are found. His research is static and lacks an evolutionary approach, through which we see the local systems studied changing dynamically during time, for endogenous and exogenous causes. Industry wide variation in size, scope, scale and localisation often appears to be an analytical rebus for Florence: if the law of increasing returns is at work why “instead of large-scale production of a few commodities” is there “everywhere small-scale production of a multitude of sizes, shapes, and quantities of the same sort of articles (p. 80) ?

Which is the mechanism that causes the localisation of small firms? And why do localised industries decline? Shifting from a true Marshallian evolutionary approach, where in each industrial district an atmosphere is created through a high degree of technological development, knowledge diffusion, and competition and constructive cooperation is build concretely, and where opportunities and constraints are well delineated, Florence advocates “immobile external economies”.

Where high localisations of industry exist and survive it is not, in most cases, because of low transportation costs in procurement of materials or distribution of products, but to some other economy or set of economies. The stability of patterns of localisation of highly localised industries is explained by what, nowadays, we call “agglomeration” economies, and these economies are mainly based on the labour factor. The pool of expert labour is for a localised industry an asset just as a pool of semi-skilled labour in any big city is an asset to industry generally. Most of the economist’s external economies are economies of localisation. (p. 85).

The articles by Florence did not help the readers to dwell on the process of de-industrialisation which invested the British industrial districts starting with the 1920s. This economist takes the “obsolescence” of some “localised industries” as “a natural phenomenon” and the main cause of the decline of localisation patterns. In all Florence’s writings the reference to the Marshallian perspective is clear, but it lacks an “evolutionary flavour”, and thus a time-constraining dimension. The observation of the competitive position of each individual “highly localised industry” is missed, whether from the point of view of the specific entrepreneurial strategies, in relation to their innovative strategies, as regards their efforts toward industrial diversification (depending on the entry of new industries into the locale), or again, considering the possible
reactions to the threats of the changing international division of labour with the entry in the market of low cost labour countries.

2.3. Marshall and the English industrial districts: The Lancashire Industry

As we have seen, Alfred Marshall “discovered” industrial districts in his “Wanderjahre among factories”. Marshall considered theory and practice inseparable, both being necessary for the economist who aimed at understanding the complex connections of the real world. Accordingly, “Marshall the theoretician” was used to “dirtying his hands” by visiting, investigating, observing the various industrial organisations in England and America. He visited several factories, making notes of the technological features of productive processes and of the kinds of organisation, interviewing employees and employers, trying to understand the weak and strong points that characterise each firm.

While American industry was more and more characterised by an increase in the size of firms (thank to the extreme standardisation and division of labour), in England the more typical form of industrial organisation was the industrial district. The most important industries for the national economy were gathered in the same area: cotton, woollen goods, pottery were all localised industries. This aspect attracted Marshall’s attention and he tried to understand if and how the industrial organisation of the district could compete with the large integrated firms typical of the American economy. Especially in *Industry and Trade* (1919), Marshall contrasts the two systems in order to find the possible means for escaping the more and more menacing foreign competition.

Also in England there were, of course, large size businesses but Marshall thought that an important component for economic progress lay in small-medium firms of localised-districtualised industries (Caldari 2007).

Indeed, according to Marshall, industrial reality should be made of large, small and medium size businesses, each with a raison d’être and peculiar advantages and disadvantages. But, especially in international competition, the trump card for restoring the economic supremacy of England was in the populous districts of manufacturing production. One of the most important English industries is recognised to be textiles. The textile industry was the first to pioneer the “modern methods of massive manufacture” (1919: 600) for wool products. Curiously, the methods of massive manufacture did not involve the large size of businesses; rather they developed in the multitude of small and medium firms.

The Lancashire industry was “the best present instance of concentrated organization mainly automatic” (1919: 601). Lancashire had all the important features for a districts: good access to the sea, coal and iron; a climate remarkably suited to the great cotton industry; and moreover the character of the population fitted them to develop the engineering industries. In Lancashire the

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11 See below paragraph 2.4.

12 Business size is connected with internal economies and large size can be achieved through vertical or horizontal integration: “Whenever a business expands into a stage higher or lower than with which it was originally occupied, its expansion is vertical. (...) On the other hand, a business may proceed gradually and tentatively when extending its operations horizontally in the same stage” (1919: 215-16). The choice between one or the other depends on the kind of products and on the productive process. With vertical expansion firms abandon the specialisation in one product while with horizontal expansion firms become multi-plant “without altering the character” (1919: 216) of their productive process. Vertical integration is suitable for heavy industries since “the central task of the heavy steel industries is the handling of great volumes of homogeneous fluid steel, ready to be worked up into an infinite variety of products large and small” (1919: 218). On the contrary, horizontal integration is typical of textile industries that “offer the best instances of the coexistence of numerous establishments, repeating one another” (1919: 218).
demand for various sorts of the same class of product was so parcelled out that “each business can specialize its plant on a narrow range of work, and yet keep it running with but little interruption” (ibidem).

This extreme specialisation is gained especially in those branches of the industry “which are in the hand of a multitude of independent business of moderate size. As is well known, fine spinning, coarse spinning, and weaving are localized separately. Individual firms frequently specialize on a narrow range of counts of spinning. Blackburn, Preston, Nelson and Oldham are centres of four different classes of staple cotton cloths, and so on” (ibidem)

As just noted, the strength of textiles was the automatic organisation through which “British cotton industry has surpassed all its rivals in efficiency. In fact, in those finer goods, which owe most to skill and admit of the highest rates of remuneration to labour, it is without a rival” (1919: 602-3). But almost the same was for the woollen and worsted industries of Yorkshire, even though they had very strong rivals. According to Marshall:

The high automatic organisation of these industries (...) is in great measure due to the fact that their plant is made in their own districts, with constant intercommunication of ideas between machine makers and machine users (1919: 601)

Firms gathered in a district can gain a number of advantages that allow them to compete with large businesses, as Marshall reminds us:

small factories, whatever their numbers, will be at great disadvantage relatively to large unless many of them are collected together in the same district [Marshall A. & Paley Marshall M., 1879, p.53]

Nonetheless, large size business has the following great advantage over small and medium ones: facilities for marketing. However, in a passage Marshall notes that “much of the most highly organized and effective marketing in the world is an almost automatic result of the work of a multitude of producers, with only moderate capitals, but aided by merchants and other dealers of various sorts” (1919: 603), such as could be observed in Manchester. But, perhaps, it would not be enough if he dedicates a number of pages to the possible methods of solving this problem.

2.4. Further Studies on the Lancashire Industrial District

The Lancashire Industrial District has converged the attention of many economists in Cambridge. The first to be quoted is Sydney Chapman.

