Health and Business in China’s State-led Economy:
The Social Construction of Pharmaceuticals in China’s Economic and Healthcare Reforms

by
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Acknowledgement

My anthropological journey towards the pharmaceutical business in China was confronted with many kinds of complications. Not only cultural and institutional obstacles but also the unpredicted impact of external incidents often frustrated my fieldwork. I would have quit without the guidance and support of my supervisors, friends and family. My first debt is to my two supervisors, Hans Baer and Liping Du at the University of Melbourne. Whenever I had difficulties in doing fieldwork, Hans always gave me warm encouragement and suggested helpful ideas to overcome. He, as a pioneer of critical medical anthropology and scholar-activist, made me think deeply about capitalism, socialism and activism, which became the motive power of my academic journey. I was deeply impressed by his intellectual passion for democratic eco-socialism for us and future generations. Liping generously helped me with his friendly attitude and detailed comments on my awkward writing. His works on Chinese medicine market and pharmacy became ones of essential references for my research. He often surprised me with his high capacity of recommending appropriate readings whenever I needed something for the development of my research project.

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**Acronyms**

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<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AQI</td>
<td>Air Quality Index</td>
</tr>
<tr>
<td>BGI</td>
<td>Beijing Genomics Institute</td>
</tr>
<tr>
<td>CFDA</td>
<td>China Food and Drug Administration</td>
</tr>
<tr>
<td>CAA</td>
<td>Chinese Advertising Association</td>
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<tr>
<td>CDC</td>
<td>Center for Drug Certification</td>
</tr>
<tr>
<td>CDE</td>
<td>Center for Drug Evaluation</td>
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<tr>
<td>CMB</td>
<td>China Medical Board</td>
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<tr>
<td>CMS</td>
<td>Cooperative Medical Scheme</td>
</tr>
<tr>
<td>CPC</td>
<td>Communist Party of China</td>
</tr>
<tr>
<td>CRO</td>
<td>Contract Research Organisation</td>
</tr>
<tr>
<td>EDL</td>
<td>Essential Drug List</td>
</tr>
<tr>
<td>GIS</td>
<td>Government Employee Insurance Scheme</td>
</tr>
<tr>
<td>GMP</td>
<td>Good Manufacturing Practice</td>
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<tr>
<td>GSK</td>
<td>GlaxoSmithKline</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>IMD</td>
<td>Incrementally Modified Drug</td>
</tr>
<tr>
<td>IPR</td>
<td>Intellectual Property Rights</td>
</tr>
<tr>
<td>J&amp;J</td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td>LIS</td>
<td>Labour Insurance Scheme</td>
</tr>
<tr>
<td>MNC</td>
<td>Multinational Corporation</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MPC</td>
<td>Multinational Pharmaceutical Corporation/Company</td>
</tr>
<tr>
<td>NCMS</td>
<td>New Rural Cooperative Medical Insurance Scheme</td>
</tr>
<tr>
<td>NDRC</td>
<td>National Development and Reform Commission</td>
</tr>
<tr>
<td>NHFPC</td>
<td>National Health and Family Planning Commission</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PMI</td>
<td>Precision Medicine Initiative</td>
</tr>
<tr>
<td>PRC</td>
<td>People’s Republic of China</td>
</tr>
<tr>
<td>PUMC</td>
<td>Peking Union Medical College</td>
</tr>
<tr>
<td>RCMS</td>
<td>Rural Cooperative Medical Scheme</td>
</tr>
<tr>
<td>SARS</td>
<td>Severe Acute Respiratory Syndrome</td>
</tr>
<tr>
<td>SASAC</td>
<td>State-owned Assets and Supervision and Administration Commission</td>
</tr>
<tr>
<td>SFDA</td>
<td>State Food and Drug Administration</td>
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SOE  State-Owned Enterprise  
TCM  Traditional Chinese Medicine  
TRIPS  Trade-Related Aspects of Intellectual Property Rights  
TVE  Township and Village Enterprise  
UEBMI  Urban Employee Basic Medical Insurance  
URBMI  Urban Resident Basic Medical Insurance  
WTO  World Trade Organization
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Abstract

In this thesis, I position Chinese health and medicine within the ongoing conceptualisation and practices of Chinese capitalism and socialism. Health care and medicine are important components of social welfare and, simultaneously, promising businesses in both the domestic and global markets. China’s transformation from the socialist revolution to the capitalist reformation has been comprehensive and penetrating. Conversely, it has been inevitably fragmented and incomplete in the contradictory coexistence between market-oriented reform and the remaining socialist-oriented system. China’s curious mixture of socialism and capitalism, or in China’s own term, socialism with Chinese characteristics, has brought about institutional, ideological and practical contradictions, which have thus often been involved in informal/illegal variations in social and institutional relations. This complication has also permeated into the healthcare system, including pharmaceutical medicine.

In this thesis, I firstly describe the historical transformation of China’s healthcare system from China's Communist Revolution to the economic reform period beginning in the 1980s and on to the present. These historical transformations have impacted the pharmaceutical practices, the focus of my thesis, particularly as they are played out in hospitals and people’s experiences therein.

Following from these changes, I focus upon the following three aspects of China’s pharmaceutical industry. Firstly, I examine the rise of economic nationalism in the Chinese pharmaceutical industry. China has maintained its strict approval control particularly on foreign generics’ registration for sale in China to protect domestic pharmaceutical companies against foreign ones. Secondly, I point out the recent strategic change of China’s pharmaceutical industry. The Chinese Government has
stimulated industrial restructuring, which has given birth to giant Chinese pharmaceutical companies. As Chinese giants have acquired meaningful hold over both the domestic and global markets, they have built concrete consolidations involving Western multinational pharmaceutical companies that retain advanced products, rather than investing in the development of advanced products on their own. The third point is the widespread corruption, which has often been associated with the Chinese practice of guanxi. I argue, however, that its primary reason should be found firstly in the unfledged regulations and the government’s loose law enforcement.

Later chapters deal mostly with public hospitals and various experiences of doctors and patients in hospitals. The differentiated hospital market is closely related to hospitals’ financial management. Compared to tertiary hospitals, smaller hospitals are relatively free from profit-oriented management and rely more on the government subsidy. I found that, in return, they are used to display government propaganda. Various political propaganda phrases mixed with public health education are displayed on the electric billboards, walls and ceilings of the hospitals. Since the Communist Revolution, Chinese public hospitals have played a role not only as therapeutic places but also as politically disciplinary places. Hospitals’ profit-oriented management has led to doctors’ increased prescriptions, resulting in an increase in patients’ out-of-pocket payment. In this situation, China plans to make public health more affordable and accessible through the new healthcare reform. However, there are various complications in the way of the reform which I discuss in my thesis.
Declaration

I hereby declare that this Ph.D. thesis entitled “Health and Business in China's State-led Economy: The Social Construction of Pharmaceuticals in China's Economic and Healthcare Reforms” was composed by myself, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree except as specified.

Woojong Moon
Chapter 1. Introduction

The 1949 Communist Revolution in China was the inception of an intrinsically and substantially transformative process. During the extensive transformation, the socialisation of public health achieved great success, including a considerable decrease in endemic diseases and infant mortality (Sidel and Sidel 1982). However, Mao Zedong’s radical efforts to further socialism brought about catastrophic societal upheavals, emanating in China’s effort to implement another breakthrough reformation. It burst onto the global scene as its market-oriented reform. As soon as Deng Xiaoping launched the reform and the opening-up policy in 1978, the logic of a capitalist-oriented market system began to encroach upon the socialist-oriented health care system. The shift towards a market economy has paved the way for the privatisation of public health. In the meantime, China, which did not have advanced technologies for higher quality medical products, came to rely on multinational pharmaceutical corporations (MPCs) for these (United Nations 1984). The MPCs grasped this opportunity and have played a significant role in the development of China’s pharmaceutical market. Conversely, the Chinese people, who had lived with the socialist-oriented ideology and medical practice for three decades, were affected by the abrupt changes in the public health system.

China’s transformation from the socialist-oriented revolution to a capitalist reformation has been broad and deeply penetrating. It has, however, inevitably been fragmented and incomplete. “Fragmented” means here the unsystematic and unconsolidated mixture of political and economic institutions, including industries and healthcare institutions. For example, since Deng Xiaoping’s economic reform, private
firms of various scales, such as individually owned firms and township and village enterprises (TVE), have been jumbled with state-owned enterprises (SOE). In addition, many SOEs have been dissolved into private firms, which have been scattered in each province. As a result, the implementation of certain policies or the provision of services or products needs many more players and steps to be delivered (Haft 2015: 138). Since the opening of the market, China’s curious mixture of socialist and capitalist practices, or as China claimed, socialist market with Chinese characteristics, has brought about institutional, ideological and practical contradictions, which have resulted in informal/illegal variations in social institutional relations (Xing 1999; Chang 2009). These contradictions have permeated into the healthcare system, medicine and the pharmaceutical market, for example, realised as various forms of corruption between government officials and pharmaceutical companies, resulting in doctors possibly overprescribing drugs and receiving informal payments from patients and pharmaceutical companies (Eggleston 2008; Yip et al. 2010).

After trying various privatised pilot reforms in several cities, Chinese party elites decided not to pursue a policy of completely privatising public hospitals (Liu and Darimont 2012). The 2009 notification on the healthcare system reform¹ by the Communist Party of China (CPC) confirmed the direction of healthcare reform and emphasised stricter regulations on informal/illegal operations. According to the notification, China has been continuing a series of healthcare reforms, ultimately towards universal healthcare by 2020. It is too early to assert any optimistic or

¹ Opinions of the CPC Central Committee and the State Council on Deepening the Health Care System Reform. March 17, 2009.
pessimistic future. Given China’s transformation towards market-oriented reform from its socialist-oriented system of public health, finding a balance between privatisation and socialisation has been extremely difficult. The prescription must be comprehensive and applied to various levels of China’s healthcare institutions. It can be achieved with more extensive research on the ongoing healthcare reforms, and their implementation and realisation in certain locales as well as their entanglement with national and global political and economic situations. This thesis is expected to be a cornerstone for the long journey.

In this thesis, I explore the social construction of pharmaceutical medicine, which is intertwined with China’s modern history and economic and healthcare reforms, and the national and global pharmaceutical industry. For this purpose, I trace out the historical events and sociocultural landscapes that the present system has been built on. I draw on pharmaceutical medicine as an object of analysis that has been penetrating various locales and players in the healthcare system. Pharmaceutical medicine has permeated into China in the name of modernisation and globalisation. Meanwhile, China has undergone the radical contraction of socialised structure and the expansion of privatised ones, which inevitably has resulted in ideological and systemic contradictions. Indeed, the Chinese health system, including in terms of pharmaceutical practices, has been negotiated, distorted and reconstructed.

As such, I situate Chinese health and medicine in the ongoing conceptualisation of Chinese capitalism and socialism. I see the field of health and medicine as essential to social welfare, and also as a promising business in itself. Public hospitals are at the centre of China’s healthcare system. China’s medical services have been concentrated in public hospitals, where 80 percent of retail pharmaceutical sales take place, and 40 to
50 percent of hospital revenues come from pharmaceutical sales, much higher than 12 to 25 percent in most OECD countries (World Bank 2010; Daemmmrich 2013; Daemmrich and Mohanty 2014). In addition, pharmaceuticals operate as key links between doctors and patients as well as between hospitals and pharmaceutical corporations.

Hence, I observed pharmaceuticals in pharmacies, hospitals and pharmaceutical companies during my 14-month fieldwork in Beijing, the capital of the People’s Republic of China. I witnessed long lines of patients who came to public hospitals to register for consultation every morning. I listened to doctors’ complaints about low salaries and an overload of patients every day. I also listened to doctors’ differentiated prescribing behaviours according to patients’ clothes and styles. From managers in the pharmaceutical industry, I heard that it was difficult to develop business relationships with Chinese partners and to deal with the Chinese Government’s dreadful and manipulative power over the industry. One of them recalled the good old days when they could make big sales without strict regulations or fierce competition in the 1980s and 1990s, although they always had to fight against fake products.

These kinds of narratives from various voices and scenes in China’s healthcare and pharmaceutical sector are entangled in the transformation of China’s political economy. They are created in people’s experience of medication which mediates illness and healing and the marketing of medicines in which pharmaceutical companies and government and medical institutions are involved. Moreover, they are implicated in power relations (Mattingly 1998), for instance, between doctors and patients, or among governments, hospitals and pharmaceutical companies. Because of individual narratives’ innate nature of evasiveness, singularity, impromptu and dramatisation, it is often hard to find concrete explanatory links between individual narratives and macro
level analysis. However, the unpredictable and diverse nature of individual narratives proves the vitality of lives. I witnessed their struggles for possible securities in their own ways. They feel and acknowledge that many of their actions are leashed and administered by bureaucratic systems and China’s transformation itself. At the same time, they keep creating informal variations and looking for their own ways off that leash. It is the complexities of lives situated in China’s capitalist transformation from the socialist-oriented system.

I provide the historical background pervading and surrounding the theme of this thesis. I firstly describe the penetration of pharmaceutical medicine into China’s healthcare system since the Communist Revolution in 1949. For better understanding, I start with the previous situation of pharmaceutical medicine in China, which is defined as China’s long struggles for modernisation under imperialism since the late Qing dynasty. Then, the Communist Revolution came to socialise and politicise all features of Chinese society, including health and medicine, where Chinese people tasted the sweetness of socialised medicine. After many twists and turns, the Communist Party settled into market-oriented economic reform. The privatisation of health and medicine were unleashed. In this historical context, I provide a sketch of pharmaceutical medicine and markets that have been evolved under the socialist flag.

**Pharmaceutical Penetration in the Making of Modern China**

Since the 1950s, medical professionals have been increasingly involved in the development of pharmaceuticals and the pharmaceutical industry and government regulatory institutions. In this association of academia, industry and regulatory regime, pharmaceutical medicine has developed as a scientific medical specialty concerned with
the discovery, development, evaluation, registration, monitoring and medico-marketing of medicines (Stonier et al. 2007; Griffin 2009).

Although the concept and practice of pharmaceutical medicine were not fully established in the early 20th century, medications were central to the practice of medicine, as in the present. Under European imperialism, pharmaceuticals, in the name of Western medicine, began to penetrate colonial and semi-colonial countries, including China. Since the defeat of the Qing dynasty in the First Opium War in 1839, a series of imperial invasions, firstly by Britain, France, Germany, Russia and lastly by Japan, had harassed the Qing dynasty, resulting in unequal treaties and foreign concessions in border areas. Even the US entered this turmoil in 1899 with its commercial interests. Such treaties forced the Qing dynasty to open up several treaty ports where imperial powers would control residents, trade, legal jurisdiction and missionary presence on Chinese soil (Naughton 2007).

Experiencing such colonial processes, Chinese people began to perceive imperial powers’ superiority. On the other hand, Western imperialism brought shame to China, which had long maintained its supreme power over other Asian countries. Against this background, Chinese elites tried to find ways to challenge foreign powers, adopting Western technologies while simultaneously preserving Chinese traditional values. However, the presence of foreign imperialism that exerted sovereign influence over not only their own concessions, but also China’s governmental affairs, frequently interrupted their efforts. Besides the exploitative presence of foreign powers, including Britain, Germany, Russia, France and Japan, domestic political struggles between reformers and conservatives resulted in several critical rebellions and the frustration of
the elites' reform efforts. After all, China came to see the demise of China's last dynasty and the establishment of the Republic of China (present-day Taiwan) in 1912.

In this situation, imperial powers increasingly imposed Western concepts and practices of hygiene and health on Chinese society. Under the expansion of imperialism, Chinese reformers recognised Western technologies of sovereignty and science as key markers of modernisation, civilisation and a sovereign nation-state. They were eager to make the Republic of China into a modernised and hygienic nation. Simultaneously, Chinese traditional meanings of health and hygiene were moulded into new meanings, encompassing “state power, scientific standards of progress, the cleanliness of bodies, and the fitness of race” (Rogaski 2004: 1). In other words, hygiene and public health were considered by Chinese reformers as key technologies in the making of modern China.

The Republic of China emerged with the very complex legacy of imperialism and modernisation. As a way of modernising China, Chinese medical professionals educated in Western medicine actively found their roles in the public health and medical reformation. They tried to establish a modern medical system, including hospitals, a medical education system and the promotion of public health, while suppressing traditional Chinese medicine (TCM) (Rogaski 2004: 233). TCM was considered empirical and backward, while Western medicine was considered as scientific and modern. In 1929, China’s National Board of Health even tried to abolish the practice of TCM with the help of Western and Japanese-trained doctors (Greta 2011). As a result, the number of TCM practitioners had been reduced from 800,000 in 1912 to 500,000 in 1949 (Greta 2011).
During the first half of the 20th century, the reformation efforts of Chinese elites became hindered due to lack of both time and resources. Moreover, they had to undergo the First World War (1914–1918), intermittent Civil Wars between the Nationalists and the Communists, and the Sino-Japanese War (1937–1945). The vortex of wars did not end until the Communist Party of China (CPC) took control over the Chinese mainland from the Nationalist Party. It was China’s Communist Revolution and the establishment of the People’s Republic of China in 1949. TCM continued to be suppressed in the name of modernisation, although it was soon reinstated into China’s medical system to compensate for its limited medical resources. Nevertheless, the number of TCM practitioners has decreased, and certain parts of TCM education have been westernised for its affiliation to the official medical system (Greta 2011).

In short, Western pharmaceutical medicine penetrated Chinese society under the name of modernisation in the long course of making the modern Chinese state. The imperial, aggressive presence led to the demise of the Qing dynasty and the establishment of the Nationalist regime and the People’s Republic of China through a series of wars. As a response to the imperial impact, Chinese elites were desperate for China’s modernisation and development, suppressing its traditional assets such as TCM. As a result, Western biomedicine has become a frame of medical reference as a symbol of modernisation in China’s health and medicine (Rosenthal 1987).

**Socialised Medicine**

During the early socialist-oriented reformation, the modernist ideology continued to maintain its predominant position, inasmuch as the CPC tried to exterminate all traditional and feudal remnants. In fact, this ideological direction was determined as a CPC’s constitution at the Yan’an Forum in 1942 before the establishment of the People’s
Republic of China. The CPC launched the Yan’an Rectification Movement (1942–1944) for the adoption of Marxist-Leninism and Mao Zedong Thought as guiding ideologies, which paved the way for the establishment of the People’s Republic of China. During this movement, the Yan’an Forum on Literature and Art was hosted by Mao Zedong and attracted significant figures in literary and art circles and leading CPC officials. The Forum stressed that literature and art should be revolutionary and serve the masses, attacking feudal social order and knowledge including traditional medicine (Croizier 1965; Joint Economic Committee 1992). At this forum, Mao warned artists and intellectuals against the pitfalls of “wholesale Western traditions” or “stagnant traditionalism” (Joint Economic Committee 1992: 325) and emphasised that the CPC, art and literature should serve the people (Mao 1942). In this context, TCM was considered as a part of traditional knowledge, officially put into disrepute and not accepted as a legitimate body of medical knowledge (Croizier 1965: 3). It must be noted however that even TCM was considered so negatively during that time, the CPC still argued that those TCM doctors who could be used should be united. This argument may be seen as a sign that the CPC had largely legitimised the use of TCM in its base area. In the meantime, China’s economic situation after warfare was in urgent need of economic development. The CPC’s official priority of people’s health, which was pronounced at the time of the Chinese Communist Revolution and the establishment of the People’s Republic of China (PRC) in 1949, seemed nominal. In reality, the government investment in public health could not help but step back before the relentless urge of industrialisation.

At the time, China did not have sufficient medical and financial resources. For example, in 1949, the total number of doctors trained in Western medicine was
estimated to be only 12,000 for an estimated population of 400 million (Chen 1961: 153). Given the small number of doctors and the scarce medical resources, most Chinese people rarely had access to proper medical treatment. The CPC had to find another way to improve its public health. Probably as reminded by its own experience in Yan’an, suppressed TCM was reintegrated into the healthcare system by the CPC in order to make up for deficiencies in medical resources. And the CPC focused on mass-producing medical graduates from two or three years of secondary medical schools. In every aspect of medical system, quantity was more emphasised than quality (Chen 1961).

Moreover, the CPC enforced a series of massive health campaigns with its only resource, a large population. These campaigns, which were called patriotic health movements, focused on prevention instead of cure under political mottos. One marked campaign was to eliminate four major pests, that is to say, mosquitoes, flies, rats and sparrows, to prevent certain communicable diseases spread by these vectors (MacFarquhar 1983). Sparrows were included simply because they eat grain. Surprisingly, the CPC’s measures and massive health campaigns achieved a great success, resulting in considerable decreases in endemic diseases and infant mortality (Sidel and Sidel 1982).

The CPC launched the healthcare reformation based on two major principles: socialisation of medicine and centralisation of resources. They tried to systemise China’s healthcare system through the centralisation of development, production and distribution of medicines. And clinical medicine was incorporated into the medical system and education to strengthen the prevention of epidemic diseases, following the present concept of pharmaceutical medicine. The central government tried to control
drug prices for people's easy access with minimum payment. Along with the socialisation of medicine, many Chinese could receive medical services at hospitals, clinics or health centres for small fees or free. However, quality medical facilities were mostly concentrated in urban areas and overall service quality was frequently doubtful. Most medical workers belonged to the state-run medical facilities. Under government control and regulation, they did not have much freedom in their medical practice and incomes (Chen 1961: 164). Given the people's free access to medical services and non-incentivised doctors, China's socialised medicine was changing to bureaucratic medicine in the absence of ethical and professional commitment.

During this period, Chinese people underwent two sweeping and violent torrents of an unprecedented scale: the Great Leap Forward (1958–1960) and the Great Proletarian Cultural Revolution (1966–1976). The Great Leap Forward was originally planned for industrialisation and agricultural collectivisation (Dikötter 2010; Manning and Wemheuer 2011). Agricultural collectivisation was increasingly enforced through political meetings and propaganda. Private ownership was abolished, and all agricultural production was incorporated into the commune system. The Chinese communes were organised as both political-administrative units and the economic units of production. Most resources were distributed, and labour was mobilised to perform various production tasks under the commune system that followed central directions (Chow 1987: 97–99). As a key to industrialisation, Mao emphasised steel production. Accordingly, the CPC diverted a large portion of labour to steel production from agricultural production. The sudden shift in production mode and labour distribution led to a nationwide shortage of food. To make matters worse, severe famine critically exacerbated the situation. In the end, the Great Leap Forward ended with
catastrophic losses, 15–45 million deaths from starvation and diseases (Dikötter 2010; Manning and Wemheuer 2011). As a result, the CPC’s leadership, especially that of Mao Zedong himself, was laid on a testing stand.

The Cultural Revolution was launched after the continuous power struggle around the responsibility for the dismal aftermath of the Great Leap. It was officially aimed at the destruction of remaining bourgeois elements, but Mao had his own purpose to expel his rivals and to restore his position as a leader (MacFarquhar 1974; MacFarquhar and Schoenhals 2006). In public health, along with Mao Zedong’s criticism of urban concentration of medical resources and doctors’ intellectual arrogance, the CPC organised a rotation system by which most urban doctors were at any given time sent to the countryside in order to let them “learn” from farmers through physical labour (Sidel and Sidel 1982). They had to be engaged partly in farming and partly in medical practices. The revolutionary committee’s class struggle against doctors, who had a long-standing monopoly on medical knowledge and practice, was carried out for the intense socialisation of the medical system (Wilenski 1977). In addition, scientific medical research was turned towards more “practical” problems for the people (Lampton 1978: 392). Otherwise, medical researchers could easily be placed under political criticism and attack. In this way, the socialisation of medicine was explicitly linked with the politicisation of medicine.

The policy of redistribution of medical human resources was not enough to make up for the severe rural deficiencies in medical resources. So, the CPC produced 1–1.8 million “barefoot doctors” and made one barefoot doctor serve 800–1000 people (Li 1975; Sidel and Sidel 1982). Most of them were peasants. They were chosen from their own rural villages and trained in a few months for basic medical services and then
placed for their own rural villagers’ treatment. In this way, pre-existent medical networks and resources, which were mostly placed within urban areas, were reassigned to rural areas and reorganised under the political cadre network.

In effect, barefoot doctors also played a role in breaking the corporate power of doctors in medical practice (Wilenski 1977). For example, they could often exert political intervention over doctors who were sent to the countryside. The existing rank structure based on technique and knowledge was frequently overturned, for example, peasants over intellectuals, nurses over doctors, and barefoot doctors over medical professionals. In any case, medical accessibility in rural areas was dramatically improved. However, medical accidents increased in number, and the operation and property of medical facilities were not well managed because of medical workers’ low-level knowledge and skills about medicine and management (Bonavia 1978: 184).

In short, during the Mao era, China’s socialised medicine enabled affordable access by people to public health services even with its scarce medical resources. To fulfil the task, political intervention was inevitable, even violent sometimes, and material incentives for medical workers were often ignored. The bureaucratic operation of healthcare facilities and people’s overuse of medical services came to be prevalent in the socialist system of public health. Nevertheless, people’s easy access to primary medical services, barefoot doctors and nationwide massive health campaigns made a great improvement to Chinese health.

