An analysis of China's industrial cluster (Zhejiang province pattern):

historical development, questions and prospective in pursuit of sustainable competitive advantage-the case of Datang and Sassuolo

1. Introduction

Today's economy is dominated by inter-firms networks, which have become powerful instruments for building competitive capacity in the global market place. Industry clusters are recognized as an important role in both regional and national economy. As M. E. Porter pointed out, economic map of the world is filled with regions known as clusters today. [1] Under the current climate of rapid industrial development in China, the outstanding contribution from industrial districts or clusters has been widely accepted and acknowledged by researchers and government.

The intention of this paper is to analyze this phenomenon from the development, characteristics, drivers and problems of industrial clusters in the province of Zhejiang, China by comparing two clusters: Datang hosiery cluster and Sassuolo ceramic tiles cluster--which is a prototype of successful industrial cluster from developed country. This comparative method helps understand that in many ways, the Zhejiang districts appear to have many similarities with the development observed in the 3rd Italy; however, we can distinguish the features and dissimilarities between these two types of clusters.
the very structure factors that render the clusters highly specific. Finally, this paper will also point out some server problems of Chinese industrial cluster, which all will be helpful for us to know the situation of China SME industrial clusters. Further more, this study is carried on finally to explore the problem resolution of the clusters in pursuit of sustainable competitive advantages in order to cope with the dual challenge of knowledge creation/innovation and globalization.

This paper discusses the intersection of theory and experience, drawing on plus personal observation, particularly in two clusters that are described in detail. The paper is structured as follows: in the next section we will review some of the literature on definition of the concept of "industrial cluster" and present its typology; to better illustrate the "ecological environment" of Chinese case, some researches on industrial clusters in China will consequently be introduced. Then, in section3 and 4 I will proceed with the Chinese and Italian case study and examine the driving-factors that led to the creation of new clusters and the development of present districts; identify the feature and particular characteristics. We shall compare the cluster of Datang hosiery with the case of Sassuolo ceramic tiles in section 5, which is an excellent representative of high-quality product, and present both the similarities and dissimilarities. Finally, section 6 will provide the reader with some concluding remarks and some suggestions for further research.

2. Literature review

2.1. Definition of industrial clustering

Industrial cluster theory originates in agglomeration economic theory, and can be
traced back to Alfred Marshall's (1920) work, in which he systematically analyzed the trend of industrial agglomeration in two different cities in England in which firms concentrating on the manufacture of certain products were geographically clustered. Firms located in industrial districts are highly vertical and horizontal specialized. Its heavy reliance on market mechanism of exchange characterizes itself as a beneficiary of “external economies”. Marshall identifies three conditions for setting an industrial cluster: the existence of a pool of adequate labour, the existence of specialized suppliers and the possibility of external spill-overs (the expanding of industrial scale will promote an increase of industrial knowledge and the dissemination of know-how/technical information, which leads to the formation and development of industry clusters). [2]

Since then, many academics have been discussing on the “endogeneity” factor of formation in relation with the industrial agglomeration. Many generations of industrial economists, such as Alfred Weber, Coase R, Krugman and Porter, closely studied this phenomenon and achieve their results in the field of industrial location theory, transaction cost theory, new economic geography theory and “clusters” theory – diamond model.

It is Michael E. Porter (1998) who first put forward and popularized the specific concept of industrial clusters in the management domain. He defines clusters as “geographically proximate group of companies and associated institutions in a particular field, linked by commonalties and complementarities.” [3] Porter associated the phenomenon of industrial clusters with the rationale of developing competitive advantages for firms. He argues that the competitive advantages of an industrial cluster is determined by four interrelated determinants, graphically depicted as a “diamond model”: factors conditions, demand conditions, related and supporting industries, and firm strategy, structure and rivalry. There is a role of chance events and historical accidents, and a final influence on the environment is government. According to Porter, the geographic concentration of customers, suppliers and rivals tends to enhance innovative ability and competitiveness in a cluster and further to upgrade the cluster
Industrial clusters in an era of global competition pose a paradox, but global competition can be fostered with competitive advantage generated from local elements. Porter submits that “in theory, location should no longer be a source of competitive advantage. Open global markets, rapid transportation, and high-speed communications should allow any company to source any thing from any place at any time. But in practice, location remains central to competition.”

“Although location remains fundamental to competition, its role today differs vastly from a generation ago. In an era when competition was driven heavily by input costs, locations with some important endowment – a natural labour, for example, or a supply of cheap labour – often enjoyed a comparative advantage that was both competitively decisive and persistent over time.” (Porter, 1998)

However, there has not yet been put agreement upon definition of clusters. Feser (1998) states “there is no cluster theory per se, rather a broad range of theories and ideas that constitute the logic of clusters.” [5] Martin and Sunley (2003) consider that clusters are “definitional and conceptual elasticity.” To understand this term better we shall look at a list of definitions proposed by some of the most renowned cluster scholars (Table 1: List of Definition of Industrial Cluster). [6]

**Table 1: List of Definition of Industrial Cluster**

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Porter (2000, p. 16)</td>
<td>“A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities”.</td>
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<tr>
<td>Porter (1998, p. 10)</td>
<td>“A cluster is a critical mass of companies in a particular field in a particular location, whether it is a country, state or region, or even a city. Clusters take varying forms depending on their depth and sophistication, but most</td>
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</tbody>
</table>
include a group of companies, suppliers of specialized inputs, components, machinery, and services, and firms in related industries. Clusters also often include firms in downstream (e.g. channel, customers) industries, producers of complementary products, specialized infrastructure providers and other institutions that provide specialized training, education, information, research, and technical support, such as universities, think tanks, vocational training providers, and standards-setting agencies. Finally many clusters include trade associations and other collective bodies covering cluster members.”

Rosenfeld (1997, p. 4) “A cluster is very simply used to represent concentrations of firms that are able to produce synergy because of their geographical proximity and interdependence, even though their scale of employment may not be pronounced or prominent.”

Feser (1998, p. 26) “Economic clusters are not just related and supporting industries and institutions, but rather related and supporting institutions that are more competitive by virtue of their relationships.”

Swann and Prevezer (1998, p. 1) “A cluster means a large group of firms in related industries at a particular location”.

Simmie and Sennett (1999a, p. 51) “We define an innovative cluster as a large number of interconnected industrial and/or service companies having a high degree of collaboration, typically through a supply chain, and operating under the same market conditions.”

Roelandt and den Hertag (1999, p.9) “Clusters can be characterized as networks of producers of strongly interdependent firms (including specialized suppliers) linked to each other in a value-adding production chain.”

Van den Berg, Braun and van Winden (2001, p. 187) “The popular term cluster is most closely related to this local or regional dimension of networks ... Most definitions share the notion of clusters as localized networks of specialized organizations, whose production processes are closely linked through the exchange of goods, services and/or knowledge.”

Enright (1996, p. 191) “A regional cluster is an industrial cluster in which member
firms are in close proximity to each other.”


The definitions above differ upon the theme and phrasing, however, we can have some common points: (1) concentration of interdependent firms, (2) institutions, (3) relations and (4) benefits from industrial clustering.

2.2. Industrial clusters' formation

As M. Porter defined the term of industrial clusters, the key elements of clusters are the interrelation between activities, the links between industries and companies, and the synergies from the close proximity to other industries and companies that relate in some way to their business.

We shall first briefly review the literature on the formation of industrial cluster. Akundi (2003) illustrated the cluster structure (Figure 1: Cluster Structure below).

The cluster structure is depicted as a pyramid with the export-based industries at the top, but linked to supplier industries, which, in turn, are supported by a set of fundamental institutions. All these three components interrelate among themselves and if one of them fails the whole pyramid might collapse.
When addressing the issue of the origins of industrial clusters, cluster scholars state that industrial clusters have origins in particular local conditions, local demand, and the presence of a related industry (Enright, 1993). [7]

Bekele & Jackson (2006) provide six theoretical approaches to explain why industrial clusters are formed: (Table 2: Main Theory for Motivation of Clusters' forming) [4]
- Classical agglomeration theory;

- Geographical economics or new economic geography;

- Flexible specialization school;

- Regional innovation systems;

- Competitiveness;

- Dynamic externalities;

<table>
<thead>
<tr>
<th>Theoretical approaches</th>
<th>Incentives for agglomeration</th>
<th>Main references</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Input sharing</td>
<td></td>
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<tr>
<td></td>
<td>-Information sharing</td>
<td></td>
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<tr>
<td></td>
<td>-Transaction cost savings</td>
<td></td>
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<tr>
<td>Regional innovation systems</td>
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<td></td>
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<tr>
<td>Competitiveness</td>
<td></td>
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<tr>
<td>Dynamic externalities</td>
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<tr>
<td>new economic geography</td>
<td>Dispersion forces (Immobility of labor, increase in land rents and external diseconomies)</td>
<td>(2002)</td>
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<td>------------------------</td>
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<tr>
<td></td>
<td>Inter-personal relations</td>
<td></td>
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<td></td>
<td>Casual or tacit information flows and culture</td>
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<tr>
<td></td>
<td>Innovation, learning</td>
<td></td>
</tr>
<tr>
<td>Competitiveness</td>
<td>Regional competitive advantages (cooperation and rivalry partnerships with institutions, regional resources and infrastructure)</td>
<td>Porter(1990)</td>
</tr>
<tr>
<td></td>
<td>Externality effects from education and research</td>
<td></td>
</tr>
</tbody>
</table>

Source: Bekele, Gashawbeza W. and Jackson, 2006

2.3. Types of clusters

Porter proposed in his book The Competitive Advantages of Nations (1990) two types of clusters:
° vertically-integrated clusters: made up of industries that are linked through buyer and seller relationships among them;

° horizontally-integrated clusters: that include industries sharing input conditions, and/or a common market for the products; using a common technology, skilled labour forces, and/or similar resources among them.

According to the extension to which the clusters is conscious of their position in the cluster itself, in other words, is self-aware, and is self-reinforcing, Enright put forward the classification based upon this criteria. (Table 3: Enright's typology of clusters)

Table 3: Enright's typology of clusters

<table>
<thead>
<tr>
<th>Type of cluster</th>
<th>features</th>
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<tbody>
<tr>
<td>Working clusters</td>
<td>in which a critical mass of local knowledge, expertise, personnel, and resources create agglomeration economies that are used by firms to their advantage in competing with those outside the cluster. Working clusters tend to have dense patterns of interactions among local firms that differ quantitatively and qualitatively from the interactions that the firms have with those not located in the cluster. They often have complex patterns of competition and co-operation and often are able to attract mobile resources and key personnel from other locations. Even if participants do not call themselves a &quot;cluster&quot; there tends to be knowledge of the interdependence of local competitors, suppliers, customers, and institutions.</td>
</tr>
<tr>
<td>Latent clusters</td>
<td>have a critical mass of firms in related industries sufficient to reap the benefits of clustering, but have not developed the level of interaction and information flows necessary to truly benefit from co-location. This can be due to a lack of knowledge of other local firms, a lack of interaction among firms and individuals, a lack of a common enough vision of their future, or a lack of the requisite level of trust for firms to find and exploit common interests. In any case, such groups of firms do not think of themselves as a cluster and, as a result, do not think of exploring the potential benefits of closer relationships with other local organizations.</td>
</tr>
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<td>--------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Potential clusters</td>
<td>have some of the elements necessary for the development of successful clusters, but where these elements must be deepened and broadened in order to benefit from the impact of agglomeration. Often there are important gaps in the inputs, services, or information flows that support cluster development. Like latent clusters, they lack the interaction and self-awareness of working clusters.</td>
</tr>
<tr>
<td>Policy driven clusters</td>
<td>chosen by governments for support, but which lack a critical mass of firms or favorable conditions for organic development. Many of the electronics and biotechnology &quot;clusters&quot; found in government programs are examples of this type of cluster. Policy driven clusters tend to be chosen more on political grounds than through any detailed analytical process. They tend to rely on the notion that policy can create clusters from a relatively unfavorable base.</td>
</tr>
</tbody>
</table>
are policy driven clusters that lack, not only a critical mass, but any particular source of advantage that might promote organic development.

Source: Enright, 2001

Adapting and applying Enright's achievements, a working cluster, taken for instance the Silicon Valley (USA) or the ceramic tile industry in Sassuolo (Italy) is an “agglomeration of connected companies that are aware of their interdependence, value it, act on it, and collectively operate as a system to produce more than the sum of their individual parts” (Rosenfeld, 1996). [8]

We shall distinguish these two types of competitive clusters widely studied and verified based on different kinds of knowledge:

- Techno clusters, which are high-technology oriented, well adapted to the knowledge economy;

- Historic know-how-based clusters, which are based on more traditional activities that maintain their advantage in know-how over the years.

The concept of industrial clusters are traditionally represented by *Marshallian and its Italian Variant*, as the dominant paradigm with its popularity attributed to A. Marshall, who first identified the external economies, and to some academics who put their insights to the successful performance such as the Silicon Valley in the USA or the *Third Italy*. We can denominate the latter type with Marshallian-Italianate type (or neo-Marshallian type), which is characterized by superior co-operation, design-intensive work and collective institutions plus local government support. A large body of literature is attributed to the Italian school (Becattini, Bellandi, Dei Ottati, Sforzi and
others) upon this typology.

Before long Markusen (1996) broadens the "map" of industrial clusters to several other forms, which differ significantly in terms of the characteristics of member firms, intra-cluster interdependencies and prospects for employment. She acknowledges several different institutional set-ups as having the essential features of a "cluster"... “with quite disparate firm configurations, internal versus external orientations, and governance structures”. [9] In her typology, a common geographical location plays a central role. Today's economic climate is dominated by globalization following increasing competition and outsourcing. Whereas, all of the world there is a growing specialization and concentration or clustering of industries in response. As a result, emerged the "sticky places" in a "slippery space", characterized by dramatically improved communications, increasingly mobile production factors and enterprises that may be related to variants of industrial clusters. Therefore, she proposed the definition of industrial clusters as following:

“is a sizable and spatially delimited area of trade-oriented economic activity which has a distinctive economic specialization, be it resource-related, manufacturing, or services” (Park and Markusen, 1994)

As a result, Markusen notes that besides the traditional type mentioned above - Marshallian and its Italian Variant, there are three types of clusters: (Figure 2 Figure 3: Markusen's typology of industrial clusters)

- hub and spoke;

- satellite platforms;

- state-ancored.
**Figure 2**

<table>
<thead>
<tr>
<th>Cluster type growth</th>
<th>Characteristics of member firms</th>
<th>Intra-cluster interdependencies</th>
<th>Prospects for employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marshallian</td>
<td>Small and medium-sized locally firms</td>
<td>Substantial inter-firm trade and collaboration, strong institutional support</td>
<td>Dependent on synergies and economies provided by cluster</td>
</tr>
<tr>
<td>Hub and Spoke</td>
<td>One or several large firms with numerous smaller suppliers and service firms</td>
<td>Cooperation between large firms and smaller suppliers on terms of the large firms (hub firms)</td>
<td>Dependent on growth prospects of large</td>
</tr>
<tr>
<td>Satellite Platforms</td>
<td>Medium and large-sized branch plants</td>
<td>Minimum inter-firm trade and networking</td>
<td>Dependent on ability to recruit and retain branch plants</td>
</tr>
<tr>
<td>State-anchored</td>
<td>Large public or non-profit entity and related supplying and service firms</td>
<td>Restricted to purchase-sale relationship between public entity and suppliers</td>
<td>Dependent on region’s ability to expand political support for public facility</td>
</tr>
</tbody>
</table>

Source: Markusen, 1994

**Figure 3**
Peter Knorringa / Jörg Meyer-Stamer (1998) [10] classify in their research the typology of industrial clusters in developing country into three types, which are derived from Markusen (1996) and from Humphrey (1995). The first is represented by the Italianate industrial clusters which, in Italy, now appears as if at least some of its clusters are evolving into hub and spoke model with several larger leading firms and a number of subcontractors; the second, more common in developing countries, refers to clusters that evolve to a hub and spoke clusters without transitioning from Italianate model; the third is satellite model derived directly from a basic agglomeration. In these clusters most small and medium sized firms manufacture for leading firms, which, often multinational, is not locally based. It seems that some satellite clusters may eventually evolve into hub and spoke clusters.

