
Healthcare in China. Challenges and opportunities

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1 Introduction

During the last three decades, the People's Republic of China has experienced an exceptional growth and industrial development. Thanks to specific policies, incomes have risen so much that there is now a substantial class of people with discretionary wealth and tastes for improved consumer goods and services. This new ruling middle class has great expectations in terms of quality of life and more sophisticated benefits associated with their growing income. The capability of meeting these expectations is the current crucial challenge for China. In fact, it is likely that the sustainability of the economic, social, and political system as a whole is dependent on the capacity of the economy to satisfy these emerging demands.

The growing demand for high quality health-related products and services represents a great opportunity for US and Europe. Both in America and in Europe, the development of the health industry has been traditionally based on domestic markets. However, a rising worldwide demand for health offers new opportunities for national health industries to expand and innovate, transforming a strictly domestic sector into an export industry. In this framework, the growing demand from emerging countries in particular might certainly accelerate and drive this path of change.

Within the emerging countries, China is undoubtedly among the most promising contexts. Not only today it is the world's most populous country, with over 1.3 billion people. It also has an increasingly old population: life expectancy at birth has reached high levels (77 years for females and 74 for males in 2015 according to the World Bank) and it is estimated to increase further. Currently, 200 million Chinese are more than 60 years old and they are expected to grow to over 300 million by 2030 (United Nations, 2014). Moreover, there are about 160 million of one-child Chinese families (representing over 40 percent of Chinese households) (United Nations, 2014). We do not know yet the effects on birth rates of the government's partial relaxation of the one-child policy. While the policy might increase birth rates, worldwide data suggest that rising incomes might instead push towards smaller families. Nonetheless, the number of children is already large enough to represent an important component of demand for specific health care products and services.

In this framework, there seem to be huge opportunities in developing policies to connect the two systems, both in terms of access to new promising markets and of well-being enhancement. At present, there seems to be an unbalanced situation. Chinese producers have a

granted access to the domestic market, and a growing proportion of them are starting to appear on western markets. This has also been due to the government's efforts aimed at promoting and developing its own health care industry. China in fact recognizes health-related industries as pillar sectors and offers substantial government financial, regulatory and strategic support to its SOEs and private companies in the attempt to upgrade and move up the economic value chain. In doing so, Chinese policy makers utilize all the traditional industrial policies tools (picking-the-winner practices, infant industries protections, support of university-industry technology transfer, exploitation of public procurement demand) (Di Tommaso, Schweitzer, 2013; Di Tommaso *et al.*, 2013). European and US producers are instead still facing obstacles in accessing the Chinese market. Despite the discussions about barriers to trade occurred in many bilateral and multinational negotiations with China, many observers argue that the country continues to pursue policies limiting market access for imported manufactured goods, agricultural products, and services. In the case of health care, this issue primarily applies to goods and services that are highly sophisticated and rooted in western medicine knowledge, still not widely diffused in China. The complex administrative procedure required for these goods is a strong deterrent for foreign entrants. Moreover, counterfeiting and trade secret thefts often occurs in the Chinese market. There is no doubt that the respect for Intellectual Property Rights (IPR) is one the major issues that needs to be addressed. Especially in IP-intensive fields, which are prevalent in health care settings, an effective protection and concrete enforcement of IPR is crucial. Despite the progresses made since China's entry in the WTO, many issues still represent sources of concern both in Europe and in the US. Traditional and online sales of counterfeit goods (starting from the sales of active pharmaceutical ingredients) continue to be a serious problem. In this setting, foreign companies entering the Chinese market with innovative goods or services might quickly favour the reinforcement of new Chinese competitors (selling both in China and abroad) able to imitate their products without paying fees for intellectual property rights. And these unfair competitors might stay in the position of operating with impunity for a long while if Chinese authorities are reluctant to recognize and sanction such infringements.

All these threats need vigorous policy actions. To remove these barriers inhibiting exports of American and European goods and services, foreign policy has to play a crucial role. This is a vital field of policy action in order to encourage exports and sales of legitimate IP-intensive goods and services related to provision of health care. Continuous bilateral and multilateral engagements to discuss Intellectual Property Rights enforcement in China are crucial in the export oriented growth strategy we had discussed above. Continuous dialogue at all levels with Chinese authorities has to be promoted. When appropriate, concrete steps to enforce rights at the WTO have to be considered as another crucial field of action.

Linking a complex export-oriented growth and anti-recession strategy to new economic and population trends in China implies a substantial structural adjustment of American and European economies. The assumption is that the Chinese market has the potentiality of driving this structural change. But this matching of EU and US supply and Chinese demand faces several obstacles including potential barriers placed by China (as the importer), and the large culture gap between European and American attitudes toward medical care and those in China. The need for this sort of connection is however so important for all the nations involved that it is well-worth exploring further.