**China’s Healthcare Reform Fettered in Socialist-Oriented Remnants and the Economic Reform**

The turbulent ten years of Cultural Revolution ended with the demise of Mao Zedong. Despite many disruptions and ruptures in China’s social and cultural systems,
the socialisation of health care certainly achieved its general purpose: affordable access by all people to medical services. However, China’s economic condition remained far behind other East Asian developing countries. Deng Xiaoping, who succeeded to power, led China to its historic economic reform. The CPC proclaimed “reform and opening-up”, as a new path of socialism with Chinese characteristics, at the Third Plenum of the CPC’s 11th Central Committee in December 1978.

The politically and fiscally centralised healthcare system began to be decentralised. As the Chinese communal system in rural areas collapsed, the cooperative healthcare system, which provided accessible medicines, was also disrupted. The financing responsibilities for public health services were radically transferred from the central government to the local authorities and finally to individuals. In 1981, the CPC introduced the household responsibility system. As a result, the rate of the Chinese population covered by any insurance schemes continued to reduce to around 10 percent until the early 2000s (Ramesh and Wu 2009). China’s healthcare facilities also had to deal with financial deficits on their own responsibilities. With decreasing government subsidies, doctors were driven to make hospital profits that could be converted to their extra income. Doctors’ profit-oriented medical practices resulted in over-treatment, overprescription and illegitimate earnings from patients and pharmaceutical companies (Wong and Gabriel 1997).

Along with the economic development since the early 1980s, changes in lifestyles and deteriorating environmental conditions began to emerge and led to an increase in death rates from chronic diseases such as lung cancer and heart diseases (Herd et al. 2010). In addition, since the late 1990s, China confronted the newly soaring growth of sexually transmitted diseases (STDs), particularly AIDS that resulted in almost half of
deaths from communicable diseases (Herd et al. 2010). The Chinese health situation has been exacerbated by the privatisation of public health and the increasing cost of medical services. More and more Chinese suffer from chronic diseases and have been driven into poverty because of medical expenses (Yip and Hsiao 2008; Sun et al. 2010; Long et al. 2013).

In spite of continuing population growth, the number of public hospitals barely increased during the 1980s and 1990s. Although more private hospitals have been established, they have played a limited role in Chinese healthcare. They have often been constrained by unfavourable government policies regarding insurance and doctors’ employment and by the Chinese preference for public hospitals (Dyckerhoff and Wang 2010). Although private hospitals keep increasing in number and size, public hospitals maintain their higher reputation and dominant role in Chinese healthcare. In 2009, public hospitals accounted for over 90 percent of total patients across China and retained more than 90 percent of medical resources, including doctors, medical staff and hospital beds (Wang and Quyang 2011). The recent healthcare reform has begun to lessen the restrictions on private hospitals and doctors’ employment conditions, so that the role of the private sector is expected to expand more rapidly (Dyckerhoff and Wang 2010). For example, the number of private hospitals increased from 3,220 in 2005 to 7,068 in 2010 and to 15,798 in 2016 (GHMS-China 2014; Research and Markets 2017).

China’s two decades of concentration on its economic growth needed a serious turning point to address the urgent concerns over public health. It came with the Severe Acute Respiratory Syndrome (SARS) outbreak in November 2002. The SARS epidemic resulted in 349 deaths in Mainland China and 299 deaths in Hong Kong. Only after the SARS epidemic did the Chinese Government publicly admit the weakness of China’s
healthcare system and initiate healthcare reformation, starting with new financing systems for insurance expansion and infrastructure construction. Equipped with the system of emergency alarm for epidemics, the Centers of Disease Control and Prevention (CDC) were reinforced.

As a result, the insured rate spectacularly reached 80 percent in 2008 from under 10 percent in 2003. Nevertheless, the relative cost of healthcare rose faster, and inequitable accessibility between lower income and higher income regions as well as between the poor and the rich has widened. For many Chinese, out-of-pocket cost of medical treatment has become a barrier to healthcare and a cause of poverty (World Bank 2009). Particularly, migrant workers in urban areas have remained in critically poor health. Numerous Chinese peasants in rural areas have moved to urban areas to find jobs and lived with limited access to welfare and healthcare. They are called (rural) migrant workers or “农民工 (nongmingong)” in Chinese. A variety of infections from measles, malaria, and hepatitis have been found with a much higher incidence among migrant workers and their families than permanent urban residents (Herd et al. 2010).

The 2009 healthcare reform was launched against the aforementioned situation. It aims at affordable and effective medical services to all citizens by 2020. It involves the increase of insurance coverage, the revision of the national essential drugs list, stricter regulation on pricing and higher reimbursement rates, the promotion of a fundamental health service system, public hospital reform and, finally, the establishment of a universal healthcare system by 2020 (Chen 2009; Deloitte 2011). According to the World Health Organization, universal health coverage means that all people of a country can use health services of sufficient quality with equity of access and protection against financial risk from the cost of using services. China’s new healthcare reform stimulated
the growth of the healthcare and pharmaceutical markets overall. At the same time, stricter regulations on drug pricing and advertising and the reestablishment of an essential drugs system will intricately affect the pharmaceutical business.

**Pharmaceuticals and the Pharmaceutical Market in China**

Medicines shelved in Chinese medical institutions and pharmacies are usually categorised into three types: traditional Chinese medicines (zhongyao 中药), Chinese patent medicines (zhongchengyao 中成药) and Western medicines (xiyao 西药). Compared with TCM drugs, Chinese patent medicines, which are made on the TCM principle, are modernised and standardised in their formulas, packaging and production so that they look like Western pharmaceuticals and are widely consumed owing to familiarity, the convenience of application and lower prices (ResearchInChina 2010; Chen et al. 2014). Accordingly, this market has recently developed with all speed. Even some multinational pharmaceutical corporations (MPC) have been setting foot in this market through Sino-foreign joint ventures and proprietorship to make additional profit (ResearchInChina 2010). Western medicines as pharmacologically synthetic drugs, are considered to attack and cure specific pathogens, tissues or symptoms, while Chinese medicine works on a whole person with individual uniqueness, focusing on “healing” a person rather than “curing” a disease (Sivin 1990; Leung 2007).

Here I need to provide another general category of pharmaceutical medicines for the clearer understanding about pharmaceutical drugs. The above categorisation is made on drugs’ ingredients and manufacturing principles and is conceptually related to modernity. On the other hand, the following categorisation is more generally used in the pharmaceutical sector and is concerned with patents. Pharmaceutical medicines are
categorised into patented drugs, generic drugs and incrementally modified drugs (IMD). Patented drugs are new drugs protected by patents. Patent period is now set at 20 years by the World Trade Organization’s (WTO) agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and can be extended to 25 years (Harris et al. 2013). This long period of patents is intended to compensate companies for over a decade of research & development (R&D) and a vast amount of spending on them. Therefore, most pharmaceutical patents belong to MPCs and tend to seriously limit the sufficient supply of patented drugs for people in need (Love 2005; Harris et al. 2013).

Generic drugs are pharmaceutical products that are interchangeable with original drugs. Generics should prove their bioequivalence with original drugs and can be sold after original drugs’ patents are expired. Generics are much cheaper than original drugs and so are often encouraged by governments that try to reduce drug prices for people’s easier access to medication. The last one is an incrementally modified drug or me-too drug with negative connotations. In fact, not only small and medium-scale companies but also MPCs have been making efforts to develop IMDs. IMDs are developed with slight modifications of pre-existing original drugs’ formulas or medication methods and their development is a relatively easier way to acquire additional patents protection with a lesser cost and period of R&D than original drugs. IMDs can stimulate the market competition and thus reduce drug price. On the other hand, many pharmaceutical companies focus more on IMDs and spend more on their marketing rather than on innovative drugs (Angell 2004; Boldrin and Levine 2008).

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2 “Generic Drugs” in the WHO website (www.who.int/trade/glossary, accessed on Apr. 5, 2015)
Prior to my fieldwork in Beijing (July 2013 to September 2014), I assumed that many Chinese were still sticking to TCM due to their commitment to traditional medication habits. I found, however, that my assumption did not apply to their choices of medicines in public hospitals. During my observation in tertiary hospitals, I found that over 80 percent of prescribed medicines were Western medicines, and around 60 percent of them were global medicines. “Global medicines” specifically indicate pharmaceutical drugs produced by MPCs. “Western medicines” in China include not only foreign or imported pharmaceuticals but also pharmaceutical drugs produced by the Chinese pharmaceutical companies. Western medicines are pharmaceutical drugs originally produced and used mainly for the treatment or prevention of diseases in Western countries. Along with globalisation, including the imperial expansion during the 19th and 20th centuries, biomedicine has also pervaded non-Western nations (Logan 1973; Harrison et al. 2009). Western medicines have accompanied the global dissemination of biomedicine (Whyte et al. 2002) and acquired the name of global medicines. In this thesis, I use the term of global medicines as Western medicines that are manufactured by MPCs to recognise their origins. Chinese people call both of them as Western medicines and usually use the term of imported drugs (进口药 jinkouyao) as global medicines. In urban areas, the prescription rate of Western medicines reaches almost 90 percent (Cheng and Zhu 2012: 110). Although the kinds of prescription drugs are sharply differentiated by hospitals’ grades, the sale of Western medicines in general makes up the major part of hospital revenue. Foreign drugs can be marked up with higher profit margins than local drugs, so many hospitals prefer to purchase and sell foreign pharmaceuticals (Renshaw 2014: 328). Besides hospitals’ legitimate pursuit of
more profits, it is frequently reported that hospitals and doctors are rewarded for shelving and prescribing certain companies’ medicines (Yip and Hsiao 2010).

Global medicines have gained more popularity despite their much higher prices. Although the influence of doctors’ profit-oriented prescriptions cannot be ignored, many Chinese are in reality inclined to believe that global medicines are more effective and trustworthy, so they are more satisfied with physicians’ prescriptions of imported drugs (Zhao and Zhang 2008). They often choose local generics with similar efficacies because of price, still considering the qualities far behind foreign products. This is the main reason why the China Food and Drug Administration (CFDA) has increasingly implemented Good Manufacturing Practice (GMP) certification policy on Chinese pharmaceutical companies (IBISWorld 2014). Many small and medium-scale Chinese companies have produced their products without GMP certification, which has made them no match for foreign companies in terms of quality.

The market of Western medicines, in particular, can be regarded as the principal arena of competition where both domestic and foreign pharmaceutical companies struggle against one another. Therefore, this market cannot help embracing economically and politically dynamic complexities under both Chinese and international rules. The importance of international agreements was clearly shown in China’s accession to the World Trade Organization (WTO) in 2001. The Chinese Government had more international pressure to strengthen intellectual property rights (IPR) and loosen regulations on various forms of foreign investment. Since then, foreign/multinational pharmaceutical companies have increased their investment in production, clinical trials, research and development.
As of 2006, foreign pharmaceutical companies accounted for 30 percent of the total number of pharmaceutical companies and accounted for around 30 percent of total revenue in the Chinese market (Chen, Li and Yan 2010). In several big cities, the market share of foreign pharmaceutical companies reached 60 to 65 percent in 2007 (Chen, Li and Yan 2010). Foreign companies and their products have deeply penetrated the Chinese pharmaceutical market, enjoying their high returns as well as reputation.

However, the new healthcare reforms launched in 2009 and President Xi Jinping’s aggressive anti-corruption campaign seemed to critically and comprehensively affect what MPCs have enjoyed. For example, the GlaxoSmithKline’s (GSK) corruption accusation in 2013 can be seen as a serious warning to foreign pharmaceutical companies for disturbing the Chinese pharmaceutical market. Of course, the Chinese Government’s attitude towards foreign pharmaceutical companies has been changing according to its political and social situations. However, many foreign companies are predicting more risks that they need to take. In other words, they are confronting the unfavourable conditions in the ongoing new healthcare reform, the government’s hard blows to guanxi-based business practices on which foreign companies customarily have relied (Yang 2011) and the nationwide restructuration of the Chinese pharmaceutical industry.

Outline of Chapters

This thesis consists of four parts: introduction, two background chapters, three chapters dealing with findings and discussions, and a conclusion. Following the Introduction, Chapter 2 describes the theoretical approaches and methodological approaches of this thesis. Chapter 3 traces out the historical background. Against these backgrounds, the following three chapters provide and analyse research findings
categorised into domains and social relations: pharmaceutical business, hospitals and doctors and patients. In these three chapters, I follow pharmaceutical medicines from their production and distribution to sale and consumption, and on the other hand, from the pharmaceutical industrial or business perspective to people’s everyday experience of medicines, where Chinese politics and economics are intermingled with China’s sociocultural peculiarities.

In Chapter 2, as theoretical approaches to the task, I discuss studies on China’s transformation towards capitalism; social science studies on pharmaceuticals, pharmaceutical penetration into underdeveloped countries and medical pluralism; globalisation studies; and business studies on the pharmaceutical industry and market. Then, I briefly introduce methodological approaches used for my research. Along with 14-month long fieldwork, I conducted participant observation in three public hospitals and in-depth interviews with doctors, pharmacists, patients and managers in the pharmaceutical industry. In addition, a few reflections on various complications linked with field research in China are expected to contribute to the more sophisticated design of prospective research in China.

Chapter 3 describes the changing facets of the Chinese healthcare system and reforms since China’s Communist Revolution in 1949. For a better understanding of the recent situation, I start with the situation of the pre-revolutionary period, in brief. In China’s radical confrontations with Western imperial powers and transformation for over a century, the people’s health has been necessarily and disturbingly intertwined with radical social and political upheavals. Various political upheavals inevitably had critical impacts on Chinese healthcare and medicine. For instance, Chinese people had to confront the radical socialisation in the Mao era for almost three decades and then
the tremendous transformation towards a market economy. Chapter 3 details these historically marked changes, with the emphasis on their social and cultural implications. This historical and sociocultural approach is a way to more closely understand Chinese people’s daily lives related to medicine. Chapter 3 moves on to the situation of China’s public health and medicine since the economic reform. Along with the economic transformation, the privatisation and commercialisation of public health have been accelerated and, accordingly, patients’ out-of-pocket health expenditure has soared and medical service has been differentiated by patients’ socioeconomic status. The market-oriented policies and practices conflicted with China’s enduring socialist ideology in the healthcare system. Against this background, nationalism has resurged as the CPC’s ideological prescription to compensate for the vanishing legitimacy of its socialist ideology.

Chapter 4 explores the changing dynamics of China’s pharmaceutical industry since the early 1980s and shows the business strategies of, and the differentiated market by, each group of pharmaceutical companies: pioneer multinationals, foreign latecomers and Chinese enterprises. The data in this chapter are drawn from industry documents and reports, various statistics released from the industrial organisations and the Chinese Government, and my interviews with several industry people. From the unflled Chinese market that was just released from the planned economy, to MPCs’ rushing into China, and to the restructuring of the domestic pharmaceutical industry along with new healthcare reform, the situation and dynamics have changed a great deal along with China’s increasing involvement in the global market and the healthcare reforms. Given these changes of the industry, I describe the situations of MPCs, Korean pharmaceutical companies as sample cases of foreign small-scale companies and, lastly,
Chinese pharmaceutical companies with their respective narratives regarding their experiences in China’s market. I also deal with the GlaxoSmithKline (GSK) bribery case as one of the biggest issues in the Chinese pharmaceutical industry in recent years. This case reveals the complex situation of China’s pharmaceutical sector, intertwined with Chinese political and cultural peculiarities. I seek answers to the following question: why did many foreign pharmaceutical companies, not only GSK, come to be involved in corruption in the Chinese market?

Chapter 5, of which the subject is biopharmaceuticals, was not planned originally during my fieldwork. Their rapid development and significance in China’s pharmaceutical sector must be mentioned, in that the present (bio)pharmaceutical dynamic keeps changing and is moving towards the next level of pharmaceutical and medical fields. The new direction of the pharmaceutical industry and medical service providers, armed with more advanced biotech and genomic technologies, is about to surface. As a breakthrough opportunity in China’s pharmaceutical industry, the recent situation and development of China’s biopharmaceutical field is discussed in Chapter 5. The chance is given by the innovative development of biotechnology and genetic science. China is now one of the biggest investors in this field. It has embarked on the precision medicine initiative, based on its largest amount of genome sequencing data from human and various living organisms. The development and accumulation of genetic data and biotechnology has been promoted for both food security and bio-security for its large population. In Chapter 5, I firstly discuss ongoing debates regarding the notions of biocapital and biopharmaceutical, and secondly outline the current situation of China’s biopharmaceutical industry. As discussed in Chapter 4, the global pharmaceutical market has witnessed the change of China’s industrial dynamics,
and the Chinese pharmaceutical giants have emerged from large scale of mergers and acquisitions (M&A) encouraged by the government, and various forms of affiliation with foreign multinational pharmaceutical companies. However, it is still hard to observe their innovative technologies and medicines. China considers its biotechnological capacity as an opportunity to be a leader in the future direction of medical service towards precision medicine. Its capacity and possibility has been constructed on its large population as bio-resources and the subjects of biopolitics, almost non-existence of bio-ethical consideration and its nationalistic way of building the nation.

In Chapter 6, I discuss various social and economic situations intertwined with hospitals and show how their business and management practices have been reconstructed in relation to China’s economic and healthcare reforms and policies. Since hospitals were released from the socialised medical system, diverse aspects of hospitals have been jumbled and distorted between socialist ideology and market-oriented privatisation. Along with the improvement of Chinese living standards and increasing concerns for health, Chinese people have rushed to higher-grade hospitals for medication and hospitalisation. China’s three-tier hospital referral system, which had contributed to the relatively balanced distribution system of healthcare delivery, is not in place anymore (Tam 2008; Barber et al. 2013). As medical resources have been concentrated in higher-grade hospitals in urban areas, hospitals have been differentiated by grades, drug brands and prices, patients’ social and economic status, and the state appropriation of socialist ideology. In addition, private hospitals have been gradually integrated into China’s differentiated hospital system, although their contribution to China’s healthcare delivery remains small.
Chapter 7 explores more deeply into people’s everyday experiences of medicines, mostly centred on individual experiences and discourses regarding hospital situations and social relations between patients and doctors. I draw several cases from my interviews with migrant workers and patients with Beijing hukou (household/resident registration) to show their different situations and measures taken for healthcare. Migrant workers and their families are in very vulnerable situations, including health risk, because they do not have Beijing hukou. In other words, they do not have access to social welfare benefits in Beijing. Nevertheless, their strategies are greatly differentiated by their social and economic status. Although Beijingers with hukou are also differentiated by their social and economic status, they have more choices of medication under the scheme of social medical insurance.

In this thesis, I delve into China’s healthcare system entangled in contradiction between the remaining socialist system and the rapidly capitalised and privatised health and medical market. Moreover, I show and analyse people’s lives in China’s unique mixture of those seemingly contradictory systems. This thesis consists of chapters ranging from the pharmaceutical industry and market and hospitals as the main providers of medical services, to people’s stories regarding healthcare and medication. I expect each chapter to be linked with other chapters, showing one analytic picture with various levels of health and business. In a nutshell, I try to mix ethnographic description with the Chinese unique assemblage, which is fragmented on the one hand and connected on the other, constructed on the over half-century transformation of China from socialism to capitalism.
Chapter 2. Research Approaches: Theory and Methodology

This thesis focuses mainly on pharmaceutical medicine within the context of the Chinese healthcare and the political economy of China rather than conducting a comprehensive study of the Chinese healthcare system. As mentioned in the introduction, this thesis delves into China’s socio-economic features by focusing on the pharmaceutical practices within the larger healthcare system, in large measure by relying upon my ethnographic observations but also archival research. This chapter is subdivided into two parts: theoretical approaches and methodological approaches. For theoretical approaches to the task, I draw on studies on Chinese capitalism and economic transition; social science studies on pharmaceuticals, pharmaceutical penetration into underdeveloped countries and medical pluralism; globalisation studies; and business studies on the pharmaceutical industry and market.

How to conceptualise China’s capitalism and socialism or their combination has become a controversial question. Given China’s transformation under the CPC’s authoritarian governance, a dichotomic approach to this question seems not to be intellectually meaningful to represent China’s political and economic system, in which “socialism with Chinese characteristics” has been officially emphasised and infused into the Chinese realities (Li 2009). In reality, China’s three decades of capitalistic development looks even more noticeable than the official advocacy of socialism. And Chinese health and medicine have been fettered in its splendid economic development. Against this situation, the CPC leadership has been implementing the new healthcare reform towards universal healthcare since 2009. I assume that it can be considered as a
return to a more socialist system of health after three decades’ focus on the economic reform. Although more comprehensive examinations on various societal fields are necessary for suggesting a better answer, in this thesis I draw on the field of health and medicine as a valid touchstone to evaluate the characteristics of China’s socialist market.

In the second part, I discuss methodological approaches used for this research. I conducted fieldwork for 14 months in Beijing, the capital of the People’s Republic of China. Along with the long-term fieldwork, I conducted participant observation, mainly in three public hospitals, and in-depth interviews with doctors, pharmacists, patients and managers in the pharmaceutical industry. In addition, I describe complications occurring during my fieldwork, which were explicitly related to Chinese society and lives, and which frequently delayed my research. My reflections on such complications, implicit in field research in China, are expected to contribute to the more sophisticated designs of prospective research in China.

**Theoretical Discussions**

1. China’s Socialism and Capitalism

This thesis is a theoretical attempt to situate Chinese healthcare and more specifically pharmaceutical medicine within the context of modern Chinese society. The Chinese health system is an integral part of the larger Chinese social welfare system. It has come to promote capitalistic business practices within China’s purportedly “socialist market economy”. These developments, particularly as they apply to pharmaceutical medicine, constitute the focus of this thesis. Therefore, this thesis firstly draws on studies on examinations of the nature of modern China, which have variously characterised it as state socialism, state capitalism, transitions between socialism and
capitalism, or a socialist-oriented society (Nee 1989; Kotz 2000; Huang 2012; Baer et al. 2013). These notions cannot thoroughly conceptualise China’s political economy, which has been transformed rapidly and extensively under the influence of globalisation for over three decades, although they have contributed to the explorations of the unique and multifaceted nature of Chinese capitalism and socialism.

I start from the inception of China’s economic reform to show the historical development of China’s capitalism. As soon as Deng Xiaoping launched the economic reform in 1978, profit-oriented practices were rampantly released. Along with the collapse of rural communes,3 the responsibility of agricultural and industrial production in rural areas was radically decentralised and transferred to individuals. Instantly, entrepreneurial individuals came to be unleashed, and over 10 million private township and village enterprises (TVE) newly emerged and began to make greater profits (Huang 2008). According to Huang’s extensive archival examinations of the 1980s’ economic reform, the considerable liberalisation and bottom-up entrepreneurship in rural areas led to the 1980s’ enormous economic growth (Huang 2008). A rapid increase in rural household income contributed the reduction in rural/urban income inequality and could counterbalance the rural population’s welfare losses in the 1980s (Huang 2008). China’s capitalism in the 1980s was decentralist, directionally liberal, bottom-up and entrepreneurial, of which developmental direction was dramatically changed in the 1990s.

3 The Chinese communes were organised as both political-administrative units and the economic units of production during the Great Leap Forward in 1958. Under the commune system following central directions, almost all resources were distributed, and labour was mobilised to perform various production tasks (Chow 1987: 97-99).
Since the early 1990s, the Chinese Government has taken more control of rural businesses and taxed the rural private sector to finance the urban development and state-owned enterprise (SOE) reforms (Huang 2008). This sudden political and policy shift resulted from the Tiananmen Square Protest in 1989 (Huang 2008; Béja 2011). The CPC leadership considered the incident as a critical threat to its governmentality and shifted the focus of its economic reform from the entrepreneurial private sector to the state-allied sector, including SOEs and collective TVEs (Huang 2008). At the same time, the CPC encouraged nationalism through nationwide patriotic education campaigns, pronouncing the importance of the CPC leadership in China’s economic development against Western capitalist countries (Fewsmith 2001; Béja 2011). The state-led economic reform was strengthened with authoritarian political and economic interventions, including taxation, urban-centred development policies, and the liberalisation of foreign direct investment (FDI). An enormous amount of FDI flowed into the economic reform.

In any case, the state-led and export-led market reform continued to produce China’s economic growth. However, the economic reform’s welfare implication became different for individual Chinese in the 1990s (Huang 2008). Despite continuous GDP growth, household income growth began to lag far behind China’s overall economic growth. Along with the government withdrawal from public welfare services and the privatisation and rising costs of welfare services, Chinese accessibility to those services, including health and education, became a significant problem in the 1990s. In addition, the urban-concentrated economic reform led a large rural population to flood into urban areas for underpaid jobs, which came with severe deprivation of welfare benefits. China’s capitalism in the 1990s was clearly categorised into state capitalism that was
based on SOEs, FDI and authoritarian interventions. China’s state capitalism led to its splendid economic growth and deeper involvement in the global economy, but also resulted in various social problems, such as income inequality, environmental degradation, prevalent corruption and the inaccessibility of health services.