The following table (Table 4: typology of industrial clusters in developing country) summarizes the argument:
Elisa Giuliani, Carlo Pietrobelli and Roberta Rabellotti (2004) [11] studied 11 groups of various industrial clusters in Latin America. With some adaptations of Pavitt's Taxonomy, they reviewed the industrial value chain governance over firms and sectorial chain upgrading, then distinguished on the basis of learning patterns and upgrading occur, four categories of industrial clusters as following:

- **Traditional Manufacturing**, which refers mainly to labour-intensive and “traditional” technology industries such as textile, footwear, tile and furniture.

- **Natural Resource-based industries (NR-based)**, which imply the direct exploitation of natural resources.
- Complex Product Systems’ industries (COPS), which include, among others, automobile, autoparts and aeronautic industries, ICT and consumer electronics;

- Specialized suppliers, that in LA cases, essentially includes software.

See Table 5: Four categories of industrial clusters studied on value chain theory for details:

**Table 5: Four categories of industrial clusters studied on value chain theory**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Industries</th>
<th>Learning Patterns</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Traditional Manufacturing</td>
<td>Textile and garments, Footwear, Furniture, Tile</td>
<td>Mainly Supplier dominated</td>
<td>• Most new techniques originate from machinery and chemical industries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Opportunity for technological accumulation are focused on improvements and modifications in production methods and associated inputs, and on product design.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Most of technology is transferred internationally, embodied in capital goods.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Low appropriability, low barriers to entry</td>
</tr>
<tr>
<td>2. Resource-based industries</td>
<td>Sugar, Tobacco, Wine, Fruit, Milk, Extraction industries</td>
<td>Supplier dominated (Science-based)</td>
<td>• Importance of basic and applied research led by public research institutes due to low appropriability of resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Most of innovation is generated by suppliers (machinery, seeds, chemicals etc.), increasing importance of international sanitary and quality standards, and of patents</td>
</tr>
<tr>
<td>3. Complex Product Systems Industries</td>
<td>Automobile and autoparts, Aircraft, Consumer electronics</td>
<td>Scale intensive firms</td>
<td>• Technological accumulation is generated by the design, building and operation of complex production systems or products. Radical innovation is risky.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Process and Product technologies develop incrementally. For consumer electronics, technological accumulation emerges mainly from corporate R&amp;D labs and university skills.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Appropriability is medium, barriers to entry high</td>
</tr>
<tr>
<td>4. Specialised Suppliers</td>
<td>Software</td>
<td>Specialized suppliers</td>
<td>• Often small firms. Important user-producer interactions. Learning from advanced users.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Low barriers to entry end low appropriability</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• High in-house R&amp;D for development of edge technologies</td>
</tr>
</tbody>
</table>


Other categories offered by the literature (Rosenfeld, 1997) [12], as following:

- Gulati (1997) distinguishes between “modern urban clusters”, which serve
large metropolitan and export markets and “artisanal rural clusters”, which satisfy mainly local demands;

- Sandee (2002) describes a spectrum of “dormant clusters” on one hand, manufacturing simple items for poor rural consumers and “dynamic clusters” on the other hand, where firms are closely networked and can enter wider, even global, markets;

- Schmitz and Nadvi (1999) distinguish between “incipient clusters”, in the early stage of industrial development, usually located in poor areas, producing for local markets with simple technologies and labour skills, and “mature clusters”, which are more advanced in terms of technology and skills, often producing for global markets and thus vulnerable to global competitive pressures;

- Altenburg and Meyer-Stamer (1999) distinguish between “survival clusters”, “advanced mass production clusters”, where firms produce for local markets but increasingly face global competitive pressures and “clusters of transnational corporations”, made up of technically advanced foreign firms that locate in particular areas to draw on regional agglomeration economies but with limited links to local firms and institutions.

Finally, a real world cluster may be a mixed body of one or more types. Paolo Guerrieri and Carlo Pietrobelli (2004) [13] explore whether a form of leadership is present, and indicate that firms may tend to share a geographical agglomeration along three broad patterns, which over time may mutate from one type to another:

- (Casual) geographical clustering of firms, with occasional inter-firm linkages, no (little) experience of co-operation, non-existent or little developed local institutions;
- Mashallian (Italian) industrial clusters, with smoother inter-firm transactions, much better developed and effective local institutions, economies of scale at the district level made possible by substantial enterprise specialization, deep integration between economic activities and the local socio-cultural fabric;

- Enterprise network with some form of leadership prevailing, be it a hub-and-spoke, leader-followers, or satellite platform, with the leader providing the strategic services and imputes for diversification into different products and sectors, with reorganization of production and new relationships with firms, local institutions, and factor and product markets.

**Summary of Industrial Cluster theory**

Considering all above mentioned classifications of industrial clusters (IC), it's only at different point of departure as well as various levels that researchers conduct research. As an industrial spatial organization form with competitive advantages, industrial clusters prevail over the other forms in respect of collective competitive advantage and external economies of scale derived from cluster-development, which could be understood in three different ways: firstly, they can be external economies of scope and external economies of scale in perspective of economy, auguring that various enterprises reduce vastly the cost by sharing the investment costs of building facilities and other required infrastructure along with the benefits from vertical integration and horizontal integration. These factors provide a base for pricing competition; Secondly, understanding transaction costs reduction through sociology in industrial clusters, it can be accepted that the economic network based on interpersonal trust keeps existing customers, attracts potential ones and new enterprises; Thirdly, at technical economics level, it can be argued that the observation about the knowledge and technical innovation and its diffusion have been made to realize eventually products and industrial innovation. Industrial clusters have extraordinary competitiveness on the global playing field. Its competitive advantages are derived
from costs reductions, quality-based differentiation, regional marketing and regional competitiveness.

Any theory research is based on predecessors' theoretical research. Strictly, so far, the industrial cluster research has not formed a systematic theory. (Feser, 1998) But, from the content of current industrial cluster theories, the industrial cluster research could be both related to the classic location theory, classical economics and traditional geography theory, but also to the development on the basis of the national innovation system theory, the neo-institutional economics and development economics, and also to the evolution and improvement of the neo industrial district theory, neo economic geography theory, neo classical economics theory, flexible specialization theory, and management theory. (See Figure 4: Connections between core literatures on clustering) However, we can say that the formation of industrial cluster theory may be attributed to absorbing the theoretical achievements, or direct evolution and development on the basis of these theory.

**Figure 4: Connections between core literatures on clustering**
2.4. Industrial clusters in China

Since the late 1970s, China has reformed its economy and started transformation from a planned, centralized economic structure into a market-driven, globally oriented economy with various extents of autonomy. In this process, the economic structure is experiencing profound changes, among which the most significant should be the phenomenon of regional clusters of various specialized industries. In each of the regional cluster groups, hundreds and even thousands of enterprises of various sizes have been formed and clustered. Industrial clustering as an economic phenomenon is relatively new in China. It's only since the turn of the 21st century that a few research have started to pay attention to it. Wang Jici (2001) [14], geographer at the University of Beijing, described the development of some clusters in the coastal regions of China, discussed their characteristics, including their localized network, and explored ways of sustainable development particularly examining the regional innovative milieu and innovation network in China. A few economists and management specialists have contributed to the subject, focusing on the industrial structure and organization of
member industries within the industrial clusters – the "clustering economy" derived from the concentration of business and industries and the competitive advantages of industrial cluster as a whole. Since 2003, some researchers (Wang Jici (2003), Zhang Hong (2003), Liu Shuguang, Yang Hua (2004), Li Jizi (2004), etc.) have discussed the development, upgrading and competitive advantages of regional industrial clusters with integration into international trade and labor-division system. Results suggested the application of industrial cluster strategy and the decision making of relevant public policies. On the whole, it can be argued that the general observation about the phenomenon in China have already been made.

In China, industrial clusters are located mostly around booming cities and towns in the eastern coastal region – particularly the Yangtze River Delta (or YRD which generally comprises the triangular-shaped territory of Shanghai, southern Jiangsu province and northern Zhejiang province.), the Pearl River Delta (or PRD which consists of about 9 main cities of Guangdong province.) area in Guangdong, as well as in the Bohai Bay rim (is a term used to describe the economic hinterland surrounding Beijing, Tianjin and Shijiazhuang. It also includes areas in Hebei, Liaoning and Shandong provinces which surround the Bohai Sea.) region in the north. The three regions have developed a broad range of clusters in various industries. The majority of these industrial clusters are located in province of Zhejiang and Guangdong. For instance, Zhejiang comprises about 88 counties (administrative region where develop rapidly the rural economy relative to the urban economy in cities), in which 85 had developed agglomeration economy by the year 2001, where more than 800 industrial clusters specializing in 175 industrial sectors, such as textile, electric appliances, household hardware, pharmaceuticals, machinery manufacture, etc. Specialized towns characterized by industrial clusters account for one quarter of 404 towns of PRD in Guangdong. These clusters have been promoting the regional economic development and the products produced in these clusters account for the significant majority of China's total production, making the regions important sourcing bases for all sorts of inputs, materials, consumer goods as well as capital goods.
2.4.1. Origin and development of industrial clusters in China [15]

Since we take the main driving force which is the one to push the development of industrial clusters of all periods as the basis, we would like to divide the evolution of industrial clusters in China into four stages: Natural resource-led stage, Market demand-led stage, Foreign investment-led stage and Transfer & Upgrading stage. (Figure 5: Four Stages of China's Industrial Clusters' Development Chart: based on various driving factors) Between these stages, we will not find the very clear and strict time interval, as there is crossover between them, which means the situation that in one stage kinds of different forms driving force will appear at the same time to promote the development of industrial clusters, but obviously, at different stages, the main characteristics presented are quite different. The early development of industrial clusters in eastern region, is mainly based on local natural conditions which including natural resources and conventional business traditions, local culture and other social resources; then with the gradual establishment of market economy, it promoted the expansion of domestic demand and growing export trading; especially, for the shortage of consumer goods in planned economy era, it brought the great release on demand, stimulating the rapid development of industrial clusters in southeast coastal areas which take the consumer goods industries as the leading force; and then for the rebuilding up the mechanism of the global industrial division and the accelerated development of the world economic globalization, a large number of foreign enterprises decided to invest directly in China; particularly, after China's accession to WTO in 2001, China's economic becoming more and more integrated with the world, as a result, with the booming appearance of foreign directly invested enterprises in the YRD, PRD and the Bohai Bay-rim region, it developed a huge number of industrial clusters which take part in the global industrial division. After more than two decades of development, the industrial clusters of eastern region gradually came into mature period. Meanwhile, subject to intensive international competition, expansion of industrial scale, the regional capacity constraints and other factors, the industrial clusters of eastern region began to differentiate: those high-tech, high value-added industrial clusters began to increase, while some resource-dependent
industrial clusters are gradually transferred to the central and western regions.

Figure 5: Four Stages of China's Industrial Clusters' Development Chart: based on various driven factors

Stage 1: Natural resource-led staone villagege (from the early 1980s to the early 1990s)

Clustering of SMEs in China began in the early 1980s, with the rise of clusters of SMEs in Zhejiang. In 1982, Yiwu City took the lead in establishing small commodity market, taking the great benefit from first-mover and to preemptive advantages. As to the development of the small commodity market, from early 80s to early 90s in the 20th century, Yiwu has primarily and initially formed a specialized commodity manufacture base, which takes the private economy and individual household enterprises as basis, specialized market as a link, small towns as the main subject, and small commodities as the principal products. In YRD and the PRD region, Yiwu small commodity manufacture base is the typical representation of the production pattern of "One product per village", or "One sector per town" (一镇一品, 一乡一业) – this is a prototype of the development of industrial clusters in China.
In this stage, the development of the industrial clusters is mainly due to the liberation of productive forces after the policy of economic reform and opening up. The essential driving force is thus still the natural conditions which can be divided in two main categories – natural resources and social resources, including local traditional handicraft industry, business tradition, local culture etc., in which social resources made a greater contribution. In the early beginning of the economic reform, making full use of natural conditions, the towns and villages in the southeast coastal areas had established a large number of collective-property township enterprises, with the vast majority of which are small and medium businesses. They manufactured all kinds of products, which are mainly daily necessities, hardware, small commodities, household appliances, wood furniture, leather and plastic products, agricultural processing, clothing and footwear, etc. Usually in a village or a town gathered a number of enterprises producing similar products, and thus the enterprise agglomeration was formed.

The main features of the development of industrial clusters in this stage are: taking the village and town of the southeast coast as the location center and the township enterprises and private enterprises as the main subject, low correlation between the enterprises within cluster, the strong competition among them; however, in the aspect of the market information, raw materials supply, manufacturing and other processes they had already proceeded with a fairly comprehensive cooperation.

**Stage 2: Market demand-led stage (From the early 1990s to the middle-late 1990s)**

In the early 90s, with the carrying forward of economic reform and the completely lifting of prices control related to the products supply, the demand and supply could freely operate in marketplace. At the same time, the State had consecutively raised the level of wages for the staff and workers in enterprises, institutions or State organs in order to increase the disposable income significantly. These measures greatly
stimulated domestic demand for consumer goods, thus was initially formed a
nationwide big market. Meanwhile, the export trade had also been increased
dramatically. In the early 1990s, the average annual growth rate of exports reached
nearly 40 percent in first 5 years, which was nearly doubled than past. It is the surge of
domestic and international market demand which contributed to the development of
clusters in the initial stages. Then began the transformation of industrial clusters from
the start-up stage to the quantitative and dimensional expansion stage.

The main features of clusters in this stage are: the high increase of quantity and
expansion of scale, the increasingly prominent position of the industry clusters whose
products in national market share risen sharply, especially the rapid growing of these
enterprises forming into the group, a large number of enterprises attracted to move into
the industry cluster, the industrial chain in cluster formed initially, improvement of
specialization within the cluster, competition and cooperative relations development
more diversified, and some clusters entering the mature stage. In the aspect of
geographical distribution of clusters, starting from the key areas of southeast coast to
the entire eastern region, initially formed the industrial clusters rim which concerns
firstly the Bohai Economic Rim then the YRD and lastly the PRD, among which the
provinces of Guangdong, Jiangsu, Zhejiang, Shandong etc. are particularly outstanding.
At the same time, in the central and western regions have appeared some resource-
dependent industrial clusters.

**Stage 3: Foreign Investment-led stage (from the middle-late 1990s to the early 2000s)**

In the initial time of the economic reform, China's southeast coast, especially in the
PRD area, taking use of low labor costs, had mainly developed processing industry
with the characteristics of labor-intensive and export-oriented such as OEM/ODM,
rather than firms invested by FDI. Then in the mid 1990s, with a substantial increase
of FDI, many multinational companies (MNCs) also transferred their assembly plants
to these districts, bringing along more investment in supporting industries. A supply
chain for MNCs formed stimulated consequently all types of local industries, therefore emerged gradually the industrial clusters. FDI of this period mainly concentrated in eastern area particularly in provinces of Guangdong, Jiangsu, Zhejiang which received FDI accounting for about 85 percent of the total national FDI. Foreign investment industries are mainly in manufacturing, covering electromechanical industry, chemical raw materials and products, textile clothing, children's toys etc..

In the 21st century, with the spreading of economic globalization and acceleration of international industrial transfer, FDI in China had entered a period of sharp growth associated with a rising investment for individual project. Jiangsu, Shanghai, Zhejiang and other areas had the largest flow-in of FDI in this period, accounting for about 50 percent of national total, in which the leading industry is mainly in the manufacturing of electronics and communication equipment, followed by a increasing development of producer services, social services, financial services. FDI in these areas led to speedily development of high-tech industry cluster. A case study in SUZHOU, driven by FDI, the output of electronics industry in gross industrial output value rose from 10.7 percent in 2000 to 32.5 percent in 2006, and the concentration degree of six top industries reached to 71.66 percent, increased by nearly 14 percent. The industrial clusters in Suzhou had thus a scale – expansion.

