

THE CLUSTER EXPERIENCE IN CHINA

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1. China's industrial development over the last 30 years and its engines of growth

In the aftermath of China's 30 years anniversary of reform policies opening the door to international exchanges, the Chinese industrial development has been celebrated along the 2008, before the explosion of the global crisis, as the result of a wide set of interconnected levers, public and private, played at local, national, and international levels.

In fact the process of Chinese market transition has overlapped since the late 1970s with deep institutional changes, whose gradual adoption has gone together with achievements and contradictions as well. For example, a breakthrough on private property protection was achieved in 1997, when the 15th Communist party congress defined private ownership of enterprises non only as a supplementary component of the economy, but as an import one, allowing an official acknowledgement of the tremendous growth of the private business sector in the last two decades, and giving way to a wave of official privatization of State and collectively owned enterprises.

Despite the recent effects of global slowdown, coupling with the effects of some fiscal restrictive measures undertaken by the Chinese government in the first part of 2008 in order to prevent the burst of inflationary problems, the real rate of growth of Chinese GDP in 2008 has been 9%. In 2007 it was 12%, with exports growing 25% with respect to 2006.

By the way, the huge growth of Chinese economy in the last 30 years has brought a great and perhaps too fast change in the fabric of the world economy. Just an example is what has happened to the consumption of refined copper: at the beginning of the 1990s the consumption of China was around 500.000 tons per year; that of U.S.A was around 2.000.000 tons; in 2004 China's was more than 3.000.000 tons and U.S.A's below 2.500.000 tons.¹

¹ See World Bureau of Metal Statistics, Metallgesellschaft AG, US Department of Interiors.

In the same time, industrialization has gone together with a quick process of urbanization. The proportion of urban population on total population rose from 18% in 1978 to 44% in 2006, and we remember that this is a country with 1.3 billion people. Industrialization and urbanization have contributed to a significant reduction in the number of poor people (hundreds of millions less), but poverty is still a great problem, together with the growth of regional and social inequalities. In fact the major regional engines of economic and industrial growth correspond to coastal areas. Poor young people from the rural areas, both of the same coastal areas, and from the inner provinces, have migrated to supply very cheap labor force to the manufacturing and construction industries: a labor force with very low protection against exploitation by private and public bosses and without welfare rights in the places where they have migrated for work.

2. The new industries in China

Among the factors fuelling the growth of Chinese industries, a big role has been played surely by large inflows of investments of MNCs from industrialized countries, attracted by the extended possibility of exploiting cheap labor and land, and with the support of good logistic infrastructure. However other factors have played an important role as well: for example the network of overseas Chinese entrepreneurs, migrated in the past to HK, Taiwan and elsewhere, coming back with the open door policy, and investing in their old homeland, with the support of technical, human, financial, relational capital developed abroad. These international networks combine with local forces of development, represented by local pools of craft, trade and entrepreneurial traditions in various areas, especially in the coastal provinces, with the presence of State owned enterprises and town and village collective enterprises, and with multi-level pro-growth policies, sometimes successful, when not weakened too much by corruption problems.

All such factors concentrate in a few huge regional systems, comprising an important role of industrial clusters, localized either in specialized towns or in large metropolitan areas, sometimes with cross cluster value chain relations: in particular, the Yangtze River Delta, the Pearl River Delta, and the Bohai Bay Rim.

The Pearl River Delta (hereinafter PRD), which, in the common accepted definition (Enright and Scott, 2005) encompasses nine prefectures of Guangdong province, neighbouring Hong Kong; the Yangtze River Delta (hereinafter YRD), which encompasses sixteen prefectures distributed across the southern part of Jiangsu province, the northern part of Zhejiang province and the Shanghai municipality; the Beijing–Tianjin corridor within the wider Bohai Bay Rim economic zone, which is overall composed of Beijing, Tianjin, Hebei, Shandong and Liaoning.