China’s state-led economy faced other crucial turning points in the early 2000s: China’s accession to the WTO in 2001, the SARS outbreak in 2003 and the CPC leadership shift from Jiang Zemin to Hu Jintao in 2003. Since China’s WTO entry, the repressed private sector has been rapidly revived. SOEs, which accounted for over 60 percent of China’s total exports in the middle of the 1990s, accounted for only 11 percent. Instead, domestic private firms have exponentially developed since 2003, and the private sector, including foreign firms, made up almost 90 percent of China’s exports in the early 2010s (Lardy 2014: 87). The private sector was officially unleashed from ideological and financial restrictions and took up employment, production and exports with much higher efficiency and productivity as well as entrepreneurship. The growth of the private sector and private investment in SOEs were encouraged by Hu’s government, which was proclaimed at the Third Plenum of the CPC’s 16th Central Committee (Fewsmith 2004). Nevertheless, China’s characteristics of state capitalism must be given priority over other factors. The Chinese Government has strictly maintained its authoritarian political system and continued to put fundamental industries under the control of SOEs. Moreover, China has even tried to handle the growth of the private sector within its national economic development plan. Given the growing role of China’s private sector in both the domestic and global markets, and the favourable shift in policies towards private firms, I maintain that China’s state-led
economy must allow much more tolerance and flexibility for the soundness of its increasingly mixed market.

The 2003 SARS epidemic was a turning point in government policy concerning Chinese health and the healthcare system. China’s two decades of focus on the privatisation and marketisation of health was shifted towards pursuing universal healthcare. It can be explained by international pressure on China’s determined action for global health and the CPC’s adaptive efforts to resolve long-delayed social tension for its legitimacy as well as more sustainable economic growth (Croll 1999; Li 2012). China’s unfledged health policy and decentralised financial responsibilities were restructured under the new healthcare reform, which seemed to be able to reverse China’s “buck-passing political logic” that failed its healthcare reforms (Huang 2009). The central and local officials and health bureaucrats had all tried to avoid their responsibilities for healthcare reform without decent financial distribution and incentive structure. After all, the Chinese Government’s expenditure on health rapidly increased from 38.3 percent of China’s total health expenditure in 2000 to 56 percent in 2012, and out-of-pocket expenditure on health decreased from 95.6 percent of private expenditure on health in 2000 to 78 percent in 2012 (WHO 2015). The Government’s increasing funding for social welfare, including health, education and pensions, is expected to relieve ever-widening income inequality to some extent and to stimulate domestic consumption for sustainable economic growth (Li 2010).

4 In comparison, in Australia, government expenditure on health was 66.8 percent of total expenditure on health, and out-of-pocket expenditure was 57.8 percent of private expenditure on health in 2012. The numbers of the Republic of Korea were respectively 54.5 and 78.8 percent. The median numbers of the 194 WHO member states were 60.6 and 82.8 percent.
Given the increasing trend of China’s public spending on social welfare, China seems to be returning to a more or less welfare society. However, the public social expenditure is still not enough to resolve various social inequalities. It remained just over seven percent of GDP, including three percent health expenditure in the early 2010s. These numbers are much lower than the OECD average, around 21 and 14 percent respectively (OECD 2014). China’s public social spending is comparable only with the lowest three countries among the OECD members: South Korea (9.6 percent of GDP), Chile (10.2) and Mexico (7.7) (OECD 2014). Moreover, China’s Gini coefficient representing income inequality, despite its slight decrease from the peak in 2008, is still above the warning level of 0.4 set by the United Nations.

The increasing dissatisfaction of the underprivileged and impoverished people has been reaching the critical level and a threat to social stability. It is no curiosity that many leftist scholars have agreed with the argument that China has been in capitalistic transition at the cost of the working class, based on the unequal exchange of labour for wages and the lack of social benefits (Hart-Landsberg 2004; Weil 2006). In addition, there are various ideological and institutional contradictions resulting from China’s socialist market transformation under the increasing influence of globalisation (Wu and Lansdowne 2009). On the other hand, some scholars believe in China’s socialist market economy, in which the people will more fairly benefit from the economic development (Zhuang 2007). Given the rampant privatisation and marketisation of social services and the ever-widening inequalities in income and social security in the 1990s and 2000s, I would not agree with their optimism. However, what I maintain here is that the situation has been changing in a most socialist way since the late 2000s. China’s active
policy shift in social welfare and its achievements have stimulated extensive discussions about China’s welfare system reform in recent years.

The abovementioned social problems were significantly discussed at the Third Plenum of the CPC’s 18th Central Committee in 2013. Since then, China has exerted more efforts towards the reduction of imbalance in income and social welfare among regions and individual citizens and the elimination of bureaucratic corruption as well as sustainable economic growth, sustaining the key roles of the party and the market. China still needs to confront numerous problems, such as the tremendous debt of local governments, the overall economic slowdown, the possibility of China’s economic crash and environmental degradation. In recent years, the rest of the world has observed the explosive growth of entrepreneurial private businesses, China’s quicker involvement in the global economy and the increasing request for democracy and free expression. At the same time, China’s strengthening of party governance and nationalism has been also observed.

If China’s economic prosperity is not more fairly distributed, or the CPC cannot secure enough capacity to deal with already matured social unrest, China will not achieve the “harmonious” combination of market development and communist authoritarian regime. In fact, authoritarian dictatorship also needs a democratic transformation as a precondition for the task. In this sense, the CPC emphasised the necessity of civil society and democratic politics for building a harmonious society at the Plenum. In this thesis, I maintain that China is an authoritarian state with a state-led market economy. China, which has been confronted with various social dissatisfactions under this regime, cannot but pursue more socialist policies towards a harmonious combination of capitalistic market and welfare system. I expect that China’s effort will
be evaluated from the process and achievements of China’s social welfare reform plan by 2020.

2. Anthropology of Pharmaceuticals

This thesis is a part of various studies in medical anthropology. In general, medical anthropology deals with a diversity of medical institutions and healthcare, the cultural construction of illness, sociocultural causes and effects of epidemic diseases, and a variety of ideas about the body, birth, ageing and death (Ember and Ember 2004). In this section, I review several topics in medical anthropology in order to draw out their methodological and analytical insights into the research, with the focus on pharmaceuticals. While the influence of globalisation has been penetrating the pharmaceutical industry, market and products themselves, pharmaceuticals also reflect different sociocultural, political and economic practices and ideologies through various forms of medications. In any case, medicines transform human bodies and thoughts or induce people to believe in their efficacies. People are inclined to determine the suitability of particular types of medication according to their cultural perceptions of compatibility (Nichter 2008). Medicines keep moving in sociocultural, economic, and political entanglements and in the interactive process of globalisation and localisation on the other. In this movement, social lives of medicines can be traced, meaning that medicines have their own biographic trajectories from research and development, production, distribution and marketing, to consumption and efficacy (Van der Geest et al. 1996). In each phase, pharmaceuticals have different meanings and values with different actors.

Among several topics in medical anthropology, the first is studies on narratives surrounding illness, suffering, medicine, and healing. A diversity of narratives
surrounding illness, suffering, and healing are meaningful in this research in that most cases are related to the various types of medicines and medical institutions that are the main focuses of this thesis. Narratives tend to be created in the centre of illness and medicines mediating between illnesses and healing (Mattingly 1998). Moreover, they are explicitly and implicitly implicated in power relations between healers and the ill, doctors and patients, pharmaceutical companies and doctors, and so on. In this sense, Mattingly (1998) shows that some narratives originally created by patients can be manipulated and medicalised by therapists and doctors, and patients often lose their original voices.

Individual experiences of suffering and the following medication are re/constructed “in the action arena between socially constituted categories of meaning and the political-economic forces that shape the context of daily life” (Baer et al. 2003: 44). The social and cultural perceptions of medicines, health and illness are reconstructed in many cases under the influence of (quasi-)expert knowledge, healthcare education, pharmaceutical regulations and laws, and advertisements. In the meantime, the perspective of political economy points out that differentiated individual or group accessibility to pharmaceutical products and knowledge has strengthened social, cultural, and economic distinctions (Petryna and Kleinman 2006). Differentiated accessibilities to medicines are in many cases manipulated by medical professionals, pharmaceutical companies and states. As a result, for many people in underdeveloped and developing countries, sickness, diseases, and death are more haunted by irresistible violence, suffering, and sorrow (Petryna et al. 2006). These entanglements of everyday perceptions and practices with political economy are described and analysed in this thesis.
As key players in such interactions, pharmaceutical companies are significant in that they produce and distribute not only medicines but also knowledge about them. The medicines and knowledge they produce are controlled and distributed centrally through their marketing and public relations strategies (Pool and Geissler 2005: 109). Furthermore, the pharmaceutical business exerts every effort to medicalise any possible area of people’s social lives, marketise and draw them into the area of a potential pharmaceutical market (Baer et al. 2013: 14).

Early medical anthropology studies in the 1970s began to draw attention to the extensive spread of pharmaceuticals into underdeveloped and developing countries. This “pharmaceutical invasion” into the third world was criticised for creating unequal relationships between the developed and underdeveloped (Muller 1982; Gereffi 1983). At the same time, many cases of medicinal misuses were reported because of unethical and exaggerated marketing practices (Medawar 1979; Nichter 1980; Melrose 1982; Etkin et al. 1990). Health-threatening problems, such as a widespread misuse of foreign medicines outside professional medical knowledge (Van der Geest 1982) and uncontrolled self-medication with pharmaceuticals (Hardon 1987; Whyte et al. 2002), have been increasingly reported in many developing countries. In China, there are many cases of overprescription resulting from the profit-maximising intentions of medical professionals and the lack of effective supervision (Dong et al. 1999; Zhang et al. 2008; Jin et al. 2011).

From the perspective of material culture (Miller 1995), medicines are seen as material objects and commodities embedded in specific social lives. Medicines are distinguished from other commodities in that they are intimately related to health and illness. In the process of commoditisation and consumption, medicines transform our
bodies and thoughts or induce us to believe in their transformative power. Advanced Western medicines are regarded as condensations of science and technology. As symbols of “Western” ideology, they enter underdeveloped and developing countries, playing a role in knowledge transfer. Then, local pharmaceutical companies copy and produce similar types of medicines. In the process of globalisation and localisation, both multinational and local pharmaceutical companies accelerate the commoditisation of medicines under the guise of science and technology. On the other hand, the transfer of pharmaceuticals and medical knowledge is always enmeshed with international political and economic interest. This often leads to the unequal pricing and distribution of pharmaceuticals, which has shown disastrous results mostly in underdeveloped and developing countries.

The discussion regarding pharmaceuticals has been extended in relation to the recently emerging concepts of biocapital and bioeconomy. Along with the rapid development of bio and genomic technologies and the changing field of the (bio)pharmaceutical industry, these concepts become more significant in medical social sciences. Catherine Waldby (2000) and Nikolas Rose (2001), inspired by Foucault’s work on biopolitics and the Marxist political economy, conceptualise the relationship between the life sciences and capitalism. Waldby (2000) discusses ways in which biotechnology, particularly biomedicine, produces “biovalue” through a calculable, hierarchical and instrumentalised system of value extracted from various forms of the human body. She links the concept of biovalue with an economy of vitality for the production of others’ health and well-being. Drawing on Waldby’s conceptualisation of biovalue, Rose (2001) conceptualises biovalue in relation to economic or market practices.
Both of them try to conceptualise the relationship among biotechnology, biovalue and bioeconomy, the transformation of the human body, identity and subjectivity or new meaning of life itself. And their conceptualisation of biovalue and bioeconomy finally meets the concept of biocapital used by Sarah Franklin and Margaret Lock (2003) and Kaushik Sunder Rajan (2006). In particular, Rajan adds “speculative value” to the conceptualisation of biocapital as productive/reproductive technologies generating surplus value (Birch and Tyfield 2012). Rajan’s argument is of significance in that it adequately represents the aspect of contemporary capitalism increasingly intertwined with biotechnology. This aspect is also related to Cooper’s discussion on the life science’s logic of “financialization that promised surplus value from life itself” (Birch and Tyfield 2012:306). In the abovementioned chronological development of bioeconomy, Birch and Tyfield (2012) suggest a more relevant conceptualisation of biovalue and biocapital. Their critical examination of these concepts is derived from the significance of knowledge labour and the social and ethical values that make biological matter profitable and commercial products. They emphasise financial asset values secured by intellectual property rights (IPR). They maintain that most biotech companies are “asset-based enterprises rather than commodity-based ones, in that their value is derived from trade in intellectual property and financial investments” (Birch and Tyfield 2012:312).

This thesis deals mainly with pharmaceuticals and their related fields, which are often confused with biopharmaceuticals. Of course, there are some conceptual and practical overlaps between them. In general, biopharmaceuticals are defined as pharmaceuticals manufactured by biotech methods. Nevertheless, the world has witnessed large pharmaceutical companies as they began to move to rebrand
themselves as biopharmaceutical companies. They try to dilute their long-accumulated notoriety as greedy and corruptive companies by benefiting from the public perception of biotechnology as innovative and promising. Rader (2008) has observed the unfixed and often arbitrary appropriation of the term “biotechnology” by the pharmaceutical industry. Rader points out that there is some confusion between pharmaceutical products manufactured by old biotechnologies (e.g., proteins and vaccines) and new biotechnologies (e.g., genetic engineering and recombinant proteins). Thus, he emphasises the development of integrated terminology and taxonomy and a registry for biopharmaceutical products in order to prepare for the coming years of the mature biopharmaceutical era. In this thesis, I adopt the narrow view of biotechnology. It is a restricted version of the broad view of biotechnology and involves genetic engineering and other new(er) biotechnologies of recombinant proteins and monoclonal antibodies. I intentionally choose this definition because it seems to be more relevant to the abovementioned conceptual discussions, particularly that of Birch and Tyfield (2012). The industrial move towards biopharmaceuticals necessitates a speculative and financialised market where asset-based biopharmaceutical firms can survive until they have commercial products on the health and medicine market.

3. Glocalisation, Neoliberalism and Business Anthropology

China has shown the unique mixture of the global and the local for the past three and a half decades. Although the global influence has a long history since the late Qing dynasty, the last decades is more noticeable particularly in terms of China’s active economic involvement in the global society. In particular, the economic and cultural impact of globalisation on Chinese society has been intensive and extensive, and foreign investment and companies have played a key part therein. As many globalisation
scholars maintain, the homogenising impact of globalisation cannot be underestimated. For instance, Chinese pharmaceutical companies have learned advanced medicinal technologies and management techniques from Western companies. Even traditional Chinese medicines have been westernised and begun to wear Western style packages. In the meantime, foreign companies’ social and cultural adaptation to Chinese businesses and consumers turned out to be essential for their successes. In other words, the impact of localisation is remarkably persistent even in the homogenising impact of globalisation. In addition, there is little doubt that local economics and politics are intricately woven in dealing with globalisation. As observed by Robertson (2012), globalisation has several motor forces of which associations vary from one historical situation to another. Based on such variegated aspects of globalisation, he puts more emphasis on the cultural factor and argues for the significance of “glocalisation” for the better understanding of globalisation. Global pharmaceutical companies’ localisation efforts of their products, human resources and management strategies can be understood better from the perspective of glocalisation.

Those who emphasise the economic factors of globalisation tend to focus on homogenisation with the worldwide spread of market economy (Harvey 1989; Wallerstein 1991). Appadurai (1996) and Hobsbawm (1997) argue that the role of nation-state would be diminished as transnational organisations and institutions increasingly hold grip on politics and economics. However, these perspectives seem to be only partially relevant to the situation happening in China. China’s opening-up to the outside world was very carefully managed. Despite growing international pressure, related regulations and laws were belatedly established and loosely practised for China’s domestic industries. The Chinese Government has emphasised the national
stability for economic development, appropriating nationalism against Western capitalistic globalisation. In this context, foreign companies try to appropriate the benefits of both globalisation and localisation. Their marketing and advertisements usually express both their Western modernity and advanced technology on the one hand, and their adjustment to the Chinese culture and society on the other. Interestingly, Chinese people also often reveal their ambivalence in the choice of Western products: the ardent pursuit of Western modernity and high tech, and strong resistance to values and products upon them.

Among various globalisation theories, the notion of glocalisation that was popularised by sociologist Roland Robertson is practically relevant to this thesis. The notion of glocalisation originated from Japanese business practices in 1980s concerning “global localization, global outlook adapted to local conditions” (Robertson 2012). Since then, the term has been widely used in market strategies as micro-marketing, in particular, in local situations, and extended its applicability to academic explanation about interpenetration between the global and the local. According to Robertson (2012), glocalisation means the simultaneity of both universalising and particularising forces, the global and the local, or homogeneity and heterogeneity. The concept provides an opportunity to overcome the perspective that emphasises the one side of globalisation. Secondly, while acknowledging the significance of economic globalisation, the concept puts more emphasis on the cultural factors and the necessity of empirical research, in order to understand them in their locales. Above all, it recognises the possibility of strategically changing the relationship between homogenisation and heterogenisation from one situation to another. This is a significant point in dealing with the rapidly changing economics, society, and culture of China.
In the discussion of globalisation, it has become difficult not to mention neoliberalism. In the past three decades, globalisation has been inseparable from neoliberalism. It is often called neoliberal globalisation. As David Harvey (2005: 2–3) puts it, neoliberalism is a theory of political economic practices that promotes individual entrepreneurial freedoms, private property rights and free markets for human well-being. The state is required to arrange an institutional framework for the neoliberal practices of, for example, deregulation, privatisation and marketisation. From the late 1970s, neoliberal policies expanded on the global scene and were codified into the Washington Consensus in 1989. Trade and capital market liberalisation were two key components of the Consensus, which was constituted by the International Monetary Fund, the World Bank and the U.S. Treasury. Subsequently, replacing the General Agreement on Tariffs and Trade (GATT), the WTO commenced in 1995 to supervise and liberalise international trade. As of August 2012, the number of member countries was 157. As the number implies, the WTO exerts worldwide influence on international trade between the member countries within the WTO agreements. However, neoliberalism’s promise of the better life has had to confront severe criticisms in developing countries as well as in developed countries. It focuses too much on GDP increase, and too little on equity, employment and sustainability (Stiglitz 2006). Tremendous amounts of speculative capital aiming at high short-term returns flowed into developing countries in Asia and Latin America and rushed out, leaving them in economic crisis and despair.

Besides the institutional transformation of neoliberalism, the focus is here on the ways in which such neoliberal policies shape sovereign individuals. In the neoliberal era, the power of the state sovereign is, to a great extent, transferred to individuals in a new way (Ren 2010). According to Ong (2006), neoliberalism can be conceptualised as
a new relationship between government, sovereignty, and knowledge based on market-driven calculation as a governing technology. Under this neoliberal regime, economic rationality is increasingly imposed on individuals and self-management of health by his or her economic and calculative choices is recommended. The conventional understanding of sovereignty is regarding state power and its supreme authority to maintain its order and stability for the territorial integrity of the nation-state (Giddens 2006). Building on Foucault’s discussion of biopower, such a restricted concept of sovereignty began to include other forms of modalities of government, to foster life and growth of both the population and an individual with calculations, knowledge and disciplinary technologies (Foucault 1991; Ong 2005). Biopower is exercised over life itself by administering life processes, including “propagation, births and mortality, the level of health, life expectancy and longevity” (Foucault 1978: 135). It is organized and deployed in the forms of the discipline of the individual body and the regulations of the population, and a biopolitics of the population as “an entire series of interventions and regulatory controls” puts it into effect (Foucault 1978: 135). China’s exercise of biopower has been transformed and complicated during its transition from a socialist state to a state-led capitalist state. As Foucault (1978: 140-141) emphasizes, “biopower was indispensable element in the development of capitalism; the latter would not have possible without the controlled insertion of bodies into the machinery of production and the adjustment of the phenomenon of population to economic processes.”

China is not an exception, despite heated debates on the conceptualisation and appropriateness of the Chinese model. For instance, while Burkett and Hart-Landsberg (2005) denounce China for following the uncontrollable path towards a pro-capitalist neoliberal economy, So (2009: 50) argues that China has been shifted from neoliberal
capitalism to state developmentalism. Despite these debates, it is undeniable that neoliberal policies such as market liberalisation, privatisation of state enterprises, and decentralisation of the government's control over the economy had been increasingly practised in the 1980s and early 1990s. In other words, it means the substitution of neoliberalism for socialist-oriented economic policies in China. Nevertheless, China has as unique form of neoliberalism in that neoliberalism in China has been developed as “two seemingly contradictory yet complementary elements: a market mechanism and strong state control” (Wu 2010: 628). Since the early 1990s, the Chinese Government has more actively intervened in its economic development with various political and economic institutions and policies. Its state control and socioeconomic inequality has been justified by its overall economic growth. As Ong (2006) puts it, “neoliberalism as exceptions” and “exceptions to neoliberalism” are distinguished and understood in different ways of neoliberalisation in Asian contexts. According to her (2006: 3-4), neoliberalism as exceptions explains how the aspects of neoliberal intervention are reengineered to ensure “sovereign rule and regimes of citizenship” in non-Western countries. Conversely, exceptions to neoliberalism are politically made to “exclude populations and places from neoliberal calculations and choices,” as shown in the differentiated access of migrant workers to social welfare for the benefit of urban residents in China. Ong (2006) continues that the Chinese authoritarian state has articulated its sovereignty and citizenship intertwined with the logic of inclusion and exclusion of certain groups through its neoliberal calculation.

As the Chinese Government accelerated the economic policy of privatisation, national competition in the healthcare sector has surged over the medicine market, thereby resulting in the advertising of unnecessary drugs, financial incentives to
overprescription, consumers’ unnecessary drug use, and so on. Inasmuch as the Chinese Government cut down on public provision, more people have been driven to expensive private health services and to preventive medication rather than curative intervention (Mann 2010). Such institutional and everyday changes have been made inseparable from the global expansion of neoliberalism that has flowed into China.

In the neoliberal globalisation, the Chinese Government has tried to develop the individual’s capacities to make economic choices as entrepreneurial and sovereign citizens (Ren 2010). Despite China’s strong hold on the institutionalisation of politics and economics, China cannot avoid the pressure of the neoliberal flow of capital and trade. Simultaneously, corporations’ taking-up of the roles of the nation-state keeps increasing. China’s healthcare reform is an urgent task, in dealing with global competition and a large percent of Chinese people without insurance. In addition, since Chinese people have recently experienced the fear of exclusion resulting from epidemic diseases and environment and food contaminations, they have begun to be more actively involved in the self-management of healthcare. The redefined scope of citizenship and the accelerating privatisation of the health sector accompany these everyday feelings and practices. The neoliberal China witnesses the increasing accessibility to medicines and the increasing cost of healthcare that make more Chinese people stock their medicine cabinets with prescription and over the counter (OTC) drugs (Chen 2008).

In this thesis, I relate the above discussion of globalisation to studies in business anthropology. Business anthropology has dealt with a diversity of studies of business and organisations drawn from anthropology, sociology, and business scholarship. In effect, I suggest that deeper understanding of pharmaceutical companies situated in
various political, social and cultural contexts needs insight from business anthropology, anthropological and sociological studies of organisations, and business studies. In brief, various organisational studies focus primarily on human, social and political, and power relations as well as organisational cultures which are intertwined with bureaucracy and administration in a broad range of time and space. The existing scholarship on corporate culture and models which have been established mostly by business studies can be complemented by ethnographic studies on corporations (Chapman 2001). This thesis draws on anthropological studies on corporate culture constructed in the assemblage of specific products, group behaviours, individual and corporate identities, ethnic and national identities, human resource management and public relations (Hamada and Sibley 1994; Gellner and Hirsh 2001). Moeran’s work (2005) on strategic exchanges within and between organisations is also significant in that it sheds light on various aspects of individual and business practices influenced by different social settings and structures.

According to Jordan (2003), the key issues of business anthropology are categorised into the following four sections: marketing and consumer behaviour, product design, organisational anthropology and globalisation. In reality, these four topics are all interlinked with this thesis, which traces from the production, distribution and marketing to sales. In fact, the ethnographic approach to business practice, marketing and consumer behaviour has gained industry-wide recognition (Mariampolski 2006; Sunderland and Denny 2007; Cefkin 2009). In particular, China’s increasing presence and dynamics in global markets give more significance to the establishment of business anthropology as a disciplinary curriculum to understand
corporate culture, human resources management, marketing and transnational business (Tian 2014).

The issue of globalisation becomes one of the key topics in this thesis and is discussed in relation to multinational companies. In other words, as diseases and medicine are no longer confined within local or national levels, globalisation is inseparable from the study of pharmaceutical companies and their products. In this context, the appropriate construction of corporate culture also becomes a crucial question for CEOs and managers of foreign pharmaceutical companies. In order to analyse these issues, this thesis must include works from business studies that can provide practical insights into organisational behaviours, management, and human resources (HR) strategies. As mentioned above, the concept of glocalisation is particularly relevant in dealing with medicines as products that need to be globalised and localised at the same time for a certain market. In fact, the application of glocalisation to medicinal products is closely related to their marketing and management strategies, from products’ rebranding and the reconceptualisation of their efficacies to influence local consumers’ purchasing behaviours to the reconstruction of foreign companies’ public relations at various locales.

