

INTERNATIONAL SYMPOSIUM

THE TRANSFORMATION OF THE CHINESE ECONOMY

Four Decades of Reforms and Internationalization
AND WHAT COMES NEXT?

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Presentation

Industrial Hubs in "Sphinx" China

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Industrial Hubs in “Sphinx” China

1. Introduction

This document will address the topic of industrial hubs in “Sphinx” China based on the joint work of professors Kou Zonglai and Zhang Jun and one chapter of a handbook on Industrial hubs that will be published in Oxford Press, written by the aforementioned authors. First, the sphinx is a mythical figure which has a lion body and a human head, also there is a riddle which asks which animal has four legs in the morning, two legs in the afternoon and three at night. The answer to this riddle is the man. All of these metaphors entail puzzlement at first sight but will serve to explain the reason for the title “Sphinx” China.

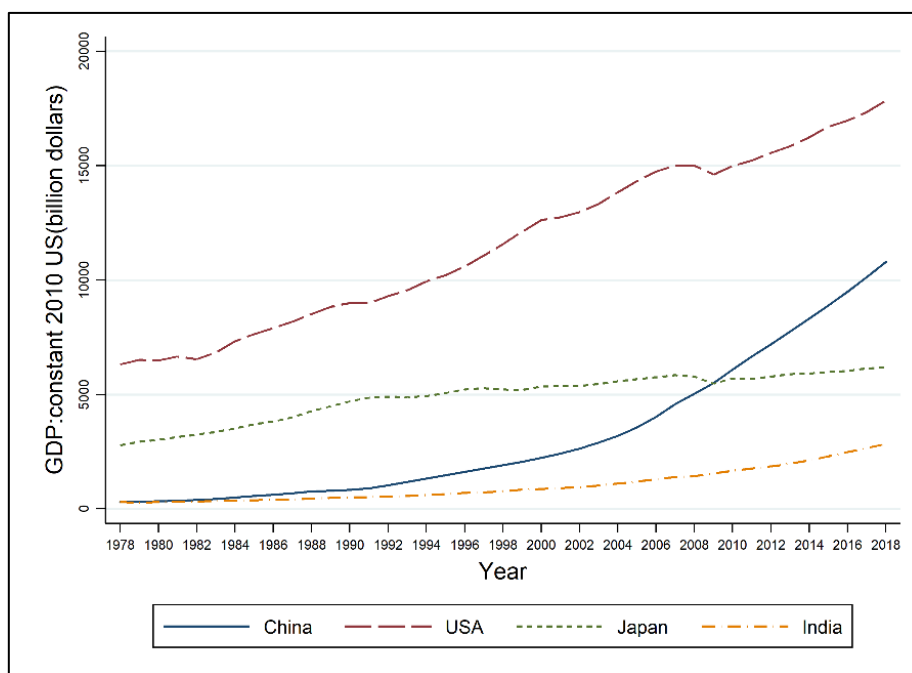
Fifteen years ago, one eastern European socialist party, who had lost political power, visited Fudan University because they were interested in the center led by professor Zhang Jun. The reason of their interest was that while the English name of the center is the China Center for Economic Studies, the Chinese literal translation is the China Research Center for Socialist Market Economy of Fudan University. They were puzzled that Chinese people could combine socialism with market economy because according to classic Marxist dogma, the economic base determines the political superstructure. As a result, for them how China conducted itself was a sphinx, a lion body and a human head, a metaphor for things that do not go together.

Former socialist economies had a highly centralized economic base and highly centralized superstructure while the US and other western countries had a highly decentralized economic base and democratic superstructure, so these examples had options that matched and followed what classic Marxist theory proposed. In contrast, China has a highly decentralized economic base and a highly centralized political superstructure.

A famous Chinese economist once said that during reform and opening up, the Chinese economy was like a high jumper whose jump was very awkward but strangely was able to set up a record every time. Even if people could criticize this high jumper because of his awkward jump, explaining why he could set a new record every time was another thing, maybe one more important to do.

Figure 1 shows how this sphinx system has contributed to a remarkable economic growth since 1978, the year when the reform began. The cross-country comparison reinforces that the economic growth rate in China has been remarkable and has allowed the country to become the second largest economy in the world. This may be one of the reasons why the US may treat China as a threat for its hegemony in the international system.