Development of industrial clusters in this stage is characterized by the foreign investment-driven, mostly in export-oriented clusters, as a part of the global industrial chain, in which leading industry concentrated in electronics and communication equipment manufacturing, distributed mainly in the YRD, PRD and Bohai Economic Rim. Due to the accumulation of experience in first two stages and driven by large-scale investment by MNCs, it’s a fast stage of cluster development, and hence the clusters in many regions just took three or four years from emergence to maturity.

**Stage 4: Industrial transfer and upgrading stage (from the early 2000s to the present)**
After more than two decades of development, the industrial clusters of eastern region gradually came into mature period. Meanwhile, subject to intensive international competition, expansion of industrial scale, the regional capacity constraints and other factors, the industrial clusters of eastern region began to differentiate: some resource-dependent industrial clusters such as textile and garment, footwear etc. are gradually transferred to the central and western regions, while those high-tech, export-oriented industrial clusters began to move into top rank of industrial chain and more and more enterprises engaged into R&D, design activities; Some clusters which already occupied highly share in the domestic market, gradually entered the international market, participating in the international competition, and attracted well-known enterprises operating within the same business to joint in cluster; In Shanghai, Beijing, suzhou, hangzhou, and other central cities, began to appear finance, R&D, cultural and creative, such high value-added industrial cluster.

The most prominent characteristic of this phase of industrial clusters development is the transfer & upgrading: some in the eastern region gradually that have lost their advantage began to transfer, while the Midwest area is cultivating the necessary infrastructural and institutional conditions and undertaking the transferred cluster. Meanwhile, within the cluster more and more efforts have been made to improve the tech-innovation ability, regional brand, firms' reputation, internal environment, and the interaction with the exterior cluster, in order to promote and strengthen the cluster's competitive advantage.

2.4.2. Major types of industrial clusters in China

According to different formation mechanism, the industrial clusters in our country can be divided into six types: resource driving type IC, trade driving type IC, FDI driving IC, science and technology resources derivative type IC, big enterprise seed type IC and industrial transfer type IC. For different types of industrial cluster its formation mechanism has essential differences.
1. resource driving type IC;

Refers to the industrial clusters based on individual local specialization, the industrial and commercial business tradition and natural resources, initiated by a spontaneous innovation of local people, financed by privately accumulated capital, promoted by an institutional facilitation in terms of political, economic and social aspects, growing up with the competition in marketplace. This kind of industrial cluster includes social resources driven model and natural resources type, and the former mainly distributed in the southeast coastal area with a local industrial heritage, culture and other social resources while the latter with a distribution largely in the Midwest, based on local mineral, agricultural and sideline products and other natural resources.

2. trade driving type IC;

Refers to the industry clusters in which operating mainly local enterprises driven by domestic and export trade. Dating back to the origin of these industry clusters, it was often some local entrepreneurs who identified and grasped the business opportunities in domestic or international market. They started up family workshop or family factory and rapidly grew up, whose success had attracted others follow-up, and driven the growth of their supporting enterprises, thus led to the formation of the industry cluster serving the national and global market. Resource driving type and trade driving type of industrial clusters are both spontaneously developed, with a distinction between them that historically, the original location of latter was more often than not lacking of industrial foundation, generally experienced a development from nothing. This kind of industrial clusters take up a majority of total industrial clusters in China, widely distributing in textiles, electromechanical products, furniture and other low-technical industries such as consumer commodities. Can be identified easily in wenzhou (zhejiang), zhongshan (guangdong), etc. the industrial clusters of trade driving type.

3. FDI driving IC;
In China's opening-up process, some areas which own excellent geographical location, preferential investment policy, the vast land resources and plenty of cheap Labour, formed FDI driving industry clusters with the synergy effects of local government market cultivation, the enterprise creative imitation and entrepreneurship. The most representative FDI driving industry cluster is the IT industry, which can be classified in two according to its structure: one is industry cluster containing a large number of supporting enterprises around one or more foreign invested leading enterprises, like the mobile communication industry cluster in Beijing with Nokia as the leading firm; the other is relatively complete industrial chain which accommodates both the large enterprises in international market and upstream / downstream firms gathered in industry cluster, such as kunshan portable PC cluster in Suzhou which currently has 2,583 foreign-invested enterprises. In this cluster, six of top ten Taiwanese notebook manufacturers have established plants.

FDI industry clusters are mainly distributed in YRD, PRD, Bohai Economic Rim and other regions, developed initially in Guangdong area, then expended to Shanghai, Suzhou, Beijing area, in the early 21st century reached its peak. After the economic reform, Guangdong and Fujian provinces had joined the global industrial network with the preferential investment policy, an abundant supply of cheap labour force and land resources and a location adjacent of Hong Kong and Macao. By developing the toll manufacturing, this area had rapidly developed into "processing plant" of Hong Kong and Taiwan's manufacturing.

4. science and technology resources derivative type IC;

Zhongguancun is a prototype of science and technology resources industrial cluster. As an area the most densely populated with China's education and research resources, where are located Peking University, Tsinghua university and other 66 famous universities and 270 research institutions such as CAS (Chinese Academy of Sciences); as well as 51 State key laboratories accounting for 28 percent of total national, 22
National engineering research centers making up 22 percent, 65 multinational company's R&D centers etc., Zhongguancun has become a High-tech industry cluster by attracting and developing numerous enterprises based on these research resources, and aims at the technology popularization and application with support of scientific and technological innovations.

5. big enterprise seed type IC;

The big enterprise industrial cluster basically has two kinds, one is the traditional large and medium-sized state-owned enterprises as a result of 1950s’ implementation of the Land and National Resources Planning, and the Third Front Construction in 1960s – 1970s as well as the regional planning and industrial positioning in 1980s; The second type is the big enterprises which was matured in market competition, whose property rights form may be private enterprise, also may be the state-owned enterprise. Since the reform and opening up, the traditional large and medium-sized state-owned enterprises have generally two kinds of results: one situation is that they tend into decline, finally to die out with bankruptcy or restructuring; The other one is that through the structure and business system reform, the enterprises gradually grew up, and ultimately become leading enterprises in industry by adapting to development of the market economy.

The big enterprise industrial clusters are generally developed by enterprises around the big enterprises grown up from different predecessor. With the increasingly fierce competition and higher degree of specialization, most large enterprises often focus on bringing up the core competence by outsourcing the periphery business. As a result, they attracted surrounding them numerous SMEs producing and supplying supporting services, and developed an industrial cluster containing a whole industrial chain.

This kind of industry clusters mainly center in automobiles, household appliances, communication equipment manufacturing, and those higher-tech industries with a
comprehensive long industrial chain, dotted both in eastern coastal and Midwest. For instance, Xiaoshan Automobile Components industrial cluster (zhejiang) takes the Universal Group as the core of large-scale enterprises driving more than 200 SMEs auto enterprises; or Changchun automobile industrial cluster, taking the "Faw group" and "Faw Volkswagen" as center, populated numerous automobile parts manufacturers and mechanical research institutions around them, has an output of 800 billion RMB.

6. industrial transfer type IC.

This kind of industry cluster are mainly located in the Midwest. Compared to the eastern coastal area, although the Midwest has a disadvantage in financing, technology, market, talents, foreign trade and other fields, but advantages in labor, land, natural resources. In recent years, along with the shrinking of eastern coastal area industrial capacity, it's obviously observed that the industries are transferring towards western and north areas. The Midwest developed industrial clusters in this process of industrial transfer, while mainly based on labor-intensive, land and other natural resources.

Industrial transfer type clusters should generally rely on local existing industries as a prerequisite and in many cases, the region able to undertake the industrial transfer, where had formerly more or less existed enterprise agglomeration, can quickly promoted and further developed industrial clusters. For example, in Chengdu (Sichuan province) WuHou District footwear industrial cluster had come into the initial phase in the latest 1990s, as shoe making has been a traditional industry for so long in Chengdu region, with advantages of raw materials, labor resource. In the 21st century, with the industrial transfer to Midwest area, Chengdu footwear industrial cluster took the chance to speed the development. By the end of 2005, there were more than 1,200 shoemaking enterprises and about 3 thousand relevant supporting enterprises in Chengdu, and the annual output reached over 100 million pairs of leather shoes, with export accounting for 50 percent of the total western export. This city has become one of the five footwear manufacturing bases, named "The city of China women shoes".
2.4.3. Characteristics of industrial clusters' development in China

1. **Industrial cluster distribution mainly concentrates in the southeast coastal area, the Midwest is still in the incubation periods**

Industrial clusters in China are mainly distributed in the southeast coastal areas, especially concentrated in Jiangsu, Zhejiang, Shandong and Guangdong provinces. As a large part of industrial clusters are manufacturing, the statistics of the distribution of manufacturing industrial clusters in China shows that the percentage of industrial clusters quantity of national total in eastern, central and western region (Note: the eastern region including 11 provinces / Municipalities like Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan; the central region including 8 provinces like Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei and Hunan; the western region including 12 provinces (Municipalities, Autonomous Regions) like Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Shanxi, Gansu, Ningxia, Qinghai, Xinjiang and Tibet.) is respectively about 79/12/9 and that the eastern region has a much higher proportion than the other two, in which Jiangsu, Zhejiang, Shandong and Guangdong provinces accounte for about 54.5 percent of total national manufacturing industrial clusters.

2. **Industrial clusters of high marketing environment dependence in eastern region while resource dependence in the Midwest**

Enterprises in clusters in the eastern region operate both in little technology content such as agriculture and foodstuff processing, food manufacturing, furniture manufacturing industries, and in various equipment manufacture, electrical machinery and equipment manufacturing, computer and various electronic instrument manufacture and so on which have high technology content. The industrial clusters in Midwest are mainly in primary processing of natural resources, such as agriculture and foodstuff processing, tobacco, metal and non-metallic mineral products, and other
resources dependent industry. The eastern region industrial cluster is most characterized by a relatively better innovation ability and high export rate which doubled or tripled that in central and western areas, even more higher especially in Guangdong, Zhejiang, Jiangsu and other some provinces. This explains the strong dependence of marketing environment in eastern region industrial cluster, and a major part of industrial clusters with futures of export oriented and relative high innovative ability.

3. Dominant industry of industrial cluster specializing in manufacture, positioning still in the low-end in the global value chain

Industrial clusters in China are widely distributed in the primary, secondary and tertiary sectors, such as Shouguang (Shandong) vegetables industry cluster and Yunnan Puer tea industry cluster in primary industry; finance, logistics, culture and creative industry clusters in Beijing, Shanghai, Shenzhen and other cities in tertiary industry and the secondary sector grown over by a large number of industrial clusters the majority of which are manufacturing enterprises, characterized by traditional labor-intensive industries and low-level consumer goods, such as textile, clothing, footwear, signage, toys, furniture, electromechanical, stainless ware, etc.. As a whole, they are in the low-end of global value chain.

4. The industry cluster dominated by SMEs, while a few large enterprises leading its development

Over 30 years' development, China are witnessing the upgrading and transformation of industrial clusters, in whose process the enterprise scale within a cluster goes on expanding with increasingly higher competitiveness, and the large enterprises will thus play an increasingly important role. After all, enterprises in industrial clusters are still subject to SMEs in current phase, and only a few large enterprises are steering the development of industrial cluster. On one hand, from the historical perspective of
development, the state-owned industrial economy was mainly concentrated in the Midwest and big cities due to the planned economy, while industrial cluster is originated in the east region, especially in small and medium-sized cities and rural areas of eastern coastal region, with characteristics of limited capital, small scale, and low entering barrier. All the above-mentioned explained the outstanding feature of industrial cluster with SMEs as main body. On the other hand, the industrial nature accounts for this characteristic. Since industrial clusters in China are mainly concentrated in textile, clothing, shoes, toys, furniture, household appliances industry, these industries are usually characterized by low entry barrier, not significant scale effect, and the small scale of enterprises and the flexible operation are considered as a big advantage in a complicated market. Therefore, SMEs as the main body is the common feature of various industrial clusters in China.

5. Intrinsically logical relationship between the foundation of industrial cluster and economic reform policies

The rising and development of industrial clusters mainly benefits from three factors: traditional handicrafts, institutional facilities of marketization and increasingly expanding national and international market demand, in which the latter two are closely related with China’s economic liberalization, thus we can say that the development of industry cluster in China has an intrinsically logical relationship with economic reform policies, and that the market force led the development of industrial cluster.

Price reform and opening-up is the key part of the Chinese economic liberalization. Price reform began from the finished products and consumer products, and was gradually extended to the upstream industry. This strongly implicates that the downstream industry could sell the products at market price, while during some period of time purchasing materials from suppliers at planned price which is much underestimated. In China's traditional industry layout, the Midwest and northeast area
had primarily heavy industry. Due to the strong demand of national market and, traditional industries such as clothing, textile, footwear, electromechanical, small handicrafts in province of Jiangsu and Zhejiang had developed with the establishment of market economic system, and thus obtained competitive advantage in economic transformation. This is the foundation for the rise of industrial clusters in eastern area.

The export increased speedily with the carrying out of opening up, meanwhile the global economic integration brought to China a great deal of FDI. Under the stimulus of the domestic and foreign demand as well as FDI, and the improvement of market economic system, industrial clusters in the eastern China have a significant improvement in terms of quantity, quality and type. As a result, many clusters are gradually becoming mature enough to survive in the fierce competition, and the industrial clusters have entered the transformation and upgrading stage, developing subsequently in central and western areas rapidly.

Then we would like to ask in the industrial clusters' forming process, what factors play decisive role? Is the resource predominance, or social culture, or the promotion of government? Different industrial clusters have different determining factors, but the market power dominant clusters is an important characteristic of industrial clusters' successful development in China.

6. An important role of the government in promoting the development of industrial cluster

Industrial clustering initially happened mostly in areas which have advantage of resource, labor, cultural and other conditions, spontaneously. However, as the local government deepened the understanding of the development and function of industrial clusters, they formulated facilities and put forward a series of policies for promoting industrial cluster. Thus, more and more regions developed industrial clusters.
The local government played two main different roles in promoting the development of local industry cluster. On one hand, they put forward a series of policies for leading and encouraging industrial cluster's development; on the other hand, they suggest the industrial cluster as the leading form of development of industrial park. At present in China there are more than ten thousand of industrial parks, whose construction has a significant correlation with industrial cluster, and mostly followed "park clusterization" development path, which means through the spontaneous and independent choice of leading industries for industrial park, clustering become a prominent phenomenon in every park.

2.5. Industrial clusters in Zhejiang

On the southern wing of the Yantze River Delta, Zhejiang province has the geographical advantage. Its northeast is adjacent to Shanghai, the largest city of China. The province's total coastline stretches 6,486 kilometers, ranking the first in China. She is the fifth largest province in industrial production after Guangdong, Jiangshu, Shandong and Shanghai. At the provincial level, Zhejiang has become the most distinctive example of the practice of private economic activity in China. Zhejiang has the most of the 500 largest private firms in China, while SMEs are still the basic component of industrial clusters. The province Statistics also show that nearly 64 percent of private firms in the province are registered in manufacturing. These non state-owned firms contributed 1254.69 billion RMB in production value, which accounted for 90 percent of the province’s total GDP by the end of 2006 (Zhejiang Statistical Yearbook, 2007).

Zhejiang has developed regional economy and bears the traits of regional industrial clusters, in which there are about 461 industrial clusters each having a gross industrial output value of over 500 million RMB, covering 175 sectors and more than 240,000 enterprises, which contributed over half of the provincial total output value. More than three hundreds of industrial clusters generate annual sales volume ranging from 1
billion to 20 billion RMB while 22 industrial clusters with turnover of more than 20 billion RMB (about 3 billion US dollars). In these clusters, the majority of enterprises are privately owned and operated, and each of them specializes in its own area or product category. Among the main sectors, the products of 78 categories enjoy a domestic market share of over 30 percent, and the products of 14 sectors have a world market share of over 10 percent. For instance, in Shengzhou, more than 1200 neckties manufacturers have occupied a domestic market share of 90 percent and a world market share of over 50 percent by now.