He wrote the first important monograph on the Lancashire Industrial district in 1904. This book is the first industrial district case study ever published: more than 300 closely printed pages covering the origin of the district, its historical development, its pattern of technological development, and its triggering events. This work is also an analytical tool for understanding, more generally, the passage to the first industrial revolution, because it all started in the North of England in the textile industry. Chapman, who wrote this book under Marshall’s supervision, does not limit himself to being an industrial economist; he is also interested in the evolution of social institutions and the social and political consequences of the introduction of the factory system. Despite the many relevant ideas presented in this volume, for the sake of brevity only a few will be illustrated here.

As Chapman himself declared, his book could be seen essentially as an “industrial morphology” (Chapman, 1904: I).

In the course of his investigation he deals with a) the district’s origin and the advent of the factory system, b) the development of local industries from hand-loom weavers to cotton spinning, c) the invention of new machinery, and d) the development of some modern problems
of organisation, related to the concentration of firm management (joint-stock enterprise and combinations) which characterised the district in the first years of the nineteenth century.

In the opening of his book, Chapman describes how the cotton industry in Lancashire was first established by refugees who came from the Spanish Netherlands during the second half of the sixteenth century due to unrest and persecution, “Flemish weavers did settle at time in and about Manchester” (1904: 1), the kind of extraordinary event that has often characterised the take off of industrial districts. The reasons for its rapid development were first, the local experience in dealing with linens and woollens, and the existing commercial arrangements for providing material, handling, and finishing, and secondly, the fact that the new art was not subject to the restrictions of local guilds and corporations. The new industry developed in parallel with woollens but at the end of the eighteenth century only “cotton, cotton, cotton, was become the almost universal material for employment” (1904: 2).

By 1774 in Manchester there were as many as 30,000 workers engaged in the cotton industry. The Manchester merchants, and their direct knowledge of foreign markets, thus the commercial side (such as in Prato, another historical textile district in Italy) was, according to Chapman, the most important factor, which gave impulse to the industry, together with the pre-eminence of Lancashire manufacturing.

The improvements of machinery were at the beginning sustained by the workers themselves, who were often self-employed, and then by the local Societies of Arts. As known, John Kay’s invention of the flying shuttle in Manchester in 1738 began the modern developments. The flying shuttle started to be widely applied when the son of John Kay, Robert, invented the drop-box, in which the weavers could keep different coloured threads. During the nineteenth century weavers who owned 4-6 looms and worked with the help of one or two assistants were common. Subsequently, power-looms were invented and employed in the first decades of the nineteenth century, but at first the new machinery was inefficient, and often required other inventions before become useful. The introduction of the factory system helped the weavers to manage heavy and complex machinery. Often they were improved thanks to the assistance of ingenious mechanics. For about a century the competition of the power-loom was not very serious, and in 1820 there were still 240,000 hand-looms active in Britain. The development of weaving technology was gradual, Chapman himself speaks about “gradual evolution” (1904: 54), while in spinning the entry of radical new technology began with spinning by rollers, this was a real “revolution”. On the contrary the spinning jenny and spinning mule evolved slowly, and two different factory systems co-existed for a long time. The period from 1788 to 1800 was the golden age of the cotton industry in Lancashire, and the district benefited greatly. But subsequently what in modern terms we might call a price war between goods produced by power-looms and hand-looms led to the decline of the latter, with a “depression which ultimately [drove] them out of existence” (1904: 40). Chapman offers a vivid description of the mechanism that caused over production in the district and a stable decline in salaries of handloom weavers.

Not foreign competition but home competition proved the most terrible enemy of the old-fashioned hand-loom industry (1904: 47).

In fact,

most hand-loom weavers competed with the factory, instead of entering it and attempting to secure for themselves as large a share as possible of gains resulting from new economies in production (1904: 46).

The absence of entry barriers in the hand-loom business caused the system to collapse. In the meantime, Chapman observed that “in the United States, the automatic loom is already applied extensively, but in England it is making its way more slowly” (1904: 32), and this is because, they were more “serviceable” for the type of standardised cloth produced than for the “qualities upon which the English trade chiefly depends”.

Not foreign competition but home competition proved the most terrible enemy of the old-fashioned hand-loom industry (1904: 47).
We can see here the first signals of the weakness of the Lancashire district, and the beginning of its decline (see below).

Chapman described the various steps of the development of local industry. First, we have the weaver’s cottage, then “yarn was spun in factories” (1904: 161). Developments in spinning were carried out by shop-floor local inventors who became great entrepreneurs. The mechanism of the dynamics of industrial districts is thoroughly explored by Chapman, product differentiation in all its detailed forms as well as leads and lags in the modernisation process. By the mid 1800s spinning and weaving were done in one building, but at the end of the century the advantage of specialisation brought about a new separation of spinning and weaving (and different skills are required in the organisation of the two businesses, because marketing is more difficult for weavers than for spinners). Hence, in weaving, men with little capital rent buildings and “turning”, can produce successfully on a small scale.

In 1899 the Lancashire district was the home of nearly 76% of all the cotton firms in the UK. Lancashire provided a cheap cool, damp climate (and so the right “atmosphere”) and, then, business specialisation. The last point is well developed by Chapman. The existence of the Manchester Exchange was the right institution, which allowed the cotton industry to take off. And, once again, the localisation of producers of specialised machinery, provided “a close adaptation of means” to local needs.

Chapman’s volume on the Lancashire district also deals with the analysis of local trade unions and employers’ associations. It is the first account and analysis of an industrial district in economic history, and therefore, also documents the first revolutionary changes of industry as a whole.

Other economists in Cambridge have incorporated notes on the Lancashire Industrial district in their works: Robertson (1923), for instance, refers to the district in dealing with the wider theme of localisation; Keynes (1937) develops an analysis on the Lancashire trade’s competitiveness after the First World War, Sargant Florence (1953) studies the movements of industry among the Manchester and Lancashire textile districts. In his essay written for the Cobden Prize, Layton analyses “Changes in the relative wages of Miners, Textile workers, Iron and Steel workers, Agricultural Labourers etc”. In this essay he also focuses on the textile industry of Lancashire. This industry is considered one of the most important:

whether we regard it as the source of employment of nearly a million operatives, representing perhaps a population of four or five million persons in addition to the large population employed in ministering to the requirements of these workers by the manufacture of textile machinery, or by dealing with the commercial side so huge an industry a large part of which is concerned with export trade; (…) we shall find that the textile trades, and especially the cotton and woollen branches thereof, are among the first in size and importance of all British industries (1907: 59)

Layton’s analysis refers to the period 1850-1905. During this time, cotton industry proves the most advanced:

Of about 900,000 persons engaged in the textile industries in 1901, cotton claimed 582,000 and wool 236,000. the other branches show a very different condition, all exhibiting a great decline13 (ibidem)

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<td>1901</td>
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13 With regard to the other branches the data are the following:
With regard to the general amount of production, Layton does not tell much: the typology of the product that varies “from cops of yarn to beautiful multicoloured woven cloths” makes it difficult to obtain statistics of production. Nonetheless, according to Layton, it is possible to gauge the growth of the industry through the amount of raw cotton imported, since in England cotton goods were made only from imported materials. In his book on prices (1914) he gives a table with the data regarding the consumption of raw cotton in the period 1855-1908. The consumption of raw cotton increases in England from 7.9 to 16.7 million cwts. From Layton’s assumption, one may think that the production of cotton textiles had been constantly increasing for that time. But, as we shall see below (§ 4) the condition of the Textile industry was not so good and there were at that time clear shadows of decline.