2 This issue

The first paper, authored by Elisa Barbieri and Mattia Tassinari, suggests a methodology to measure the relative role played by health-related manufacturing sectors within China, in comparison with other productive fields. Starting from the study of the five year plans and using a composite indicator that takes simultaneously into account several aspects (such as the capacity of the sector to generate profits, to foster entrepreneurship, to stimulate employment, etc.), the two authors identify the relative importance of health within the manufacturing sectors in the country. Even if with inter-sectoral differences, the overall contribution of such sectors appear to be stable over time. Furthermore, specific sub-fields seem to emerge, such as Traditional Chinese Medicine and Proprietary Chinese Medicine.

The second paper, by Jiwei Qian and Ake Blomqvist presents an analysis of the role that production and financing might play in the Chinese healthcare system in the future. The study starts from the recognition of the growing importance of private actors in many fields, it then reviews the main policies for the health sector, analyzing then the role of private production and financing in China since 2000, using specific data and highlighting a general increase in such a rate. Based on such trends, the authors try then to shed some light on how the contribution of the private sector might be in the future in health-related fields such as health insurance, health care provision or pharmaceutical production.

In the third paper, Jan Wei, Raymong W. Pong, Lizheng Shi, Jan Ming, Yiwei Mao, Wenbin Lu and Yingyao Chen deal with the issue of health technology assessment and with the increasing attention paid in China to the use of scientific evidence to support decision-making. By means of direct interviews to researchers, on one side, and policy makers on the other, they study their perception of the process of transfer of knowledge from researchers who perform the assessment of health technology to policy makers who have to use such assessment to design specific policies. Critical issues are related to the process of knowledge translation, to the alignment between research and decision-making and to the necessity to implement effective communication channels between policy-makers and researchers.

The fourth contribution is authored by Jie Zhang, who analyzes the mobile device healthcare industry in China, i.e. the transfer of medical information, diagnosis and treatment by means of mobile communication technologies. Even if at present this segment is still at its infant stage, it is expected to grow noticeably in the next few years, with huge advantages both in terms of efficiency of healthcare service providers and of effectiveness in the treatment of patients. Six case studies are also briefly presented as representatives for the evolution of the Chinese mobile device healthcare industry.

In the fifth paper Marco Di Tommaso, Stefano Bonnini and Yue Qi concentrate their attention on traditional Chinese medicine (TCM) manufacturing, which represents a key component of the Chinese healthcare system. In particular, by means of multivariate permutation tests, the authors investigate the effect of ownership and size on corporate performance for listed TCM firms. Results show that the performances of private companies are higher than state-owned ones while and that big companies have higher performances than small ones. Furthermore, corporate performance is affected more by ownership than by size.

The sixth paper, by Manli Huang, Huiru Zhang and Antonio Angelino, analyzes another very strategic field in health-related manufacturing, i.e. pharmaceuticals. In particular, they focus on the analysis of mergers and acquisition in Guangdong in order to investigate

whether territorial differences affect the choice between full and partial ownership of the acquired firm. Their result shows that pharmaceutical firms acquiring companies located in different provinces tend to prefer full ownership, in an attempt to better control for different marketization contexts.

In the seventh paper, Francesca Spigarelli and Pin Lu provide a first study of the role of Chinese OFDI in Europe. After a presentation of the Chinese policy for the healthcare sector, the authors analyze the location choice by Chinese firms within Europe for the following sub-sectors: pharmaceutical, medical device and equipment, biotechnology. Findings show a strong polarization of “where to where” localizations of Chinese investments: investments from more industrialized provinces tend to target leading EU countries, where they can find expertise and market. Furthermore, differences among the selected sectors emerge, both in terms of most attractive EU country and of most active Chinese investing provinces.

The eight paper, by Pamela Lattanzi, Federica Monti and Xu Zhao deals with the Chinese legal framework on pharmaceutical products. Given the importance that the legal framework has in the favouring or hindering foreign investments, the article focuses on three critical legal topics, which are relevant for EU pharmaceutical companies in the Chinese market: drug registration, drug distribution system, and IP rights protection.

The last contribution, by Laretta Rubini and Chiara Pollio, explores the scientific co-publication networks between China and Europe. They describe the rising role that China is playing in the international scientific scenario and the increasing importance that international collaboration represents for the acquisition of knowledge in the health field for the country. By means of data on co-publications with the first 5 European countries in terms of GDP, the authors use a composite index of complexity to detect differences in the structure of the collaboration networks with the different countries that represents the first step towards a deeper understanding of the impact that such complexity might have on the quality of the carried out research.

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