The high growth rate achieved by the industrial sector of coastal areas has relied on industrial preferential policies designed by central government, which initially took place with the establishment in 1980 of four Special Economic Zones (SEZs) in Guangdong and Fujian provinces, and by further opening up to FDI of fourteen coastal cities since 1984. While in the first stage of reforms central policy attention was mainly focused on Guangdong province and its interactions with Hong Kong and Macao, by providing fiscal incentives in order to attract FDI within SEZs, in the 1990s the policy focus shifted to the area around Shanghai. Nowadays, policy attention is focused on the municipality of Tianjin, whose integration with neighbouring Beijing and Hebei province is a policy priority asserted into the agenda of China's 11th Five-Year Plan, but also on the interior, with the great regional city of Chongqing.

3. Industrial clusters in China: An overview

The identification of the multiple forms of industrial organization in China is not an easy task given the lack of a complete official survey of industrial clusters at local level carried out on the basis of a unified empirical definition. Different combinations of prevailing factors at the local level, as Foreign Direct Investments (FDI), different sectors of specialization, local entrepreneurship, public policy, SOEs and the effect of their privatization, have led to a great variety of specialized industrial clusters (Jiang, 2003; Bellandi and Di Tommaso, 2005; Li and Fung, 2006; Sun *et al*, 2007). Industrial clusters concentrate in the coastal areas of the YRD, PRD and the Bohai Bay Rim and can be classified into a set of categories

which identify the process formation of the industrial cluster as well as its main characters.

Some industrial clusters have been propelled by local private craft and manufacturing attitudes. This is a typical character showed by many industrial clusters distributed across the Zhejiang province (Wang Z., 2008), but also in other areas of China, as the metal processing cluster in Xiaolan town (Zhongshan prefecture, Guangdong province) and the fireworks manufacturing cluster in Wanzai county (Jianxi province). Another type of industrial clusters, which can be related to the first one, is the market-driven type. In this case, the presence of a wide number of wholesale markets is the key for industrial development: in some coastal areas, in particular in Zhejiang, industrial development has been based on the presence of specialized markets as a complementary factor (Sonobe et al, 2004; Wang Z., 2006). Also the Shandong province hosts clusters, such as the wood cluster in Linyi prefecture which relies on a set of wholesale markets (Li and Fung 2006). Resource-driven clusters rely on the abundance of natural resources which gives the incentive for sector specialization, as in the case of food processing cluster in Luohe city (Hunan province) and timber processing cluster in Pizhou county (northern Jiangsu province).

Export-oriented and FDI-driven industrial clusters are a large category of industrial clusters spread across the country, with a high concentration in the Guangdong province. The presence of FDI is associated to a high level of export. Actually, the great part of such clusters are born as export processing bases producing goods for overseas final markets. From a systemic point of view a very important factor associated to these industrial clusters is the presence of Economic Development Zones, as well as Export Processing areas, at central, provincial or county level, which are the result of specific policies in order to attract foreign capital in targeted industrial sectors.

High-tech industrial clusters are a very different category of industrial clusters given the nature of the process of their formation. In fact, in this case FDI may be involved but the linkages with Chinese universities and research centres play a more central role. The clearest example here is the Zhonguancun high-tech cluster in Beijing which benefits from linkages with the Chinese Academy of Social Sciences, Beijing University and Tsinghua University. Key is also the public funding

from central government which makes it possible the industry-university relation and the start up of IT enterprises clustered in the area. Another case of industry-university linkage is in Shenzhen, where the university and research institutions are contributing to the transformation of Shenzhen from a low-cost manufacturing base to higher value added activities centre (Chen and Kenney, 2007). Of course in many real cases such characters combine in various ways, and transform along various forms of evolutionary paths, more or less tied to territories of localization. The prevalence of local private businesses shapes the majority of industrial clusters in Zhejiang province, while FDI prevail (differently) in Jiangsu province and Fujian province, and Guangdong province has benefited from FDI, trade relations and managerial capabilities from Hong Kong, (El Sayed *et al*, 2006). Moreover, the presence of wholesale specialized markets is constant in the textile and apparel sector (Li and Fung 2007). In general, recent studies identify the presence of 536 industrial clusters characterized by the presence of SMEs (small and medium sized enterprises) and showing a quite delimited localization. They are concentrated in the richest 15 provinces of China. In particular the largest part of such clusters concentrate in the three great territorial engines recalled before. The density is highest in the province of Zhejiang in the YRD. In the same YRD there is the highest concentration of science based clusters. In the PRD and in the Northern Rim there are many cases of SMEs clusters as well, but in these regions there is a proportionally higher proportion of cluster led respectively by MNEs (multinational enterprises) and by SOEs (Wang and Mei, 2009). Some clusters, of various types, have also emerging, in the last period, in the central area of Chongqing and in the inner provinces bordering the coastal ones, which constitute the current localization choice in the light of the re-localization trend which is undergoing in coastal areas.