3. The competitive and cooperative nature of industrial district.

As we have seen, Marshallian industrial districts are characterised by a peculiar combination of competition and cooperation. In districts, firms specialise in particular phases of the productive process: each phase is not isolated from but is functional to the others. The district comes to be not only competitive for the presence of many firms but also and moreover cooperative where parts interact and cooperate in an exchange process. According to Marshall:

> The broadest and in some respects most efficient forms of cooperation are seen in a great industrial district where numerous specialized branches of industry have been welded almost automatically into an organic whole [1919, p.599]

Each firm, specialised in its own activity and coordinated with the other firms, is as an “organism” whose vital parts (employer and employees) continuously interact with each other. This is the characteristic aspect of industrial districts with its peculiar relationship between competition and cooperation.

According to Marshall, cooperation may be conscious and intentional or unconscious and automatic. The latter, he says, works especially in industrial districts and is the most efficient form of cooperation. Nonetheless, Marshall dedicates to the other form of cooperation a certain amount of attention. In *Industry and Trade*, Marshall explains in detail how English entrepreneurs tried to go beyond the limits of small-medium size especially with regard to marketing problems. Small and medium firms, especially when collected in a district, can compete with the large due to the presence of the external economies but they are at a disadvantage with regard to marketing activities, as pointed out by Marshall:

> nearly the maximum economy of production can often be attained by a well organized business of moderate size: but (...) the task of marketing efficiently over a large area makes demand for almost unlimited capitalistic resources (1919, p.511)

Nonetheless, this problem can be overcome if small and medium firms “cooperate”. It is not by chance that the most common way used by English firms was cooperation or, as Marshall calls it, “associated action” among the firms in the same district.

In the Lancashire industrial district the general marketing demand produced for instance the Manchester Cotton Association, formed in 1894 with the following aims:

1) to frame suitable and authoritative forms of contract, and to make rules and regulations for the proper conduct of the trade

2) to supervise and facilitate the delivery of the importations of cotton at the Manchester Docks of the various consignees
3) to provide and maintain trustworthy standards of classification
4) to procure and disseminate useful information on all subjects pertaining to the trade
5) to act in concert with Chambers of Commerce and other bodies throughout the world for mutual protection
6) to establish a market for cotton at Manchester (Chapman 1904: 115)

But in England there were many other examples, as explained by Marshall. For instance the British Pottery Manufacturers’ Association that has among its purposes: “to deal with quality, supply, purchase, and control of raw materials and stores, where desirable, in the interests of the members; to deal with all questions relative to cost and question of transport; to consider means of facilitating the extension of export trade; to bring about closer cooperation with the technical art, and designs sections of the pottery schools; to promote general propaganda, and to undertake advertising in connexion with the industry; (…) to deal with all matters connected with more economical production, including costing (…)” (1919: 604).

In truth, notes Marshall, this kind of cooperation does not require a centralised control but, he warns, “it must be admitted that the greater part of such action derives its chief coherent force from a cash nexus, in the form either of association for the regulation of prices or of consolidated ownership. And yet mere associations for the regulation of prices seldom have much constructive influence: their main energies are given to preventing sales of certain classes of goods at prices which they regard unsatisfactory; and they work, not so much for an increase of national wealth as for a distribution of it specially favourable to themselves” (1919: 604-5).

An example of cooperation with a centralised control is given by The Bradford Dyers’ Association. This association dyed on commission the products of the Lancashire textile industries, so its policy was not troubled by marketing problems. Each of its members had a certain degree of freedom and responsibility in the management of details; but the association reserved a strong power for organising the whole and for directing the broad policy of each branch. With regard to technical matters, the Association delegated all difficult questions to a competent scientific staff but moreover it gave a uniform system of costing for all the branches and bought in large quantities cheaply by means of a strong special staff. The Bradford Dyers’ Association may be taken – Marshall says – “as a fair representative of the methods of industrial associations whose main purpose is constructive” (1919: 605).

The system was centralised and the various firms, albeit with a certain degree of freedom, composed a kind of large cooperative business. But, as we can guess, this system worked not without problems.

As noted by Marshall, the Bradford Dyers’ Association as well as many other similar associations had to face a difficult dilemma: on the one hand, with the whole earnings of the various firms, to pay fixed salaries to the staff of each business; but, in this case, employees “may be found lacking in energetic enterprise” (1919: 606); on the other hand, to take into consideration the profits made of each firm, to pay salaries are variable in accordance with those profits; in this case the problem was that “no direct incentive is given to energetic cooperation for the efficiency and prosperity of the whole” (ibidem).

A possible solution of this dilemma has been found by the Calico Printers’ Association: to give the commission or other bonus to each business not on the basis of the net profit of the firm itself only but also in accordance with “the net profit of the Association as a whole”. (1919: 606) According to Marshall, this system aims at encouraging alert enterprise, while discouraging any policy of a branch which might be detrimental to other branches. In addition, uniform costing accounts “can be made a means of indicating relative inefficiency, and stimulating enterprise, especially when several businesses in the Association are engaged on the same kind of work” (1919: 606).

Through this kind of association, then, moderate size businesses could overcome the disadvantages of their “being scattered in a district”. As well recognised, “an association is an
admirable agent for the dissemination of knowledge of technique, and even for its advancement, in so far as that can be done by team-work” (Marshall 1919: 607). But we are also advised that “the spread of Associations over a country might dry up many of the sources of truly original invention” 14 (1919: 607).

This danger could be partly avoided as in the case of the Cable Makers’ Association: any member who makes a distinct improvement in technique is allowed to have the exclusive benefit of it for a time; or, in alternative, other members (but only of the association) are permitted to use it on terms advantageous to the inventor. This was the way also adopted by the Sheffield Cutlery Trades’ Technical Society.