Methodology

1. Primary Fieldwork Site

I conducted ethnographic fieldwork in Beijing for 14 months from July 2013 through September 2014. I chose Beijing because my research meant that I needed to have easy access to public hospitals, pharmacies and pharmaceutical companies. Besides several prestigious hospitals, there are many headquarters of Chinese, multinational and foreign pharmaceutical companies in Beijing. In addition, from my
connections and preliminary research, I found several collaborators who could help me initiate fieldwork in Beijing. Recently, Shanghai has been becoming both nationally and internationally a more prominent hub of the pharmaceutical/medical research and industry. However, this thesis focuses rather on investigating the interaction the local and the global, and the modern and the traditional. In this sense, I considered Beijing as being a more suitable research site than Shanghai which is the most modernised city in Mainland China.

Figure 1. Beijing Central Map (distance 21.4 km, from Google map)
As the capital of the People’s Republic of China, Beijing is the political and cultural centre and the third largest city by urban population after Chongqing and Shanghai. The population, which was a little more than nine million in 1982, rapidly increased through the years of China’s economic development and, as of 2013, was 21,150,000.\(^{5}\) Beijing is composed of five urban and nine suburban districts and two rural counties. Of the five urban districts, Chaoyang District and Haidian District served as the main areas for my fieldwork. Chaoyang is the largest district and, as the growing central business district, is home to many multinational corporations’ (MNC) headquarters and foreign embassies. Haidian District, where several prestigious universities, including Peking, Qinghua and Renmin Universities, are located, is the educational centre of Beijing. In

addition, Zhongguancun, which is widely referred to as “China's Silicon Valley,” is the technological and economic hub of Haidian District. My daily fieldwork was conducted in libraries, pharmacies and public hospitals located in Haidian District. Pharmaceutical business-related interviews and visits were made mostly in Chaoyang District.

2. Preliminary Research Trips

Before my main fieldwork, I made three short-term preliminary research trips: to Xi’an in August 2009, Dalian in January 2012, and Shanghai and Beijing in February 2013. Through these visits, I made essential connections for my main fieldwork and came to decide on Beijing as the main field site. During my preliminary research in Beijing, I visited 12 pharmacies in both urban and suburban districts in order to observe the types of medicines and brands. I also visited four public hospitals with different scales and grades to observe consultation and treatment processes, the kinds of prescription medicines, patients’ situations, etc. In addition, I tried to find a suitable place for daily participant observation and chose to settle in Liudaokou near Wudaokou, one of the central areas of Haidian District. This place gave me relatively easy access to national and universities’ libraries, pharmacies, and several middle and large-scale public hospitals.

For regular observation, I selected three hospitals with different grades and sizes, including a Tertiary Class-A hospital and two Secondary Class-A hospitals with different sizes, within 5 km in Haidian District: Peking University Third Hospital, Beijing Haidian Hospital and Zhongguancun Hospital. Tertiary (三級 sanji) hospitals provide higher medical techniques, equipment and services with over 500 beds. These hospitals are categorised into three by their size: large, medium and small sized. The revenue of large-size tertiary hospitals is over 1 billion Ren Min Bi (RMB) and small-size hospitals
have revenue of under 0.1 billion RMB. Tertiary hospitals account for almost 80 percent of total hospitals’ drug consumption (Cheng and Zhu 2012). Here I briefly describe the above three public hospitals. Firstly, Peking University Third Hospital was established in 1958 and is one of the best public general hospitals in China. It is a Tertiary Class-A (the highest grade in the Chinese hospital grades system) hospital with 1,498 beds6. Secondly, Beijing Haidian Hospital was a Secondary Class-A hospital with 900 beds until 2014. Compared with other Secondary hospitals, its size was already much bigger. The hospital tried to heighten its grade, and a new building was being constructed during my fieldwork. I found later that the hospital’s grade was finally upgraded to Tertiary in 20157. Lastly, Zhongguancun Hospital was established in 1957 and is a Secondary Class-A hospital with 255 beds. The hospital has long used old buildings. Recently, the hospital has been constructing new buildings for renovation and expansion8.

Table 1. The Overview of Three Hospitals for Participant Observation

<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Type</th>
<th>Grade</th>
<th>Founded in</th>
<th>Employees</th>
<th>Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peking University Third Hospital</td>
<td>Public General Hospital</td>
<td>Tertiary Class-A</td>
<td>1958</td>
<td>2,631</td>
<td>1,738</td>
</tr>
<tr>
<td>Beijing Haidian Hospital</td>
<td>Public General Hospital</td>
<td>Tertiary (upgraded in 2015)</td>
<td>1955</td>
<td>1,950</td>
<td>1,000</td>
</tr>
<tr>
<td>Zhongguancun Hospital</td>
<td>Public General Hospital</td>
<td>Secondary Class-A</td>
<td>1957</td>
<td>407</td>
<td>255</td>
</tr>
</tbody>
</table>

6 From the website of Peking University Third Hospital (http://www.puh3.net.cn)
7 From the website of Beijing Haidian Hospital (http://www.hdhospital.com)
8 From the website of Zhongguancun Hospital (http://www.zgchospital.com)
Figure 3. The Front of Peking University Third Hospital (Tertiary Class-A)

Figure 4. The Front of Haidian Hospital (Secondary in 2014, Upgraded to Tertiary in 2015)
3. Informal interview and Participant Observation as a Bystander

Before I chose the above-mentioned three hospitals as my primary hospital research sites, I had planned to conduct participant observation in another Secondary hospital where my friend works as a doctor. When I asked him if there was a possibility for me to observe and talk with patients in his hospital, he gave me a positive answer but asked why I needed to do so. He seemed to think that his explanation could be enough for my research. I answered that I wanted to see and inquire about what kinds of medicines patients use and they why they preferred, which might be different opinions about these matters. Although he looked puzzled momentarily, he argued that a hospital was a public space so that my research would not pose a problem. His answer was actually what I wanted in other sense too. In fact, I did not want to go through the vexing and meticulous process of official certification for participant observation. I expected that I would have a good chance to be more involved in various hospital-related processes.
However, it did not take long that I realised that my decision was naïve. His hospital was a Secondary small-scale hospital so that my presence was relatively noticeable. Some managers soon began to feel uncomfortable with my frequent presence, although I was very careful about my behaviour in the hospital. I did not hear directly from them, but I noticed their demeanour and gaze. My friend was neither a senior doctor nor a high-rank manager who could have authority to manage such a situation. This prompted me to leave his hospital and choose other hospitals, so as not to do harm to my collaborator.

As a result, I decided to choose relatively large public hospitals. There, I tried to engage patients in casual conversations or informal interviews with hospital visitors. These interviews were conducted after I introduced myself as a Korean PhD student in anthropology at the University of Melbourne and the objectives of my research and the visitors agreed to talk, as specified for the ethics approval by the University of Melbourne. I walked around and sat on a chair in hospitals, trying to find patients who looked to have time to spare. When I had a chance, after the verbal consent procedure, I started with a question: what kinds of medicines are prescribed, or you prefer? I prepared an informed consent form written in English and Chinese to distribute to interviewees. However, during my preliminary research in China, I found that almost all interviewees preferred verbal consent over written consent. So, I chose verbal consent with a waiver of signed consent in the ethics approval procedure and used the form to explain the elements of informed consent to interviewees. I also asked about their perception regarding Western medicine and TCM. Their answers often continued to explain not only their prescribed medicines and their illnesses but also their social and educational backgrounds, individual evaluation of doctors and hospitals, etc. This was
the benefit of informal interviews that provided the certain contexts of their ways of pharmaceutical consumption and healthcare. I spoke in Chinese and mixed some English words when it was useful for our conversations. In spite of having various informal interviews, my participant observation in hospitals was conducted as a bystander with very limited immersion into the social life of hospitals.

The everyday morning scene of large-scale public hospitals starts with crowds of people for registration for a medical consultation with a doctor. Although hospitals’ registration offices open between 7–8 a.m. and 4:30 p.m. except during lunch hours, hospitals are crowded only in the morning. Of the three hospitals, Peking University Third Hospital is most crowded, and Zhongguancun Hospital is least. The atmospheres of the hospitals after morning are completely different. The hospitals become suddenly quiet with far fewer people coming for registration. Most of the hospitals’ work appeared to be completed in the morning. Other procedures after registration, including doctors’ diagnoses, diagnostic tests, and prescription and receiving medicines, also become less busy in the afternoon. Therefore, my visits to hospitals in the mornings were mainly for observation, and afternoon visits were made for casual conversations with patients who were waiting for consultation or receiving medicines.

In this way, I came to be accustomed to the hospitals’ processes and understood various patients’ situations and profiles and the differentiated features of each hospital. I casually interviewed around 90 patients, asking about their preferences of medicines, choices of doctors and hospitals, satisfaction with consultations and prescriptions, etc. I tried to make those on-the-spot interviews short and brief so as not to bother already bothered patients and their families. Most interviews did not last 10 minutes. I did not ask them for more time even though my questions were not finished. In addition,
because my participant observation was not officially granted, I should not make any noise in case patients’ complaints against me could be made. This method had a problem that it was very difficult to build rapport with patients, because most of them were outpatients. Besides this meticulous research method, confrontations with persons in pain required a sympathetic and balanced mind and attitude at the same time.

4. **Semi-Structured Interviews and Questionnaire**

Along with on-the-spot informal interviews with patients in hospitals, I conducted semi-structured interviews with pharmacists, doctors, medical students and interns, managers and workers in the pharmaceutical industry and ordinary people. In my original research plan, I prepared questions mostly for interviewees in the pharmaceutical industry and did not specifically differentiate questions by interviewees’ occupations, because, at the time, my research was designed to focus on the pharmaceutical industry. However, I came to confront a serious deadlock during the early phase of my fieldwork. Thus, I had to partly shift and extend my research focus from the pharmaceutical industry to pharmaceuticals and diverse pharmaceutical-related people and institutions. I arranged the order of questions on the following rules: from simple to complex, from factual to anecdotal and discursive, from formal to informal and from public to individual and private. I was fully aware of the list and related information, which helped me have an easy start. Then, I did not try to control interviews and minimised my intervention.

For people in the pharmaceutical industry, I asked about their pharmaceutical products, perceptions of Chinese consumers, the history of their companies, localisation efforts in the cases of foreign pharmaceutical companies, their relationship with
medical professionals and institutions and the government, and various experiences in China’s pharmaceutical industry and market. For doctors and medical students and interns, I prepared questions regarding their reasons of being doctors, perceptions of Chinese patients and hospitals, prescription trends, the level of occupational satisfaction, the influence of China’s healthcare reform on them and their hospitals. Interviews were conducted usually for one and a half hours and twice at least. At first, I planned to record interviews, but most interviewees did not want me to. Therefore, I changed to taking notes or memorising significant parts and writing down later. There were often some interviewees who interrupted me when I took notes about sensitive parts and asked me not to write down and use the information. Most of them were related with illegal or informal business behaviours or sensitive investment-related information. Such information was not used in this thesis.

In pharmacies, I conducted a questionnaire survey to acquire statistic data. However, the number of responses was small, and the data was not used for statistical results. I used it to draw rough information about what kinds of brands they were recommending and selling, influential factors in consumers’ choices, etc., according to several prevalent symptoms: cold/cough/fever, bronchial inflammation, headache, pain and indigestion. Appendix 2 in the last section of the thesis is the survey form that includes the research introduction and questions. I did not use the normal way of survey research: distribution and collection almost without human intervention. I tried a face-to-face questioning method and also wrote down specific atmosphere, contexts and interactions during visits. I hired three sociology students of Beijing University to cover more pharmacies in a short period. We visited 95 pharmacies and collected 29 cases. Thirty percent of the survey requests were accepted. In many pharmacies, we
also found, at least when we visited them, no presence of certified pharmacists who were obliged to provide consumers with expert information and guidance on drug choices and medication. They were usually called drug salespersons without official certifications, but their recommendations were not much different from those of pharmacists in most cases.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Numbers</th>
<th>Occupations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Staff</td>
<td>6</td>
<td>3 Physicians and 3 interns</td>
<td>2 Chinese and 1 Korean physicians, and three foreign interns</td>
</tr>
<tr>
<td>Pharmaceutical Company</td>
<td>5</td>
<td>3 manager-level employees, 1 employee, and 1 sales representative</td>
<td>Multinational, Chinese, and Korean pharmaceutical firms</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>1</td>
<td>1 Pharmacist</td>
<td>Former employee at Chinese pharmaceutical firm</td>
</tr>
<tr>
<td>Ordinary People</td>
<td>3</td>
<td>Realtor, Retired teacher, and Immigrant Worker</td>
<td></td>
</tr>
</tbody>
</table>

I collected several stories of medication or hospitalisation experience from other ordinary Chinese apart from key informants listed in Table 2. These interviews usually started with casual and impromptu conversations, and then I tried to have more structured interviews, with their consent on the next occasion. I came to know them through my fieldwork or just through living there. I broadly asked them about their consumption of medicines, choices and experiences of healthcare institutions such as clinics, hospitals and pharmacies, their perceptions of TCM and Western medicines, health insurance and ways of health management, etc. They were my neighbours, grocery store owners or clerks, realtors who managed my apartment, or friends. In the medical professions, I carried out semi-structured interviews with three Chinese
doctors and two Korean doctors working in Beijing. Unfortunately, I could not increase the number of interviewees. Firstly, there were limits to my connections, and, secondly, certain sensitivities of my research questions that doctors did not want to reveal openly. In situations where various informal payments and kickbacks were prevalent among medical and pharmaceutical professions, it was not easy to find interviewees who could answer frankly and openly. I tried to avoid straight questions about such problems during interviews. Instead, I euphemised or mentioned some related cases to listen to their thoughts.

Since the corruption case of GSK in 2013, it was almost impossible to have interviews with people in foreign, especially multinational, pharmaceutical companies. In effect, this news quickly spread nationwide and worldwide and influenced all related professions in hospitals as well as pharmaceutical companies. They suddenly began to hold their tongues to news reporters, researchers or the public. Despite my solely academic purpose, finding interviewees, particularly in the pharmaceutical industry, became an extremely difficult task. In this situation, my pre-planned sources of contacts were no more useful for this task. Therefore, I had to find another source and finally had one who had worked at an MPC a few years ago. Through his introduction, I contacted his previous colleagues for interviews. However, my requests were all rejected again. It looked like a deadlock without any solution until I found a way through Korean communities.

There were a few successful Korean pharmaceutical companies in Beijing. And many other Korean companies have been looking for opportunities to enter the Chinese market. Given this information and my ethnic identity as Korean, I steered my research from MPCs towards Korean pharmaceutical companies that might provide easier
accessibility. I began to take part in some activities of Korean sports communities to get to know someone connected to the pharmaceutical business. In this way, I came to meet several expatriate workers and managers of pharmaceutical companies. I could fortunately have in-depth interviews with an employee in a Clinical/Contract Research Organisation (CRO) and with a regional director of a Korean pharmaceutical-related consulting firm who had worked in Johnson & Johnson as a marketing manager for years. Nevertheless, the number of interviews and collected data were not sufficient, because of the limits of expandable connections and the research period and budget. However, the pharmaceutical business is an essential part of the social and economic construction of pharmaceutical medicine. In general, the social and economic features of medicine condition each other, frequently with much more weight on economy.

5. Archival Research and Net-ethnography

I collected various sorts of healthcare, medical and pharmaceutical-related documents. These documents include published books and journals, master and doctoral theses, news articles, pharmaceutical companies’ official business and public relations reports, government reports, government policies and regulations regarding hospitals and pharmaceutical companies and so on. Many of these documents were written in Chinese and, of course, could be more easily found within China. This task was carried out in several online and offline bookstores, the National Library of China, and Beijing and Qinghua University libraries.

As one more essential source of data, I used various websites for data collection. Besides many pharmacies in urban districts, I also found online pharmacies. Their websites provide me with various kinds of information about medicines and the features of drugs and advertisements for them. The analysis of online pharmacies helps
me to draw an overall picture about various drugs’ category related to disease symptoms, prices, brands, medication methods, and efficacies. Along with this task, advertisements and articles about medicines were collected from these websites and medical-related education websites, online and offline magazines and journals. A variety of advertisements have been distributed to hospitals, pharmacies, and general people. There are many drug advertisements in regular newspapers and I found most advertisements for MPCs’ drugs were inserted only in medical or health-related journals or magazines. From the chronological collection of advertisements, the changing items through time, focuses, and languages used in advertisements will be categorised and analysed, correlated with external factors such as changing lifestyle, market situations, and governmental regulations.

Beyond simple data collection in the Internet, “netnography” has attracted much notice not only from business and marketing fields but also from academic fields (Kozinets 2010). The development of China’s IT industry has been stunning in recent years. Its speed, coverage, expansion and popularisation are often beyond public prediction. All kinds of information on the Internet are created quickly and spread everywhere. Healthcare information is not an exception. Given that healthcare and medicine is a very expert-monopolised field in terms of its skills and knowledge (Bratucu et al. 2014), there used to be no room for ordinary people's choices and evaluations of medicines and treatment. Moreover, China's public hospitals have been reoriented by market logic and distributed unevenly both within and between urban and rural areas. As a result, people's access to quality medical services has become more difficult. Against this background, the Internet has become a space for potential consumers who try to learn and collect more medical-related information. In various
websites including not only medical-related sites but also social networking services, I could collect people’s experiences in pharmacies and hospitals, their evaluations of pharmaceuticals, doctors, pharmacies and hospitals, and their own questions and answers. In addition, I followed popular experts and hospitals in Weibo, the most popular Chinese micro-blogging website, to collect medical-related information, conversations and opinions, and so on. In this thesis I exploit netnography as a complementary method.

Reflections on the Fieldwork in Beijing

1. Guanxi Revisited

In China studies, guanxi has been known as a key notion for understanding Chinese society and culture. In fact, it is beyond the area of “understanding.” In China, it is very difficult to access a necessary person for research or business without the chain of personal relationship. Chinese personal and traditional relationship is in general called guanxi, of which the “source or origin is rural culture where kinship ties and a tradition of labour exchange and mutual aid and obligation have always been dominant” (Yang 1994: 76). Nevertheless, guanxi was not confined within rural or traditional areas. Along with the increasing mobility, it has penetrated every corner of Chinese society as a key principle of social conventional interactions. Accordingly, it is often observed that not only academic researchers but also business people try to establish, expand and strengthen their own guanxi for their own purposes. For foreign expatriates as well as Chinese business people, guanxi has been regarded as a key business tool to bypass bureaucratic procedures or barriers and thus to secure easier access to the information and resources they want (Yang 1994; Kipnis 1997).
In fact, since I chose China as my fieldwork site, I have met many China-related people to listen to their advice and experiences. All of them have emphasised the necessity of *guanxi* for the success of my fieldwork. They defined *guanxi* as a personal relationship through which I could ask a favour. In addition, they did not forget to mention that the establishment of *guanxi* should start with gift-giving and social gatherings as explained by Yang (1994) and Luo (2000). Knowing the importance of *guanxi*, for a couple of years before my fieldwork, I tried to make Chinese friends and professors who could help me initiate my fieldwork. In reality, without the help of appropriate *guanxi* in China, it seems to be almost impossible to do any ethnographic research that needs participant observation and in-depth interviews. If a researcher tries to approach an interviewee directly without going through *guanxi*, he/she would be mostly rejected.

Although I could start my participant observation and interviews with the help of my Chinese friends, it did not take long for me to realise that my relationship could hardly be called *guanxi*. It was “using” or “finding” other people’s *guanxi* rather than building up *guanxi*. In fact, the level of my relationship with Chinese friends and professors was not sufficiently developed with reciprocal trust and intimacy. Although my informants often promised that they would help my research, it was not easy for me to keep asking favours whenever they did not or could not do so. As I went through these stressful experiences, I came to feel that I was staying out of their *guanxi* boundaries. Then, did I need to focus more on building *guanxi* for this research? It would take more time, gatherings and gifts in my fieldwork situation with the limited time and budget. I strategically rethought my approach to research subjects and restarted with the shifted strategy from establishing *guanxi* to finding others’ *guanxi*. 
And I tried to build rapport with my informants, although it was not on the level of Chinese *guanxi*.

From this turning point, I began to extend my participation areas, including international and Korean academic and sports communities, rather than focusing on deepening my existing relationships. And I continued to ask my informants to introduce another interviewee. In this way, I could increase my chances of finding interviewees. In the meantime, the informal ways based on *guanxi* turned out to be easily submerged under the strong influence of national issues. For instance, China’s accusation against the British pharmaceutical giant GSK, the corruption case in 2013, became one of the most critical obstacles in my approach. Since then, the pharmaceutical industry people have begun to be cautious of their tongues. Despite my many attempts at interview, my unfledged *guanxi* or relationship had no capacity to overcome the serious influence of the corruption case. Employees in MPCs, in particular, did not want to talk with researchers or reporters.

There is one more concern about *guanxi*. According to its conventional practice, *guanxi* is based on various forms of reciprocity to maintain relationship. During my fieldwork, the problem was that only I was in the position to ask a favour. Given my purpose-oriented situation, the concept of *guanxi* does not necessarily mean making “friends.” I should have something substantial to return or at least good gifts. In this sense, I maintain that the concept of *guanxi* needs to be more elaborated and differentiated according to various situations. Although *guanxi* can start with well-established friendship, *guanxi* in my experience is a calculative and benefit-oriented concept. In this sense, *guanxi* is more significant in business relations, but I maintain
that academic research, which is not explicitly related to mutual benefits, need not to be restricted by *guanxi* practice.

One of my Chinese friends explained the core principle of *guanxi* operation with the concept of *renqing*. It literally means “human feelings and sensibilities regarding relationships.” She explained, “there are invisible rules in *guanxi*, which only Chinese people can clearly learn and understand through socialisation.” Following her explanation, the actual operation and application of *guanxi* become more ambiguous to me because it may be beyond foreigners’ grasp. *Guanxi* mainly for asking favours, as in the case of my research, necessitates careful consideration on “invisible rules” regarding the number of gatherings, contact intervals, the price and value of gifts, etiquette, etc. Such practice of *guanxi* can be comprehended through the long process of socialisation in China because it is intimately related to Chinese attitudes, emotions and values. In this sense, rapport, which is defined as a harmonious relationship that enables smooth communication, will be a better concept and practice that anthropological researchers can accept in China too until they truly find their own *guanxi* through long experiences in China. Using others’ *guanxi* can be a way to release especially foreign researchers from the widespread obsession with the establishment of *guanxi*.

2. **Impediments to Fieldwork in Beijing**

Beijing is a gigantic city. My fieldwork was not conducted in a village or town as is the case in traditional ethnographic fieldwork. I conducted participant observation mostly in three public hospitals where I had very limited accessibility. And this big city also limited my mobility. If my appointment with an interviewee was set near rush hours, for example, getting on the subway itself could be a very hard task. Everybody had to wait in a long line until they finally passed the security inspection and ticketing
gates of the station. The public transportation situation of the CBD area was unimaginable. Once, I could not get on the subway because of already packed people inside. I waited helplessly and watched another 10 crowded subways passing by. One subway staff member seemed to sense that I was a foreigner and helped me get in by pushing me into the subway. As time went by, I became accustomed to Beijing's public transportation. I gradually learned how to live in Beijing. Nevertheless, there were always even more critical and unavoidable problems.

Almost every time I got off an aeroplane at the Beijing Capital International Airport, the first thing that welcomed me was thick grey smog. During my fieldwork, the first thing I did whenever I woke up was to check out the day’s PM2.5 Air Quality Index (AQI). PM2.5 is an acronym for particulate matter with a diameter of 2.5 micrometres or less. These fine particles are well known to have harmful effects on respiratory and cardiovascular systems. In the first three months of my fieldwork from July 2013 to September 2014, the AQI values were not very critical, indicating between 100 and 200, in explanatory terms, “unhealthy for sensitive groups” and “unhealthy” respectively. Although outdoor activities in these levels would be better restrained to some extent, I did not perceive it as a big adversity against my research. As winter came, the situation changed and the AQI values soared to 400 and 500 and sometimes higher, keeping me indoors on many days. These values mean “very unhealthy” or “hazardous”. According to the U.S. Embassy index in 2013, Beijing had 148 unhealthy, 45 very unhealthy, 14 hazardous days and one day beyond index.9

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9 Also refer to “Nine Chinese Cities suffered more days of severe smog than Beijing” in The Guardian on March 12, 2014.
Another concern was about food safety. Whenever I visited China, I tried a variety of street foods and local restaurants with cheap porridges, grilled skewers, noodles and dumplings. It was an enjoyable way of adapting to Chinese society and culture, until I had a severe intestinal inflammation. In fact, before that, I had already had stomach and intestine ailments twice during my previous visits to China, although they were cured without difficulties. The last case was so severe that I had to go to see a doctor. After that, I quit street foods or cheap restaurants for as long as I could. Experiences of illness, particularly in a foreign country, are very stressful and even frightening because of unaccustomed languages, consultation processes, medicines, practices, etc. Food safety has been one of the critical problems in Chinese society and finally became a real concern to me too.