Figure 1: China's Economic Growth



Looking at the GDP per capita of the BRICS countries (Brazil, Russia, India, China and South Africa), the growth rate of GDP per capita of China is also very remarkable (see figure 2), especially compared to India. Despite this, India is also a gigantic emerging economic power.

Figure 2: GDP per capita of BRICS countries

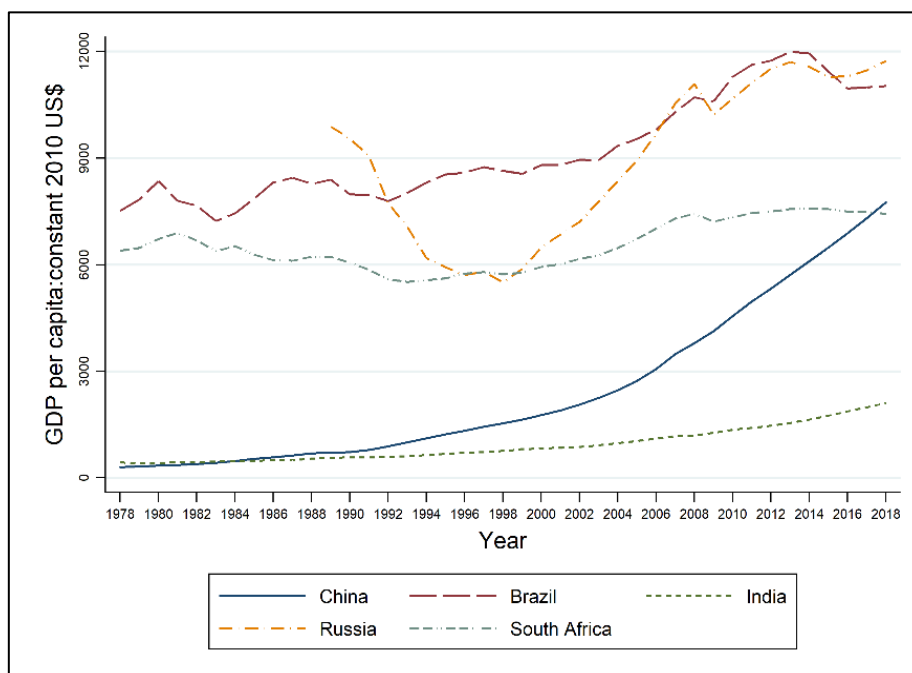
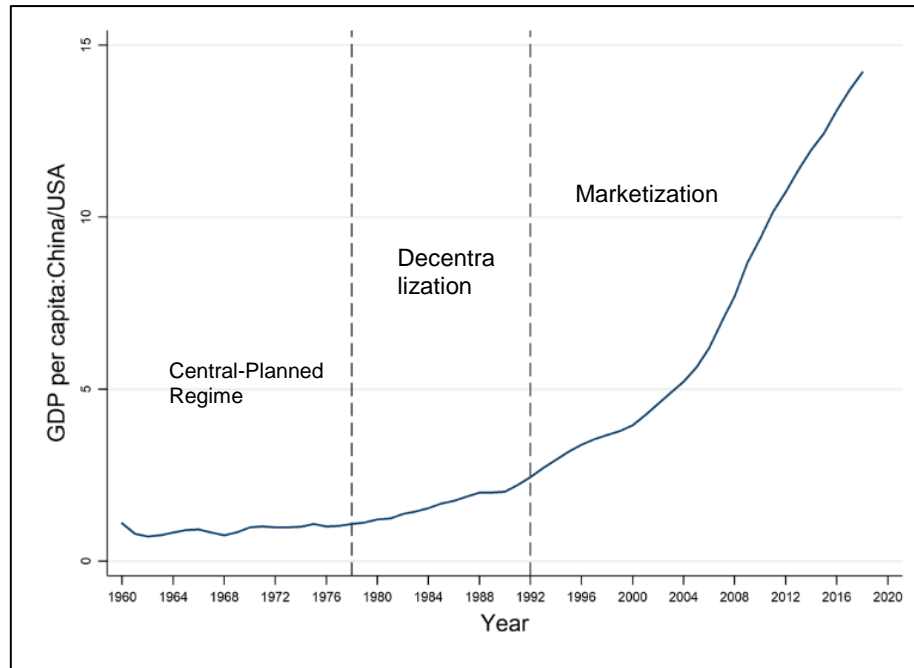


Figure 3 shows the distance of China to the frontier, it has three stages according to the World Bank categorization. The first one was before reform when China was a central planned regime, the second started in 1978 when China adopted the reform and opening

up policy and the last one began in 1992. The last stage was a turning point for Chinese economy, besides, at that time, China had the risk of ending the reform but Mr. Deng Xiaoping visited Shenzhen and gave a famous speech which saved the reform. Lastly, in 2001 China became a member of the WTO and the economic growth of China accelerated.