The importance of the “competition-cooperation” mix is also underlined by MacGregor (1929). Association (or cooperation) is according to him “a new way of organizing competition” (p.189) rather than a challenger of competition. MacGregor recalls Mill’s position who “spite of his strong sympathies toward every kind of industrial co-operation, refused to regard progress towards association as meaning the suppression of competition” (p. 189). MacGregor distinguishes between personal and industrial competition. Personal competition is advantageous since “it is a means whereby society as a whole shall have the power to choose its best men from any grade” (p. 192): on the contrary, industrial competition can be rather detrimental since “the very meaning of industrial competition” is “the attempt to obtain a monopoly” (196). Cooperation – or association as he calls it – has brought industrial competition “under constantly greater control” (193). MacGregor does not distinguish between conscious and unconscious cooperation.

With industrial competition, firms fight against each other in order to gain more than the others. Indeed in the modern industrial system, this attitude is not advantageous. Industrial competition has many defects due to the “separateness of organization and of policy” (201): For instance, as MacGregor notes, “nothing is more infectious in an industry where many separate firms are competing than the influence upon any one producer of a local glut or over-supply” (201). Association among firms might be a way to overcome these defects. Being organised, firms may face problems more easily than in isolation. Association is furthered by localisation: “the very fact that a number of firms are producing in the same district means that this district comes to obtain railway and shipping and public services which are worth giving because the volume of manufacture is on such a scale, and would not be worth giving to scattered firms” (203). Combination or cooperation is the necessary counterforce for making competition succeed.

Geographical proximity makes it easier for association to work but it is not a necessary condition. As for Marshall, the interwoven relationship between competition and cooperation is a necessary condition for the market to work at best, but here it is also the main feature of modern industry, not only localised industries. It is the result of the evolution of industry (chap. VII).

In the light of the Marshallian reflections, it is interesting to discuss, then, the kind of remedy proposed by Keynes for the Lancashire district, where the Marshallian perspective about cooperation and competition is completely reversed. In order to help the Lancashire business to solve a situation of dramatic crisis Keynes advocates a direct intervention from outside (state), and the insertion in the district of a model of “cooperation by decree”: an amalgamation or a cartel, enforced by the local association of entrepreneurs and by the Federation of banks, with transferable quotas allowing the concentration of production in the most efficient firms. Thus,

14 As we shall see below, this is actually what happened to many English districts.
for Keynes, a once vital district constituted by decentralised autonomous business, could be saved once an outsider actor (for instance the cotton yarn association) would create a large conglomerate. Was Keynes right, requiring a joint action, in the interest of every one, but not achievable by individuals? Was the desired concentration the manna from heaven in reshaping the competitive position of the British district? Keynes aspired to a kind of “forced” cooperation between firms (for an organised reduction of the district capacity, for a fixing of minimum prices, and for the obtainment of scale economies under one roof). But the Keynes solution, through a large amalgamation, defined by Marchionatti (1995) a microeconomic recipe against laissez-faire, when it was adopted later on, in the 1930s, was destined to create a giant with feet of clay. Plants were still old and filled with obsolete technology. Working times were extraordinarily compressed with an evident underutilisation of machinery. Local firms were suffering from too high overhead costs and too high labour costs in comparison with foreign competitors.

The cooperation observed by Marshall in the British districts was built on the idea of voluntary association (conscious and intentional or unconscious and automatic), of sharing ideas and knowledge, work commitment, common codes of conduct, user-producer relationships, and order coordination. The cooperation advocated by Keynes was a direct political intervention, incapable of restoring the competitive conditions. Those competitive conditions not discovered by any entrepreneur working in the area, were likewise not found by the bureaucracy of managers employed in the conglomerated enlarged business. In advocating industry amalgamation, Keynes was no longer a Marshallian economist, and he demonstrated that also economists can have wrong expectations. He did not consider that the reaching of scale economies cannot be organised through a chaotic assemblage of weak and technologically backward small firms. He missed Marshall’s evolutionary lesson of letting the markets go, in order to operate the selection of the fittest survivors.

4. Shadows on districts

4.1 Early concerns

In Industry and Trade (1919), Marshall thoroughly analyses the various forms of industrial organisation focusing on the status of the British industries and on the comparison between them and those of the rest of the world. When reading the 1919 book, one may think that Marshall is proving his own pride and trust in British economic power. Only a few references are, in fact, made to some possible or potential problems and difficulties.

In Industry and Trade the reader is reassured that “nearly the whole of it [machinery for various industries] is of British invention, and sought for by rival industries in other countries” (1919: 603) and that “British cotton industry has surpassed all its rivals in size and in efficiency” (1919: 602-3).

Nonetheless, Marshall’s insistence on the comparison between the British economy and the rest of world, especially of those countries that at that time were rapidly developing, hides a more serious reason. Marshall was worried about the future of the British economy, heavily threatened by the new “emerging” countries. His concern clearly appears in some pages of his correspondence, as for instance in this letter to Westcott (1901):

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15Keynes’s suggestions were later partially applied: in January 1929 the Lancashire Cotton corporation was created under the auspices of the Bank of England which expected to merge 200 mills (Lazonick, 1986). Resistance from the directors and managers made the life of the new trust difficult. In 1936 a law for the elimination of spindles was approved by the Parliament but since then the decline of the district continued uninterrupted for decades.
Fifty years ago (…) America had few specialities, and so had France. (…) We owed our leadership partly to accidental advantages, most of which have now passed away. But we owed it mainly to the fact that we worked much harder than any continental nation. Now, on the average, we work less long and not more vigorously than our fathers did: and, meanwhile, the average amount of thoughtful work done by Germany has nearly doubled; and a similar less marked improvement is to be seen in other countries. Americans and Germans jeer at the way in which many of our business men give their energies to pleasure, and play with their work; and they say, truly as I believe, ‘unless you completely shake off the habits that have grown on you in the last thirty years, you will join Spain” (Whitaker, 1996, II: 292-3)

Marshall clearly felt that England was losing its economic power more and more 16. In this letter, Marshall depicts the British economy as weak and openly in crisis. The main cause of the crisis is clearly stated in a letter dated 1897:

the apathy of many employers and their contentment with inferior methods, until driven out of the field or threatened severely, at least, by more enterprising foreigners (Whitaker II p. 214)

In his accurate analysis of the status of British industries, Marshall envisaged also the remedy in order to overcome these difficulties:

Our industrial future is far from being assured & unless we properly use our own brains or import them there will not be enough vitality in these islands to permit them to remain the head of an empire (letter to Caird, 1902, in Whitaker II: 380-1)

Vitality 17, capacity of being in step with changes but also of innovations, widespread knowledge, all these and many other features are what in the end characterise industrial districts. So for instance, in a district, “each man profits by the ideas of his neighbours: he is stimulated by contact with those who are interested in his own pursuit to make new experiments; and each successful invention, whether it be a new machine, a new process, or a new way of organizing the business is likely when once started to spread and to be improved upon” (Marshall A. & Paley Marshall M. 1879, p.53).