Air and food, two most essential things for living, caused mental and physical pressure on my stay in Beijing. At one moment during my long-term fieldwork, I realised that, to some extent, I had come to seemed to live a Chinese-style life. Then, I began to see more clearly how Chinese people were dealing with and living in such problems. Most of them have found informal or makeshift ways of living in their strategic acceptance or negligence of fast-changing ideologies, rules and environment. I’ve saw the fast-changing landscape comprising the demolition of aged districts and illegal shacks in the name of gentrification, the incessant construction and expansion of roads and high-rises, and the suffocating traffic and crowds in transportation and elsewhere. A horse-drawn carriage was running next to a BMW sedan in a six-lane road. Some elderly people in blue Mao suits were playing cards or mah-jongg on the side of streets and parks. As winter was coming, greyish hazy smog was becoming thicker and thicker, which kept me indoors on many days. In early spring after the smoggy winter,
willow pollen was blown away and fell to the ground like snow. As the ground was thawing, hospitals sped up construction to expand their facilities.

**Conclusion**

This thesis delves into pharmaceutical medicine within the context of the Chinese healthcare and the political economy of China. To understand various aspects of pharmaceutical medicine in China, I tried to follow pharmaceuticals from their industrial fields to their use and consumption. To understand the historical and theoretical background, I draw on studies on the economic transition to Chinese state capitalism; social science studies on pharmaceuticals, pharmaceutical penetration into underdeveloped countries; globalisation studies; and lastly, business studies on the pharmaceutical industry and market. The research methods that I employed were participant observation in three public hospitals, informal interviews with patients in those hospitals, semi-structured interviews with medical professionals and people in the pharmaceutical industry.

I also have discussed various complications that I had to confront during my fieldwork and my reflections on fieldwork itself in China. The original research focus shifted from pharmaceutical-related business practices to the larger healthcare system with focus on pharmaceuticals. As aforementioned, China’s government’s investigation into GSK’s corruption case hindered my interviews with people in the pharmaceutical industry. I could not overcome the obstacle and had to make a detour. Gropping for a roundabout route, I reconsidered the boundary of guanxi and its exchange-based aspect. I had nothing to give, in particular, business people in return for interviews. China’s anti-corruption campaign has actually limited the operation and boundary of guanxi practice that I relied on for my research.
Instead, I came to observe and hear various informal practices made by ordinary people and people in pharmaceutical medicine. This observation led me to consider more about China’s biopolitics and governmentality in its transition to a market economy. Chinese people have been finding their ways to maintain their lives and health in the coexistence of socialist remnants and capitalist markets. In the confusing transition, China’s healthcare sector and pharmaceutical industry have been fragmented and maintained with diverse makeshifts. Thus, China’s recent healthcare reform must be comprehensive and implemented in-depth. This thesis analyses these situations and processes at individual, organisational and national levels.
Chapter 3. China’s Healthcare System in Transition

Introduction

"Tell the Ministry of Public Health that it only works for fifteen percent of the total population of the country and that this fifteen percent is mainly composed of gentlemen, while the broad masses of the peasants do not get any medical treatment. First they do not have any doctors; second they do not have any medicine. ... In medical education there is no need to accept only higher middle school graduates or lower middle school graduates. It will be enough to give three years to graduates from higher primary schools. They would then study and raise their standards mainly through practice. If this kind of doctor is sent down to the countryside, even if they haven’t much talent, they would be better than quacks and witch doctors and the villages would be better able to afford to keep them. The more books one reads the more stupid one gets."


This thesis delves into China’s socio-economic structure by focusing on the pharmaceutical practices within the larger healthcare system. To provide a comprehensive picture, this chapter details historical events and changes regarding China’s health and medicine with the emphasis on their social and cultural implications. This sociocultural approach is a way to more closely understand Chinese people’s daily lives related to health and medicine. For a better understanding of the overall situation, this chapter first provides a brief overview of the pre-revolutionary period. Chinese people have witnessed China’s confrontations with Western imperials and radical transformation for over a century since the late Qing dynasty. Accordingly, the people’s
health had been necessarily and disturbingly caught in the inconsistent changes of Chinese society. The chapter moves to focus on the changing facets of the Chinese healthcare system during the Mao era since China’s communist revolution in 1949. No doubt, a series of political upheavals must have the most pervasive impact on the Chinese healthcare and medicine. Chinese people had to live under the socialist red flag for almost three decades. Then, all of a sudden, they had to adapt to the tremendous transformation towards a market economy.

In the first paragraph of this chapter, I cited Mao’s criticism of the Ministry of Public Health made a half-century ago. It was because I could find its influence on how China’s healthcare sector had been constructed. It reflects a contradictory relationship between the Chinese Communist Party (CPC) leadership and the public health ministry during the Mao era. In fact, the CPC promised to provide primary healthcare to all Chinese people at the pronouncement of the Communist Revolution in 1949. There had been unresolved problems in public health particularly regarding the distribution of limited medical resources, low quality medical products and services, and ideological and administrative conflict between doctors and the CPC leadership. Highly professionalised doctors wanted to make efforts to develop advanced medicines, and thus they resisted the government health policies focusing only on preventive medicine with low-quality drugs. As Mao’s radical plan to create the Chinese socialist system was intensively implemented during the Great Leap Forward and the Cultural Revolution, intellectual doctors began to lose their research-oriented passion and official positions and were moulded into socialised and bureaucratic medicine until they were released at the economic reform after Mao’s demise.
The chapter’s latter part focuses on the situation of China’s public health and medicine since the economic reform. Along with the economic transformation, the privatisation and commercialisation of public health were accelerated, and accordingly patients’ out-of-pocket health expenditure soared, and medical service was differentiated by patients’ socioeconomic status. Market-oriented rationality emerged in healthcare and medicine that previously had not been considered as economic (Lakoff 2005). As a result, the market-oriented policies and practices came to conflict with enduring socialist ideology and system in the healthcare system. This chapter explores this economic transformation of China’s healthcare where market-oriented practices contradicted socialist ideology. On the other hand, the CPC’s emphasis on nationalism, as the CPC’s prescription for the contradiction, was resurged for the state as a whole.

**The Modernisation of Health and Medicine under Plagues and Warfare**

This part deals with the period from the late Qing dynasty until the establishment of the People’s Republic of China in 1949. Along with Western imperial penetration, Chinese reformists were eager for the modernisation of China. In the name of modernisation, Western medicine increasingly penetrated Chinese society under the auspices of imperial powers. As the Republic of China was founded in 1912, doctors trained in Western/missionary medical schools began to institutionalise their profession and to take official positions in the health ministry. They made efforts to establish the modernised system of public health and medicine, while denouncing TCM as an unscientific medicine. In short, it was the first period of the professionalisation and institutionalisation of the Chinese public health and medicine. Nationwide health
policies were designed and implemented. However, most of them could not see the results. Unfortunately, China was harassed by a series of wars and epidemic plagues.

1. *Hygienic Modernity and Making the State*

Since the early 19th century, the Qing dynasty had been invaded firstly by Britain, successively together with other imperial powers and lastly by Japan. A series of imperial invasions led to the collapse of the Qing dynasty and the establishment of the Republic of China in 1912. At the same time, the European concepts and practices of hygiene, health and medicine were imposed on peoples in China. The modernisation of hygiene, health and medicine was carried out with the great exploitation of the Chinese natural and human resources in a way of imperial expansionism. Rogaski (2004) shows in her book how Western concepts and practices of hygiene and public health were transplanted and became crucial to the making of the Chinese modernity in the 19th and 20th centuries. According to her, “hygienic modernity as a foundational element in the creation of a nation, ... For certain parts of China, the introduction of this new vision of hygienic modernity would come suddenly and violently, with the arrival of the combined forces of the modern world’s imperial powers (2004: 164).”

During this period, another misfortune afflicted China. It was the time of plagues. From the late 19th century throughout the mid-20th century, the Qing dynasty and the Republic of China were severely haunted by a series of regional and nationwide plagues. Mortality from infectious and parasitic diseases reached four million a year until the first half of the twentieth century (Chen 1961). Traditional Chinese Medicine (TCM), which had long enjoyed a monopoly on the field of healthcare and medicine, did not have sufficient control over rampant plagues. On the other hand, such rampant epidemics became another opportunity for imperial powers to intervene in China’s
sovereignty with Western hygiene and medicine (Yu 2014: 94). It began to lead Chinese reformists to accept Western medicine as a symbol of science and progress in efforts to strengthen Chinese health and medicine.

In the meantime, it was a shifting period of health and medicine from personal health management towards the domain of public health. Against the constant harassment of imperial expansion, China had more necessities to manage their people’s health for preserving and increasing productivity, military power, and legitimacy of sovereignty. Accordingly, the transformation of Chinese public health and medicine proceeded with the official and institutional modernisation. The Department of Health Services under the Ministry of Police was established in 1905 during the late Qing dynasty (Zhang 2014: 32). And the bureaus of plague prevention were also set up and later became a central element of the Ministry of Health of the Republic of China (Yu 2014:94).

Although Western medicine extensively penetrated Chinese society, Chinese acceptance of Western medicine was very slow. Chinese people had been accustomed to TCM for thousands of years and were not prepared to believe in Western medicine. From time to time, many of them even attacked foreign physicians who were believed to practise witchcraft under the guise of medicine to harm Chinese bodies (Grant 1960). Particularly the situation of rural areas was much more severe. Western medicine was usually dealt as a last resort for some desperate Chinese patients. Ironically, a small number of Chinese elites and officials experienced the efficacies of biomedicine and became the supporters (Grant 1960). As more medical schools were established under the auspices of Western powers and Chinese reformist elites, Western medicine began to pervade out of the limited territories of missionary hospitals and Treaty Ports.
2. The Professionalisation and Institutionalisation of Medicine

The Republic of China was founded in 1912 from the opaque and chaotic entanglement of the falling dynasty, imperial presence and the urge of modernisation. While Western powers continued to enjoy the privileges of extraterritoriality in several treaty ports, China's modernisation was at least freed from the last dynasty in confusion. The modernisation process was accelerated in the field of public health and medicine too. China's first nationwide hygiene movement was assembled by an organisation that was composed of the Chinese Medical Missionary Association, the Chinese Medical Association and the Christian YMCA in 1915 (Yu 2014: 95). They focused on publicity and education campaigns about epidemics, prevention, hygiene, etc. Both the Nationalist government and the Communist government continued to adopt these massive hygiene and health campaigns to prevent communicable diseases.

In the meantime, the number of Chinese medical professionals trained in Western medicine both in mainland China and abroad, which was only several hundred by 1911, rapidly increased to 41,000 in 1950 (Sidel and Sidel 1982: 30). Although the number was still very small compared to that of TCM doctors, they tried to institutionalise themselves into professional organisations with an effort to distinguish themselves from TCM doctors and unofficially trained practitioners (Bullock and Andrews 2014: 11). They represented themselves as only legitimate medical practitioners with modern biomedicine.

As the government health institutions were established, some of the physicians in biomedicine actively began to make inroads upon official positions in the health ministries and education. For instance, the Ministry of Health was also established in 1929 for the systemic development of the Chinese public health. Many graduates from
Peking Medical Union College (PUMC) were drawn to take senior offices in the Ministry of Health and other government health institutions. Furthermore, PUMC opened up the Beiping Health Demonstration Station jointly with the municipal government for medical research and training of public health personnel (Johnson 2011: 144). In this way, Western medicine came to be dominant over the field of public health and medicine.

The institutionalisation and professionalisation proceeded in the field of health and medicine largely under the auspices of medical missionaries from Western powers. Most essential policies of public health were planned and implemented by doctors who were trained in Western medicine and positioned in the Ministry of Health. In 1929, the Chinese Ministry of Health firstly embarked on the Five-Year Plan for the national development of public health (Johnson 2011: 133). The national plan intended to provide preventive and clinical healthcare in cities and rural areas, to train unofficially trained and lower level medical personnel, and to provide nationwide maternal and child healthcare network (Johnson 2011: 133). The Ministry of Health tried to build the county health centres at the key units within provinces. Each district centre coordinated five to ten county health centres that were the key unit of the whole system. The district centres were under the control of the provincial centre. This system was planned for the appropriate distribution of medical and healthcare services. In effect, the plan was not fully implemented. It was intervened by intermittent civil wars and hostilities with Japan. Nevertheless, the Communist government inherited this public health system and developed more systematically. The county healthcare centre system became a backbone of the PRC’s public health system (Grant 1960; Chen 1961). The three-tier structure consisting of county, district and provincial institutions provided an
organisational pattern of the Communist government beyond the public health system (Grant 1960: 39).

**The Socialisation and Politicisation of Health and Medicine under Mao Zedong**

The Communist Party of China embarked on the socialist construction with the establishment of the PRC. Mao Zedong took the paramount position to lead the socialist transformation. Chinese health and medicine was politicised and reorganised accordingly. The provision of state/socialised medicine was made for free for the people, which however resulted in a waste of pharmaceuticals, financial insolvency and the quality decline of medical services (Lampton 1974). In addition, the gap of medical resources between rural and urban areas was hardly resolved, and the concentration of medical resources in urban areas was not changed. The Cultural Revolution was another radical turning point in redistribution of medical resources. Medical education was shortened for the massive supply of medical staffs, barefoot doctors were produced for the delivery of basic medical care in rural areas, and Western medicine doctors were sent to the countryside to provide medical care for rural peasants. Along with this deprofessionalisation and decentralisation of public health and medicine, mass health campaigns made a great success in the elimination of infectious diseases.


The first national plan of public health designed by the Nationalist Government did not meet its end. The civil wars between the Nationalist Party and the Communist Party and the nationwide war against Japan interrupted its implementation. After long, harsh warfare, Chinese people came to witness the establishment of the PRC. At the
same time, the CPC tried to cut off Western influences and instead began to learn from the Soviet Union as an experienced teacher. As Mao Zedong (1955) advocated:

*The socialist camp headed by the Soviet Union is strong and its ranks are united, while the imperialist camp is weak and beset by numerous insurmountable contradictions and crises.*

China’s emulation of the Soviet model occurred in a variety of fields for the socialist construction. It continued until Mao turned critical of Nikita Khrushchev’s relatively liberal reform and criticism of Stalinism in the late 1950s (Bernstein and Li 2011). Mao criticised the Soviet’s grant of too much priority to heavy industry over agriculture because agricultural peasants were considered as one of the key actors in China’s communist revolution. As a result, the conflict between the PRC and the Soviet Union deepened so that the Soviet specialists who were sent as advisers for the development of various industrial fields came to leave China in 1960 (Gao 2014: 210). Mao believed that while heavy industry should continue to be focused, more investment should be made on light industry and agriculture for peasants (Mao 1956; MacFarquhar 1974: 62). Repudiating the uncritical learning from the Soviet Union, the CPC accelerated agricultural collectivisation and the socialisation of private businesses and handicrafts in an excessive speed (Bernstein and Li 2011). Since then, China maintained a critical stance in search of a more suitable developmental model for socialist construction on its own.

Nevertheless, it was true that a wide variety of the Soviet systems were transplanted to China, including the central economic planning, the fundamentals of heavy industry, education system, and advanced science and technology. Likewise, the Chinese Ministry of Health were actively involved in the socialist reformation by
adopting the Soviet models of public health and medicine. The Chinese health and medicine came to be under medically and politically extensive influence of Soviet medicine. Besides, there was another benefit to medical professionals under the Soviet influence. At the time, there was constant conflict between the CPC leaders and medical professionals with intellectual pride. Mao himself from time to time condemned the health ministry for its scholarly or “exotic research” focuses (Lampton 1974). However, under the Soviet safeguard, the health ministry could continue to focus on various medical research (Gross and Fan 2014: 114).

Ideologically, the Chinese health ministry stuck to the notion of “medicine in the service of the people” as primary medical ethics (Gao 2014: 199). This ideological entrenchment was increasingly strengthened with the Chinese efforts of socialist construction and the influence of the Soviet Union. In fact, this ideology has been working very significantly in the Chinese public health and medicine ever since. Only spiritual rewards were emphasised for doctors’ services instead of material rewards, and medical workers were expected to serve the people with all their heart (Sidel 1982: 7). Even in recent days, their salaries have remained relatively low, compared to those of other professional jobs. In the same vein, pharmaceuticals should serve not for profit but the people.

Based mainly on the Soviet model, the CPC stated four basic guidelines for the organisation of medical care at the first National Health Congress in 1950: medicine should serve workers, peasants and soldiers; preventive medicine over therapeutic medicine; the integration of TCM with Western medicine; and, lastly, massive health movements (Sidel 1982: 28). The CPC’s emphasis on the integration of TCM with Western medicine was intended to make full use of China’s limited medical resources
According to the fourth guideline, Patriotic Health Campaign Committee was set up at all levels of governments and began to mobilise the masses for campaign and education about public health and sanitation (Zhang 2014).

In the late 1950s, as the influence and assistance of the Soviet Union were diluted, the CPC leaders’ criticism of the Ministry of Health became more intense. The Communist Party intended to place its Party members in the Ministry of Health, and public health policies were often decided by the CPC leaders. However, professional doctors were reluctant to listen to the Party leaders. In this conflict, China’s healthcare system was increasingly fragmented along with the politicisation of public health and the collectivisation of society (Sidel 1982: 33).

Despite this complicated administrative situation, a series of massive campaigns began to make remarkable results. For example, anti-schistosomiasis campaign was illustrative of mass participation that led to the elimination of various parasitic diseases. Schistosomiasis is a parasitic disease acquired from parasites released from infected freshwater snail (Gross and Fan 2014). Besides the campaign’s success in public health, it shows how long-standing endemic diseases can be exploited for political legitimacy through the CPC leaders’ manipulation of health-related ideologies. Massive health campaigns were frequently associated with Mao’s leadership and mobilised for the intensification of the Mao cult. Mao was virtually deified during the Cultural Revolution (MacFarquhar 1974: 2). In July 1958, Mao left a poem to praise the elimination of schistosomiasis in Yujiang County, while embarking on the Great Leap Forward for industrialisation.
Farewell to the God of Plague

I
So many green streams and blue hills, but to what avail?
This tiny creature left even Hua Tuo powerless!
Hundreds of villages choked with weeds, men wasted away.
Thousands of homes deserted, ghosts chanted mournfully.
Motionless, by earth I travel eighty thousand li a day,
Surveying the sky I see a myriad Milky Ways from afar.
Should the Cowherd ask tidings of the God of Plague,
Say the same grief flows down the stream of time.

II
The spring wind blows amid profuse willow wands,
Six hundred million in this land all equal Yao and Shun.
Crimson rain swirls in waves under our will,
Green mountains turn to bridges at our wish.
Gleaming mattocks fall on the Five Ridges heaven-high.
Mighty arms move to rock the earth round the Triple River.
We ask the God of Plague: “Where are you bound?”
Paper barges aflame and candlelight illuminate the sky.


The Chinese public health and economy were gradually improved as a result of the First Five Year Plan in the early 1950s. Simultaneously, by 1957 rural-urban migration significantly increased to find work and better living conditions. The urban population
increased from 11 percent in 1949 to over 15 percent in 1957 (Sidel and Sidel 1982: 36, 103). The CPC had to restrict this increasing rural-urban migration for the avoidance of over crowding in urban areas and on the other hand the stable management of agricultural production. In 1958, China’s hukou (household registration system), which has been influential up to the present, was set up and rural-urban migration was strictly controlled. In effect, the system was directly linked to individual access to education, healthcare, employment and housing (Zhang 2009). Chinese people have lived under the hukou system where many migrant workers and their dependents have suffered from no access to welfare benefits.

In the meantime, the overall progress of the Chinese economy and industry were far below Mao’s expectation. As the Party leadership put more distance from the Soviet model, Mao rushed to build a better developmental model of socialist construction than the Soviet Union. In Nov. 1957, he announced that China would surpass Britain in steel production within 15 years (Huang 1958). This Mao’s proclamation was the start of the Great Leap Forward. The Party leadership began to enforce industrialisation and the establishment of the commune system towards the ultimate transformation to communism. Mao’s faction argued that the Government had to take control of the food distribution and supply for industrialisation.

The Chinese communes were organised as both political-administrative units and the economic units of production. Under the commune system following central directions, almost all resources were distributed, and labour was mobilised to perform various production tasks (Chow 1987: 97-99). Accordingly, the agricultural collectivisation based on people’s communes was increasingly enforced and private farming and ownership were completely abolished. Each people’s commune consisted
of about 17 production brigades each of which was subdivided into four to ten production teams (Chen 1961). As the commune system was established in rural areas, most daily activities were carried out on a communal basis in public dining halls, health centres, kindergartens, nurseries, etc. The people’s commune was pictured as an egalitarian and harmonious society with good living conditions (Weigelin-Schwiedrzik 2011: 34). Even cooking at home was prohibited and “eating together at communal dining halls for free” was implemented as a primary ideological practice of communism (Manning and Wemheuer 2011). And then, the CPC diverted most labour to steel production from agricultural production.

In short, the ideally painted Great Leap Forward resulted in nationwide food shortage. Ironically, the central government did not recognise such terrible situation until millions of tragic deaths were revealed. China even continued to export a substantial amount of grain. Local officials did not want to report honestly on crop failure and disaster to avoid criticism, and the central leadership believed their fabricated reports about bumper harvest (Hua 2011). The situation finally brought about millions of deaths. It has been known that the death estimates range from 15 to 43 million (Manning and Wemheuer 2011: 1). Consequently, the CPC leadership was critically shattered by the continuous power struggle surrounding the responsibility. In the last resort, Mao seemed to take the responsibility and to withdraw from the throne. However, he returned soon with the Great Proletarian Cultural Revolution nominally for the communist revitalisation.

Even in this situation, the provision of healthcare was relatively well distributed and medical resources were controlled strictly by the three-tier referral system. China established the three-tier healthcare system in the 1950s (Chen 1961: 164; Chen and
Chen 2011: 30). The lower level consisted of municipal clinics in urban areas and county health centres in rural areas, staffed by ordinary or TCM doctors for general diagnosis and treatment of common diseases. And county or district hospitals at the middle level delivered medical services with better equipment and staffs. At the top level were specialised or general hospitals run by provincial or municipal governments or medical colleges. They were also involved in medical research and education. In the commune system, two lower tiers in rural areas were substituted with commune health centres and brigade/village clinics.

The commune ideology was strongly applied to the healthcare system where almost all people were entitled to free or insured medical care. The problem was that many of them were inclined to take advantage of the system and the pharmaceutical industry could not follow the rapid increase in demand for pharmaceuticals (Lampton 1974). The Ministry of Health was concerned about this excess demand of medicines and medical services. Besides, as long as doctors did not receive sufficient rewards and at the same time were repeatedly condemned by the Party leaders, they would not actively intervene to halt the problem. Lampton (1974: 688) shows a few cartoons about drug waste including the following one printed in newspapers then.
Besides the problem of drug waste, the qualities of medical service in commune and brigade clinics and hospitals were very low so that many patients wanted to bypass these centres. Although such bypassing trials frequently occurred, at the time the health ministries could strictly control the referral cases to the top tier hospitals to avoid waste of medical resources and overcrowding (Lampton 1974). In operational principle, a health clinic in each commune was run by the Commune Party Committee and funded by the commune itself. Therefore, decrease in crop production during the Great Leap Forward directly meant a financial cut in medical services. Just in a few years, the commune system of healthcare had to confront financial insolvency from the overuse of medical services and decreased fund.

Medical education also went through radical changes against the situation of wide gap of medical resources between rural and urban areas. According to Mao’s
announcement on education in 1958, education should serve proletarian politics and should be shortened for productivity (Lampton 1974: 670). The number of doctors trained for three years was radically increased. Although Premier Zhou Enlai tried to push a policy that at least higher-level education in key medical schools should be lengthened to raise the quality of research and education, mass production of medical staffs and medicines was the main target of China’s public health policy (ibid.). Despite the overall workforce increase, commune health centres were staffed by TCM doctors or low/middle-level doctors. The urban concentration of quality medical resources and Western medicine doctors was hardly changed. Doctors’ medical knowledge and skills were differentiated by their training period and institutional affiliations. In short, the overall quality of medical service declined, of which negative impact has been made on the Chinese healthcare until today.

The failure of the healthcare system during the Great Leap Forward resulted not only from the abovementioned problems but also from the “divided policy-making” (Lampton 1974: 698). In the responsibility of healthcare and policy-making, the communes took over the responsibility in rural areas, while the Ministry of Health kept managing urban healthcare (Lampton 1974; Sidel and Sidel 1982). Mao did not consider seriously the health ministry’s concerns over losing coherent policies. His health policy direction focused on mass campaigns and anti-parasite work (Lampton 1974: 681). In spite of some successes in the elimination of parasitic diseases, China’s health policies and system were fragmented and aggravated by the CPC leadership’s unwillingness of coordination.
Adopting the reactionary stand of the bourgeoisie, some leading comrades have enforced a bourgeois dictatorship and struck down the surging movement of the great cultural revolution of the proletariat. They have stood facts on their head and juggled black and white, encircled and suppressed revolutionaries, stifled opinions differing from their own, imposed a white terror, and felt very pleased with themselves. They have puffed up the arrogance of the bourgeoisie and deflated the morale of the proletariat.