2.5.1. Historical factors and development of industrial clusters in Zhejiang – a traditional cluster model?

Zhejiang is one of the smallest provinces in China in respect of territory, occupying 1.06 percent of China's land area. (It covers 101,800 square kilometers, of which the mountainous and hilly regions amount to 70.4 percent, the plains and basins make up 23.2 percent, and the rest 6.4 percent is rivers and lakes.) By the end of 2009, it had around 51,800,000 permanent residents, accounting for 3.75 percent of the population of China. With few natural resources, Zhejiang has been more or less neglected by the central government. Before the Economic Reforms in 1978, taking the agriculture as the main industry, the industrial foundation of state-owned economy which occupied the dominant position under planned economy system, remained weak at that time and the provincial gross industrial output amounted to roughly 61 percent of gross provincial output, which was approximately 16 percent lower than the national average. Taking the two most important periods of state-led investment for example, during the first Five Year Plan in 1955, the state investment in Zhejiang made up only 0.84 percent of the total national state-led investment, far lower than the average national level; From the point of view of the state owed fixed assets reserve between 1953 and 1978, every regional habitant had received an average of only 114 RMB of the state investment — just over half of the national average, being the last among the all provinces and municipalities. Even between 1982 and 1989, post-reform state investment in Zhejiang amounted to 2.5 percent of the total investment all over
the country. Especially compared with the Special Economic Zones in PRD area in
Guangdong, Zhejiang province has never enjoyed any special nor preferential policies
since the reform and opening-up policy was introduced. All these factors may explain
the weak industrial base and the slow industrialization process in Zhejiang.[15]

However, over the last 30 years, the provincial economy has been developing at
tremendous speed. The province has risen from 12th to 4th place in China in terms of
Gross Domestic Product. [15] Zhejiang has the highest available income per capita
among the all provinces in China, just following the three Municipalities –
Beijing, Shanghai and Tianjing. According to census statistics released by Zhejiang
Academy of Social Science, the urban and rural per capita annual disposal income
has reached till 24,611 RMB and 10,007 RMB by the end of 2009, while the national
average of urban is merely 17,075 RMB and the rural average of Zhejiang has been
always the highest among the all provinces and Municipalities in the last 25 years.[16]

This development is mainly due to the rapid industrialization that this traditional
agricultural region has experienced. As the first province in China to see development
of family workshops in the 1980's, Zhejiang has become an industrial region based
essentially on the large number of small, family companies. By the end of year 2007,
Zhejiang had the highest proportion of private companies in China – 97.9 percent, of
which up to 99.6 percent are made up by SMEs (To be SME in industry, there is a set
of requirements in terms of economic indicators: the number of employees inferior to
2,000; or annual sales volume not exceeding 300 million RMB; or total assets below
400 million RMB. [17]) – 1.13 million companies. The number of SMEs with turnover
inferior to 5 million RMB was estimated at around 770 thousand. More than 10
million people are employed in these small-scale companies, making up 82.7 percent
of the regional industrial labour force.

These SMEs are clustered geographically and specialize in a particular manufacturing
sector, it's generally the very sector in which the companies has advantages: one
product per village and one sector per region (一镇一品，一乡一业). How have these clusters developed?

- 1949 – 1978: exploring and hovering stage – from the planned economy to the market economy

During the recovery period of national economy (1949-1955), the state had basically completed the socialist transformation (all forms of capitalist enterprises would ultimately be socialist – public by the whole people or collective by the all employees.). In all economic fields, While in Zhejiang, the industrial and commercial enterprises amounted to 272,519 by the end of 1951, of which private enterprises 26,729 and cooperative enterprises 4,187. In the stable social environment and the favorable economic atmosphere, the non state-owed economy including individual industrial and commercial business, i.d. the private enterprises had not only recovered itself but also played an important role in the national economy. After several years of socialist transformation, the non state-owed economy developed in various forms, such as individual private enterprise, private enterprise, joint public-private enterprise, co-operative enterprise, etc [18].

Since its inception in 1949, P. R. C. has carried out 11 Five-Year Plans, and the Chinese economy has been under the direct control of the state since the 1st Five Year Plan in 1956, when in this province, the state-owned enterprise accounted for 3.5 percent, the private 12 percent and joint public-private or co-operative up to 84.5 percent of total provincial enterprises. Thereafter the province increased the state-owned and collective enterprises, while reducing the number of private enterprises or private quota in the mix-ownership enterprises so much as zero, following "the Great Leap Forward "Movement (1958-1960), National Economic Readjustment (1961-1965) and "The Great Proletarian Cultural Revolution " (1966-1976). At the same time, traditional economic activities such as handcrafts and small business that were indispensable to farmers' survival were outlawed, while it was encouraged to build
factories for supporting production of agriculture such as agricultural machinery, fertilizers, cement, etc.. [18] Whatever, the sense of commercial business has early become deeply rooted in the minds of the people of Zhejiang. Even during the ten years of the Cultural Revolution, when economic action was almost closed down in most areas of China and the private sectors were strictly forbidden in the whole country, Zhejiang’s crafters still travelled around the country to do business, like peddling small goods or repairing shoes and so on.

Since 1956, the farmland in the range of the whole country was property of the state and all farmers were organized into cooperative and then production team within the structure of the People's Commune (were formerly the highest of three administrative levels in rural areas during the period of 1958 to 1982-85 until they were replaced by townships. People's Communes, the largest collective units which had governmental, political, and economic functions, were divided in turn into production brigades and production teams. [19]), where they conducted the agricultural production activities. Being payed as a worker in the cooperative and exercising somewhat sideline in their spare time, the farmers had still been suffering from poverty. At the same time, the agricultural mechanism had been improved and the population had increased by one half between 1955 and 1975. These rural factories were therefore created by local collectives firstly in the provinces with craft tradition, such as Jiangsu, Guangdong and Zhejiang in pursuit of increase of farmers' income and shift of surplus rural labour. This type of semi-public within the framework of the planned economy, achieved political recognition from the central government in 1975.

In this regard, most of rural factories were actually private-collective mix, in some cases, were purely individual private – "fictitious collective". Tracing the source, a large part of current SMEs originate from rural collective enterprise/Township and Village Enterprises (TVEs) whose origin was very traditional handicrafts and the rural factories before Economic Reforms.
1978 – early 90s: Re-emerging and development stage – from Sunan model to Wenzhou model

Economic Reforms in 1978 began initially in agriculture, by putting the "Household Responsibility System" (first adopted in agriculture and later extended to other sectors of the economy, by which local managers are held responsible for the profits and losses of the enterprise. This system partially supplanted the egalitarian distribution method whereby the state assumed all profits and losses.) [19] in place in the countryside, which gave rural families control over the land by dividing the land of the People's Communes into private plots. Farmers were able to keep the land's output after paying a share to the state and to adapt to other forms of activity such as handcraft and small trade. This move increased agricultural production, raised living standards of hundreds of millions of farmers and stimulated the development of rural industry. In order to solve the problem of surplus rural labour, the government authorized farmers to diversify into other forms of economic activities.

The Chinese countryside was therefore gradually returning to its traditional economic system. This was the basis of the development of specialist agricultural centers and, later, TVEs which derive from rural factories founded by local communes. As created firstly in the South Jiangsu (a zone bordering on Northeast Zhejiang), the collective economy – South Jiangsu Model spread then to North Zhejiang (Hangzou-Jiaxing-Huzhou region and Ningbo-Shaoxing region) and to other regions of China, experiencing significant success in the decade following the Economic Reforms. The provincial industrial production value of collective enterprises in 1978 was merely 1.7 billion RMB, making up 36.2 percent of industrial total while in 1990 it reached up to 22.3 billion RMB occupying 61.3 percent of total industrial production value. By the year of 1984, both the number and total industrial output of TVEs in China had quadrupled in just five years, with an employment of a doubled number which had significantly mitigated surplus labour in rural area.
Due to the seller's market characterized by a shortage of goods available for sale until 1992, it had been the producers’ top concern that how to produce enough goods rather than attract more customers. Furthermore, North Zhejiang has the same geographical advantage as South Jiangsu – has the convenient road network and the location adjacent to Shanghai whereby this area can benefit from economic radiation effects of big city and the following technological spill-over, the local TVEs were thus developing rapidly with the strong support from local government. With the speeded industrialization in Zhejiang, major part of light industry layout structure began to take shape.

At the same time, with the supporting policies initially developed individual private economy firstly in order to make a living and then become rich. In 1985, the state monopoly purchasing price of foodstuff was outlawed and taken place by Purchase by contract, resulting the fall of purchasing price. Therefor, an increasing number of farmers were seeking for additional income leaving behind the traditional agriculture. However, under the specific political and social background, emerged private enterprises which were essentially private but disguised themselves as TVEs. As a result, the collective economy made up 53.1 percent in 1990 while individual economy accounted for only 15.7 percent.

Following the rapidly development of TVEs, private enterprises (private enterprises are defined as independent trade and business employing more than 8 people.) [21] were growing up. Different from the small and public South Jiangsu model and the Pear River model developed by FDI, private enterprises in Zhejiang are known mainly by those in Wenzhou-Taizhou region – called Wenzhou model by Chinese scholars.

Wenzhou-Taizhou region is located in Southeast Zhejiang where is mountainous and is very hard to get to. This region was densely populated but endowed with little arable land. Far before the foundation of P.R.C, it had been politically, economically and culturally staying at the edge of Chinese mainstream for its long time semi-closed sea-
front area and thus with more free and active social atmosphere than other regions. Although the infrastructure was improved in following time, few state-owned enterprises were set up in this region because it's close to Taiwan and the financially weak local government could not afford to establish TVEs. Historically, poor farmers in this area traditionally peddled miscellaneous low-quality, hand-made goods, such as leather goods, apparel and footwear to major cities. In the mid 1970s, the small business and industrial tradition re-emerged and poor farmers initially began to produce poor-quality consumer goods, just like apparel and footwear items, and sold them in major cities throughout China. These peddlers played the role of distributors and retailers even marketing personal at the point of view of modern business. In this way, rural people in this region had gradually bought various operating non-agricultural equipments and established a market network which providing a significant advantage for enterprises's later development. In China's transition stage to market economic system, the de facto family workshops were expanding their production by purchasing used machinery from state-owned enterprises with the self-accumulated capital and employing the experienced engeneers and tecnicians from TVEs. With manual and semi-mechanical production, the family workshop was developing slowly into modern industrial enterprise. While People's Commune replaced by township and its attached rural factories changed name into TVEs (the central government issued in 1984 the NO. 4 document with regard of this.) in the mid 1980s, the private economy was hotly contested issue. Nevertheless, as loval governments in Zhejiang always looked the other way rather than clampdown on the fictitious TVEs, the private family factories succeeded thus to avoid the political risk in that time. (for instance, 8 enterpreneurs in Wenzhou were sued over operating private enterprises in 1982. )

In the late 1980s, with the carrying on of the economic marketization, the toleration of both the state and the local government encouraged the manufacture industries concentrating. By producing daily necessary products supplied to local people, the manufacturers quickly made money and accumulated enough capital to realize self-finance and thus expand their production scale. At the same time, those family workshop felt difficulty to survive because of their products of poor quality and
financial, technical and distribution constraints. For this reason, they learned to enhance cooperation between them and began to establish more tighter relationship for dealing with increasingly fierce competition. Subcontract was taken as a most common measure from then on.

Meanwhile, the first sharing co-operative company of China was set up in Wenzhou. (adopted widely in the following reform of TVEs and SOEs – state-owed enterprises) Local government viewed this "mix" type as TVE in order to qualify itself to be politically rational. But in fact, the enterprise was owed and operated by private, in general, jointly by the members of a family. And the former peddlers had established a nationwide distribution network and opened shops and stalls in local market to realize more efficient communication between market and production. For instance, YIWU China Commodity City established formally in 1982, as the largest market in China's clusters, more precisely as a huge commodity wholesale market. Currently, gathers over 400,000 commodities in 1901 categories from 43 industries and distributes them not only in China's domestic market but also in 212 countries and regions in the world market. It is even said that this market has become the production and distribution center of daily necessities in the world. At the same time, this market tends to be a main distribution channel for various industrial clusters.

Since the failure of the dual-price system reform in 1988 hindered the economic development in China, it experienced the stagflation for the first time in 1989 – 1991. The rival between SOEs and private enterprises and among themselves became strongly fierce because of the transformation from seller's market to buyer's market and of the competition from the foreign enterprises. (initially, invested in China the Enterprises with Funds form Hong Kong, Macao and Taiwan.) Most TVEs and private enterprises struggled with profit dropping and downsizing in response to a poor economy.

◆ Early 90s – late 90s: Rapid development and clustering stage –
From SME to industrial clusters

In 1992, following the remarks made by Deng Xiaoping on deepening reform during his inspection tour of South China, the constitution was amended to give a legal position to private economy, which encouraged the farmers and handicraftsmen to devote themselves to business. Meanwhile, in Zhejiang there had been already undercurrents of SMEs acting "alliance" countermeasure and collaborating with specialized market, forming specialized industrial districts. The role of the market had been early recognized by Zhejiang people, through the specialized markets developed by rural SMEs in the late 1980s. As a result, increasingly active and effective as well as various specialized markets in the province developed in the early 1990s, for instance, Yi Wu Commodity Market, Shao Xing Light Textile Market.

Private enterprises in Zhejiang mainly operated in form of family company began to concentrating geographically in small towns and in manufacturing industry in which they specialized in specific one or more sectors within an industry. The appearance of industrial cluster was called "agglomerate economy" by government and academia, where new enterprises were quickly set up and new products were rapidly imitated by the followers. The development of lighter industrial cluster in Wenzhou has witnessed this phenomenon. Oversea Chinese entrepreneurs introduced in the early 1990s the lighter technology from foreign country and led the emergent industry with no high technical barrier to rapid growth in Wenzhou, which had attracted over 3,5 thousand new enterprises established in peak year of 1993.

When TVEs could not handle with and adapt to environmental changes at home and abroad, and then gradually declined, following the TVEs reform decree issued in 1993 by the central government, TVEs in Zhejiang were firstly reformed according to modern enterprise system, and were sold by agreement, auction and other forms or transferred by management buyout. Usually, MBO was the way into the private sector and the original owner or manager became a private business owner. The “collective”
word of township collective enterprises was removed (some kind of privatization), which means the deprivation of government background. From then on, the private sector became the main body of township enterprises. The company usually took the form of shareholding co-operative arrangement and limited liability company. At the same time, those family enterprises have gradually become partnership, limited liability companies and corporate groups.

The modern enterprise system provided to private enterprises a legal means of cooperation and combination among them. From 1990s, the market leading companies began to absorb their small subcontractors while the profitable companies took over the ailing small enterprises. For instance, in the first 1990s, some electrical manufacturers in Yueqing could not survive because they were not granted a license. They had to gather in the brand named “Chint” group which had attracted 40 members during four years with net assets increased from 4 million to 50 million RMB. In 2005, it was the largest manufacturer in low-voltage, high-voltage electrical appliances and one of the largest professional manufacturers of industrial electrics. Chint group featured by a complex network formed one of the leading clusters in Wenzhou.

Of course, this was a typical example of the development of industrial clusters in Zhejiang. The trend of these clusters with more and more power in other manufacturing industries could been seen everywhere. After witnessing the vitality and strength of private economy for resources allocation, this industrial development pattern was widely adopted by eastern and northern Zhejiang which not only directly contributing the development of private enterprises but promoting the development of industrial clusters in this region.

◆ Beginning of the 21st century – Present: Upgrading and Transformation stage – from Made in China to Created in China

During the southern tour of 1992, Deng Xiaoping gave more confidence to foreign
investment for economic reform and the process of marketization. Since China became the newest member of the World Trade Organization (WTO), and the increasing number of foreign investors pouring into regions where related industries have been vertically integrated and clustered, large scale private enterprises in Zhejiang rapidly increased. In 2004, the private enterprises with 100 million of annual sales revenue among industrial enterprises in Zhejiang reached more than 1,500 of which there were over 10 billion of which over 50. Drastic changes of original collaborative model based on industrial division of labor, relationship between enterprises and specialized market, industrial distribution and industrial clustering effect have taken place. With the development of clusters in Zhejiang, large enterprises have emerged. SMEs industrial clusters in Zhejiang started variation from Marshallian to hub–and–spoke where large enterprises led to integration. Industries transferred and concentrated in industrial parks and central city, resulting the decline of the specialized markets. As a whole, this evolution of industrial organization enhanced the efficiency of enterprises, increased the competitiveness of large enterprises and promoted industrial core competence. However, on the other hand, there were some negative feedbacks as follow. Industrial cluster and enterprises agglomeration effect were reduced, restraining improvement of industry competitiveness. With the development of enterprises, the former pattern of industrial division was broken. Internal transactions of large enterprises gradually replaced the specialized markets. The horizontal division labour of SMEs was substituted by the model of center–satellite enterprises cluster with disintegration of old industrial structure. Some large enterprises with a strong power to control market and the dependence of SMEs to large enterprises strengthened inhibited a fair competition within the market.