Thanks to these features, districts keep on living:

16 In the same letter he goes on: “Our real danger is that we shall be undersold in the products of high class industries, and have to turn more and more to low class industries. There is no fear of our going backwards absolutely, but only relatively. The danger is that our industries will become of a lower grade relatively to other countries; that those which are in front of us will run farther away from us, and those which are behind us will catch us up. (…) So recollecting that we are vulnerable in all parts of the world, and are not self-sufficing either in raw material or in food, I believe that London will ere long be held to ransom if we continue to allow the average efficiency of other nations per head to grow faster than our own. Our times of leadership were times when an hour of an Englishman’s work was worth more than that of almost anyone else, and the Englishman worked as many hours as he could without overworking himself; we bore hard work and we forbore that hubris which is goading the Continent into dangerous enmity” (Whitaker II 294-5).

17 “Vitality” is commonly considered as the “ability to survive and grow”. According to Marshall it is connected with elasticity and strength (Marshall, 1920, p. 194 and 301).
Thus although even a little obstinacy or inertia may ruin an old home of industry whose conditions are changing; and although the opening out of new sources of supply or new markets for sale may quickly overbear the strength which old districts have inherited from past conditions: yet history shows that a strong centre of specialized industry often attracts much new shrewd energy to supplement that of native origin, and is thus able to expand and maintain its lead (1919, p. 287).

But the working of these elements must not be taken for granted. History shows many examples in which a number of obstacles face “vitality”, changes and innovations. Marshall mentions the case of Sheffield. Sheffield was famous for its “scissors and blades of knives, forged by hand”, one of the best British products. At a certain point, “German products made of steel shapes, pressed into moulds by powerful machines have yielded almost as satisfactory results as (…) [Sheffield] hand-forged products”. Against German improvement in the production of steel products, Sheffield did not change its process of production, and for a while it “was unwilling to adopt (…) the new method”. After a period of time, when “fully convinced of its efficiency” Sheffield decided to adopt the new method but now it is “is striving vigorously to regain the ground lost by her delay” (Marshall, 1919, p. 213 n.).

On the same line, we find Dennis Robertson. Having recognised the strength of the firms collected in a district (see above) he warns: “yet once again there are powerful forces at work tending to undermine it” (1923: 29). Among these “powerful forces” Robertson underlines the improvements in transportation, communication of information, spread of knowledge: this kind of progress allows any country to be an active part in the world economy easier than before and consequently, “the traditional leadership of many of the favoured manufacturing districts of the world would seem therefore to be somewhat precarious” (ibidem). Old advantages can now be easily shared by many countries.

4.2 Approaching the decline

In the glorious times of the old Cambridge school there is another important economist who offered some useful contributions to the economic analysis of the industrial district and who deserves to be mentioned here: Lord John Maynard Keynes. Although his fame is indubitably interwoven with the macroeconomic theory, his academic interests ranged over an ample series of issues, including the organisation of industry, an intellectual interest that was derived from his legacy with the old Cambridge school.

The competitive nature of the industrial district is discussed by Lord Keynes “in-negative”, in his writings of 1922-29. In Keynes’s contributions the Marshallian terminology of the industrial district is completely eliminated. In fact, Keynes deals with the position of the “Lancashire cotton trade”, which benefits from the extraordinary condition of having located “more than one third of the cotton spindles [existing] in the world” (p. 578). He writes about the loss of vitality of the local population of Lancashire entrepreneurs. And he openly manifests his criticism about the “suicidal behaviour” of local entrepreneurs whom he considers incapable to adapt to the modern age. He objects that Lancashire entrepreneurs are “unorganised” individuals trapped into the practice of “weak selling” (a large percentage of the spindles in the industry was involved either in recapitalisation or reflootation, as observed by Daniels and Jewkes, 1927, p. 46) and the collusive organisation of short-time (self-imposed limitation of the productive capacity) in a no longer “ever-expanding industry”.

Keynes differentiates himself from the analyses of Sargant Florence. He does not seek the causes of the decline of the district in the existence of a generic deterministic trend. He ascribes the reasons of the crisis of the district to the myopic entrepreneurial strategies adopted by the local firms. Are local entrepreneurs
“too old or too obstinate? Or What? Is it that too many of them have risen not on their legs, but on the shoulders of their fathers and grandfathers? P. 585”.

Keynes deserves the merit of a careful analysis of the causes of rapid decline of the competitiveness of Lancashire firms. Keynes mentions the risk of the exhaustion, or lack, of entrepreneurial energies. He blames the installed tradition of secretiveness and non-cooperation among the 330 separate firms existing in the district, and he advocates a quick financial clean-up of the industry. The case analysed by him represents one of the first historical examples of a documented institutional failure of an industrial district, brought about by the existence of incorrect entrepreneurial expectations, and insufficient knowledge on market trends and the competitive behaviour of rival foreign firms. The increasing competitive disadvantage is aggravated by the introduction of tariffs in other countries against British exports, and by the return to the gold standard, which increases the British export costs. In other words:

The less Lancashire sells, the shorter the time she works, the higher therefore her costs – a cumulative progress towards perdition only limited by the rate at which other countries can erect new spindles, p. 582

The Keynes approach is far more distant from the static structuralism of Florence (Wensley and Florence, 1940, p. 158) for whom the growth of the districts and of localised industries is just explained in term of positive long-term cumulative tendencies. As mentioned above, Keynes is the last British economist of the Cambridge school to offer some useful notes on the possible negative evolution of a district, focusing on the Lancashire case, which was, with the help of Chapman, a source of inspiration for Marshall himself. In the analysis of the phenomenon of the industrial district we lack longitudinal analyses. However, using the contributions of the old Cambridge school referred to Lancashire, we can figure out the types of processes which during the 1920s “locked-in” the district in a kind of vicious circle, pushing it towards an inexorable crisis. The analysis of Keynes (CV, ch.7) allows us to examine both the endogenous factors and the external determinants which contributed to produce a negative state of affairs. Two main aspects related to the entrepreneurial behaviours of local Lancashire firms attracted Keynes’s preoccupation. The first was the dissolution of the cooperative ethics visible among the local entrepreneurs, who, facing a new situation of sharp decline of the international demand, were reacting in a kind of collective destructive behaviour: through a cut-through price-war. This was destined to solve in the short-term the competitive survival of their firms, but in the long term, the shrinking of the profits below an acceptable level for the reconstruction of capital and for the necessary new investment in the modernisation of machinery was leading firms to bankruptcy. The solidarity embedded in the district vanished and in the words of Keynes - CV, ch 7 p. 605- Lancashire entrepreneurs lacked “united actions”. The second was the absence of modernisation in firm management, as compared with foreign competitors. Though unheeded, Keynes himself advocated the introduction of those organisational and technological innovations which he believed could only be organised within “a vast combine” under the auspices of the Bank of England, that “having at its command the best brains in the business and adequate financial resources” was focused on the necessary attempts to “rationalise, economise, and experiment (CV, ch 7 p. 632)”.