“Bombard the Headquarters – My Big Character Post”, August 5, 1966

Mao Zedong, who seemed to withdraw from the paramount power after the Great Leap Forward, returned with the sharp criticisms of the Ministry of Health and the Party leadership, according to Mao, tainted by selfish intellectualism and bourgeoisie dictatorship. In spite of the widespread recognition of Mao’s responsibility for millions of deaths, he could return and began to make a wide range of persecution and expulsion. He successfully turned his catastrophic leadership failure in dealing with agricultural production and distribution into class struggle under his leadership. Aiming at the remnants of bourgeois and capitalists, he mobilised the youth force for class struggles against “four olds”: old ideas, culture, customs and habits of the exploiting class. All schools and universities, even including primary schools, were temporarily closed in the summer of 1966 and students could join the Red Guards and devote themselves to the Cultural Revolution (MacFarquar and Schoenhals 2006: 60). Schools began classes in 1968 according to the reformed educational system that favoured rural and working classes and prioritised practical experience and knowledge (Teiwes 1974; Bonavia 1978).

Traditional medicine, of which integration with Western medicine had been advocated by the CPC, came to be criticised as an old thing and thus the number of TCM doctors radically declined (Scheid and Lei 2014: 257). Western medicine also could not be an exception to the anti-bourgeoisie revolution. A number of senior Western-style doctors were branded as bourgeois intellectuals and often subjected to abuse and torture. Many others in Western medicine were sent to the countryside to be engaged in both farming and medical service. The Cultural Revolution made ‘learning’ itself problematic and dangerous, as shown in criticism of the “petty bourgeoisie intellectuals.” Whoever tried to learn more easily became the targets of criticism of intellectual pursuit (Sidel and Sidel 1982: 52). Such accusations and persecutions occurred in a frenzy of violence and extended among neighbours, co-workers, family members, teachers and students, and so on.

Rural areas, which were devastated by the Great Leap Forward, had a constant scarcity of medical resources. Following Mao’s directive, the CPC produced a number of peasant health workers called ‘barefoot doctors’. Their tasks were confined to low level medical care of which skills were acquired even in a couple of months. After quick training, barefoot doctors returned to their own villages for delivering primary medical care and health education, sanitation and immunisations, while doing agricultural work (Sidel and Sidel 1982: 38). In the radical socialisation of the healthcare system, this medical de-professionalisation was enforced as a nationwide class struggle against doctors who had a long-standing monopoly on medical knowledge and practices (Wilenski 1977). As a result, a considerable amount of medical staff and resources, which were mostly concentrated within urban areas, were reassigned to rural areas and reorganised under the political cadre network.
The hukou system, which was established during the Great Leap Forward, continued to work to limit rural-to-urban migration. At the same time, many young and educated urban residents were sent to the countryside. Nationwide mass hygiene and health campaigns led to a considerable disappearance of various endemic diseases and the dramatic increase of life expectancy. Due to these reasons, the rural population rapidly increased, which resulted in a financial problem for medical service provision. For the better financing for the rural healthcare, the CPC actively advocated the Rural Cooperative Medical Scheme (RCMS). The key point of the Scheme was to decrease the financial burden of the communes. The communes could decrease their annual membership fee by substituting local medicines for expensive Western medicines and by more strictly limiting referral cases to higher-grade hospitals (Sidel and Sidel 1982: 46).

Healthcare for urban residents was covered by the work-unit based Labour Insurance Scheme (LIS) and the Government Employee Insurance Scheme (GIS) for government employees (Liu 2002; Eggleston 2012). Modelled on barefoot doctors, the CPC produced the Red Medical Workers for providing primary medical care. They were usually housewives trained for a month and worked at the residents’ committee health stations. Like barefoot doctors, they conducted sanitation and immunisation work, provided simple medical care for patients with minor illnesses and referred serious cases to the neighbourhood hospitals staffed by professional medical personnel (Sidel and Sidel 1982: 50). In urban areas, the residents’ committee health stations, the neighbourhood hospitals and district hospitals formed the urban three-tier healthcare system.
China’s three-tier healthcare system was organised more efficiently and operated with state’s funding, encouraging high levels of primary care (Manuel 2010: 840). Despite the overall success of the healthcare system, the quality issues of shortly trained medical personnel began to emerge. People’s suffering from misdiagnosis and malpractice were more frequently witnessed during these days. Despite Mao’s persistence on preventive medicine and the quantity over quality of medical resource, the Party’s minimal effort to shift emphasis on quality from quantity could not help but surface. The number of barefoot doctors began to be restricted and more professional training was provided in the mid-1970s. Before long, China finally came to see the end of the Cultural Revolution and China’s healthcare system was transferred to a market economy.

In sum, during this period, both the rural and urban healthcare system operated on the three-tier healthcare network, which could tightly and effectively control and distribute China’s limited medical resources. Although overall healthcare quality became low, widespread availability of basic medicines and easy accessibility to healthcare along with nationwide mass health campaigns resulted in successful health outcomes. For instances, various infectious diseases were almost eliminated or under control. From 1949 to 1979 infant mortality rate dropped from 200 to 56 per 1,000 and life expectancy spectacularly increased from about 35 to 68 years (Sidel and Sidel 1982). Given these successful outcomes, China’s healthcare system was even suggested as a model for other underdeveloped and developing countries with limited resources (Sidel and Sidel 1982; Xing 1999).
Neglected Public Health: China’s Economic Reform in 1978 to the SARS Outbreak

With the demise of Mao Zedong in 1976, the Cultural Revolution ended. As soon as Deng Xiaoping took control of the Party, he embarked on the open-up policy. His policy direction was well expressed in his famous remark: “It does not matter whether the cat is black or white, as long as it catches mice.” As the rural communes and the urban neighbourhood committees were dismantled, the three-tier healthcare network, which had sustained the virtually universal provision of primary healthcare, was crippled. In 1980, the State Council approved private medical practices (Mocan et al. 2000). Household responsibility system was adopted for the stimulation of economic development. Accordingly, healthcare responsibility was returned to individual households.

The extensive economic transformation has made abrupt changes in lifestyles and has deteriorated environmental conditions, which have resulted in rising death rates from chronic diseases such as lung cancer and heart diseases throughout the 1980s and 1990s (Herd 2010). Although Chinese people have more choices for medical services without previous restraints, some of them with chronic diseases have been easily driven into poverty (Herd 2010). And such situation has been exacerbated by the soaring cost of medical services resulting largely from privatisation and commercialisation of medical institutions. However, these issues in healthcare were confined within China’s domestic boundary and hidden under the dramatic economic development until the SARS outbreak in 2003.

1. Privatisation and Commercialisation of Healthcare
Along with the economic transformation, public healthcare provision was suddenly reduced and rapidly privatised, based on fee-for-service. In other words, the responsibility of health and medical care was transferred from the central government to the local governments and lastly and mostly to individuals, following the “household responsibility” system (Renshaw 2014: 327). Under this new system, Chinese people were released from the collective economy and came to be able to pursue their own profits. Without a doubt, it immediately led to great success in the economy. Instead, Chinese people had to take care of their health by themselves.

During this period, China’s economy developed at the stunning speed. Its GDP grew at the average annual rate of 9.4 percent, while those of the U.S. and Japan remained around 4 percent. In fact, it is more surprising that the average annual growth rate of health expenditure was 12 percent, higher than the GDP growth rate. Nevertheless, the government contribution to the total healthcare spending dwindled from 32 percent in 1978 to 17 percent in 2004 (Manuel 2010; You 2010). It directly means the rapid increase of out-of-pocket expenditure on medical care, which reached a peak of about 60 percent of the total healthcare expenditure by 2000.11

The impact on the rural population was much more abrupt and extensive with the sudden collapse of the communes. Contrary to the rural population, many urban residents could continue to benefit from insured medical care under LIS and GIS. However, the urban situation was also gradually changed. In the market-oriented development of the economy, many state-owned enterprises (SOE) went bankrupt. As a

result, many urban residents came to lose their medical insurance. In the late 1990s, 90 percent of the rural population and over 50 percent of the urban population were uninsured by any health insurance (Long et al. 2013).

Public hospitals also could not avoid such transformation. Before the economic reform, the government’s direct subsidies and social insurance schemes covered public hospital budgets and the cost of medical services (Dong 2001; World Bank 2010). This budgetary system made a secure foundation for accessible and affordable healthcare. However, along with the privatisation of public health institutions, the government subsidy for public hospitals’ revenues dropped to 35 percent in 1995 and about 10 percent by the early 2000s (Manuel 2010; World Bank 2010). In order to make up for hospitals’ deficits, the government introduced a performance-related pay system, simply known as a bonus system, to public hospitals. It was introduced not only for productivity and cost recovery, but also for financial rewards of doctors’ services. The central government has set doctors’ wages and put the price regulation on medical services. After the introduction of a bonus system, doctors could be paid more depending on the hospitals’ profits. Unfortunately, doctors have begun to behave like entrepreneurs to make more profits and many of them frequently found it from over-prescribing and requiring unnecessary tests or examinations (Yip and Hsiao 2008; Eggleston 2012).

As a well-known example, there was the nationwide overuse of antibiotics and the consequent increase in microbial resistant to antibiotics among Chinese people (Dong et al. 1999; Jin et al. 2011). The widespread overprescription of intravenous infusions was also observed frequently. Many Chinese patients tend to accept the prescription of an intravenous infusion as a necessary step of medical treatments irrespective of the
degrees of their illnesses. As another way of making profits, doctors have been inclined to prescribe Western branded pharmaceuticals rather than local medicines because of the higher markup allowance of Western medicines (Renshaw 2014: 328). In short, the overall privatisation process and doctors’ profit-pursing behaviours have radically increased patients’ out-of-pocket expenditure on medical care.

In reality, the financial decentralisation of public health after the economic reform led to the urban concentration of medical resources again. During the Mao era, most people had equal access to medical care to a great extent. As the financial decentralisation was associated with a bonus system, larger and better-equipped hospitals could make more profits and pay more wages. As a result, more qualified medical staffs tried to seek employment in hospitals in cities (Manuel 2010: 853). In rural areas, many barefoot doctors opened private clinics, but their medical quality was considered very low so that many rural residents tended to choose higher-grade urban hospitals. While people with higher socioeconomic status have received more advantages in access to better medical service, people with poor socioeconomic status have been seriously disadvantaged (Liu et al.: 2002). In short, the privatisation of public health accelerated the differentiation of medical service by patients’ socioeconomic status and residential regions.

As quality medical care was increasingly concentrated in cities, the urban public hospitals came to be extremely overcrowded. Although patients’ illness was not so serious, they preferred city hospitals. As a result, in the early 1990s, the average occupancy rate of urban hospitals was 85 percent, while that of rural hospitals dropped to under 50 percent (Renshaw 2014: 327). Despite this complication, the central government’s funding to the health sector kept decreasing and the number of hospitals
barely increased during the 1980s and 1990s. The healthcare providers were short of hands to take care of China’s growing population.

During this period, the government announced several healthcare related reforms as make-shifts against the aforementioned complications. However, any optimistic results were not observed until the mid-2000s. In addition to the increase of out-of-pocket expenditure, the insured rate of the Chinese population continued to decrease and patients’ dissatisfaction with medical services continued to rise (World Bank 1993; Manuel 2010). As abovementioned, the government withdrawal from the public health resulted in the unethical behaviours of medical professions. The Chinese public hospital, which used to be a symbol of socialist ideology and practice, were thrown into the complex mix of socialist, capitalist and ethical questions.

2. The Rise of Nationalism and The Entrance of MPCs

At the beginning of the economic reform, Deng Xiaoping pronounced “four cardinal principles” on which China’s future should be ideologically and constitutionally guided for modernisation and the establishment of socialism with Chinese characteristics. Four principles consist of the socialist road, the dictatorship of the proletariat, the CPC leadership, and Marxism–Leninism and Mao Zedong Thought. Nevertheless, since then, many studies have been inclined to focus on China’s market-oriented reform and some of them have predicted the imminent collapse of socialism and one-party dictatorship. Although there are numerous problems in China, it looks much more complicated to be able to explain the enduring system of China’s politics and economy and its increasing global power.

In any case, the CPC has tried to pave the way for China’s economic transformation, politically legitimising not only market-oriented ideology but also
socialist ideology. Over the course of the contemporary history of China, it has undergone not only the communist and economic transformation successively but also an ideological transformation with continuity and discontinuity in various levels (Zhou 2011). As seen in the Deng’s pronouncement, Marxism-Leninism and Mao Zedong Thought have been ideologically prerequisite for the Chinese transformation, although Deng repudiated Mao’s radical socialism at least.

Michel Foucault points out that power and knowledge are inextricably interdependent and various relations of power cannot be established or implemented “without the production, accumulation, circulation and functioning of a discourse” (Foucault 1980: 93). According to him, power “needs to be considered as a productive network which runs through the whole social body, much more than as a negative instance whose function is repression” (Foucault 1980: 119). It must be rational as long as governmentality is guaranteed. In the making of contemporary China, the government has formulated and circulated various political discourses that function as social and ideological control (Xing 1999). For instance, at various levels, the Mao cult continues to be reproduced and working as a political, ideological and cultural discourse in the contemporary Chinese society. The big portrait of Mao Zedong is being displayed on the wall of Tiananmen and many Chinese are talking proudly about the greatness of Chairman Mao. Any denunciation of Mao in public has been a taboo.

China’s dominant ideological values and discourses have shifted along with the changes in the Party leadership. They have a series of ideological representations from Mao’s radical socialism to Deng’s socialist road with Chinese characteristics, Hu Jintao’s harmonious society and presently Xi Jinping’s core socialist values. Each ideological value has been formulated by the respective Party leadership, which is applied to the
Chinese healthcare policy too. China’s healthcare as an integral part of social welfare has never been free from the ideological shift. In particular, Deng's ideological shifts towards building a socialist market economy brought about nationwide controversies over the coexistence between socialism and a free market. Still, the CPC has maintained twofold directions for the legitimisation of the CPC's dominance: ideological continuity and practical adaptation. However, contradictions are frequently observed in both directions' dialectics, and are more conspicuous in the healthcare system.

After the Tiananmen Square Protests in 1989, which the CPC regarded as a critical challenge to its governance, the CPC’s attitude towards Chinese people radically shifted. Deng Xiaoping emphasised the people's education, and "his government launched a systematic effort to extinguish their political longings and to mould them into patriotic subjects focused on nationalism and money." Market-oriented behaviours were encouraged more intensely, and nationalism was resurfaced significantly for the stability of the state as a whole. At the same time, central political control was intensified and various forms of censorships on the people's expression of ideas were strengthened. "Patriotic education campaign" was launched in 1991 to arouse loyalty to the CPC leadership and to seek the stability of governmentality. The CPC reemphasised the necessity of the economic reform and the CPC leadership for the national interest in the competitive and increasing globalisation.

In fact, the resurgence of nationalism and the emphasis of the market-oriented reform more contradicted with the socialist ideology based on egalitarianism and

proletarian dictatorship. The ethics of medical professions inherited from the Mao regime, "serving the people wholeheartedly," was also in conflict with the market-oriented healthcare reform (Yang 2009). The government’s wage control has been used as a very fundamental measure to impose the socialist ideology on the Chinese doctors. Instead, they have been given bonuses according to their performance. Their ideological commitment has been intervened, distorted or concealed by the growing allowance of profit-pursuit behaviours.

In the meantime, such contradiction was theoretically yet incompletely rationalised as an essential process that the CPC should lead in the middle of the socialist road through the economic reform towards the achievement of communism (Zhou 2011). Although the CPC has adopted practical ideologies for modernisation and economic transformation, socialist ideology as a fundamental is inscribed in the constitution for the legitimisation of the CPC leadership. Between practical and fundamental ideologies, the CPC has exploited nationalism as an ideological weapon to fight against Western capitalist countries in the global market.

Even in the rising political and social unrest in the 1990s, China did not hesitate to speed up its economic growth. China’s pharmaceutical industry has been growing fast as a provider and producer of pharmaceuticals and medical equipment. In fact, China’s pharmaceutical industry, which used to be managed by the government, was deficient in fine technologies of production and management, and was highly fragmented under the loose control of the government in the 1980s. This situation accentuated the significance of MPCs for the Chinese economic and healthcare reforms. As soon as Deng Xiaoping introduced the advantages of a market system into the Chinese socialist system, MPCs began to seek an opportunity to enter the Chinese market. They took a
chance through a technology-transfer agreement that China required for its rapid industrialisation. In addition, the declaration of neoliberalism made in the U.S. and Britain coincidentally synchronised China’s economic reformation (Harvey 2005). This international environment opened opportunities for the Chinese Government to find low-interest loans from the World Bank, the International Monetary Fund, and foreign governments and corporations (Sidel and Sidel 1982:192). As a result, Sino-foreign joint ventures have been increasingly founded and their products started to penetrate Chinese society.

Nevertheless, MPCs’ decision to enter China seemed extremely risky. Because there was no patent law for new drugs in China, the Chinese pharmaceutical companies could copy global pharmaceuticals without regulations. The CPC maintained that medicines should not have patent protection and be easily accessed for the people’s health (Deng and Katin 2004). As the Chinese economy has been involved in the global economy, the international pressure on counterfeit drugs has grown too. Therefore, the Chinese Government finally enacted a patent law in 1993, although the law’s effectiveness has always been in doubt (Deng and Katin 2004; Mann 2010). A number of cases of protectionism and counterfeit drugs continue to be reported even after China’s affiliation to the WTO in Dec. 2001. Nevertheless, major MPCs established Sino-foreign joint ventures, maintaining their superior positions and expanding market share, and many other foreign pharmaceutical companies have followed.

**Towards Systemic Change in China’s Healthcare Reform (2003–2009)**

1. **The SARS Epidemic: Lost Face and Healthcare Reform**

   China was taking pride in its dramatic economic development and the improvement of the people's living standards at the inception of the 21st century. Given
such achievements and confidence, the Chinese Government actively involved itself in the global trade along its entry to the World Trade Organization (WTO) in 2001. On the other hand, China’s two decades of concentration on the economic growth came to meet a grave turning point in its governmentality in November 2002. The Severe Acute Respiratory Syndrome (SARS) outbreak occurred and resulted in 648 deaths in China and spread to many other countries. As soon as the SARS outbreak was revealed to the outside world, it was considered as a critical threat not only to Chinese health but also to global health (Kleinman and Watson 2006). The strained worldwide responses to the SARS outbreak were made on concerns over the possibility of its pandemic spread. Accelerating global mobility has concretised global health concerns where no individual country can be excluded.

At the time of the SARS outbreak, there were no established diagnosis and treatment because of its rarity. The situation was exacerbated by the reduced access to primary and preventive medical care and the Chinese Government’s concealment of the outbreak for a few months. China, which could not control the epidemic within its territory, finally apologised to other countries for its lack of openness and admitted the weakness and incapability of its healthcare system. The Chinese Government lost face in front of other nations. “Losing face” is traditionally one of the most loathsome incidents for Chinese people. The SARS epidemic provided the first cause for losing face after the establishment of the PRC. China’s political situation was also not favourable. It was the politically sensitive period in which the CPC leadership transition was proceeding from Jiang Zemin to Hu Jintao. Losing face in the international arena must be considered critical to the grand formation of China’s new leadership. China was in urgent need of
showing the national efforts to improve China’s healthcare system and contribute to global health.

When Hu Jintao took office in 2003, he inherited the ruling philosophy from previous leaders: the establishment of a “moderately prosperous (小康 xiaokang)” society. The concept is originated from a Confucius concept of an ideal society in which people work hard for their families, lead a well-off life and enjoy orderliness of the environment (Xu 2009). Although Deng Xiaoping firstly used the term and successively Jiang Zemin and Hu Jintao followed, Hu Jintao’s adoption of the term must be differentiated from that of previous leaders. China’s economy and its shades have grown together for two decades. Against the nationwide recognition of unequal distribution of wealth, inaccessibility to decent social welfare and health and environment degradation, Hu’s government did not publicise the term only for economic development and prosperity. The new CPC leadership issued the Resolution on Major Issues Regarding the Building of a Harmonious Socialist Society in 2006. The adoption of the term of “Harmonious Society” was an official response of Hu's government to the increasing social and economic inequality. Of course, it does not mean that the resolution departed from the official directive made at the very inception of the economic reform, stressing that the harmonious society must be founded along the road of socialism with Chinese characteristics under the CPC leadership. In any case, the resolution opened a new horizon for more equitable orientation of development by the adjustment of income and public finance distribution and the expansion of social security coverage (Xinhua News 2006).

As an effort towards a harmonious society, the Chinese Government initiated healthcare reformation. Public hospitals were required to reconstruct their facilities
and equip themselves with safety systems and new medical equipment. The Chinese Center for Disease Control and Prevention (CDC) was reinforced for the prevention and control of communicable diseases (International Trade Association 2005). Moreover, new financing programs to increase insured population were initiated. Since the collapse of the commune system, the Cooperative Medical Scheme (CMS) for rural residents was also collapsed and only the Government Insurance Scheme (GIS) and the Labour Insurance Scheme (LIS) for the employees of the government, SOEs and collectively-owned enterprises remained. However, more SOEs went privatised or bankrupt, and many more employees lost jobs and thus LIS benefits. The Urban Employee Basic Medical Insurance (UEBMI) was newly launched to replace GIS and LIS in 1998 and contributed to the increase of insurance coverage and benefits. However, it was still very limited and financially suffered (World Bank 2010). Around 90 percent of China’s total population remained uninsured in the late 1990s.

To increase insurance coverage for the rural population, the New Rural Cooperative Medical Insurance Scheme (NCMS) was set up in 2003. And in 2007, the government initiated a subsidised voluntary insurance scheme called the Urban Resident Basic Medical Insurance (URBMI) for unemployed urban residents, including children, students and the elderly. As a result, the insured rate rapidly reached 87 percent in 2008 from 23 percent in 2003 (Barber and Yao 2010). This dramatic increase was achieved mainly by the central government’s contribution of policy and finance to stimulate insurance subscription. Local officials’ efforts could not be ignored. Their aggressive efforts were made to receive more subsidies from the central government by fulfilling the reform target (Liu and Darimont 2013: 102). It is true that these initial healthcare reforms increased people’s accessibility to medication. However, along with
the privatisation of healthcare, Chinese people’s out-of-pocket spending on medication continues to increase. As much as they have more choices of healthcare providers and medicines, they are differentiated by their social and economic status as consumers in the health market. A wealthy few choose higher-level medical providers and others make every effort to manage their health through increased and diversified utilisation (Liu and Zhao 2012).

Since the SARS epidemic, China conducted several reform experiments before embarking on the new healthcare reform in 2009. Based on experiences and lessons from pilot reforms, the CPC Central Committee and the State Council jointly issued the “Opinions on Deepening the Health Care System Reform” in 2009. In this notification, the government’s responsibility for healthcare as a common public good was emphasised and the complete privatisation and commercialisation of public hospitals were excluded (Liu and Darimont 2013) The initial stage aimed at establishing the basic healthcare system by 2011, focusing on the expansion and improvement of public health, service delivery, medical security and essential pharmaceuticals (Barber and Yao 2010).

2. China’s Integration into the Global Economy

Before proceeding to the New Healthcare Reform, I need to mention the significance of China’s accession to the World Trade Organization (WTO) in 2001. It was a historical event in which China announced its active affiliation to the global economy in accordance with the WTO rules for the encouragement of international trade and investment. Although there was a period of transition, China must lower tariff barrier and open most industrial sectors including agriculture, pharmaceutical distribution, finance and insurance for foreign investment. The restrictions on the establishment of
foreign corporations, which had long sustained for the protection of domestic corporations, must be more liberalised. The stricter observance of intellectual property rights (IPR), of which infringements had been one of the most notorious issues for foreign companies, must be enforced. In this context, China’s entry to WTO was of great significance as another opportunity for the more extensive penetration of foreign pharmaceutical corporations. At the same time, Chinese companies needed to be prepared to confront the impending international challenges and explore the global markets (PMMI 2001). The Chinese Government has embarked on the reform of the pharmaceutical industry, including the industry consolidation, restructuration and reorganisation, and stimulus package for innovation. The result of the industrial reform began to surface in the late 2000s.

The improvement of IPR protection has had a significant impact particularly on high-tech industries such as the pharmaceutical industry, although there are contradictory discussions about benefits from strong IPR protection in developing countries (Li 2002). At any rate, China had to strengthen its IPR protection and enforcement under the WTO agreement on TRIPS. Despite debates about its advantages or disadvantages, Chinese companies, which plan to enter the global market, must comply with international IPR rules. Since China’s accession to WTO, foreign pharmaceutical companies have increased their investment and patent applications (Li 2002: 98). On the other hand, the pressure from strengthened IPR protection has stimulated the changes of domestic pharmaceutical companies that had almost freely imitated and copied foreign products. Along with the development of China’s pharmaceutical market and regulatory framework since then, there has been an improvement in China’s enforcement of IPR protection. However, according to the US
Congress report on China’s WTO compliance (USTR 2014), China’s compliance with pharmaceutical patents under the TRIPS agreement has not been fully implemented. In addition, China’s guideline and procedure of foreign companies’ applications for pharmaceutical patent or sales in China are very restrictive and ambiguous. Foreign pharmaceutical companies have complained that some pharmaceutical patents granted in other developed countries were rejected or China’s regulatory approval was often delayed. As a result, they can lose an opportunity to introduce new drugs to China or begin to sell them with a shortened period of patent protection (Fernandez and Underwood 2006: 124).