As the global outsourcing searching for cheap land and labor, associated with the entrepreneurship of farmers and artisan-entrepreneurs, the majority of China’s
industrial clusters appeared in rural areas and small towns. It was most obvious that among one hundred textile and garment clusters, many of those were famous at home and abroad still using the name of town. These specialized industrial zones on the basis of low-cost development became the main body of industrial clusters in China, also known as "traditional industrial clusters", which play a dominant role for generating local advantage in the regions of PRD, YRD, Bohai Bay-rim and so on. Among them, a number of companies with self-owned brand innovation have emerged. At the same time, with the development of industry chain within Zhejiang industrial clusters as well as the improvement of manufacturing technology in private enterprises, many leading companies started to cooperate with the small companies in the industry to build a cluster brand, enhance R&D and marketing, gradually get rid of the low-margin manufacturing stage and then climb both ends of the "smiling curve" (Seeing Figure 6: Smiling curve of industrial value chain) relying on a complete industry chain of the cluster.

**Figure 6:**

[Diagram of industrial value chain and smiling curve]

Given much benefit from the increasingly large domestic market
t and higher brand cognitive degree, in many industrial clusters in Zhejiang have emerged a lot of famous brands approved by domestic and overseas consumers. For example, the “Meters Bonwe”, as a famous brand of casual wear, successfully used virtual management and a full set of in-house researched information system. In 1995, this enterprise was founded in Wenzhou. The founder of this enterprise is now the largest shareholder and the top decision-makers of this company. His venture capital was derived from the business of clothing workshops accumulating millions before 1992. By outsourcing two parts of business to other companies, such as production and distribution, the enterprise directly focused on brand running and data management. Eight years later, Meters Bonwe incorporated more than 200 OEM upstream manufacturers and more than 1,000 agents and franchised stores. The sales of a single brand already exceeded 4 billion in 2006, 5 billion in 2008 and listing at the end of that year. Many companies with the similar experience of Meters Bonwe appeared commonly in the textile industry. This was a result of the resource re-allocation and integration after globalization and informatization in a wide range, but also of an organizational innovation spontaneously occurred inside enterprise, at least for the leading enterprise as Meter Bonwe.

Brand building was promoting private enterprises in Zhejiang Province to achieve a new leap. Private enterprises in the province were no longer satisfied with the role of processing plant, they focused on building their own brands, gradually from OEM/ODM to OBM. They paid attention to brand research and development, creating a virtuous cycle of cluster brand with a wide cooperation within the district rather than the former simple processing. In 2006, Zhejiang has accumulated a registered trademark of 270,000, nearly ten thousand pieces of accumulated foreign trademark, being the province of the most international registered trademarks in China. Private enterprises obtained 125 well-known trademarks, 1,295 authorized famous trademarks, 36 specialization brand bases and 523 well-known business houses. The advantage of clusters brand has been worked.
The cooperation between specialized market and industry clusters, as well as rapid development of logistics and information, provided not only clusters' dominant advantages but also supply chain advantage for China’s manufacturing industrial cluster. The requirement of any product, such as raw materials, component parts and the packaging, could enjoy the convenience of "one-stop shopping" and the supply chain could make a rapid response and adjustment to different preferences of customers. This was why a growing number of foreign buyers willing to place orders in China, while which in turn provided a competitive advantage for industrial clusters.

2.5.2. Overview over industrial clusters in Zhejiang

Considering the historical, geographical, social determinant factors associated with various economic development patterns in regions of Zhejiang, it could be divided in three zones: Hangzhou Bay-rim region (Hangzhou – Jiaxing - Huzhou – Ningbo - Shaoxing); Southeast costal region (Wenzhou-Taizhou) and Central-Western inland region (Jinhua-Lishui-Quzhou). We could see the distribution of industrial clusters in every region in the table below:

Figure 7: Map of the Zhejiang Industrial Clusters Zones

Zone 1:
<table>
<thead>
<tr>
<th>Administrative areas</th>
<th>Industrial Clusters</th>
<th>Cluster type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hangzhou</strong></td>
<td>Machines and equipment, electronic communications, household appliances, medical, high-tech</td>
<td><strong>Hangzhou</strong>: automobiles; <strong>Yaqian</strong>, town of Xiaoshan: chemical fibre; <strong>Nanyang</strong>: umbrellas; <strong>Xintang</strong>: bird feather products; <strong>Xiaoshan</strong>: textiles, automobile parts.</td>
</tr>
<tr>
<td><strong>Ningbo</strong></td>
<td>Clothing, mechanics, petrochemical industry, etc.</td>
<td><strong>Yuyao</strong>: industrial moulds, toys, plastics; <strong>Hengjie</strong>: watches; <strong>Jiangshan</strong>: gas appliances; <strong>Xianxiang</strong>: safe-deposit boxes.</td>
</tr>
<tr>
<td><strong>Shaoxing</strong></td>
<td>Textiles, dyes, medicines, chemicals</td>
<td><strong>Shaoxing</strong>: textiles; <strong>Zhuji</strong>: shirts, shoes; <strong>Diankou</strong>: hardware; <strong>Shangyu</strong>: protective clothing;</td>
</tr>
<tr>
<td>Location</td>
<td>Specialties</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Yuecheng</td>
<td>furniture</td>
<td></td>
</tr>
<tr>
<td>Chengzhou</td>
<td>ties</td>
<td></td>
</tr>
<tr>
<td>Fengqiao</td>
<td>shirts</td>
<td></td>
</tr>
<tr>
<td>Shanxiahu</td>
<td>cultured pearls</td>
<td></td>
</tr>
<tr>
<td>Datang</td>
<td>hosiery.</td>
<td></td>
</tr>
<tr>
<td>Jiaxing</td>
<td>Textiles, leather and mechanical equipment</td>
<td></td>
</tr>
<tr>
<td>Haining</td>
<td>leather.</td>
<td></td>
</tr>
<tr>
<td>Pinghu</td>
<td>clothing, bags</td>
<td></td>
</tr>
<tr>
<td>Xiuzhouqu</td>
<td>silk, synthetic fabrics</td>
<td></td>
</tr>
<tr>
<td>Haiyan</td>
<td>machine parts, toys</td>
<td></td>
</tr>
<tr>
<td>Tongxiang</td>
<td>wool sweaters</td>
<td></td>
</tr>
<tr>
<td>Jiashan</td>
<td>wood.</td>
<td></td>
</tr>
<tr>
<td>Huzhou</td>
<td>Textiles, children's clothing, construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>materials</td>
<td></td>
</tr>
<tr>
<td>Zhili</td>
<td>children's clothing</td>
<td></td>
</tr>
<tr>
<td>Chengau</td>
<td>textiles</td>
<td></td>
</tr>
<tr>
<td>Nanxun</td>
<td>construction materials</td>
<td></td>
</tr>
<tr>
<td>Anji</td>
<td>bamboo products</td>
<td></td>
</tr>
</tbody>
</table>
The first zone is located in the north of Zhejiang and comprises five administrative areas. Due to the best agricultural and industrial structure in this province, most large-scale enterprises gather in this plain. The clusters in the developed zone are significantly dynamic. The high-tech clusters are also located alongside the Shanghai-Hangzhou-Ningbo highway, making up 60 percent of the provincial high-tech industrial added value. This zone also contains towns of specialized SMEs, whose output value occupies the highest post among the Zhejiang clusters.

Zone 2: Southeast coastal region

<table>
<thead>
<tr>
<th>Administrative areas</th>
<th>Industrial sectors</th>
<th>Cluster types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wenzhou</td>
<td>Mechanics, plastics, printing, electrical appliances, leather, shoes, textiles</td>
<td>Xiaojiang: plastics; Cangnan: signage manufacture, printing; Tangxia: automobile and motorcycle parts; Leqing: low-high-voltage electrical appliances; Hongqiao: electronics;</td>
</tr>
</tbody>
</table>
The second zone covers Wenzhou and Taizhou. This coastal region has narrow and small land area, therefore it has been the most populated and city-town concentrated in Zhejiang. Since these factors contributed primely into the development of industrial clusters which witnessed their success, Wenzhou represents an feasible economy – transition model upon which the development of Zhejiang is based. Wenzhou is seen as a benchmark for the importance and dynamism of family SMEs. However, the levels of development in different districts of this region show disparate.

Zone 3: Central-Western inland region
<table>
<thead>
<tr>
<th>Location</th>
<th>Industry</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jinhua</td>
<td>Mechanics, hardware, agricultural product processing, textiles, clothing</td>
<td>Jinhua: measuring instruments; Dongyang: magnetic materials, suits; Yiwu: clothes, textiles, decorations, shoes...; Yiwu commodities market; Pujiang: clothing; Yongkang: hardware.</td>
</tr>
<tr>
<td>Quzhou</td>
<td>Chemical fertilizers, cement, mechanical equipment</td>
<td>Wucun: shuttlecocks; Changshan: hydro-fluoro silica, heat treatment; Wucun, Miaoxia, village of Longyou: bamboo &amp; wood products; Huzhen, town of Longyou: specialty paper; Qianghu, town of Jiangshan: springs; Xiakou, town of Jiangshan: castings.</td>
</tr>
<tr>
<td>Lishui</td>
<td>Wood processing, craft products, agricultural product processing</td>
<td>Longquan: umbrellas; Qiantian: leather, shoes; Yunhe: toys.</td>
</tr>
</tbody>
</table>

The last zone consists of Jinhua, Quzhou and Lishui. The industrial clusters in this
region are very young and least developed of the province.

The Zhejiang clusters are mostly developing in rural areas and focus on manufacture of consumer products, as based on low production cost sectors.

2.5.3. Characteristics of industrial clusters in ZheJiang

Firstly, since enterprises clusters are defined as **regional production organization**, consisting of high specialized SMEs, supplier and buyer reduce spatial and production cost for their spatial proximity and sharing required infrastructure. At the same time, they save transaction costs through social network, material exchange, external spill-overs and information sharing. Furthermore, enterprises clustering is able to create new demand and supply, resulting in changes of demand function and production function. Besides the benefits from enterprises clustering, industrial clusters emphasizes a "quasi-community" organization, within which exists a long-time stable relationship based on high specialization or subcontracts. During the development of most of Zhejiang industrial clusters, emerged several enterprises producing single product at the early stage, subsequently, developed enterprises engaged in manufacturing various related product, supplying raw materials, warehousing and transportation following the expansion of cluster. For example, in the plastics industrial cluster of Taizhou, has formed a relatively integrated regional production network which comprises plastic products in Luqiao, plastic mould in Huangyan, electrical and electronic parts in Jiaojiang, recycled plastic processing, plastic machinery etc. These enterprises focus on their specialization, locate along the industrial chain.

Secondly, these clusters have to some extent developed into a **flexible production system** based on **network structure** which could be understood as a lasting relationship grown from the long-term cooperation between subjects such as enterprises, universities, research institutions and local governments in the delimited
region. This relationship could be formal as various types of contracts as well as informal forming through negotiation face-to-face, information exchange and the meeting of minds. Industrial cluster researchers point out that does not take place innovation neither in the marketplace nor in the hierarchy organization because on one hand, the required knowledge is often untradable or its cost is tremendously high; on the other hand, individual enterprise is not able to handle the entire process of innovation activities for it should cross the organization boundary. As industrial cluster is a kind of interim organization-institution lying between pure market organization and hierarchy organization, it becomes the hotbed of technical innovation through the co-competition between the enterprises in cluster. The development of hardware production in Yongkang is a representative example. As a hometown of handicrafts, Yongkang gathers a large number of enterprises which produce hardware materials, manufacture hardware tools or specialize in hardware mould. They supply immediately new products as long as demanded in market. In less than a decade, they expanded product range from vacuum cup, scooters to security door. Due to these continuously technical innovations, the level of products advanced and the developed enterprises in this region contributed into the specific regional competitive advantages.

Enterprises in clusters benefit from the local embeddedness as well as export-led industries. What advantages an enterprise has is more related to the local region and atmosphere than to the national environment. In the development of regional specialized economy, a large number of enterprises within a cluster can work together by organizational learning to co-evolve with the aim of enhancing competitiveness and adapting to the environmental change, meanwhile, has been formed a network based on developing environment in which the former are advantaged by adapting to fast-changing markets and technologies as a whole. Furthermore, this local environment enables the firms to establish behavior norms and collective standard which adapt local laws and administrative regulations. Due to the same atmosphere, people in various firms in general have the common wealth view and norm of conduct which could be considered as "quasi-community" features. As a result, clusters could be endowed with these characteristics such as regional congruency, collective
entrepreneurs, flexible specialization, co-competition, tech spill-overs and social integration. The enterprises run by Wenzhounese are representative example in this regard. With the same cultural background, the Wenzhounese has developed a group of Wenzhou businessmen based on mutual trust which reduces dramatically the cost of cooperation.

Finally, these clusters contain economic subjects with equal status. In economic activities of the regional production system, the behavior subjects are independent no matter what the scale is. Rather than the input-output chain between enterprises in the growth pole patterns, this production system is based on the cooperation, trust and relationship between them. Within the cluster, exist enterprises of diverse production scales, various technology levels or in the different producing process, at the same time, they are of more or less equal power which share competencies within the value chain in the cluster.

2.5.4. New trends on development of industrial clusters in Zhejiang

With the move-in to the industrial park of more and more enterprises, some large industrial clusters are gradually developing into manufacturing base. Zhejiang government drew up a strategy in terms of specialized industrial park planning which would lead the geographically dispersed enterprises into well structured industrial zone to facilitate the production collaborative process and the sharing of infrastructure. Meanwhile, it carried out measures to help enterprises expand market, such as establishing museum that exhibits the development of specialized products, exploiting the local cultural connotation, promoting the industrial cluster brand and improving the facilities of commodity trading market. For instance, by the end of year 2004, the number of industrial parks at county-level and higher in Zhejiang had reached to 820, in which 208 are those at provincial level, covering an area of 7,270 hectares. Industrial parks have spread to towns and villages for separation of the residential district and industrial district following the urbanization development in rural areas (by
nowadays, China's urbanization lag behind industrialization has become a hinderance of the development of Chinese economy). The development of industrial park has been the catalyst for forming China's manufacturing base, working together with industrial clusters, specialized markets and rural urbanization. For example, the motorcycle industrial cluster in Taizhou makes up 10 percent of total national production, being the one of top five China's motorcycle production base; besides the "hometown of China's shoes", Wenzhou has been consequently labeled as "Chinese razors' production base", "China's mould fine-processing base" and so on. In short, these fast developed and latent industrial clusters have became the candidates for nationwide advanced production base.