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18 As noted by Marchionatti (1995, p. 443-4) the Lancashire district, after the golden age of the nineteenth century, failed to introduce innovations. Technical change was very slow in the Victorian age. Local entrepreneurs did not follow the dynamic efficiency implied by animal spirits able to support individual
In his important article of 1926 that appeared in the Nation, Keynes advocates an amalgamation of the industry, but he also asks for a real and economically promising reorganisation. To Keynes’s eyes the causes of the negative plight are not just to be ascribed to “a variety of external circumstances – such as the high price of cotton, the alleged reduced purchasing power of the international market, the disturbances in China, and so forth”. The continued depression after the First World War, appears indeed related to the international redistribution of the industry. Many of the old Lancashire clients (France, Italy, and the others) are “now making a good deals for themselves, under the protection of tariffs or for other reasons (such as two shifts in the twenty four hours), than they used to do. In Germany, and particularly in Alsace, more than one million spindles were transferred to France. At the same time in 1925-26, in comparison with the period 1912-3, the American production continuously enlarged its productive capacity and Japan incremented it by 80%.

An old flourishing district was with time transformed into a system with something “desperately”, “ominous”, “discouraging” atmosphere devoid of “any constructive effort”. The analysis made by Keynes dwells upon the clear contradiction between the perceived situation of local entrepreneurs and some basic objective facts. While the strategic answer to the new international competition faced by Lancashire firms was to reduce the productive utilisation of the district plants, struggling for surviving, Keynes was advocating much more radical new changes. From his analysis, the British cotton industry and the Lancashire district are plagued by high labour costs, decline of trade, high tariffs, increased competitiveness of American mills, entry of Far East (Japan) overseas competitors, and high costs associated with the return to the gold standard. But local entrepreneurs are quite passively awaiting better times. Keynes appears very critical about the counteractions employed by the local entrepreneurs in order to face their novel situation. The cotton industry, he observes, has “ruined itself by organised short-time extending over five years, which, by increasing overhead expenses, has raised its costs of production above the completive level” (p. 578). Keynes continues: this strategy is based on the “fallacy”: the belief that, if industries will hang on, “normal times” will return and so all existing plants and labour would be employed at profitable terms. Interestingly, the situation admirably described by Keynes as regards the Lancashire district, during the end of 1920s, extraordinarily resembles the new competitive pressures experimented by Western European industrial districts during the 1980s, challenged by the globalisation of the economy and by the entry of new firms based in low-labour cost countries into the competitive arena of international markets.

Lancashire district entrepreneurs did not constructively operate to seek new productive solutions, such as lateral or vertical diversification, improvements of products, applications of new cost-cutting organisational innovations. The only collective effort locally organised was to erect barriers to exit, allowing the most inefficient firms to survive temporarily.

Rightly Keynes blamed the implementation of a collective action exerted by the local business associations to guarantee productive quotas for all firms. In May 1923, he observed, the normal week in Japan was 132 hours, while in Great Britain it had been 28 hours for half of the year. Lancashire district firms failed to concentrate their capacity on the most efficient plants, such as had occurred for instance in Germany, under the process called “rationalisation”. In comparison with competitors, higher overhead costs had been added to higher wages costs: “it is evident that, in this branch of the trade, Lancashire is not on a competitive basis” (p. 583).

The situation analysed by Keynes was dramatic indeed. The failing demand induced by the war, and excessive competition among local firms had brought the level of profits below the interest initiatives crossing the constraints of neoclassical rationality. It must be noted that in his article Keynes appears more in line with the theoretical reflections of Schumpeter II about the necessity of institutionalising the innovation activity within the large organisation than with Marshall’s original contributions on the innovativeness of small firms.
charged by banks. The following vicious circle started: bank loans were no longer used for current working capital, so firms charged with debts resorted to the “weak selling” of their spinners and spindles, trying to avoid bankruptcy. Lower capitalisation fed the price-war or beggar-my-neighbour competition in the district. The local association was more interest in setting a general reduction of the utilisation of plants than in fixing a protective minimum price and transferable quotas of machinery. Keynes noticed that, as the industry was very fragmented at each stage, firms were overloaded with “hundreds of directors, managers, salesmen, and secretaries”: an “uneconomical way of transacting business”? (p. 621). The presence of old institutions and the existence of many categories of traders around the Manchester Exchange were probably obstructing a modern firm restructuring (with the integration of commercial and production stage making it possible to launch aggressive marketing strategies). Too much power was held by the class of traders against the class of producers. Keynes argued that a once much prided institution was impeding the possibility of industry profit maximisation. However, also his recipe advocating district amalgamation appears inefficient today: the sum of small weak firms does not produce a large competitive organisation able to benefit from internal scale economies. It is important to note that many other vital European districts, which historically survived, developed a different strategic path such as further firm specialisation, weak-reintegration, innovation, leadership creation, and re-localisation through international supply-chains (Belussi and Samarra, 2005). We think that the Lancashire case represents a historically interesting example of institutional failure. A new exogenous shock (the entry of newcomers), combined with old existing conditions derived from past successes (high salaries), and with short-sighted entrepreneurial strategies, created the causes of the collapse of one of the most renowned examples of localised industries.

Dialoguing with the original industrial district theory proposed by Marshall, on the structural causes related to the decline of the district, we can stress the following aspects:

a) the ossification of the creative capability of local entrepreneurs;

b) the blockage of local spillovers of knowledge derived from a new developed attitude among local entrepreneurs towards secretiveness and non cooperative behaviour (which for Keynes derives also from a Victorian established national character, practised by the entire business world, from the Bank of England downwards);

c) the scant openness of the local area to new entrepreneurs or immigrants, bringing new ideas;

d) the presence of organisational inertia and the absence of significant product diversification (deriving from the lack of imagination in exploring new business opportunities by local entrepreneurs).