Figure 3: China's distance to Frontier according to the World Bank



The facts show that “Sphinx” China was very essential for China’s economic miracle and its ascent as the second largest economy with important exports and foreign reserves numbers. The reason of the importance of “Sphinx” China for the Chinese economic miracle is that it creates a growth-centred incentive mechanism in which political and economic entrepreneurs have a mutually complementary interaction. This document shares some micro-level incentive mechanisms to understand China’s achievements in the economics field. Hence, the focus will be on the incentive mechanism called the GDP tournament between different regions in China and the reason why industrial hubs are a very good example to explain why and how “Sphinx” China has worked.

2. Political and Economic Entrepreneurs

The conception of what an entrepreneur entails has broadened but usually when people talk about entrepreneurs, images that come as top of mind are Steve Jobs or Jack Ma. Nonetheless, the term entrepreneurs can have a more general understanding than Jack Ma, due to this in this document two conceptions are presented: political and economic entrepreneurs. The term entrepreneur alludes to people who take risks or break routines to make extra profit. On one hand, economic entrepreneurs have ends and means, their

end is profit maximization but their means are constrained by their private resources, this is similar to what is found in economics textbooks.

On the other hand, political entrepreneurs, who are the key to “Sphinx” China, have more complex utility functions since they combine economic benefits and political career interests (they want to get promoted to higher levels and become top leaders). Regarding political careers, this is something deeply rooted in the Chinese tradition, as a result families feel accomplished if someone among them becomes a high-level official. In terms of means, political entrepreneurs can mobilize public resources such as tax rebates, R&D subsidies, land leasing, among others. This is a difference with economic entrepreneurs who can only mobilize private resources.

For instance, Mr. Deng Xiaoping can be understood as a political entrepreneur while leaders or founders of start-ups are economic entrepreneurs. It is worth noting that people like Jack Ma cannot be understood as purely economic entrepreneurs because they have broader concerns than just profits. Moreover, the Chinese economy since reform and opening up has enjoyed very good interaction between political and economic entrepreneurs, this interaction is centered around the economic growth.

3. Industrial Hubs and Political Entrepreneurs

a) The role of political entrepreneurs

Economics textbooks usually state that governmental intervention might be necessary to correct a market failure. For instance, in regards to externalities, intervention could be justified if by comparing the outcome with the social planned outcome we find that these are different. Applying this logic to industrial policy, people tend to consider that if the performance of some industries is not good enough, the government should introduce industrial policy to correct this market failure. Even if this may sound plausible, for a developing country this kind of theory is bluntly useless because in them the key problem is not market failure but market creation. For instance, in Peru there are no solar panels so there is no reason to talk about the market failure of the solar panel industry. Industrialization is the most important thing for developing countries, they start with no industry and then they experience a transition from an agricultural economy towards an industrialized one.

Industrial hubs and political entrepreneurs play a fundamental role in alleviating the tragedy of the anti-commons. More people are familiar with the tragedy of commons which happens when many have rights to exploit some resource leading to an overexploitation, classic examples include the use of rivers which end polluted and suffer overfishing. The tragedy of the anti-commons is a mirror of the previous, in this one too many people have excluding power rights over one resource, so it remains underexploited.

A metaphor might be helpful, if you are an economic entrepreneur and want to set up a new firm in a developing country, getting licenses can be a real challenge. In these countries is usual that one bureau does not issue all the papers required and the lack of any of them positions the start-up in a precarious situation in which it could be subjected to punishment. Therefore, if there are many parts performing non-cooperatively, the rent extraction will be excessive due to the multi marginalization problem.