The leading enterprises in clusters develop speedily, fostering the clustering of SMEs, which are moving into both upstream and downstream sides. The mashallian clusters are developing into hub and spoke cluster. Manufacturing firms begin to focus on producing improved quality even high quality products. Traditional manufacturing firms operated such as OEM/ODM are by far the most present in clusters based on prevailing productive specialization, while some leading enterprises have successfully built their own brand by means of vertical integration through controlling the materials supply and marketing channels or, of virtual management through moving into superior functions of value chain, such as design, marketing, if possible, abandoning existing low-value added manufacturing function to focus on higher value added activities. As a result, has been established a regional producer service system in terms of some manufacturing clusters.[22] By applying favorable tax policies, Zhejiang government encourages the separation of service department from giant manufacturing firms to develop a producer service company. Moreover, with the introduction and application of internet and e-business, the traditional specialized commodities markets could be more adapted to modern high-efficiency logistics and the increasingly dynamic online trading and thus, offer better service to numerous SMEs. Producer services and cultural services have been rapidly developing, emerging increasingly companies operating in information service, modern logistics, cultural&creative service, e-business, etc.
Being integrated in global value chain, the clusters’ feature of export-oriented has been enhanced, but in mean time implying a stronger **dependency of global economy**. Enterprises now put much more attention on exploring domestic market, shifting gradually **from the export-oriented to import substitution**. The products exported are mainly made up of skill-labor intensive manufactured products as well as increasingly value-added consumer products of light industry and textile. By the end of 2004, the export volume of electromechanical products had exceeded that of textile and garment products, leaping to first place in various export commodities categories of Zhejiang. According to the statistics of Zhejiang customs, in 2007, the gross export of electromechanical products amounted to 55.59 billion US dollars, whose ratio increased to 43 percent of total export goods. The current global financial crisis triggered in 2007 has formed a "**reversed transmission of the pressure**" for China’s manufacturing industry, which is in a medium term of industrialization, forcing the industry to speed up transformation and **upgrading** (a process which has been defined by Wang Jici as **innovating** to increase value-added that may be involved generally in four aspects: product, process, functional and inter-sectorial.) [23], and focus more on independence. With the trend of international industrial transfer, China is experiencing the same changes at home, especially in east costal areas such as Zhejiang. In some cases, the transfer involves the entire industrial chain or even the cluster.

### 3. The ZheJiang, Chinese case-the cluster of DATANG

3.1. The cluster of Datang

Datang is located in the central and western part of the Zhuji area, which is one of counties in Shaoxing city. Compared with large cities in Zhejiang like Hangzhong, the Zhuji area is at a distinct disadvantage in terms of natural endowments, transportation facilities, and policy support from central government. [24] However, with Datang as its district centre, about **12 towns** have successfully formed an industrial cluster
specializing in hosiery, and has become one of the most significant clusters in Zhejiang. (Figure 8: Map of Datang hosiery cluster)

More than **200 thousand employees** work in this cluster which is formed by hosiery manufacturing industry and related supporting industries: materials, machinery, market, service, etc. In recent years, Datang cluster has rapidly developed to form a **production system** of specialized social division of labour and cooperation, following a multidimensional pattern that encompasses hosiery manufacturing, textile materials,
hosiery machinery, dyeing printing and finishing processing, logistics, finance and the other producer services. Moreover, it's extremely distinctive that the division of labour is developed vertically as well as horizontally due to the most sound and perfectly integrated industrial chain. In Datang cluster, there are at present more than ten thousand specialized hosiery manufacturing enterprises (included family workshop), of which 2 enterprises are leading companies with annual output of above 1 billion RMB, 12 enterprises generate annual sales volume of more than 100 million RMB and the rest thousands SMEs build up main body of hosiery cluster. They are in total equipped with about 100 thousand various hosiery machinery, of which technically advanced machinery such as computerized sock machines make up more than 70 percent. In 2002, the products of these cluster accounted for 40 percent of national output, and were exported to Japan, South Korea, Middle East, Russia and other more than 30 countries. As labeled as China's hometown of hosiery, Datang produced in 2009 over 8 billion pairs with annual output of 16,1 billion RMB, making up about 65 percent of national market and one third of the global market share.

3.2. Origins and development of the Datang industrial cluster

From 70s to present, Datang hosiery experienced emerging, growing, adjustment, and expansion stages.

3.2.1. Emerging stage: from early 70s to 1987

The both of Datang hosiery dated from early 70s. Some educated urban youth from Shanghai moved to Datang village, bringing hosiery manufacturing technology and market information. With their help, the first hosiery manufacturing enterprise (TVE) was established based on obsolescent knitting machines acquired from SOEs in Shanghai. It grew quickly and reached at a considerable scale in early 80s. After the adoption of "Household Responsibility System", the collective economy in Zhuji area rapidly collapsed and rural factories were firstly transferred into privates in form of
contract and sold out finally. From then on, hosiery production workshops prevailed in this district as a complementary income activities. Around 1984, the free trading in market had not been permitted by government as working still the dual-price system. However, the consumer commodities trading developed fairly rapidly. In Datang, and other places in this region such as Yiwu city, which is located nearby, had been formed spontaneous fair markets which stimulated the development of hosiery industry. The production of family workshops were introduced into national market mainly by the local traveling salesmen as well as specialized commercial travelers in Yiwu. In this period, were put into production initially hand-turned machines and later began to be operated electro-motion hosiery machines. The processing was so simple that included only knitting and dyeing, resulting the low-quality and poor product line. Since the entire processing could be mainly completed within household, the division of labour among workshops occurred rarely. But until the mid-1980s, the quality of manufactured products was not a major concern of Chinese consumers because most goods were in short supply. The products of Datang were very popular in market and the hosiery industry developed thus pretty quickly.

3.2.2. Growing stage: from 1988 to 1994

In 1988, Datang township was established by merging the villages nearby with Datang village, along the main roadsides of which had been agglomerated numerous stalls and shops supplying socks, materials and parts for hosiery machines. The local government permitted this free economic activities as a small fair market. The hosiery industry and marketplace had tremendously developed, in particular, the improved infrastructure laid a sound foundation for its further development. In 1991, was set up the largest knitting raw materials marketplace in East China area at that moment, at the same time, with the forming of "hosiery manufacturing street", some of family enterprises enjoying dynamic growth developed to be leading enterprises with considerable scale. In 1994, an enterprise introduced firstly the most advanced knitting hosiery equipment from Italy. This costly equipment was put in use the next year by some private enterprises, couples of years later, popularized rapidly in this district, so
that Datang was keeping ahead in the following years in terms of hosiery manufacturing machinery. From then on, hosiery manufacturing shifted from sideline production to main business in Datang.

3.2.3. Adjustment stage: from 1995 to 2000

The transformation from collective enterprises (TVEs) to private economy promoted the rapid development of family enterprises, and the local policy of “developing industry for a powerful town” issued in 1994 had strongly supported the growth of the industry in this region. Towns in this district adjusted sequentially their industry development strategies that turned to focus on developing hosiery industry. With the establishment of hosiery specialized market in 1996 and of logistics market in 1997, the **specialized market system** – raw materials, hosiery machinery, products and logistics had been initially set up. The increasingly expanded market and high-quality requirements stimulated on one hand the expansion of manufacturing scale, on the other hand, promoted the division of work more detailed and stretched the hosiery value chain (as advocated by Roundabout production). As a result, the process had been specialized as a regional production network into about ten intersecting activities: material making/or sales, machinery and components supply and repair, computerized pattern moulding, knitting, sewing, printing and dyeing, shaping, packaging, and sales.[24] While a large part of household workshops undertook the production in one or several processes mainly by means of auto-motion hosiery machinery, the productive skills and products quality were significantly improved. Later, few family enterprises expanded the production scale by adopting vertical integration strategy, however, they required in any way the collaboration of workshops such as supplier or subcontractors. The network of enterprises and workshops in Datang was forming an **embedded local production system**, in which it was specialized trading company or leading manufacturing enterprises who undertook the distribution or marketing activities of all products within the cluster. In later 90s, through the foreign trading companies non-local located, Datang cluster began to focus on **exportation**. In 1999, the first China hosiery fair was hold in Datang, and the position of "China's hosiery
hometown” was established from then on. Datang has been the host of successive ten fairs so far.

3.2.4. Expansion stage: from 2001 to the present

In 2001, Datang textile raw materials market, final products, manufacturing machinery and logistics markets developed and were transferred later to a predetermined area to form a integrated market system. This event meant that the development of hosiery industry in Datang had entered into an expansion stage. In the same year, the project of hosiery specialized industrial park was approved by provincial government and the investment was successfully settled in. With China becoming a member of WTO in 2001, a large amount of international capital flew into this district and foreign related enterprises were moved in simultaneously. In this globalization wave, Datang cluster shifted quickly to export-oriented development.

In addition, the success of successive hosiery fair had introduced Datang hosiery cluster into overseas markets with the products enjoying a pretty good fame among the international sourcing agents. As a result, most enterprises began to align their market positioning strategies with overseas marketing and acquired the import & export rights. Statistics show that by the end of 2001, the hosiery export volume amounted to 22 million US dollars, up to 34.92 million US dollars one year later, registering an increase of 58.7 percent, and that by the end of 2003, this number speeded to double by rising to 76.77 million US dollars. With the expansion of production scale in this cluster, the prosperous export developed the regional export-oriented economy on one hand, on the other hand, as the japanese, south-korean, american and european markets required increasingly high quality of products, the cluster enterprises speeded the technical improvement and equipment replacement to improve continuously the product quality. Moreover, as being involved into the independent export business and dealing with overseas buyers "face to face", enterprises understood and became more adapted to the global trade rules. This process had been a contributory factor to the
shift of enterprises management and business methods, which promoted them more quickly adapted to the "game rules" in the post-WTO era.

In the following years, the export-oriented economy in Datang experienced a remarkable development. In 2006, the hosiery cluster realized 11.83 billions US dollars of gross export, 30 percent of which were made in export business department within cluster enterprises. Foreign investment flew into Datang cluster at 40 million US dollars a year. Some famous hosiery machinery manufacturers such as Lonati(Italy), Minkong(South-korea), Chemtax (Hongkong), Da kong(Taiwan) and raw materials making enterprises including Dupont(United States), Bayer(Germany), Itochu(Japan) had opened their foreign plants or offices there. They contributed strongly into the improvement of local cluster's productivity. In 2007, Itochu and local material making enterprise invested in joint venture in producing mainly spandex products. By the end of 2008, the foreign enterprises grew to 40. At the same time, especially after the trade protection cases between China and America and European Union, enterprises in cluster speeded to build plants or open offices abroad for promoting more efficiently the global market.

With trade friction heating up, RMB appreciation and increasing labour cost, many enterprises re-adjusted the development strategy from focusing on exportation to exploring domestic market. They invested largely in marketing and creating brand and succeeded to build distribution network through collaboration with retail supermarket and opening chain-stores. After years of efforts, the cluster has been granted 11 Famous Trademark of China and 3 China Top Brand by AQSIQ(General Administration of Quality Supervision, Inspection and Quarantine of the People’s Republic of China), based on a pyramid of small-brand enterprises surrounding the leading-brand enterprises.

3.3. Contributive factors: local production system, local inter-firm linkages, non-local linkages, local government.
3.3.1. The local production system

The birth of the hosiery industry in Datang was spontaneous activities (compared to the involvement of local government in later period). Lacking high technology and well-known brands, local SMEs are specializing in hosiery manufacturing. A social division of labour thus emerged in the district for surviving in the fierce competition. As the proliferating of labour division, thousands of SMEs have emerged consequently, specializing in different sectors of hosiery production.[25]

This local network of production encompasses more than 1,000 material processing firms, about 400 material trade companies, over 10,000 hosiery manufacturers, 312 sewing shops, five printing and dyeing mills, 112 moulding factories, 305 packaging firms, 208 machinery works, 635 hosiery wholesalers and retailers, and 103 freight forwarding shops. Hosiery products in this district include a whole range of socks and stockings, those for ladies or men, adults or children, from army to sports, and silk to cotton. These are made in a process specialized into about ten intersecting activities: material making/or sales, machinery and components supply and repair, knitting, sewing, printing and dyeing, shaping, packaging, and sales. As a result, the local production structure is vertically disintegrated. Locating in the flexible network of specialized production, an enterprise can enjoy economies of scale and scope. In recent years, the production system has tended increasingly toward specialization. Most enterprises specialize in one or two stages of the industrial value chain, while only a few large firms are vertically integrated. [25] (Figure 9: Activity distribution in the processing units in DT)
The significant advantage of flexible specialization is **collective efficiency**. Specially, the hosiery market is influenced strictly by seasons and fashions, as a result, enterprises strongly demand subcontractors in order to respond to changing market needs. With collective efficiency, manufacturers in Datang can quickly adapt their production capabilities with the changeable markets. This kind of disaggregated production system also enables enterprises to produce small batches and different products according to the various orders. [24]

The proliferation of specialized enterprises has stimulated effectively the development of marketplaces within this district. Have been established four **fair markets** and wholesale-distribution centers within the Datang's cluster, specializing in hosiery materials, final products, machinery for hosiery making, and sock and stocking forwarders. The most recently established Datang hosiery Market Town is the largest market for hosiery in China. It works as a hub for hosiery-related commodities, technology, and information. More than 300 large and medium sized chemical fiber
companies have set up their distribution branches in the market.

The network of production in Datang’s cluster is basically characterized by **local embeddedness**. The efficient performance of production system in this district rely on every member-firm to invest in economic activities, believing that others’ engagement in the same game will shape and share a collective framework. Firms voluntarily obey the rules even though they do not like them or enterprises may not be conversant with each other. On one hand, enterprises want to be independent and stay away from those restrictions related to the network members, on the other hand, the network also provide them the combined benefits and advantages which are sometimes impossible to achieve if they are not involved in the “inner circle”. As a result, knowledge can be transferred between firms, and the division of labour more specialized and proliferated. In Datang, the dense interpersonal network has effectively facilitated knowledge exchange among different actors in the hosiery cluster. Local firms share the same information and knowledge, and their cooperation in return has reinforced the collective efficiency and synergy of the production network. [26]

3.3.2. Local inter-firm linkages

The embedded local production system in Datang are structured based on numerous SMEs around a few large size firms specializing in manufacturing or trade. Being leaders or flagship enterprises in the local network, these large enterprises take the responsibility of connecting the local cluster with the outside market. They generally have their own databases that contain information from upstream to downstream manufacturers. Compared with SMEs in the district, these larger companies have developed a more stable supplier system and a much wider market. Their own sales agency outside Datang enables them to monitor changes in consumer demand and to respond as quickly as possible. Their leadership position in the district also gives them stronger negotiating power to bargain and contract with firms outside the district. [24] For instance, Yiwu city, which is located near Datang, besides being the largest small
commodities trade market, is also a larger market for hosiery. A large proportion of Datang’s products are distributed to the outside world through this city, but she does not have local hosiery producers. According to Wang’s research in 2001, Yiwu is engaged in a very close relationship with Datang’s manufacturers. A number of firms trading in hosiery have established stable linkages with major firms in Datang. [24]

It was linkages among local competitors in Datang that are crucial in accommodating the total supply of the hosiery cluster, as its specific function is to coordinate sudden rise of demand. Since the Chinese society is widely considered to be bounded by informal interpersonal ties that exist in almost every aspect of social interaction (Boisot and Child, 1988). No exception for Datang, personal relationships get involved almost into all business activities. Facing some significant urgent orders for products, enterprises specially workshops will often seek help from nearby friends or neighbors. Thus, competitors will temporarily get in cooperation. Over time this relationship has stabilized and they often share contracts and benefits while at the same time competing with each other. More than half of enterprises in this district would like to engage in regular contracts with their competitors. [24] Getting technology and market information is another important purpose of cooperation. However, since the knowledge spill over will definitely harm short-time profits, these firms still tend to neglect the importance of cooperating with competitors.

3.3.3. Non-local linkages

Besides the local factors, external linkages play a very important role in Datang hosiery cluster. In its initial period, the linkage was mainly limited to the provincial level due to its poor infrastructure and poor reputation of products. However, through the development of a local production system, non-local linkages, even including international linkages, are growing quickly. Datang’s national distribution networks
cover the main provinces of southern China, like Shanghai, Jiangshu, Guangdong, Hong Kong etc., and the cluster enterprises have also set up direct connections with Japan, South Korea, countries in Africa, the Middle East, Europe, and North America [24]. These non-local linkages mostly connect the leading firms of Datang with companies outside the district. Operating through the specialized supply market, manufacturing enterprises trade materials or semi-products with each other, or assist each other with specialized processing capabilities for responding opportunely the changeable market. [24] For instance, leading firms in Datang often outsource dyeing and moulding to Pujiang city, and employ highly skilled labour, like professional designers and technicians, from Hangzhou or Shanghai which are the most popular and largest sources of machinery and components. Thus, machinery is mostly imported from outside of the district and, at the same time, the suppliers are mainly located in surrounding areas. Furthermore, it's still larger firms who are developing both domestic and foreign markets. With the booming of cluster's development, these non-local linkages have spread to the north and northwestern areas of China. A few knitting machinery companies invested by Datang have been established there in pursuit of cheaper production factors such as labor resources, land rent and so on. [25]

The Datang cluster is also encouraging technicians and professionals from outside the province to move in. Being a rural region, the Datang cluster’s technological capacities are too limited to support its development. So workers in state-owned companies in cities like Shanghai and Hangzhou are employed to guide the cluster’s production process. A number of larger enterprises in this district have started cooperative projects with universities in Zhejiang in order to improve the local hosiery manufacturing capabilities, including the development of computerized knitting machines, and training workers of those computer aided manufacturing (CAM). [26] This cooperation will help the cluster develop a new model of flexible production, which can sharply reduce the cost compared with importing machines. At present, more and more enterprises are tending to invest in these projects. In soon, the cooperation with universities or other research institutions will create a further pool of technically qualified workers. In addition, most larger enterprises are engaged in R&D
investment in terms of products as well as process based on IT system, with the collaboration of hundreds of universities in national level and of research institutes, as a result, new products are being developed with higher value-added and more attractive to consumers in this innovative platform.