5. Final reflections

It is time now to put forward some final reflections. Why did the British districts really decline? Why did they not decline in the same way in the US and in Europe? Published in 1906, the book by Shadwell offers one of the most comprehensive descriptions of a variety of localised industries (that he calls industrial districts) in different countries, and precisely in England, Germany, and the United States. Shadwell not only describes the main features of the local districts examined, he also provides specific analyses of the prevailing cultural habits, which he rephrases as “national qualities”. An interesting aspect of the working of industrial districts, is the social community and the emerged rules, or informal institutions which guided the business behaviour (and the interpretative models of the entrepreneurs seen as collective frames constraining the entrepreneurial activity).
It is interesting to report here some comments that Shadwell, who had travelled and acquired first-hand information on other foreign industrial districts, collects in interviewing businessmen in the various districts analysed.

A surprising aspect evidenced by Shadwell is related to the lack in Great Britain and in her industrial districts of cooperative behaviours. It is the “suspicious” character of the English workmen which prevents “doing business with his neighbours” (p.7). As confirmation, Shadwell also quotes an article published in the Times (20-12-1904), where even within public structures like hospitals, “people cannot be got to cooperate in this country, because each is jealous of his neighbour knowing how he conducts his affairs” (p.8). As we have seen, the lack of cooperation has also been underlined by Keynes in his analysis of the Lancashire industrial district. This aspect is rather interesting since, as we may note, it clearly differs from Marshall’s characterisation of industrial districts. Cooperation is, according to Marshall, a fundamental aspect of industrial districts: cooperation together with a certain degree of competition make the milieu of industrial districts evolutionary and progressive. When Marshall was writing, England was no longer the only world economic ruler; other “new” and powerful countries were emerging. This trend deeply worried Marshall who tried to find those paths to be followed in order to rescue the economic supremacy of Great Britain. According to him, to promote productiveness, creativity and innovation was the required remedy. We now know from some of Marshall’s early philosophical studies (Raffaelli 1994, 2003) that creativity requires a delicate equilibrium between competition and cooperation and why for him progress was fostered by small firms, “the best educators of the initiative and versatility, which are the chief sources of industrial progress” (1919: 249) (Caldari, 2007). We can therefore guess that the important role given to the interplay of competition and cooperation was not what he was noting in the districts but rather what he wished to take place. The relevance given to conscious and intentional cooperation (“associate action”) could be a proof of what we maintain.

A second relevant comment points to the national qualities of British entrepreneurs. They seem to lack both the slow but deliberate, careful, methodical, and thorough abilities in which Germans excel, and also they are not alert, inventive, ingenious and adventurous like Americans. In his eyes, England “lies in the middle between these great competitors whose merits and methods are diametrically opposite” (p.14). In fact, industrially Germans excel on the scientific side, but they are not inventive or adventurous people. They are not quick in an emergency or pioneers in the wilderness: they require “time for thought and action”. (p. 15). On the other hand, Americans are quick. The road of industrial life in America is characterised by an abundance of novelty and by the enormous scale of operations, but the work is carried on with “hurry, careless, and unthorough”. (p. 16).

The third point highlighted is related to the “vitality” of the British entrepreneurs. The lack of creative entrepreneurs lies behind the collapse of the British Lancashire district, in the 1920s, as forecasted also by Keynes. The international diffusion of technology threaded the evolution of Marshallian districts. Once new technologies spread internationally, and other countries were able to capture the extraordinary inventions in machinery, initially covered by industrial secrets, but subsequently openly commercialised, and skills were no longer territorially immobile, because embodied in footloose human capital, British districts began to decline, having rested on their laurels for a century.

What does Shadwell tell us of the direct competitors of British districts? Visiting American factories, Shadwell must acknowledge that Americans are “supreme” in the invention of labour-saving machines. However, he adds, “quickness in the States is of the machine and of the mind,
not of the person”19. For him Americans are leaders in “saving time”, not in “saving troubles” (p. 20). They possess an inexhaustible fertility in devising ingenious contrivances for replacing toil.” (p. 20). In contrast, first-class work requires some “plodding” and “it is surely remarkably that so little” of it “of any kind is produced in the United States, with all its wealth, population, intelligence, and educational keenness.” (p. 21). Shadwell is quite a critical observer: “There is a danger that slovenliness may become a national habit” (p. 22).

You see machinery racketing itself to pieces and spoiling the material in the attempt to run faster than it can; you see waste of fuel and steam, machinery clogged and spoiling for want of care and cleanness, the place in a mess and the stuff turned out in a rough, badly-finished state. When you see this over and over again, you begin to understand why the United States, with all its natural advantages, requires a prohibitive duty on foreign manufactures which it ought to produce better itself. The duty on cotton ranges from 69 to 88 per cent., and yet the newest hotel in New York has to get its cotton fittings and furniture from Lancashire. Similarly men who wish to be well-dressed have to buy English cloth weighted by a duty of 100 to 140 per cent. p. 25

But Shadwell also sees the effort made to learn new methods, to apply better technologies, and factories to which none of these remarks apply. These establishments can sell their products anywhere and do not need protections. On page 26 he admits, “Small automatic machine tools are used in a variety of industries”....“They are ingenious machines or other articles specially designed to save labour and troubles.” Factories are slovenly for him, but some machinery is light and well finished even if their [Americans] work suffers from hurry, want of finish and want of solidity” (p.26). English work is still good, being distinguished for “stand alone first-rate workmanship” (p. 26). The “justification for the pride of English manufactures and workmen is based on solidity, durability, and finish, and at the same time they have been great pioneers, the greatest”. p. 27. Shadwell clearly perceives the fundamental problem of British manufacture and of its industrial districts. Local entrepreneurs are no longer such inventive people in the sense that for instance “the automatic loom invented by a Yorkshire mechanic has been taken up and developed into a practical thing by an American firm” p. 27; or, again, he quotes another, the ring spinning-frame, originally hailed from Lancashire, it has been improved and developed by American ingenuity and has now come back again”. p. 28. British “fail in the application of their power”, “while the others have gone ahead”. Shadwell sees Great Britain as “a spent force”. Not “in the possession as in the application of qualities”. p. 29. The detailed descriptions of Shadwell regarding the British, German and American district allow us to sum up the causes of the downfall of the Lancashire district in three paragraphs:

A. The gradual acquisition of skills in other countries20 (in particular through the immigration to the US of competent spinners (p. 118; p. 259; 278; 315); by the knowledge

19 “Rather than write a letter a man …[an American] will wait for the typewriter long enough to write a dozen; or he will rattle throughout his correspondence in a few minutes in order to spend hours in talking”. p. 20

20 This point is raised particularly by Meyer (1998), who states “English immigrant mechanics played a pivotal role in transferring textile machinery technology to the United States, American firms embarked on organisational strategies to acquire English mechanics through recruitment trips, advertisements, and financial bonuses. These mechanics not only expanded the pool of specialised, skilled labour in the United States, but they also brought along new ideas (Jeremy, 1981).” … Machinery builders needed access to specialised information about innovation in textile machinery. This shifted the loci of innovation
diffused by the Lancashire makers who taught at technical schools in the US\textsuperscript{21} by immigrants from other countries who went to England to work\textsuperscript{22}.