The rule of political entrepreneurs can be understood considering the following, a political entrepreneur could be a bad guy, despite this he will be able to solve the rent extraction problem performed by many bad small guys. Even if they could form a cartel and this will not be good for the entrepreneur compared to the non-cooperative case, it will be a pareto improvement. Hence, one important function of a political entrepreneur is to alleviate the tragedy of anti-commons from rent extraction by officials.

Furthermore, another important function of a political entrepreneur is to compensate informational externalities, this is very important for a developing country who wants to accumulate industrial capacity. Economic theory states that one country should mainly exploit its comparative advantage; for example, China has abundant labour so it should specialize in labour intensive industries and produce more labour intensive products. This sounds very natural but for an entrepreneur who wants to set up a new factory, the decision will be very concrete and will be limited to which product he or she should choose to produce.

According to the case studies by Dani Rodrick, one product can be very successful in one area while a total failure in another, even when the places are very similar. In cases like these, there is an important trial and error component even if the products coincide with the country's comparative advantage. Entrepreneurs as micro agents have to find which product is more profitable and more likely to be successful by trial and error processes but this is very costly and more important the problem of imitation is present. The case is as follows, if the entrepreneur fails, its competitors will not imitate him but if he succeeds his competitors will imitate and there will be rent dissipation.

The rent dissipation problem conducts to a situation in which no one will have incentives to perform the trial and error processes and without this incentive, there will be no discovery of comparative advantage. In this framework, political entrepreneurs become fundamental since they can grant some protection like IPR protection to encourage the economic entrepreneurs to do trial and error processes. In addition, political entrepreneurs also have strong incentives to provide public goods because infrastructure is helpful for improving the productivity of private firms.

b) Industrial hubs figures in China

Figure 4 shows the developing stage of industrial hubs and this highly coincides with the market reform process in China. Moreover, there are two levels of implication, the first is that the Chinese economy grows very fast and the second is that the share of industrial hubs with respect to total GDP in China is increasing (see figure 5), this provides an idea of the importance of industrial hubs in China.

Figure 4: Number of Industrial Hubs in China

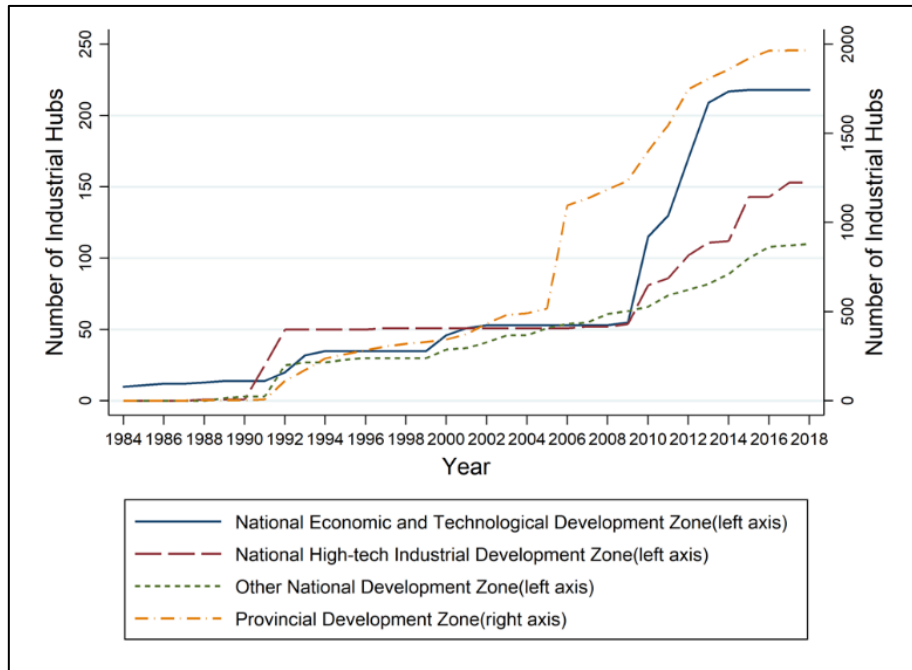
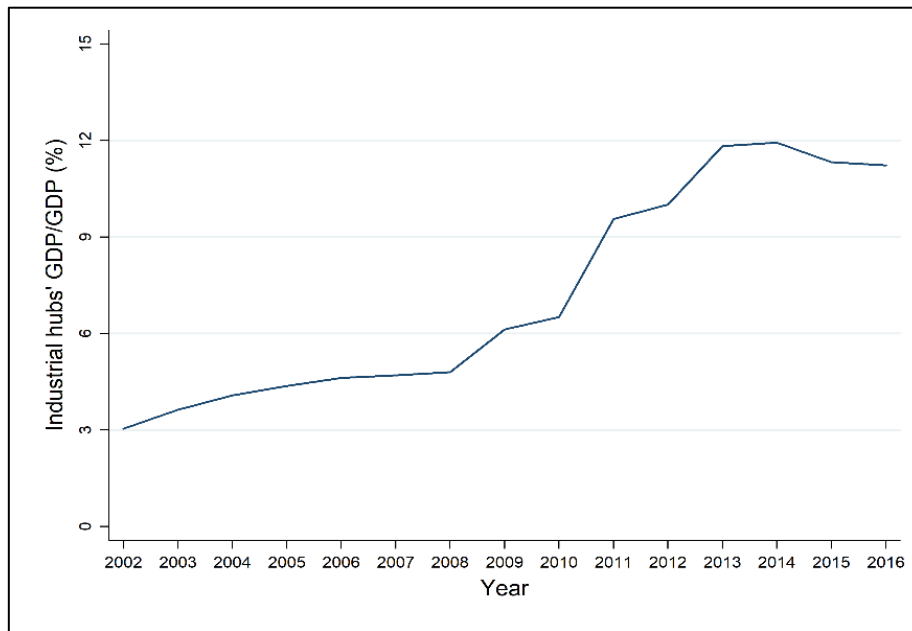