3.3.4. Local government

The Datang hosiery cluster does not receive any direct assistance from central government, while the local government still plays a very important role in the cluster’s development. In Datang, many local government staff members run their own businesses, so the local government itself has become a hybrid agent, which results in benefits to both public and private sectors in this case. The collaboration between local enterprises and the local government means the district economy has grown through the engagement of both parties. [27]

The function of local government can be divided into three main areas. First, it plays the role of the main provider of technology and market information. The typical example is the government-sponsored hosiery industry. In 1999, the "Datang hosiery district" was launched with the purpose of searching information on technology and markets inside and outside the province. In addition to technological assistance, the local government also helps to spread computer knowledge, and to build home-pages for product promotion through internet. Second, the local government is also the industrial planner. It has established several industrial parks and trade markets for the transaction of materials, machinery, finished products, logistics and labor resources. At the same time, it also regulates these market activities. The local government also undertakes the responsibility of controlling the expansion of moulding and dyeing factories to reduce pollution levels. Finally, because there is no significant brand existing in the cluster, the local government has been engaged in the promotion of district brands to improve local reputation. For instance, the hosiery cluster in Datang was launched as a collective brand on global markets at national sock and stocking
trade exhibitions.

4. The 3rd Italy case - the cluster of SASSUOLO

The Italian industrial model is known worldwide as a successful example of endogenous development based on SMEs strongly rooted in their communities. Small and medium-sized enterprises, industrial clusters and so-called “traditional” sectors—we prefer to call them “traditional-innovative” sectors to highlight their capacity for process and product innovation—are three interconnected, equally distinctive facets of the Italian manufacturing system. [29]

As far as the spatial dimension of the Third Italy is concerned, these SMEs (the size of the industrial firm has been split into three categories: small firms (< 50 employees), medium-sized firms (50-500 employees) and large-scale firms (> 500 employees).) were often located in relatively small areas—industrial districts—where they formed highly dynamic and efficient local production systems which sometimes succeeded to conquer world export markets. This was in contrast with the quite common view that the competitiveness of localities could only be defined in terms of costs of transport and location, rather than in terms of organizational and cultural dimensions. [30]

The spatially concentrated form of industrial production in the Third Italy has been defined by Becattini, among other, as “Marshallian industrial district”, [30] which is one out of many possible types of local production systems. Bianchi (1994) describes it as “...territorial agglomeration of small firms, normally specialized by product type, product components or process phases, held together by interpersonal links, by a common "social culture" among the workers, entrepreneurs and politicians and enveloped by an "industrial atmosphere", which circulates information, favors vocational training and facilitates the diffusion of innovation, thereby generating
important flows of external-internal economies“. [31] Becattini claims that there exist about 60 to 100 industrial districts in Italy, depending on the criteria used. [30] On the basis of simple statistical indicators, ISTAT (Central Institute of Statistics) reports 199 industrial districts*, responsible for 42.5 percent of all manufacturing employment (Table 6: The Importance of Industrial clusters in Italy).

Table 6:

<table>
<thead>
<tr>
<th>DISTRICTS</th>
<th>EMPLOYMENT</th>
<th>SHARE ON MANUFACTURING EMPLOYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>North-West</td>
<td>59</td>
<td>922,140</td>
</tr>
<tr>
<td>North-East</td>
<td>65</td>
<td>835,521</td>
</tr>
<tr>
<td>Center</td>
<td>60</td>
<td>405,613</td>
</tr>
<tr>
<td>South</td>
<td>15</td>
<td>58,970</td>
</tr>
<tr>
<td>Italy</td>
<td>199*</td>
<td>2,222,244</td>
</tr>
</tbody>
</table>

Source: ISTAT. La situazione economica del paese, 1995 Roma.

*Istat has just revised the geography and municipal composition of the local labour systems into which the national territory is divided in the light of the results of the 2001 Census. Compared with the classification deriving from the 1991 Census, which had led to the identification of 784 local labour systems (of which 199 were defined as “SME manufacturing districts”), the new classification counts 686 local labour systems and 156 industrial districts. The decrease is due in part to consolidations (Istat, 2005a and 2005b).

The so-called Third Italy region (here defined as the Center, which consists of the Northeast and the Central region of Italy) had experienced the highest industrial growth in Italy in the post-war period. However, this is only a part of its story. The industrial development of the Third Italy has been associated with a particular form of industrial development, described as "flexible specialization", "neo - Fordism", or "new industrial space" (Piore and Sabel, 1984; Scott 1988). In short, it was based on dense networks of flexible, strongly related, mostly small and medium-sized firms in mainly
craft-based industries that are concentrated in specialized industrial districts. This particular type of industrial development took place in the Third Italy region because of a local culture of entrepreneurship and cooperation which seems to be lacking to some degree in the other regions in Italy. [32]

4.1. The evolution of industrial clusters in The 3rd Italy—“Modello Emiliano”

The main features of the industrial development in the Third Italy, are small-scale industrialization, predominance of craft-based and engineering industries, and Marshallian industrial districts, in order to determine whether the Third Italy area (as compared to other regions) may indeed be regarded as a “Modello Emiliano” of economic organization – productive disintegration and social integration (Brusco, S. 1980). The ceramic tile industrial cluster in this case is located in Modena, one province of Emilia-Romagna region, where industrial districts have developed on the basis of flexible specialization. According to Capecchi (1990), the main characteristic of this model is the blending of economic with social development. Historically, the socialist tradition in the region encouraged the development of co-operative solutions and local government authorities play an important role in helping firms to operate effectively.

When analyzing data on the occupational distribution of the active population in Italy by region in the late nineteenth century, the three areas occupied more or less equal economic positions. However, other indicators seem to forecast the subsequent gap of development between them. For example, the North had already at that time acquired a superior position not only in many industrial sectors, but also in terms of social overhead capital (roads, railways, education, etc.) (Eckhaus, 1961).

From then onwards, the North-western part of Italy (the regions of Lombardy, Piedmont and Liguria) manifested itself as the industrial heartland, known as the “Old Industrial Triangle Turin-Milan-Genua” (Bianchi, Casini-Benvenuti and Maltinti 1987).
By 1911 the Northwest had taken a considerable industrial lead: Lombardy, Piedmont and Liguria could be regarded as the core industrial regions of Italy (Zamagni, 1987). Whatever, the pattern of industrial development in the late nineteenth/early twentieth century in the First Italy (Northwest) did not seem to differ much from the particular type of industrial development in the Third Italy in the post-war period. It was initially based on small-scale industrial development with rather simple technology (textiles, machine-tools, automobiles, etc.), which only became large-scale industries at a much later stage.

From 1911 onwards, the Northwest continued to widen its gap with the rest of the country. The Center of Italy had already acquired an average position with respect to the North and South long before the Second World War. For example, in 1911 regions like Tuscany and Friuli-Venezia-Giulia had already a higher percentage of the labour force in the manufacturing sector than the national average. At the same time, the Center had already given evidence of a stable and modest economic growth rate in the first part of the twentieth century that was much higher than the South and more or less equalled the growth rate of the North (though in absolute terms, it lagged behind) (Zamagni, 1987). As a result, the rapid economic growth of the Center in the post-war period was a consolidation of a process that had already been going on for a much longer time, and which accelerated after the 1950s by the rapid increase of domestic demand and the growth of real income in Italy (Zamagni 1993).

We now take a more detailed look at the post-war industrial development by region in Italy. In Table 7: The development of the traditional industry and the industrial sector in Italy by region 1951-1991 (measured as growth rates of traditional industry and the industrial sector 1951-1971, and number of workers in industrial sector per 100 inhabitants 1971-1981-1991), we present the industrial growth rates of the regions which are part of the Third Italy area (here defined as the Center, which consists of the Northeast and the Central region of Italy) in comparison with other regions of Italy after the Second World War. The data have been taken from the Manufacturing Census of Italy of 1951, 1971 and 1991 (final results published in spring 1996). As
shown in Table 7 (column 2), many of the regions of the Third Italy area (in particular Emilia Romagna, Marche, Veneto and Tuscany) enjoyed above average industrial growth in the period 1951-1971, though the Northwest (Piedmont and Lombardy) and the South (notable exceptions are Calabria, Basilicata and Sicilia) also performed well. In the Center (as well as in the South), a strong development of the so-called traditional industry (defined as craft-based industries and mechanical engineering, see column 1) has mainly contributed to this. Some of the Third Italy regions, notably Veneto, Emilia Romagna and Marche had reached levels of industrialization in the early 1990s, that are more or less equal to the positions of the core industrial regions of Piedmont and Lombardy. However, in the 1980s all regions (with the exception of Veneto and Abruzzi-Molise) including the ones of the Third Italy, have gone through a period of industrial decline (see also Bianchi 1994). [32]

Table 7: The development of the traditional industry and the industrial sector in Italy by region 1951-1991
4.2. The ceramic cluster of Sassuolo

The most well-known ceramic tiles cluster located in and around the small town of Sassuolo in Emilia-Romagna region accounts for over **80 percent of domestic** production and about 70 percent of ceramic industrial workforce. Seeing Figure 10: the location of cluster, this district lies in the hilly cross-boundary area between Modena and Reggio Emilia while its center is situated along the Sassuolo-Fiorano axis, where the original local ceramic industry was born. Since 1960s, industrial development had gradually extended into the Modenese communes of Fiorano Modenese, Formigine, Maranello and Castelvetro and into Scandiano, Casalgrande and Rubiera in the area of Reggio Emilia.
The ceramic district of Sassuolo consisting of 10 towns, covers a surface area of 182 square kilometres and has about 114 thousand habitants. The firms active today number 144, with more than 21 thousand employees and overall sales of more than 4 billion euro. (Source: Italian Trade Commission http://www.italtrade.com/focus/5019.htm) Till to the late 90s, this district had been the world leader in ceramic industrial production while it has been kept on the top of the world in terms of technology, design, quality etc..

We shall first consider the data for Italian ceramic tile production from 1953-2002 (Figure 11: Ceramic tile sector in Italy, 1953-2002). Since Italy’s tile production is largely concentrated in the Sassuolo district, these data provide a picture of the variations that have essentially characterized the district.
Figure 11: Ceramic tile sector in Italy, 1953-2002

Source: Assopiastrelle, *Indagine statistica*, various years

*Since 1998 the number of companies excludes companies with no production units; "terzo
Since its sharp increase in the 1960s, the production of ceramic tiles in the provinces of Modena and Reggio Emilia (Emilia-Romagna region) has become a very intense industrial activity, concentrating over 70 percent of Italian production in some eight Communes of the two provinces, the principal one of which is Sassuolo (after which the district was named). The development of this industry can be summarized at a glance by looking at figures 10a-10c that illustrate the time series of the number of employees, the number of companies, total output and exports (both expressed in physical units of square meters), and a measure of productivity (in terms of physical output per employee).

4.2.1. The development of Sassuolo cluster

Historically, the ceramic tile industry in Sassuolo grew out of the earthenware and crockery industry, which traces back to the Middle Age. In the immediate post-war period, there were only a handful of ceramic tiles manufacturers in the area of Sassuolo, serving exclusively the local market. Yet, demand boosted after the Second World War and important breakthroughs in the tile production technology were made, including the first continuous production process and the commercialization of the single-firing technique.

Besides the deposits of Appenine red clay in the neighborhood constituted one of the factors which has benefited in a major way the localization and focusing of the ceramic industry in the area, Sassuolo was in a relative better position than other Italian localities for the production of ceramic tiles. Enjoying the advantages of a history in related industries, Sassuolo could also benefit from a pool of mechanical trained workers. The presence of companies such as Ferrari, Maserati and Lamborghini and other firms with long tradition in technical sophistication helped the development of this industry. As the emerging tile cluster grew, the geographical
concentration of firms around Sassuolo encourages the development of infrastructures for the whole industry. The proximity of suppliers enables the creation of maintenance and services to the firms around Sassuolo, together with services for other related inputs such as moulds, glazes, packaging materials and transportation. All these factors with the local culture of entrepreneurship facilitated the start-up of new tile companies, which benefited from the local productive network. In 1955, there were 14 local tile companies; by 1962, the number reached to 102 which was later nearly doubled in the late 60s. [33]

Like the Italian economy as a whole, ceramic tile production experienced a fall in 1963 that implied a reduction both in the number of companies and employees. From 1967 until 1976 there is a continuous and sharp increase in output, largely made possible by an expansion of the number of companies and the number of employees; while less marked is the increase in exports.

Meanwhile, Assopiastrelle, the ceramic tile industry association with membership concentrated in the Sassuolo area, gradually began to offer services in areas of common interest, including bulk purchasing, foreign market research, consulting on fiscal and legal matters. In 1976, a consortium of the University of Bologna and various ceramic tile industry associations founded the Centro Ceramico of Bologna, whose functions included research on ceramic raw materials, production processes, and chemical and mechanical analysis of finished products.

Since 1977, with a smaller increase in output and exports, there has been at the same time a massive annual increase in productivity, due to the adoption of more mechanized techniques (the development of materials-handling equipment during the mid and late 1970s transformed tile manufacture from a batch process to a continuous process.) and the new production techniques. During the 1980s "twice-firing", the traditional technique for producing ceramic tiles, has declined, while "single firing" becomes the major product of this sector. Apart from technical or aesthetic differences,
the single firing techniques skip some stages of production processes required in the
twice-firing technique: *ceteris paribus* – this by itself has a direct effect in increasing
productivity. [34] In the late 1970s, the Sassuolo cluster accounted for 55 percent of
european tile production and 40 percent of worldwide output.

In the first 1980s, the industry experienced important changes – different from the past
years – the **production process automation** reduced the workload and the
technologies were becoming more and more complex. Coping with the persistent
demand crisis, those inefficient enterprises quitted the market while the survivals
specialized in somewhat small-scale production. This specialization led to outsource
some production process so that the ceramic tile manufacturers could focus on the
manufacturing itself. During this **disintegration** process, emerged and proliferated
numerous auxiliary industrial activities to support the ceramic tile industry. At the
same time, the proliferation of enterprise group predicted the tendency of industry
concentration in the district. For instance, about 50 percent of ceramic tile producers in
the district had been a member of one of 12 **groups** in 1980.

Apart from the remarkable increase in the machinery manufacturing industry since
1961, other ceramic tile **related activities** have increased their importance in the
district since 1981. From empirical research on innovation processes conducted in this
district, along with the growth of tile production, many other complementary activities
emerged in the district over a period of two decades. These included not only the
production of machines for tile making, but also many other specialized activities,
such as: graphics development and production of numerous devices for decoration;
production, maintenance and repair of dyeing machines; production of materials for
packaging; printing of instruction manuals and catalogs, both for machinery and for
tiles, wood pallets manufacturing, glaze manufacturing, and even the **groupage**
activities (that are necessary in order to organize the transport of small lots, this being
the size of most orders) and transport activities, etc. [34] These activities in the district
led to, in turn, self-enforcement of the ceramic tile cluster in Sassuolo.
During this period, the machinery producers began to sell their products to ceramic tile manufacturers outside the district also, in some cases to foreign companies as well. The internationalization of machinery manufacturers has offered access to mature innovation in the district for foreign ceramic tile producers who would compete with enterprises in Sassuolo and grab market share in following decade. For example, the facilities producers already exported over 50 percent of products in the middle of 1980s and the export was growing over time, until the quota reached 70 percent.