In line with China’s WTO accession, many restrictions imposed on foreign investment in the pharmaceutical distribution and retail sectors have been gradually loosened (Dudek and Hutong 2002). Foreign pharmaceutical companies, which had been afflicted by limited accessibility to pharmaceutical distribution network largely monopolised by state-owned wholesale outlets, came to be able to establish their wholly-owned companies and distribution network including both wholesale and retail business (Yeung 2002). However, the Chinese distribution sector consists of numerous small- and medium-scale distributors dominating their own local areas and entangled in intimate guanxi network, which makes hard foreign players to approach their complex and closed network of distribution. So it is necessary for them to maintain close cooperation with Chinese distributors. At any rate, Chinese distribution sector was in need of change against the expansion of foreign players, which has led to the consolidation of fragmented Chinese distributors. The government has been actively involved in this consolidation process, which led to the emergence of more than ten pharmaceutical conglomerates with annual revenues of over USD 600 million.
Beyond the increase of enterprise size, the improvement of product quality and the investment in R&D have been strongly encouraged. For instance, less than 5 percent of new medicines developed in China satisfied international standards and there was no pharmaceutical drug that had acquired an international patent by the 1990s (Yeung 2002). In fact, this is still a critical issue for the healthy development of the domestic pharmaceutical industry. The mandatory Good Manufacturing Practice (GMP) certification has been implemented, but the effectiveness of its practice and inspection has often been doubted. Despite its slight increase for a decade, most Chinese companies’ R&D spending does not reach 20 percent of those of foreign MPCs. Instead, most Chinese companies have chosen strategic cooperation with MPCs for distribution of advanced medicines and technology transfer.

Even in 14 years after China’s accession, China maintains price control policy in some products. China listed several products, including pharmaceuticals, tobacco and natural gas, remaining subject to the Chinese government’s pricing guidance in its WTO accession agreement (USTR 2014: 61). China has actually increased the price control pressure in pharmaceuticals rather than makes an effort to adjust to market-based price. This policy has been implemented primarily to lessen people’s spending on medications. In the meantime, although both foreign and domestic companies have been put under pressure, domestic companies without technological capacities are situated under more severe pressure because their low quality generics are set at even lower prices (Wang 2006).

Before China’s WTO accession, foreign companies were restrained from China’s market for natural product medicines. The market has been dominated by Chinese companies, but it must be opened to foreign companies along with China’s commitment
to the WTO agreement. Since then, foreign companies have been prepared via their joint ventures to enter the market, which would face soon fierce battles between China which struggles to maintain its hegemony over natural medicines and foreign players which attempt to enter the market.

China’s affiliation to the global economy has been accelerated along with its accession to WTO. Although there are many issues regarding China’s commitments to WTO agreement, its impact has been penetrating and extensive in the pharmaceutical sector. China’s entry to WTO was pushed forward by the CPC leadership who was keen to position China in the global politics and economy. On the other hand, local governments which were severely affected by the reduction of central subsidies and had to focus on local development were for the large part excluded by the central policy arena and were often reluctant to comply with international rules (Feng 2006). In other words, although China’s involvement in the global economy cannot be reversed, its commitments to international rules are differentially made in different locales according to the social and economic situation of the locales and the complex relationship between the central leadership and the local governments.

**New Healthcare Reform (2009–2020)**

Since the SARS epidemic, the Chinese Government had made every effort to increase the coverage rate of insurance by setting up the New Rural Cooperative Medical Insurance Scheme (NCMS) for the rural population and the Urban Resident Basic Medical Insurance (URBMI) for unemployed urban residents. Although the insured rate began to increase at an alarming rate, Chinese people’s healthcare spending continued to increase and the uneven distribution of healthcare provision between the rural and urban areas remained unresolved. In 1980, the government
The share of total health expenditures was 36.2 percent and the individual out-of-pocket share was 21.2 percent. In 2004, the government share was decreased to 17 percent and the individual share soared to 53.7 percent (Cui et al. 2009). The gaps of the individual share of health expenditure and the accessibility to healthcare between the rural and urban areas and between lower-income household and higher-income household have widened. In addition, China’s public health has been rapidly implicated in health issues in relation to an aging population, an epidemiologic transition to chronic diseases, increasing obesity and communicable diseases such as tuberculosis and HIV/AIDS (Eggleston et al. 2008). The comprehensive healthcare reform was strongly required.

![Figure 6. Composition of China’s Total Health Expenditure (%), 1978–2012](image)

To develop a new healthcare system for equitable and affordable provision of healthcare for both urban and rural areas, the State Council founded the Healthcare System Coordinating Group under the leadership of the Ministry of Health (MOH) and
the National Development and Reform Commission (NDRC) in September 2006 (Liu et al. 2008; Thompson 2009). The Coordinating Group solicited ten reform proposals from outside organisations, including Beijing University, Fudan University, WHO, the World Bank and McKinsey & Company and based on those proposals, the Central Committee and the State Council promulgated the healthcare reform plan in March 2009\(^\text{13}\) (Thompson 2009). The plan consists of three stages. The initial stage, which purposed to increase basic medical insurance to more than 90 percent of the Chinese population by 2011, was completed. The second stage is planned by 2016 to establish a national essential drug system to ensure safety, quality, supply and affordability, and to strengthening fundamental health service system at grassroots level. The new healthcare reform is extended to the final stage by 2020, including public hospital reform and the establishment of universal access to basic public health services (Chen 2009; Deloitte 2011).

The great increase of the government's financial investment in the healthcare reform is essential firstly because the insurance coverage of both NCMS and URBMI relies heavily on the government subsidies. During the initial stage, the government injected USD 124 billion into the health sector and made progress: more than 95 percent of the Chinese population came to be insured (Freeman and Boynton 2011; Eggleston 2012). Although there has been a criticism of insufficient benefits from medical insurance, China prioritised the insurance coverage for virtually all Chinese in the initial stage. The national essential drug list (EDL) has been widely applied to local

\(^{13}\) The CPC Central Committee and the State Council promulgated “Opinions on Deepening Health Care Reform” on March 17, 2009 to set the direction and framework of the long-term plans for China’s healthcare reform.
reimbursement list, and 27 provinces have set up platforms for bid and purchase of medicines on EDL (Freeman and Boynton 2011). The system has led to the plummet of drug prices by 25 to 50 percent. However, low tender prices often set below cost have resulted in quality and supply issues. Because of the EDL system and lower drug prices, pharmaceutical manufacturers that have difficulties making sufficient profit tend to drop drug quality to offset their losses. In addition, some EDL drugs have disappeared from tender process and even winning bidder cannot supply drugs at the bidding price.

The government has achieved progress at the grassroots-level health system. The conditions of 2,000 county hospitals and 4,700 local health service facilities have been improved and around 3 million health workers in these areas have received professional training. For the overall improvement of public health services, the government subsidy has been invested for immunisation, maternal and child healthcare, folic acid supplements for women, screening for breast and cervix cancer, physical examination for elders and the establishment of health records (Freeman and Boynton 2011). Finally, the pilot reform of public hospitals has been launched in 16 cities to explore an optimal mechanism for the management of public hospitals (Deloitte 2011). The Chinese Government usually launches pilot reforms with different configurations in different cities before its nationwide implementation. Public hospitals need to change their payment and revenue structure that has relied mostly on pharmaceutical sales. Instead, the government subsidies need to cover shortfalls in hospital revenues. More details regarding public hospitals reform will be described in Chapter 5.
Conclusion

The differential consequences of the healthcare provision and market seem to be inconsistent with the unchanging root ideology of all forms of Chinese reforms, “serve the people.” Chinese people instantly made another common sarcastic saying, “serve the RMB (China’s currency),” by adding one more word to the original phrase. Despite the issues regarding pharmaceutical quality and abuse during the Mao era, Chinese people had relatively easy access to primary medical care at the low level healthcare centres. And when their illnesses were severe, they could be referred to higher-grade hospitals according to three-tier referral system. Thanks to this socialised healthcare system, China made successes in public health, including the elimination of various communicable diseases, the significant decrease in infant mortality and the increase in life expectancy. Such health improvement also contributed to the legitimacy of the CPC leadership, although there were catastrophic incidents of the Great Leap Forward and the Cultural Revolution.

China’s economic reform embarked in the late 1970s changed everything in China except one-party leadership and socialism as a fundamental national ideology. China’s market-oriented reform was often contradicted with the political and ideological system. The people’s dissatisfaction of such contradiction gushed out at the Tiananmen Square Protests in 1989 in the form of democratic demonstrations. The protests were violently suppressed by the CPC leadership that felt the risk of its governmentality. On the other side of China’s economic growth and the suppression of the democratic protests, China’s healthcare sector went through privatisation and differentiation. People’s access to pharmaceutical and healthcare services was dramatically differentiated by individual social and economic status. The pharmaceutical industry,
including MPCs, was rapidly developed on this privatised and differentiated healthcare system.

The splendid growth of national wealth rather than people’s welfare and health played a dominant role for the legitimacy of the CPC leadership for over two decades. In such economic logic, the people’s health had long been neglected until the SARS outbreak in 2003. In fact, if the Chinese Government could effectively control the outbreak within the Chinese territory as exposed in its initial measures against the outbreak, the extensive reform for the improvement of healthcare and medical system would not be implemented. It was more critical to the CPC leadership that China’s weakness and incapability of healthcare system were revealed to the outside world. Contrary to the Tiananmen Protests, this risk could not be suppressed within the territory. As much as the Chinese economy has been incorporated into the global economy, some risks of Chinese health have become critical threats to global health.

Since then, China has actively embarked on comprehensive healthcare reforms and the optimistic results have come to surface. However, the government investment has been still far below the people’s expectation. For instances, although almost all Chinese people are covered by any kinds of medical insurance, the benefits remain at a low level. Medical resources such as hospitals, medical staffs and their qualities are not sufficiently guaranteed. Individual out-of-pocket spending on healthcare remains high. The concentration of medical resources in urban and city areas is not resolved. Informal payments between patients and doctors and briberies from pharmaceutical companies are prevalent. In addition, due to China’s increasing economic nationalism, better quality medicines of foreign companies have difficulties to enter China’s market.
Pharmaceuticals as unique products are moving along not only the logic of economic reason but also the logic of political reason.

The new healthcare reform is in progress. The reform’s first stage was completed in 2011 and the second stage is about to end in 2016 and the final stage will be implemented until 2020. The final stage geared towards comprehensive hospital reform and universal healthcare provision is the most difficult stage. It is too early to say to what extent the reform goals will be achieved as planned. Despite some noticeable progress, many other problems remain untouched and are newly revealed. In addition, China currently confronts the overall slowdown of its economy. It is almost impossible to complete the new healthcare reform without the government’s sustained financial support among various essential necessities. In the context, the changing situations of China’s society and economy in both national and global levels need to be carefully observed in relation to the new healthcare reform.
**Chapter 4. Pharmaceutical Business under China's Economic Transition**

**Introduction**

In this neoliberal era, profit-seeking corporations have become highly technological, influential, expansive and ubiquitous. The pharmaceutical industry, in particular, clearly shows such feature with its global expansion and association with IT and biotechnology. Both technologies are among the most advanced and investment-attracted technology fields. In addition, it has been known as one of the best examples of global capitalism: cutthroat competition, incessant innovations, a strong tendency towards monopoly, intensive and entrepreneurial investment in R&D and marketing, expansive business network, and indispensable interactions between the local and the global (Angell 2004). And it is the industry that has maintained the highest profit margin among all industries, about 30 percent despite its yearly vicissitudes (KMPG 2011). For instance, among major MPCs, Pfizer made 42 percent profit margin in 2013 and GlaxoSmithKline (GSK) made 44 percent in 2014, and other major MPCs also made around 20 percent during these years. In terms of industrial monopoly, the world’s top 20 MPCs accounted for 57 percent of total global sales of medicines in 2014 (IMS Health 2015). In this global context, the cooperation of Chinese pharmaceutical companies with Western MPCs, which have advanced technologies and products as well as global distribution channel, has become essential to enter the global pharmaceutical market.

Since China’s market opening in the early 1980s, most MPCs have established their own operations in China, including Sino-foreign joint ventures, R&D facilities, and
wholly-owned subsidiaries. They have enjoyed their superior positions with their advanced systems of technology, medicines and management for the last three decades in China's pharmaceutical market. “Global health” is defined as “transnational impacts of globalisation upon health determinants and health problems” (Nichter 2008:156).

Global health as an area of research and practice focuses on health issues that transcend the territorial boundaries of states (Lee 2003) and tries to link health to heterogeneous assemblages of global processes (Janes and Corbert 2009). Pharmaceutical companies have long had a significant impact not only on health through the development and sale of their medicinal products but also health policy making regarding regulatory processes (Buse and Lee 2005). The global integration of markets has expanded the reach and scale of pharmaceutical companies and thus their business has been increasingly engaged in the health implications of international trade and power structure (Pfeiffer and Nichter 2008). Particularly MPCs as key players in global health have influenced health-related policies and regulations both within and beyond individual states and have driven the growth of the pharmaceutical market. In effect, the rapid development of the pharmaceutical industry, which is on the one hand driven by the national and global markets, is on the other hand legitimated by the hopeful future of public health (Franklin 2000). As a former marketing manager of Johnson & Johnson said during an interview, “it was good old days for multinational pharmaceutical companies. No strict regulations nor fierce competition.” In recent years, the dynamics of China’s pharmaceutical industry has been changing along the rapid development of China’s domestic pharmaceutical companies and the government’s increasing intervention through its healthcare reforms.
MPCs had long regarded China only as a source of raw materials, cheap labour for production, and clinical trials and medical research, not as a profitable market for pharmaceutical sales (Deloitte 2011). They considered that China’s domestic medicine market and consumer capacity were immature for sufficient profits even until the early 2000s. China’s two decades of economic achievement finally began to make a change in the viewpoint along with the rising standard of living and the people’s increasing concerns for health. The shift of MPCs’ perspective has been boosted by China’s accession to the WTO (World Trade Organization) in 2001. Since then, the combined forces of increasing domestic consumption with the government stimulus, healthcare reforms, and enhanced public awareness of health and environment have accelerated the shift (Deloitte 2011). In 2012, China has become the world’s third largest pharmaceutical market and is expected to become the second by 2015, outpacing Japan (KMPG 2011). Despite the global economic downturn, the investment of both domestic and foreign companies in China’s pharmaceutical market is becoming more and more competitive. Now, China has become “a strategic player” in both domestic and global pharmaceutical market, not only as a supplier of materials and labour but also a driver of R&D and consumption (Spigarelli and Wei 2012).

In this chapter, I trace the changing dynamics of China’s pharmaceutical industry since the early 1980s with a focus on its business aspect. China’s pharmaceutical industry has been situated in a mixture of its highly fragmented pharmaceutical market, the increasing presence of MPCs and foreign latecomers, the restructuring urge of the domestic pharmaceutical industry. Such situation has been in transition along with China’s increasing involvement in the global market on the one hand and the healthcare reform on the other. Given the changing dynamics of the industry, I describe the unique
situation of MPCs, Korean pharmaceutical companies, and Chinese pharmaceutical companies and their experiences in the Chinese pharmaceutical market. Each group’s situations in the market and strategies for the production and sale of products will provide a more comprehensive understanding of the political and economic complexity of China’s pharmaceutical industry.

In the global pharmaceutical market, while the growth of the major markets such as the US and Canada, Western Europe and Japan began to be falling, seven other countries, including China, India, Russia, Brazil, Mexico, South Korea and Turkey, began to emerge as new growth drives and more other countries are following. They are called “pharmerging” countries, contributing 23 percent of the global pharmaceutical sales in 2012 (IMS Health 2013). China’s pharmaceutical market has rapidly developed with the growth of domestic consumption and the huge influx of foreign investment particularly since the early 2000s. China has become the biggest “pharmerging” country and is about to become the second largest pharmaceutical market in the world. Nevertheless, foreign pharmaceutical companies are still confronting various adversities: the nationwide prevalence of IP rights infringement, the Chinese Government’s pressure on price reduction, fragmented distribution system, growing economic nationalism and so on. Some of those complications have been improved through the new healthcare reform. However, there remain unresolved issues that need China’s efforts to improve the international business environment both within and beyond China.

In sum, this chapter shows how the production and sale of certain pharmaceuticals are strategically decided and how the pharmaceutical market is differentiated by each group of companies. I also deal with the 2013 GSK’s bribery case as one of the biggest issues in the Chinese pharmaceutical industry. This case reveals
the complex situation of China’s pharmaceutical sector intertwined with Chinese political and cultural characteristics. From this case, I seek answers to the following question: why many foreign pharmaceutical companies, not only GSK, came to be involved in corruption in the Chinese market. Pharmaceuticals are unique products in that they are considered as not only commercial products for profits but also one of public goods for people’s health. During the Mao era between 1949 and 1976, China had given priority to the latter representation of medicines. After China’s economic reform in 1978, China’s minimal effort to keep a balance between pharmaceuticals’ two representations was lost and rather has been damaged by prevalent corruption. Along with the economic growth, widespread corruption in the health and medicine sector has become a serious problem that needs urgent and comprehensive measures. In this historical context, pharmaceuticals in China must be situated in the complex assemblage of different values, institutions and organisations, and are often implicated in various informalities/illegalities.

**Overview of China’s Pharmaceutical Industry**

In the early period of China’s economic reform, China’s pharmaceutical industry was abruptly in the market-oriented transition. Around 800 Chinese pharmaceutical companies produced cheap and low-quality Western generic medicines and around 600 companies produced Chinese patent medicines. Chinese patent medicines are made on the principle of traditional Chinese medicine but modernised and standardised in their formulas and production (ResearchInChina 2010; Chen et al. 2014), mostly at their small-scale manufacturing factories (Tang 2007). Regional and provincial distributors took charge of the distribution of produced medicines to various levels of hospitals, health facilities and drug stores. In the 1990s, China’s pharmaceutical market developed
constantly but lagged far behind in its rapid economic growth: China’s contribution to the global sales of pharmaceuticals was relatively small compared to other major markets including the US, Western Europe and Japan. The market soon changed in the 2000s. Several emerging markets including China accelerated its growth, whereas the double-digit annual growth rate of major pharmaceutical markets dropped to a single digit. As a result, MPCs began to pay much greater attention to China’s market. In terms of sales, the Chinese pharmaceutical market was estimated to be USD 2.6 billion in 1976 and USD 4.7 billion in 1985, contributing about 5–6 percent of the global sales (WHO 2004). For comparison, the sales value of global pharmaceutical market was USD 94.1 billion in 1985 (WHO 1988). China’s market was still small at the time, but since then, its market value has rapidly risen to USD 27.1 billion in 2006 to USD 80.9 billion in 2013 (Market Line 2014). The growth of China’s pharmaceutical market could not be ignored anymore.

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According to OECD health Statistics 2014 Definitions, sales of pharmaceutical products are based on retail prices, which means the final price paid by the customer. However, in some countries, there are possible under-reporting of pharmaceutical sales because 1) sales data may only cover drugs reimbursed by public insurances; 2) drug prices may be ex-factory/wholesale prices rather than retail prices; and 3) sales data may exclude drug consumption in hospitals.
The Chinese Government recognised the weak base of its domestic pharmaceutical industry and made an effort to introduce advanced technologies and products. In 1981, China National Pharmaceutical Foreign Trade Corporation, which is a wholly-owned subsidiary of China National Pharmaceutical Group Corporation\(^\text{15}\) (also known as Sinopharm) was established and introduced foreign investment to establish Sino-foreign joint ventures with major MPCs for the transfer of advanced technology and equipment to domestic companies (Int’l Business 2009: 162). By the early 2000s, the number of domestic pharmaceutical companies increased to about 6,000 alongside the rapid expansion of the pharmaceutical market. Most of them were accustomed to imitating foreign drugs and producing low-quality generics with no capacity for research and development (Festel 2005: 135). Nevertheless, China became a major exporting country of bulk pharmaceutical chemicals. The Chinese Government tried to increase the export amount of pharmaceutical chemicals. For the purpose, the certification of Good Manufacturing Practice (GMP) was strongly implemented for domestic pharmaceutical companies to be able to meet internationally accepted standard of quality (WHO 1988).

There are two notable aspects of the Chinese pharmaceutical market: the OTC drugs market officially and practically did not exist and secondly, about 70 percent of sales have been generated from the sales of drugs at hospital pharmacies (Swanson

\(^{15}\) China National Pharmaceutical Group Corporation (Sinopharm) is the Chinese largest pharmaceutical and healthcare corporation under State-Owned Assets Supervision and Administration Commission of the State Council. The group has 22 wholly-owned subsidiaries and holding companies and so on. Since 1980, Sinopharm has pursued international cooperation with global pharmaceutical companies and established 20 joint ventures. (www.sinopharm.com, accessed on Aug. 25, 2015)
The government officials took precaution against people’s overuse of medicines and thus encouraged people’s safe consumption of drugs behaviours (Swanson 1994). Still, many Chinese are inclined to buy OTC drugs – safe for self-medication – through doctors’ prescription for light symptoms of headache, indigestion or cold; this has made hospitals more crowded. Most pharmacies in China used to be affiliated to hospitals before the early 2000s and Chinese people were accustomed to using those pharmacies with doctors’ prescriptions.

The situation has gradually changed since the early 2000s. The sales of OTC drugs at pharmacies non-affiliated to hospitals have rapidly increased and the growth of online pharmacies has been startling in the 2010s. The Chinese Government has actively stimulated the growth of retail pharmacies to distribute pharmaceutical sales that hospitals have monopolised. For example, online pharmacies used to be allowed to sell only OTC drugs, but they are now allowed to sell prescription drugs too with doctors’ prescriptions.

Along with the rapid growth of China’s OTC drugs market, both MPCs and domestic companies began to set foot on the OTC market in the late 1990s. China’s unfledged pharmaceutical market in the 1980s suddenly changed into an arena of fierce competition. Nevertheless, MPCs such as GlaxoSmithKline and Johnson & Johnson, which were armed with global brands, advanced products, and extensive experiences in advertisement and marketing, could profit in the market by setting drug prices up to 20 times higher than local equivalents (Swanson 1994). Chen (2001: 175) describes the sudden flood of pharmaceuticals’ advertisements in Chinese urban areas in the 1990s.

In the 1990s, dozens of new advertisements for over the counter drugs for headaches, indigestion, and children’s colds were televised, printed in newspapers and magazines, and
displayed on billboards and windows. These nonprescription drugs were usually produced by a transnational company with brand name translated for the local market. The commercials had vivid images of a Chinese person, usually male, suffering with a headache, heart pain, or indigestion and taking the drug for immediate relief. Other commercials portrayed family images in which the mother would administer over the counter drugs to her children or elderly parents.

Chen’s vivid description shows the sudden shift in China’s commercial landscape from the 1980s’ industrial goods advertisements or socialist morality campaign posters to the 1990s’ burgeoning displays of daily goods including pharmaceuticals painted with the colours of Western modernity. Instead, drug prices and individual spending on medication soared exponentially so that the government had to take certain measures. In order to control the soaring prices of drugs, the government launched a pilot program for centralised bidding procurement in four provinces in 2000 and gradually extended it to a nationwide regulatory program (Yang and Li 2010). However, the bidding system has often been associated with bribery scandals. In addition, hospitals have pursued more profits from prescriptions of more expensive pharmaceuticals. Pharmaceutical companies have benefited from this situation. All players but patients in the healthcare sector seemed to enjoy the sector’s booming economics without the strict enforcement of regulations.

At the same time, the number of distributors, which were keen to benefit from the booming pharmaceutical market, soared from 2,500 in the early 1980s to over 16,000 through the 1990s (Zhou 2007). Most of them were small-scale wholesalers with the lack of sophisticated management technology but could manage due to their intimate local affiliations. As a result, China’s distribution networks became extremely
fragmented, which has made not only distribution but also the whole process of logistics complex and inefficient. At the regional and local levels, various wholesalers dominated specific provinces. The national and provincial distribution channel was composed of those various-scales multiple-layer intermediaries. In this complex situation, domestic pharmaceutical companies tried to enter the wholesale pharmaceutical business in the name of efficiency through the 1990s. However, they could not overcome the local-affiliated distribution network, which just resulted in the increase of the number of inefficient distributors. The result was severe because China’s inefficient distribution accounted for as much as 40 percent of the total production cost (Kwo 2003) and the cost was transferred to patients. The Chinese Government finally intervened to enforce the consolidation of the distribution sector, leading to the number reduction from 16,000 to 7,445 in 2004 (Zhou 2007). Compared to the US and Japan, the concentration rate of China’s distribution sector was very low yet. While the concentration rates of top three distributors in the US and Japan were 96 and 70 percent respectively, the concentration rate of China’s top three distributors – Sinopharm, Shanghai Pharmaceutical and Guangdong Jiuzhoutong Pharmaceutical – was only 21 percent in 2007 (KMPG 2011). In reality, China’s fragmented and multi-layered distribution network has been one of the most difficult factors for foreign companies to deal with in China’s market. The Chinese distribution sector consists of numerous distributors competitively dominating their own local areas and entangled in intimate guanxi network, which is not easily open to foreign companies.