Figure 5: Industrial Hubs' Contribution to Total GDP in China



Industrial hubs in China could also be looked at by geographical dimensions (see figure 6). Specifically looking at the map of China, which is similar to a huge chicken, it is evident that the eastern coast area is the most developed in terms of industrial hubs (see figure 7). Despite this, along the years, the distribution of industrial hubs has become more balanced as is seen in the transition from the map on the left to the one on the right.

Figure 6: Industrial Hubs in the Eastern, and Central and Western Regions

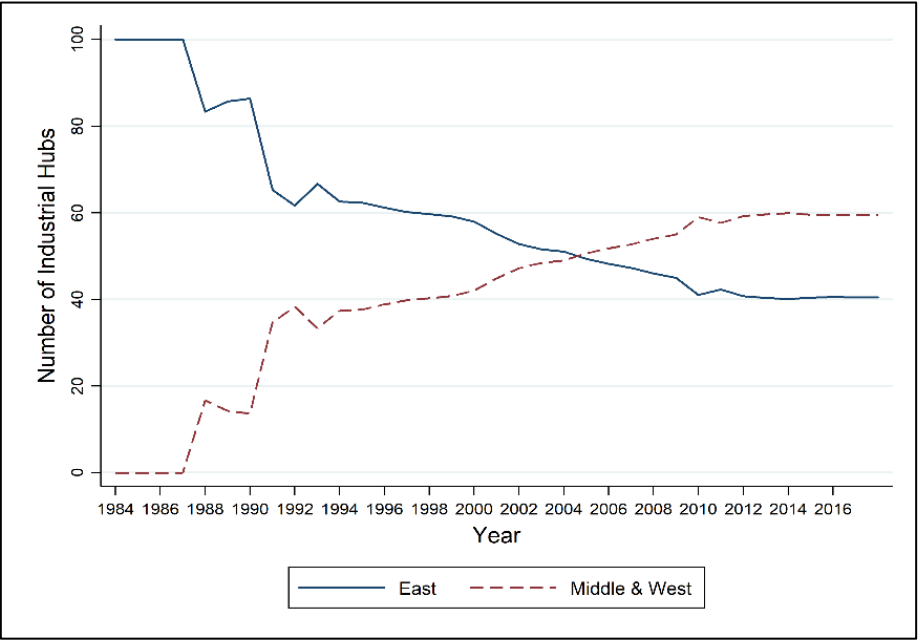
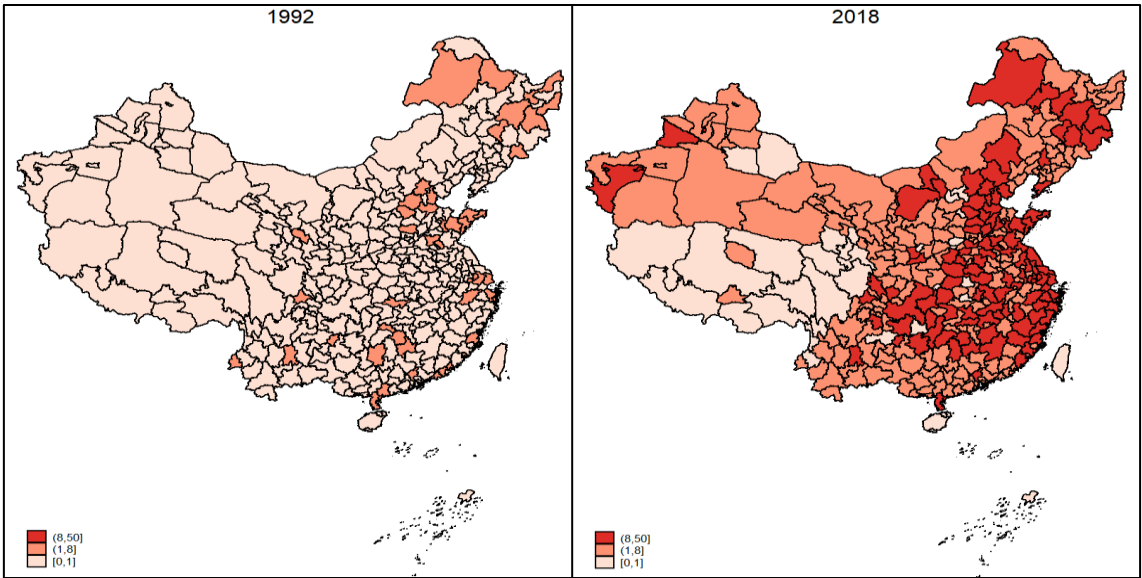