4. Conclusions

We conclude with a couple of reflections on prospects. The first reflection comes from some in-depth investigation on the characters and competitive advantages of Chinese clusters. The factors which have propelled the growth of the new Chinese

industries do not refer only to huge productive capacities characterized by large economies of scale and the exploitation of cheap labor and land. Local forces bring about the realization of goods and components in suppliers and traditional industries, substituting the low-to-medium quality parts of production realized in the clusters and districts of industrialized countries. Moreover there is here the possibility of growth of district capacities, in terms of quality, innovation, flexibility, extending in prospect the competitive international challenge to the medium-to-high quality part of international value chains of household, personnel, and light mechanical goods, that is the core of district made in Italy, district made in Spain, etc.

The second and final reflection concerns the effects of the global economic downturn on the prospects of Chinese clusters. It can be seen from just a few data how things are getting worse also for China in the last months of 2008. And nowadays things are still worse, even if the Chinese government has started to investing huge amount of money in new infrastructure and fiscal stimulus. Exports realized by FIEs (Foreign Invested Enterprises) accounts for over a half of the national export volume. Some of these firms, legally recognized as Wholly Foreign Owned Enterprises (WFOEs) and Joint Ventures, produce original equipment manufacturing as well as exploit fiscal and economic advantages offered by Export Processing Zones and expose very closely China to the global economic downturn. Contraction of foreign markets determines in particular the closure of this type of FDI financed firms, as well as local small firms export oriented which are particularly diffuse in the PRD. As reported by the CTA², textile sector witnessed a drop in exports of 19.7% with respect to previous year. Small local private enterprises were especially affected (decrease of exports of 44.4%).

The closing down of thousands of factories is a particularly visible effect of economic crisis in the PRD and the YRD where rural migrant workers are laid off and are forced to head back home, the majority of them with no unemployment insurance³. The PRD industry, traditionally hosting a wide number of firms

² Data refer to the first eleven months of 2008. Download from: <http://textile.2456.com/eng/feature/details.asp?fsiid=4&fsid=3002&e=1>

³ The Malaysian Insider, *China's workers head home jobless*. 1 January 2009.

Download: <http://www.themalaysianinsider.com/index.php/business/12457-chinas-workers-head-home-jobless>

exploiting low costs of processing, is experiencing a “hollowing out” effect since some international investors are moving towards neighbouring low-wages developing countries as Vietnam, Cambodia, Indonesia⁴. The dramatic social effect of economic crisis reflects the weaknesses of the current way out from poverty based on urban labour market and low value added productions requiring unskilled labour, and the necessary steps forward that China needs to implement for a sustainable development. In particular, linkages between industrialization and urbanization need to be re-adjusted in the light of the progressive increase in the mobility of factors of production, which probably constitutes an additional fundamental and institutional change in China’s transition to market rules.

Credible information on what is happening in the Chinese clusters is lacking by and large. However what has been recalled before suggests that clusters based largely on FDI, and especially those specialized in export processing, are deeply hit. Many of such clusters may suddenly disappear. But of course, since powerful local forces and state regulation play an important role in many clusters, there will be a process of selection, and the MNEs which have developed roots in the Chinese institutional and social context will be helped to stay in place and survive. A similar selection will concern Chinese companies. Evolutionary discontinuities and social eruptions are not to be excluded. And the management of the close financial and trade connection with USA – one of the sources of the current global crisis- will not be easy. But, in my opinion, it is without doubt that the Chinese new industries will emerge after the crisis, perhaps leaner, perhaps more oriented to internal markets, but also with enhanced factors of inner productivity in many international markets and international value chains.

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⁴ [George Wehrfritz, Dark Clouds Over The Delta](http://www.newsweek.com/id/143661) Newsweek, July 2008 Issue. Downloaded from: <http://www.newsweek.com/id/143661>

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