In 1986 a product innovation also took place - glazed stoneware - and in the 90s the Italian ceramic industry found itself having to face new market challenges, still succeeding, however, in holding onto its world leadership. In 1991, the Sassuolo district was characterized by manufacturing with 430 small firms and 20,565 employees operating in the ceramic tile industry. This data confirms the fact that firms within the districts are quite small with an average of employees of less than 50 per firm. Moreover, from 1981 to 1991, the export of ceramic tile from the Sassuolo area increased at a rate of 41.2 percent, thus showing the improvement in its international economic performance.

In 1990s, with the internationalization strategy, the ceramic tile enterprises were inclined to expand their scale. Thus, the increased degree of concentration in the industrial cluster of Sassuolo brought about a dramatical reduction of active enterprises, whose number dropped sharply from 480 units in the middle of 1970s to around 260 in the late 1990s. (Meyer-Stamer, Seibel, Maggi, 2003) This inclination of expansion of the local enterprise was partly due to their willingness to recover and maintain competitiveness in intensified national and international competition and actually resulted in a profound change in terms of interrelationship between local enterprises, leading the cluster from a neo-mashallian (Italian) model to a hierarchy cluster model. (Markusen, 1996) The scale expansion of ceramic enterprises were realized in general by FDI, joint-venture, acquisition and share holding in oversea markets and vertical integration, and establishment of group in domestic market. These strategies aimed to fill up the network externalities which were not sufficient
any more.

In spite of the lack of a most advantaged road network, the district, with the specific services locally offered and available infrastructure, plays an important role of **distributive platform** for the entire European market. Until the early 1990s, the deploitation of oversea market was realized by opening up **after-sale service center** and **show rooms**, as well as buyout of **commercial trade companies** and **distribution companies**, carried out generally by a group of sassolese enterprises. In the 1990s, and during the past decade, a lot of groups operating in the district have proceeded with frequent **acquisition** and the **establishment** of manufacturing **plants abroad** for better client service in terms of price and promptness. These two major approaches of internationalization led to a **multinational** growth, in respect of which the Sassuolo cluster maintains still top position in global competition.

Even today, although in the presence of an ever greater competition on all markets, the industry represents the established **reference point** for the sector at world level, not only under the profile of product quality, but also under the interaction between productive and territorial productivity.

4.2.2. Local production network and interrelation between local enterprises – the role of **innovative** activities.

Factors favoring the initial concentration were mainly due to the presence of raw materials in the hills south to the district and to a tradition of tile making kept alive by some large companies. During the period of Second World War, Sassuolo was still a farming area, thus economically depressed in comparison with other regions. Were present only two ceramic producers – the Marazzi and the Marca Corona. Thanks to the finance allocated for industrial development from government, these two giants played a role of industrial pole for pulling the development of SMEs which cooperated with them in center-satellite factory system. The activities of R&D were generally
carried out in these big enterprises and the innovations spread as if in cascade towards smaller factories. These two giants contributed largely as well to forming a pool of technical and specialized talent and fostered the emergence of auxiliary industries following the outsource activities. (See Figure 12: Related industries to Ceramic Tile Industry ) [35]

**Figure 12:**

![Diagram](image)

Source: Lusoli Alberto, *Internazionalizzazione dei distretti – il distretto ceramico di Sassuolo*

At the same time, a large number of avant-garde experiments took place in this district, like the *Kervit tiles* – along with the "single firing" technique – developed by La Ceramic Veggia. This company had generated a large body of specific technical knowledge in tile making. In the absence of specific technical and vocational education in the area, the company's failure, in 1966, allowed for much of this new technical knowledge to spill over and be exploited by a set of newborn companies.[36]

In the 1960s, various specialized firms started their activity in the production of presses, kilns (first tunnel kilns, then rapid firing), screen printing machines, machines
for decorating, lines for selecting and packaging the finished product. In addition, some firms producing other types of machines became very active in providing technologies specifically for ceramic tile production. Over ten years, the Italian producers of ceramic machines had edged out the German and British producers who were once leaders in their respective fields (Germany in producing the presses and Britain the kilns), showing great ability in achieving innovative solutions.

Right from the early 1960s, the sharp increase of domestic demand for ceramic tiles had stimulated the production, the expansion of which, in turn, encouraged the production of machines for tile making and was greatly supported by the subsequent development of the production of these machines. In the 1960s and 1970s, the ceramic firms made use of these machine producers as some sort of research and development departments that, though outside the firm itself, were in daily contact with the technical problems that arose during the production process. On their side, the machine producers were able to perfect their innovations by means of direct experiment in production on industrial scale, with certain firms in the district. In addition, the various industrial associations contributed as well to the knowledge communications and spread of innovations throughout the local network. Assiceram, for example, an association of technicians working in ceramic firms and firms producing machines for tile making: The periodic meetings of the technicians who belonged to the association were an opportunity for comparing views on the problems that arose in production, which were often not perceived as critical inside the tile company. The meetings provided an opportunity to systemize and amplify technical knowledge that was not yet codified. [34]

Many new techniques require adaptations that are made possible by dense information exchanges on the use of a specific piece of equipment among users and producers of machinery. This kind of interactions often gives rise to cooperative behaviors. In general, the multiplicity of interrelations among producers of machines for tile making and ceramic tile firms, in the 1960s and 1970s, consisted of much more than the technical assistance that is usually offered by machine producers: it stimulated a deep
transformation of the machinery and enabled a high rate of innovation within the ceramic tile industry, giving rise to a specific body of technical competences. This high rate of innovation allowed the Italian ceramic tile firms – that in general did and do not perform significant in-house research and development – to attain a leading position worldwide, as regards both the excellence of the products and the supply of new products. [34]

5. The comparison of cluster models: Wenzhou Model (DATANG) vs Modello Emiliano (SASSUOLO)

5.1. Similarities

The Zhejiang clusters appear in many way to have some similarities with the industrial clusters development observed in the 3rd Italy. As proposed by many researchers in Italy or other countries, the development of industrial clusters in Zhejiang could more or less benefit from the externalities effect, collective efficiency derived from widely cooperation, flexible specialization productive system, technological innovation and spill-overs and so on. Apart from all this above mentioned, the Zhejiang clusters seems in some aspects to have "coincidences" with the districts in the 3rd Italy.

The industrial clusters have usually arisen in an unexpected location – in traditional rural farming area where there was previously handicrafts and small businesses tradition in background of poor industrial foundation. Being practically left alone, these areas were forced to develop factories and businesses based on the knowledge that they had already possessed in order to survive. Consequently, they adopted initially these activities as a supplement to agriculture, such as processing or selling their agricultural products as well as small-scale manufacturing in family workshops and external sale of processed products by peddling goods.
These groups of small family workshops and factories became gradually structured and these in turn gave rise to series of groups of SMEs agglomeration through further development. They spontaneously organized themselves around poles of specialized production, compensating for their limited manufacturing facilities and capabilities by concentrating activities of small stages in the same district, which characterize and determine the birth and the development of industrial clusters.

During their rapid development and expansion period, both them grasped the explosive national demand in early stage and later occupied the global marketplace quickly with prominent quality/price so that to pull the cluster scale effect as well as the externalities benefits on basis of the link between cluster and external networks.

5.2. Features and differences

In spite of similarities between two areas in this study, it must be paid attention that the Zhejiang clusters adopted some previously unseen measures during their rapid development. It's in this way that they differ each other significantly and thus were required the updating or revision or exploitation of certain existing theoretical approaches to this question. We will attempt to outline a list of differences.

1. The low-level innovative network.

One of the contributory factors to Italianate cluster is that the concentration of enterprises specializing in the same activity in the same location allows themselves to develop innovative systems of cooperation, which could be formal or informal. It's the key factor that constitutes the competitive advantage of clusters. This system of inter-firm links compensates for what the enterprises lack in size. Otherwise, this strong relationship between enterprises within the same cluster permits them more rapid adaptability and flexibility than isolated ones. In a word, the key to clusters' success is derived from the innovative network based on a virtual circle between firms within
However, it appears mostly absent in the case of Wenzhou model clusters in Zhejiang.

In each of specialized clusters of this province, could be observed a high concentration of workshops and SMEs manufacturing in the same industrial sector, but it's truly existing both between them and within themselves an insular culture characterized by the strong independence, even secretive culture. Besides the economic relationships like traditional client-supplier, few other types of links can be observed, and thus there is little mutual assistance and long term cooperation. Only a few loose groups of entrepreneurs or information centers were developed there, acting generally as merely interlocutors with public collectives or outside the cluster.

The absence of long term inter-firm relationships which provides as the basis of the effectiveness of Italianate clusters and their innovative dynamics, determines the low-level technical and innovative capabilities of these clusters in Zhejiang. At the same time, the family dominant structures far from the behavior of those in Italianate clusters, on the contrary, do contribute to enhancing the isolation and this declination.

This prime feature of Zhejiang clusters poses consequently a series of questions. If inter-firm relationship is so weak and the innovations activities have been of low-level, to what can the dynamism in this area be attributed or what driving factors work for supporting the development of these clusters and advantage them?

2. The importance of trade structure.

While there are little observed inter-firm relationships in Zhejiang clusters, another distinct characteristic of Zhejiang clusters, one factor apart from the traditional cluster theory, is undoubtedly the importance of the trade role and its networks, which played
notably an innovative role in clusters development. Since towns of this province formed their own clusters originally for the trade of produced goods in provincial level, later in national level, even in international level rather than for the manufacture of industrial goods, a number of trade networks are developed and developing in this province and others.

It could be better illustrated by the city of Yiwu, the most large small commodities market in China. In this area and nearby, have developed a large number of clusters dedicated to trade in Yiwu market. Although these clusters do not highly formal structure, their existence will give rise to a number of specialized activities in districts around the local market, creating future clusters and demonstrating the strength of a specific link between manufacturing and trade. It's similar in the early development of Datang cluster, which was supported and pulled by the traveling salesmen and the fair markets.

Can this trade dimension not be attributed to international globalization and the increasing importance of global networks? Can this importance of trade role in some way explain the development of clusters in this region or it should need more further researches.

3. The nature of labour market.

The rapid growth of the Zhejiang clusters was initially supported only by a local, rural workforce, recently has seen an increasing large number of external labour. This trend is of course observed in other industrial development areas in China. However, it should be pointed out in this case that a movement of this size labour is a necessary implement to local clusters development. In the case of Datang cluster, among 20 thousand employees in the industry, more than 80 percent are made up by workers moving from other regions in large part from other provinces.
Few researched in China have so far dealt with the labour market and human resources in clusters and thus remains still an unexplored area of study.

4. The distinct role of local governments.

The final area in which the Zhejiang clusters appear distinctive is the form of governmental intervention that can be observed, playing a relatively decisive role, either as interveners, arbitrators or in a complementary role.

As we mentioned in above section, although economic reforms had been in progress for a decade, it wasn't until the end of the 1990s that private companies were able to operate without needing the approval of local politicians. These politicians were able to engage in the enterprise's practical running, giving a "collective" label to enterprises which were actually private owed and operated.

During the transitional phase in China, especially in the province of Zhejiang, the economic role of local governments could be considered as several levels:

- a decision-making role, in terms of resource allocation (authorizing sales, approving projects, granting tax incentives to enterprises, etc.) and decisions about areas of specialization;

- a motivational role, through putting in place resources and equipment connected with the relevant manufacturing activities (as an example taking the cities of Yiwu, Yongkang and others where put in place the market halls.);

- a limited coordination role, without direct intervention on economic actors but as an important determinant.
The Zhejiang model appears to have a high interaction between economics and politics. While more than 90 percent of enterprises are privatized, exists still a significant internal overlap between enterprises and the government and could be observed a "patriarchal system" both in political and social activities but also in private economy, in which the political factors contribute to final effects in every aspect of society.

In this case, the strength of the Zhejiang clusters appears to lie in the dynamic alliance between private actors and governmental interventions. Is this an representative of the occasionally proposed notion of "State Capitalism"? The dynamism can in some way be illustrated by the support given to specialization from local governments. This support has led the specialized cities of Zhejiang to create their own markets for specific products, like in the case of Datang specialized in hosiery manufacturing. In other case of Yiwu, it was indeed the Yiwu government who had the idea of developing a permanent market fair system, establishing the city as a trade cluster. As a result, the role of local government is far from marginal or secondary in the traditional cluster theory, in this case, they play an essential complementary role. This system of public intervention, in which the governments no longer intervene directly as economic actors but play a powerful role to specialized development of industries, even the entire city, representing one of the most original features of the Zhejiang clusters.

6. Conclusion

As a economically dynamic region dominated by private enterprises, Zhejiang is seem as a benchmark to other provinces in China, and his industrial clusters have developed in a unique and original manner. As a result, it provides us a new perspective on the approaches to industrial clusters study which was carried on historically based on mostly European models, more specifically
There is no doubt that the rapid development of industrial clusters in this province was initially due to the local entrepreneurship and the encourage and support from local socialist governments which occurred the same as in the Italian case. Taking into account a range of driving factors, its strong growth should be attributed to the widely expansion of highly concentrated areas of small industries – specialized industrial clusters in Zhejiang. The distribution of these activities is characterized by significant differences in the goods manufactured following the principle of "one product per village and one sector per region". In these clusters, local embedded enterprises compete in national and international markets on basis of cluster advantages and mainly relying on the low-cost advantage in labour intensive or associated with technology intensive industries.

Apart from this, we should pay attention to the originality and uniqueness of the Zhejiang model and further to how it appears to be in conflict with some central aspects of the classic industrial cluster theory while generating new synergies in new contexts.

The most significant difference is the strong weakness of inter-firms cooperation and relationship observed in Zhejiang clusters which has been the key feature of the Italianate model in theory of industrial clusters. This area relates to the innovative network established in clusters and the innovative ability of enterprises within the district, that constitutes the core competitive advantage of the cluster rooted deeply in historic inheritance and local culture, characterized by exclusiveness and being difficult to imitate. However, a lack of cooperation between enterprises seems to prevail in Zhejiang clusters and thus their success can not be attributed to this point.
The driving factors involved in the development of industrial clusters in Zhejiang are of completely new type that there is an unusual role accorded to trade networks over the manufacturing and the influence of local governments under the background of the nationwide market expansion and the current economic globalization wave. The Zhejiang clusters’ dynamic lies not so much in how their production is organized or how interact and cooperate between enterprises, but more in the relationship between manufacturing and trade networks and politics, which have been developed into a tool of regulation and stimulation. This system is supported by the giant national and international markets and allows a virtual circle of production/trade information, technology spread, avoiding blind competition and is open to innovation, etc..

Chinese advantage as the Manufacturing Center has based on abundant cheap labour and export-orientation strategy. As a benchmark to other regions, the economic development of Zhejiang is typically featured in its traditional manufacturing. While the researches on global value chains (GVCs) calls more attention to the opportunities for local manufacturers to learn from the global leader – in this case, usually related to global buyer/purchaser, [37] the SMEs located in local clusters of Zhejiang often involved into GVCs may undertake the process of upgrading in order to increase and improve their participation in the global economy, by focus moving from manufacturing only to the other activities engaged in the supply of goods/services, including distribution and marketing. All these activities add value. Since global leaders, particularly the global buyer play an important role in transferring knowledge along the chains, the participation in GVCs offers to SMEs involved a way to obtain information on the need and mode to gain access to global market.

It is occurring or would happen soon that through Learning by exporting, industrial clusters in Zhejiang focus not only on production efficiency or product quality improvement, also on entering selectively specific segments of
extra normal" profits, regardless of prevailing productive specialization. Therefore, SMEs in clusters can also develop their core competencies and outsource the rest low value-added activities. This has become more urgent for clusters in Zhejiang challenged by the increasingly industrial transfer to inland regions, even to other developing countries with lower labour cost.
List of references:


Best Practice Series, Industrial strength strategies.