Figure 7: Number of Industrial Hubs by City



Furthermore, the number of industries covered by national industrial hubs has increased (see figure 8), as well as the number of industrial hubs by industry (see figure 9).

Figure 8: Number of Industries Covered by National Industrial Hubs

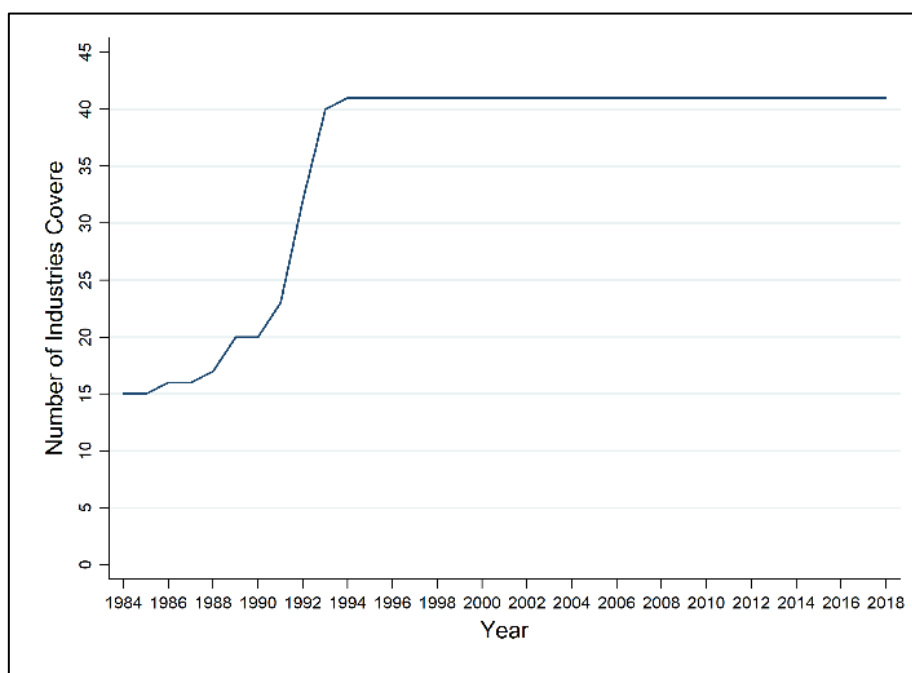


Figure 9: Number of Industrial Hubs by Industry, 2018

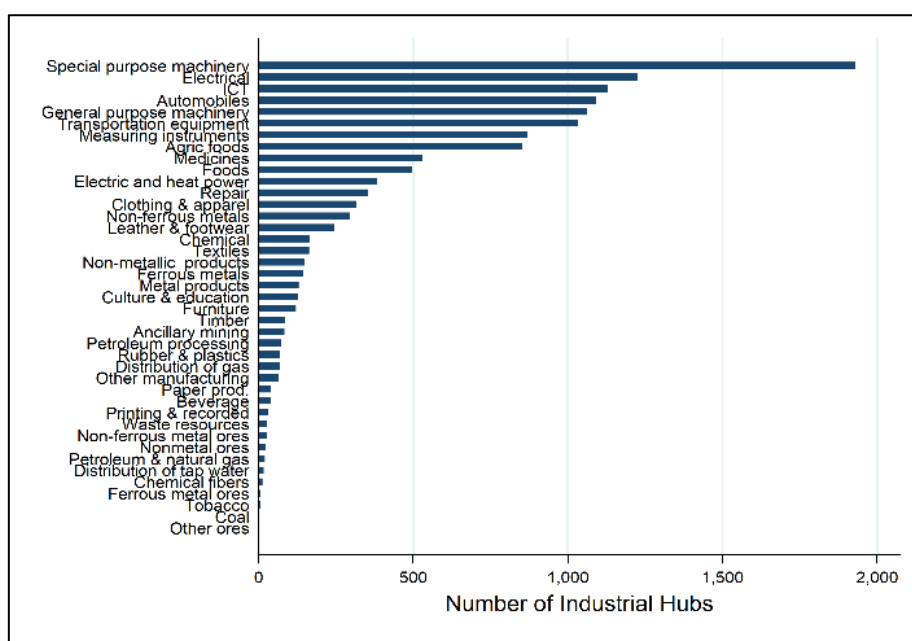


Figure 10 shows on its horizontal axis the $\ln(K/L)$, the relative capital intensity, and on the vertical axis the $\ln(\text{GDP})$. Besides this, three years are shown with their according predicting lines which allow to see the gradual transformation of the Chinese industrial structure from capital intensive to labour intensive. It is worth remembering that before reform China was an isolated economy but after the reform and opening up the Chinese economy became largely integrated with to the world economy.