B. The invention of new tools by competitors (see for instance the mechanical sprinklers by Germany which could artificially imitate the climatic condition (damp) of the North of England p. 72), and the improvements of American machinery producers over the original British inventions, not to mention the rising Fordism, with the application of large-scale production in America, which in textiles meant large factories enjoying scale economies through the combination of spinning and weaving under one roof (however, alternative methods were used in Germany where this method of large scale in the textile industry was not much applied in the German districts, p. 73).

C. The conservative attitude of the British entrepreneurs of small district factories. This was related both to the tendency of over-using the existing capital stock, and to delay in adopting modern machinery\textsuperscript{23}; British textile entrepreneurs did not want “scrapping machinery which does its work well, merely because it is old”\textsuperscript{24} p. 88, and a long cultural tradition, rooted probably in the times of Luddism, was negatively influencing the acquisition of new state-of-the art technology in district factories; as reported by Shadwell, entrepreneurs were not willing to experiment new work methods or new automatic machinery because they feared the strong opposition of their workforces (a detailed case is discussed as regard the automatic loom adoption in Blackburn, p. 96).

At the time of his writing, the Lancashire district was still the most important textile area in the world, Great Britain being the largest employer of textile hands (workers), but many clouds away from isolated individual mechanics to clustered social networks of machinists and specialised machinery firms and placed a premium on access individual who bridged social networks machinists. p. 36.

\textsuperscript{21} See the list of Lancashire makers for spinning and carding at p. 72
\textsuperscript{22} The case of a Thuringian manufacture is quoted ho went to England as a journeymen carpenter and that were able to study a cotton spinning machine and to reproduce in Chemnitz. In 1820 Saxon manufactures obtained new models from France. p. 230
\textsuperscript{23} Also Lazonick (1987) complains that the pre-war expansion of industry between 1909-13 involved the use of machinery which was becoming antiquated in most countries. He particularly emphasises that the geographical separation of spinning and weaving towns prevented firms promptly adopting ring spinning (in contrast to mule spinning, ring spinning requires the shipping in and out from the factories of wooden bobbins or paper tubes). In the UK the downturn of the industry began in the mid 1920s. The excessive fragmentation of orders and demand for variety and the falling of size of individual orders during the 1920s created technical diseconomies. In front of the decline of demand in international markets district merchants refused any rationalisation of the structure of industry through the integration of spinning and weaving. As reported in Sunley (1992), during the 1930s the Spinning Association declared that spinning firms were not strong enough to withstand merchant opposition if they went directly to the finishers. While in Japan centralised selling methods implied that most goods were made to stock, benefiting scale economies, in Lancashire local distributors fostered diversity, not because of the desire of the ultimate consumers but for the sake of manifesting something distinctive. Moreover, it was impossible to advertise production of such great variety. In this situation the average export price of cloth fell from 17d per yard in 1920 to just 5d in 1931. The decline of British exports was mainly dependent on the lessened demand of India, China, and the Middle East, which started their own national industries (Clay, 1931).
\textsuperscript{24} As regard his analysis of Sheffield he observes “the making of files by machinery is one of those importations from America which has been resisted by the conservative English workman, although he can earn more money more easily. 132. In Bolton he found that the producers have not adopted the new American types of cast automatic locks, preferring hand-made solid but heavy articles with which they have lost the market. p. 148
were approaching in the blue sky. As reported in his book (p. 64), in 1903 in Great Britain were located 530,000 working units against the 307,000 working units of the US, the 350,000 working units of Germany, and the 355,000 working units of Russia. However the downfall of British districts was anticipated by Shadwell with cruel accuracy. He observed that the supremacy of Great Britain was still more marked in spinning than in weaving, but the “general course of competition in newly developed manufacturing countries is to begin with the simpler and cheaper products and gradually to work up to the finer” p. 73. Once competitors are ready to develop their textile industry, “machinery work grows up” p. 64. So, in Lancashire not only the textile trade is at risk but also the machinery business. Once they become self-sufficient, competitors will shut out both “English machinery as well as English goods” p. 65. “No one can look around and note the progress, now steady and now swift, of competitors …. without misgiving for the future of Lancashire”. p. 65

6. Conclusions
In this article we have presented the conceptualisation of the industrial district in Marshall’s writings and in the works of his pupils which we have included in the so-called old Cambridge school. According to Marshall the most important features that characterise and identify an industrial district are: its settlement for a long period of time (more than one generation); the presence of a special “atmosphere” which fosters the introduction of novelty; the presence of an “automatic organization”, and a continuous interplay between competition and cooperation. In his conceptualisation, the industrial district was an emerging new form of industrial organisation, with points of strength and weakness in comparison with the paradigm of the large organisation, where all the sources of efficiency are internally developed through the newly discovered techniques of scientific management. In Marshall, the industrial district is characterised with some time-dependent social and economic endogenous forces of growth which were lacking in subsequent theorisations on the phenomenon of local agglomeration. For instance, in the now-popular notion of cluster (Porter, 1989), there is an ample geographical and functional indeterminacy of what is on the scrutiny of research. Porter’s aim is, in fact, the study of synergies built between groups of firms and public or private research institutions. So it appears difficult to estimate the existence of objective elements of territorially embedded “increasing returns”. Not to mention that very different territorial systems are included under the “umbrella” of clusters. Again, the difference that we have drawn between industrial districts and localised industries (in the case of the Porterian cluster we deal with local industries-cum-institutions), could be of some significance in interpreting the various forms of agglomeration and the evolution of local systems.

Why did the Lancashire district decline so rapidly during the 1920s? As we have stressed in the previous section the local industrial atmosphere degraded, and so did the capabilities of local firms to absorb external technical change. Industrial secrecy and cut-through competition took place. The automatic organisation and the district division of labour were suffocated by too pulverised organisations and avid short-sighted Manchester merchants who, to contrast the decline of the markets and to gain competitiveness, cut the size of the individual orders above a decent profitability. Centralisation that took place in the 1930s through the creation of an administrative large firm did not avoid the transactional costs of task administration and coordination and implicit conflicts. The exhaustion of the original conditions, and the ill-conceived Victorian heredity of believing themselves technically superior to any international competitor meant that local entrepreneurs missed the radical change of global competitive conditions whose consequence, in the absence of any positive reaction, was the unceasing collapse of the Lancashire district and of the whole British textile industry.
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