Figure 10: GDP of Industrial Hubs by Industry

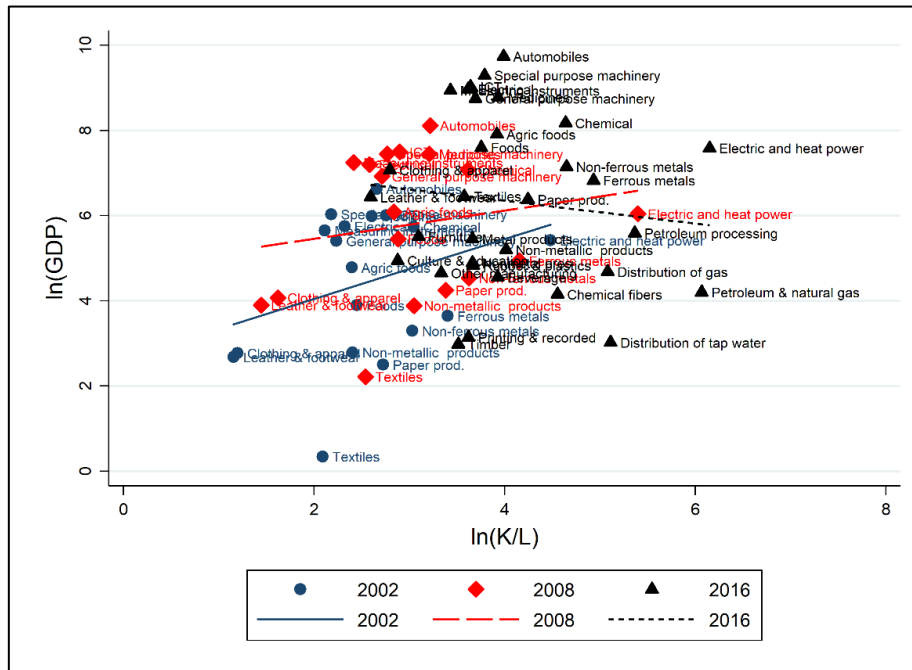
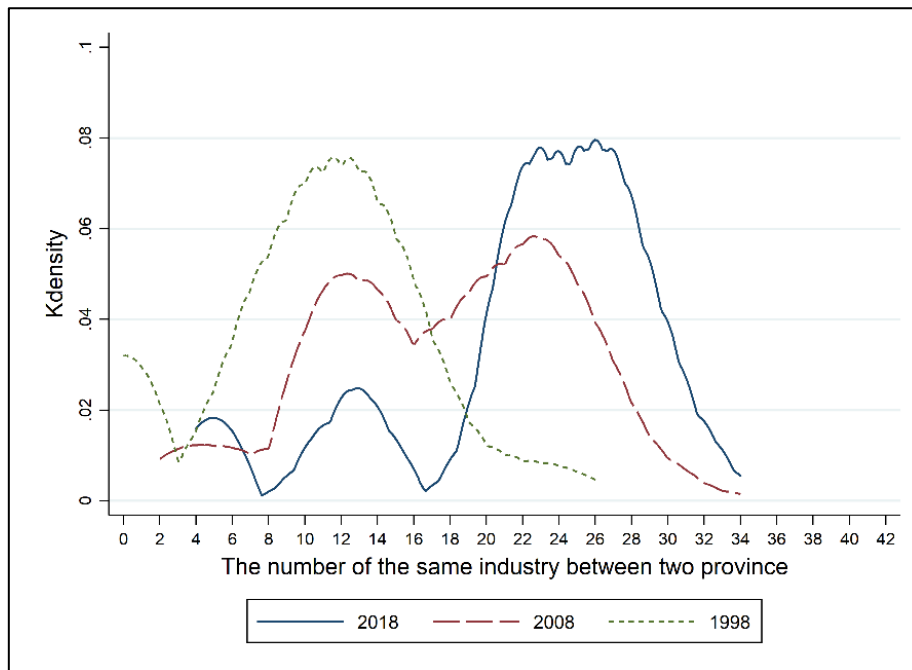


Figure 11: Distribution of the Same Industries in Each Province's Industrial Hubs



The K-density of industrial hubs that have overlapping industries can be seen in figure 11, due to a data availability problem only the pillar industries for each industrial hub can be known but there is no data at the product level. Comparing the overlapping pillar industries between industrial hubs, one can find that the overlapping extent every two province pair becomes higher and higher. This result can derive from the GDP contest in which the central government sets a relative performance evaluation and the local authorities whose jurisdictions have obeyed the GDP performance will be more likely to get promoted to an upper level. This leaves two basic strategies for local officials who

want to ascend, one is to improve themselves their own GDP while the other is the “neighbour strategy”, in which given their own GDP, they can improve their relative GDP performance by decreasing their competitor’s GDP. This interregional duplicated nature is a serious problem for China.

In conclusion, China has experienced remarkable economic growth for nearly four decades since reform and opening in 1978, and contrary to both classical socialist dogma and the Washington Consensus recipe, “Sphinx” China combines a highly decentralized economic base with a highly centralized political superstructure. Industrial hubs are a good example to understand why and how Sphinx” China has been conducive to growth-centred interactions between economic and political entrepreneurs.

4. Biography of the Author



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Professor Kou Zonglai has published two books: *Towards an Innovative Nation* and *Function and Performance of the Patent System*, as well as numerous papers in prestigious journals, in English and Chinese, such as: *Journal of Industrial Economics*, *Economics Letters*, *Economic Research Journal*, *Journal of World Economy*, *Journal of Financial Research*, *China Economic Quarterly*, among others. He is also editor of *The World Economic Papers*, a bimonthly publication of the School of Economics of Fudan University in Shanghai, considered a top economics magazine in China.

He has a Bachelor's Degree in Physics and a Doctorate in Economics, both from Fudan University. At the postdoctoral level, he has been a visiting researcher at the Institute of Industrial Economics in Toulouse, France. He is currently Vice-Dean of the School of Economics at Fudan University, Deputy Director of the China Center for Economic Studies at the same university, and Director of the Fudan Institute of Industrial Development. His areas of interest and specialization are: industrial organization, innovation, intellectual property, industrial hubs in China since the reforms and opening of the Chinese economy, corporate finance, digital economy, among others.