The abovementioned complex situation of China’s pharmaceutical and healthcare sector has been in constant transit and finally encountered the government’s aggressive intervention through the 2009 new healthcare reform. The new healthcare reform
includes strengthening price control through the EDL (Essential Drug List) system, governmental stimulus to the OTC market growth, the reconfiguration of distribution network, and the public hospital reform. Since then, reform policies have influenced the pharmaceutical industry and provided opportunities and challenges. China’s new healthcare reform accomplished its initial stage: the basic health system set-up and the nationwide expansion of basic medical insurance. The reform entered the second stage between 2012 and 2016. The late second stage particularly focused on the EDL revision and equalisation of healthcare service between the rural and urban population. Xi Jinping’s anti-corruption campaign also plays an essential role in the strict enforcement of the healthcare reform. The final stage finally moves on the hospital reform long implicated in conflicts of interest among various players.

**Foreign Products and Advertising in China**

In this section, I start with a discussion regarding Chinese attitude and perception of foreign products. Secondly, I provide the brief history of their advertisements in China for the better understanding of China’s pharmaceutical market crowded with both local and foreign players. In China, foreign products including pharmaceuticals have gone through the changing tides of consumption by Chinese people. In fact, except several high-end products, many kinds of foreign products have been losing their market shares to some extent in the late 1990s (Zhou and Hui 2003). There are several reasons for this market change: the government’s intervention and protection for local products, consumers’ ethnocentrism, the improved quality of local products, and fading symbolic value of foreign products (Zhou and Hui 2003). Despite this market analysis, it is also true that Chinese desires for and emulation of Western brands are still observed. Chinese perceptions of Western products are complicated and sometimes even show a
paradoxical mix of desiring foreign products while claiming strong nationalistic sentiments (Tian and Dong 2011), for example, craving for high-tech electrical appliances and automobiles made by foreign companies and at the same time boycotting foreign brands.

According to Tian and Dong (2011), the meanings of Western brands are constructed in the context of the following perspectives. Historically Chinese people see Western companies and products as an imperial power to resist. On the other hand, there are some who see foreign products as the symbol of modernity, freedom, and advanced science and technology. In other words, from the nationalist perspective, Western products must be opposed and conquered by the Chinese for the redemption of past national humiliations. From the moderate and economic perspective, China must maintain harmonious relation with the West for the future of China. Drawing on this analysis, harmonious marketing strategy between localisation and globalisation is critical in order for foreign products to penetrate China’s market that is entangled in strong nationalism.

In the meantime, there is little doubt that advertising plays a key role in foreign products’ penetration because advertising delivers meanings and values with products’ information. The modern history of advertising in China can be traced back to the early 20th. China truly experienced the advertising boom in 1920s and 1930s (Lean 1995; Cochran 2000; Wang 2000). Western companies and products rushed into the Chinese market after the fall of Qing dynasty and advertising companies followed this tide. Foreign advertising agencies began to spread the images of Western products as modernised and advanced. Although they mostly targeted the affluent Chinese and Western expatriates, such symbols of foreign products were widely and gradually
infused into Chinese perception and made several successes (Wang 2000). In addition, some advertisements of Western medicines often adopted gendered images linked easily with colonial connotation as well as Western superiority (Lean 1995: 85). As observed in the image borrowed from Lean’s article (1995: 85), the advertisement of “Santal Midy” in 1935, which was imported from Paris and used to treat bladder and venereal diseases, metaphorically depicted “the passing of modern medical science from a masculine West (the Western male doctor) to a feminine consumer, China (the Chinese female patient)”. Of course, ordinary Chinese eating habits and preference for traditional Chinese medicine were hardly reoriented and the sales of Western medicines were made mostly by Chinese elites and reformists and Western expatriates. Nevertheless, the advertisements of Western medicines flooded the newspapers (Wang 2000) before the establishment of the People’s Republic of China.

This booming season ended with the Communist Revolution of China in 1949. All commercial desire and encouragement were constricted by the Chinese Government and advertising had to conform only to its socialist ideology. It was not until the economic reform in the late 1970s that all commercial advertising could re-emerge.
Since then, foreign advertising reappeared in a variety of media, having learnt from the past experiences. At the same time, the government began to regulate pharmaceutical advertisements. Despite the nationwide pursuit of economic development, socialist ideology remained as a guide for foreign advertisements. For instance, Multinational Companies (MNCs) came to witness a series of Chinese campaigns against advertising for the profit of Western products and bourgeois liberalisation throughout the 1980s (Wang 2000). MNCs’ products and advertising had to struggle to find their way through this situation. Nonetheless, China’s market moved forward so fast with its economic reform and opening policy.

The State Food and Drug Administration (SFDA, presently, China Food and Drug Association) and the State Administration for Industry & Commerce (SAIC) are responsible for the supervision of the advertising of medicines. The Advertising Law of the People’s Republic of China, effective from 1 Feb. 1995, sets out the basic rules and since then a series of amendments have been made. In addition, several regulations and laws\(^{16}\) stipulating specific conditions for advertising of medicinal products have been issued. Besides the legal regulations, the Chinese Advertising Association (CAA) was established in 1981 for reviewing advertisements before finally passing through the media review. Although submission to CAA is not mandatory, CAA has a strong influence on the smooth passage of advertisements through the final delivery in the

media. However, there are some stipulations of the advertising laws that are open to various interpretations (Wang 2000: 97). For instance, while the image of sick people, doctors, or other experts cannot be inserted in advertisements, the constitution of those images is in many cases debatable, and decisions made solely by the review board of CAA are often under the influence of provincial authorities. Wang (2000) points out that the overall advertising regulation in China is characterized by a lack of clear legal regime and indeterminate interpretations that leave room for government officials’ intervention. In addition, illegal advertising remains a major issue. According to China’s official news agency, 50,823 cases of illegal advertisements were found in the first 10 months in 2007 (Li and Huang 2009). Against this situation, the Chinese Government has taken very strict measures to eliminate illegal advertisements. In 2012, SFDA even issued a draft of Provisions for Drug Advertisements Examination, which includes a stipulation to ban all pharmaceutical advertisements from being published in the media. Needless to say, both domestic and foreign pharmaceutical companies were strongly against this draft.

**MPCs in China: Good Old Days!**

Mr Park, the former marketing manager of Johnson &Johnson (J&J), said in an interview, “We could sell our products wherever we entered in 90s.” This is backed by the market shares of MPCs in that period. In the 1990s and early 2000s, higher ranks in pharmaceutical sales were placed mostly by MPCs including Pfizer, GSK, Roche, AstraZeneca, Novartis, Merck and J&J (IMS Health 2004; Festel et al. 2005: 105). In 2003, among top 10 pharmaceutical companies, there were only two Chinese companies: Yangtze River Pharmaceutical Group and Harbin Pharmaceutical Group. However, the pharmaceutical landscape has changed very quickly. The Chinese
domestic companies, which became bigger through consolidation encouraged by the government, have placed themselves in higher ranks and pushed the MPCs out. In terms of production and distribution, MPCs cannot compete with Chinese companies.

Nevertheless, MPCs have continued to benefit from their advanced technologies and products, meaning that they have reaped greater profits relative to their sales amount (IBISWorld 2012). As mentioned, they considered China mostly a production base for export and did not pay enough attention to China’s domestic market. They were reaping immense profits in the US, Europe and Japan with medicines ‘made in China’. Such market situation changed. They witnessed the sales slowdown in major pharmaceutical markets and had to find another market to compensate for their profit cuts. Actually, they were witnessing the startling growth of China’s market, China’s entry to the WTO and the emergence of Chinese giant pharmaceutical companies. MPCs’ view of China only as a production base had to be shifted. They began to accelerate the establishment of R&D centres and various forms of partnerships in order to respond quickly to the changes of Chinese market and consumers. In other words, MPCs have selected “glocalisation” as a new strategy to overcome local challenges to the Western-centred globalisation and to penetrate more deeply into local markets. MPCs have accelerated the localisation of medicines and organisations. At the same time, they have also increased the conduct of clinical trials mainly because of fast patient recruitment from a large pool of potential patients of the largest population and low cost of related services and salaries (Kong 2014).

In the following section, I draw the development history of Xi’an-Janssen, a manufacturing subsidiary of J&J, and the GSK bribery case to show the situation of MPCs in China. In fact, Western MPCs did not first enter China. Japanese pharmaceutical giant
Otsuka established the first Sino-foreign pharmaceutical joint venture in Shanghai in 1981 and began to make its official investment in 1984. However, its investment was quickly surpassed by Western MPCs. This is why I brought Western MPCs into focus. In 1985, Xi’an-Janssen was established as the first Sino-Western pharmaceutical joint venture. Since then, Tianjin Smith Kline and other Western MPCs followed into cooperation with the Chinese state-owned pharmaceutical companies.

**Johnson & Johnson, the First Western Pioneer in the Post-Mao China**

J&J has a history of 130 years, founded with surgical and wound care products in 1886 in New Brunswick, NJ, the US. The company has grown into one of the largest MPCs in the world through a wide range of mergers, acquisitions and the establishments of new subsidiary companies worldwide. In 1985, J&J took a chance to enter China and founded Xi’an-Janssen Pharmaceutical in Xi’an, northwest China. It was then the first and largest Sino-Western pharmaceutical manufacturing company in China after the economic reform. J&J was the first American pioneer in China’s pharmaceutical market that explored Chinese domestic market before other MPCs. Mr Park, the former marketing manager of J&J said that J&J led the Chinese pharmaceutical market with their innovative technologies and medicines and gradually expanded into the market of various daily care products including nutritional and skin care products.

In the Chinese pharmaceutical sector, J&J had enjoyed a great success until it was overtaken by other MPCs equipped with more diversified medicines. Mr Park said that

17 This part refers to the company information and reports in the J&J’s subsidiary companies’ websites, Paul Janssen Award website (www.pauljanssenaward.com) and my interviews with a formal marketing manager. Most data were accessed before the J&J websites’ remodeling, so some of them cannot be accessed presently.
J&J tried to achieve the higher level of localisation in its management and products, but instead missed several chances to invest in R&D-focused companies to secure more diversified new medicines.

However, J&J has maintained its leading position at least in the OTC drugs market despite the market’s relatively small size. This explains J&J’s high level of localisation and penetration into the Chinese market. Most OTC drugs have been supplied by many small-scale domestic manufacturers. It means that the Chinese OTC market is very localised and competitive. Secondly, to sell OTC drugs in China, those drugs need to pass through the government meticulous examination for approval, which is extremely difficult if the drug is not new or innovative. Almost all managers of foreign pharmaceutical companies which try to enter China have complained about difficult approvals. Many small-scale companies only with generics and limited budgets have tended to give up during the approval process. However, J&J, which had well-established *guanxi* with Chinese officials as well as localised and advanced products, gained a foothold in China’s pharmaceuticals, especially OTC drugs market. In this section, the penetration history of J&J into China is described in terms of their strategies regarding marketing, localisation and relationship with the Chinese Government.

In order to understand the presence of J&J in China, I need to start with Janssen Pharmaceuticals. This R&D-focused company was originally founded by Dr Paul Janssen in Belgium in 1953 and was acquired by J&J in 1961. This acquisition was made in the J&J’s efforts to broaden its medical and pharmaceutical products lines. Since then, Janssen Pharmaceuticals, Inc. became a subsidiary pharmaceutical company of J&J. Based on Janssen's various patents and innovative medicines, J&J more quickly expanded into global pharmaceutical market. Janssen’s founder and well-known
pharmaceutical researcher, Paul Janssen is acknowledged as a stepping-stone for J&J's entry into China. He made his first visit to China in 1976 and began to establish good relationship with Chinese officials and medical professionals. According to Mr Park, Janssen could visit China because Belgium already established diplomatic relations in 1971 before the US did. His experience and guanxi in China made a good opportunity for J&J, resulting in the establishment of Xi’an Janssen Pharmaceutical. Xi’an Janssen is one of the Janssen Pharmaceutical companies of J&J and a Sino-foreign joint venture co-invested by Janssen Pharmaceutical, which owns 52 percent of the shares, and four Chinese state-owned companies including Shaanxi Pharmaceutical Administration, Shaanxi Hanjiang Pharmaceutical Group, China National Pharmaceutical Industry Corporation and China National Foreign Trade Corporation.

Based on Janssen’s relationship with Chinese officials and advanced products, J&J began to penetrate China. On the previous website of Xi’an Janssen, “Health and Science” were being displayed as two key business words, successively followed by four core values, “Trust, Commitment, Dream and Future.” These key words represent Western advanced technology to lead the Chinese unfledged pharmaceutical and medical sector. It is true that this ideology is still working in various industrial fields of China and has infiltrated Chinese consumer culture. On the other hand, the rapid growth of Chinese domestic industries and Chinese rising pride is challenging Western ‘superiority’. The recently remodelled website of Xi’an Janssen clearly shows this change, focusing on Janssen’s long history with China and its innovation efforts. “30 Years Journey Together for Innovation in Health.” Encountering China’s rising economic nationalism, MPCs’ emphasis on ‘Western’ advanced technology seems to lose its lead and hold. Foreign companies are more and more considered as equivalent competitors and are under the
pressure of the development of more innovative products for survival in China’s pharmaceutical market. The website remodelling can be seen as J&J’s a localisation effort to represent their adaptation to the recent trend of the Chinese market. In effect, companies’ websites have become their online faces that local consumers can approach at first glance. Thus it has become one of the first tasks for companies to understand local market and culture and to make their websites to fit in.

All MPCs have their own company-wide localisation strategies in certain business/operation areas with their respective benefits. J&J, in particular, has long maintained its decentralisation policy for local subsidiary companies to make them respond to new market opportunities on their own and to meet specific needs of local customers.\textsuperscript{18} Accordingly, J&J is presently evaluated to have reached a high level of localisation. Ironically Mr Park said that J&J’s localisation in 1990s was only nominal and did not really succeed. In its HR management in particular, he said that the company suffered from constant deficiencies of capable local employees who could understand ‘management’. According to him, it resulted from the absence of education during the Cultural Revolution. For this reason, despite J&J headquarters’ localisation and empowerment practices, Xi’an Janssen had difficulties in fully implementing localisation. The situation, however, has improved along with an increasing number of educated Chinese people, the company’s training program and communication efforts with local societies.

\textsuperscript{18} Refer to “Johnson & Johnson: Philosophy & Culture,” prepared by Francis J. Aguilar and Arvind Bhambri for class discussion in 1983 at Harvard Business School.
To better explain J&J's success in the Chinese market, there is a need to examine beyond its localisation efforts in HR management and the construction of corporate culture. According to Mr Park, one is advertising and the other is good relationship with the Chinese Government. Unfortunately, I could not have a chance to listen to him about J&J’s specific marketing strategy during the 1990s. Instead he told me about the vast effects of J&J's advertising. He said that J&J was the first pharmaceutical company that started advertising in China’s pharmaceutical market after the economic reform. J&J's advertisements for Western branded pharmaceuticals were widespread and greatly impressed Chinese consumers and doctors. He boasted, “The advertising cost was very cheap, and its returns were 10,000 folds.” In addition to active advertising on TV and newspapers, kickbacks to hospitals and doctors for prescribing J&J's medicines were frequently adopted in the unfledged state of the Chinese market without strict regulations.

Secondly, Mr Park brought up an incident where J&J could strengthen its relationship with the Chinese Government. After the CPC leadership suppressed the democratic protests at Tiananmen Square in 1989, most Western companies but J&J temporarily stopped investment in China as their expression of sympathy with the demonstration and protest against the cruel suppression. After this incident, J&J gained much more credibility from the Chinese Government. J&J could secure its politically vantage ground. It turned out to play a significant role when J&J had product problems later. Mr Park continued to explain with two cases.

The first case was related to J&J's drug's side effect. He did not mention the name of the pharmaceutical product and what side effect came with it. He just wanted to explain how the company dealt with the problem and emphasise the significance of
guanxi in doing business in China. He continued that legally speaking, J&J would have to instantly stop its sales and recall the product. However, the former CEO dealt with this problem differently. He used guanxi with the major state-owned media and the media agency began to control all related news release with its authority. As a result, J&J’s side effect issue did not spread among the Chinese people, which helped J&J deal with the problem without any official investigation. Before long, J&J could keep selling the pharmaceuticals without a hitch.

The second case was J&J’s fight against counterfeit drugs, which was a critical concern of many foreign pharmaceutical companies. He said that counterfeit drugs accounted for more than 17 percent among J&J branded pharmaceuticals sampled for investigations. The first time when the company found counterfeit drugs, the company dispatched a team to trace its production areas and factories and asked local officials to help out. However, it turned out to be ineffective because local officials who wanted to protect local companies did not cooperate. After the failure, J&J asked higher-ranking officials in the central government to accompany them. Local officials instantly cooperated. J&J could find a counterfeit drug manufacture and finally resolve the problem. Mr Park concluded that, since the pharmaceutical industry was tightly linked to the political and economic interest of the local or central government, J&J achieved its success due to a good relationship with the central government.

J&J has expanded its products into a variety of consumer and daily care products, pharmaceuticals and medical devices, and currently employs around 10,000 Chinese people across the country, mainly in their eight manufacturing facilities and three R&D organisations. The sales in China accounted for USD 2.5 billion among J&J’s total global
sales of USD 65.1 billion in 2011 and have been showing double-digit growth.\(^\text{19}\) In addition, China keeps working as a primary production base for export. J&J’s pharmaceuticals have evolved from Western advanced products to Chinese daily care and medical products. However, the widely adopted kickback practice of Janssen Pharmaceuticals is legally problematic. Since the early 2010s, major MPCs have been under scrutiny for corruption in China. J&J was not in the investigation list. But the interviewees working in the pharmaceutical industry said that it was just a matter of time and GSK became the main target of that investigation as a warning to others.

**Bribery Scandal of GlaxoSmithKline in 2013**

GSK is a British pharmaceutical giant and was reborn through a merge of Glaxo Wellcome and SmithKline Beecham in 2000. Between 1984 and 2000, both companies had established an R&D centre, joint ventures and wholly owned manufacturing subsidiaries in China. Glaxo Wellcome had entered China’s market primarily with their prescription drugs and SmithKline Beecham had focused on consumer health and OTC products. Therefore, this merger was expected to gain the potential benefits of product diversification by expanding their product range. After the merger, GSK paid greater attention to the rapid growth of China’s market and have been increasing their investment in China to prepare against the predicted slowdown of pharmaceutical sales in the US, Europe and Japan. Not only GSK but also all MPCs had to cope with the extremely competitive atmosphere of the global pharmaceutical market. In this context, the British pharmaceutical giant GlaxoSmithKline was found guilty of bribery to hospitals and doctors. It was fined USD 489 million on September 19, 2014. The 15-

\(^{19}\) 2011 Johnson & Johnson Annual Report.
A month bribery investigation by Chinese authorities found that GSK China has collaborated with travel agencies to funnel expensive gifts and cash bribes to officials and doctors. This was often in the name of fake conferences in order to boost the sales of GSK’s products in China.

Moreover, according to the confession of a GSK vice president, the amount of bribes accounted for 20 percent of the total prices of drugs (Jones Day 2013). It means that the amount of bribes was entirely transferred to the out-of-pocket expenditure of Chinese patients on those drugs. The fine was the largest in the history of China’s accusations of corporate corruptions. After the investigation, GSK sales in China fell 18 percent in 2013 (GSK 2014) and are still under adverse influence, but GSK stands firm on the global market because GSK’s sales in China remain a small portion, 3.6 percent, of its total global sales. Despite its sales falling in China, the company posted overall sales growth in the fourth quarter of 2013 thanks to the increased sales in the US and other emerging markets (GSK 2014).

As mentioned in Chapter 2, the GSK corruption case came to hinder my field research in China since the pharmaceutical industry became very cautious in talking with reporters or researchers. Hence, I wasted several months to find new interviewees. It was an unexpected problem I had to overcome during my fieldwork, but the GSK case triggered more complex and wider concerns especially in foreign pharmaceutical companies in relation with Chinese politics, health policy and culture.

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Discussing this case, my first interest was in the long-standing business practice based on *guanxi*. Most foreign companies including pharmaceutical ones have learned *guanxi*-based business practices from their Chinese partners as an essential way of doing business in China. In effect, they had no other way to legally enter China’s market without Chinese partners’ cooperation as a form of joint venture. They could not establish wholly foreign-owned companies until 2000.\(^2\) Even after the law revision, most foreign companies have relied on Chinese partners to source raw materials, to distribute products, to acquire relevant market and policy information, and to develop *guanxi* with Chinese officials to smooth out various business processes, while Chinese partners have benefited from foreign companies’ financial investment and advanced products and technologies. These reciprocal relationships between foreign companies and Chinese partners and officials have been called “*guanxi*” in business fields. On the other hand, it has been argued that *guanxi* itself has become an easy route to corruption fallout despite its positive benefits for doing business in China (Fan 2002; Su et al. 2003; Norton 2006; Yang 2011).

In any case, I argue that the common criticism of the causal relation between *guanxi*-based business and rampant corruptions in China’s pharmaceutical industry needs to be more critically examined. In short, *guanxi* practice has been appropriated by both industrial and governmental players in China’s market-oriented transformation with a focus only on its economic growth without sufficient regulation. Secondly, even without *guanxi* practice, it is a well-known fact that various forms of corruption

\(^{2}\) Refer to "Law on the People’s Republic of China on Wholly Foreign-Owned Enterprises," which was revised and announced at the 18th meeting of the standing committee of the National People’s Congress.
scandals have been rampant in the pharmaceutical industry, although such problems are more severe in some developing or under-developed countries where corruption is endemic. In other words, informal payments, kickbacks or various forms of bribery to doctors are accepted as ordinary ways of boosting pharmaceutical sales in the pharmaceutical sector of most countries. Even without Chinese practices of guanxi, pharmaceutical companies adopt informal/illegal marketing strategies for their sales improvement due to pressure of profits and survival.

In 2012, GSK agreed to pay a USD 3 billion fine to settle criminal and civil charges with the US federal and state governments. It was the largest healthcare fraud settlement in the US history. The company was accused of selling antidepressants for unapproved use on children for over 10 years, under-reporting safety data, and paying for publication of articles about their drugs (Schipani et al. 2015). According to the GSK corporate responsibility reports, GSK violated 161 cases related to sales and marketing policies in 2013 and 123 cases in 2012 (GSK 2013). In reality, other MPCs were not so different. AstraZeneca reported 149 violation cases and Roche did 136 cases in 2013. Almost all major MPCs including Eli Lilly, Pfizer, Sanofi, Novartis, Novo Nordisk and UCB have also been accused of bribery in the 2010s. Not long after GSK scandal in China, GSK faced new allegations of bribery in Romania. The company was probed for bribery allegations in Poland, the United Arab Emirates, Lebanon, Jordan, Syria and Iraq.

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22 “GlaxoSmithKline to Plead Guilty and Pay $3 Billion to Resolve Fraud Allegations and Failure to Report Safety Data” by the US Department of Justice, July 2, 2012.
Considering these rampant corruption scandals across the globe, the criticism of the causal relation between guanxi and corruption in China may lose its full validity. In other words, corruption has been extensively committed in many countries’ pharmaceutical markets including China’s, which means that guanxi, as a Chinese social and cultural feature, may not be significantly related to such corruption fallouts particularly in the pharmaceutical sector. In this vein, I argue that more explicit and relevant reasons need to be discussed in terms of the unique features of the pharmaceutical industry including sales and marketing practices and historical causes of pervasive corruption found in China’s economic reform process.

Given numerous evidences of corruption allegations, most MPCs including GSK have been inclined to use illicit practices in order to boost their sales. The World Health Organization explains that such unethical business behaviours result from unique features of the pharmaceutical industry: information imbalance between different actors, for example between healthcare professionals and patients or pharmaceutical companies and regulators, and loose regulation and enforcement in many countries (WHO 2010). In addition, MPCs have been under constant pressure of their best-selling drugs’ patent expirations and many countries’ administrative efforts to lower pharmaceuticals’ prices. Actually, pharmerging countries including China have aggressively embarked on healthcare reforms and MPCs have lost their best-selling drugs’ patent protection since the mid-2000s. This dire situation for MPCs could urge them to use illicit practices to secure more profits for survival in the future. In addition, Chinese doctors who earn very low salaries and hospitals that have to survive without sufficient government subsidies have been easy targets of MPCs’ aggressive marketing and sales.
Secondly, the original reason of China's widespread corruption is not directly related to *guanxi* practice. *Guanxi* is generally defined as personal relationship. Every human society has developed various social relations and practices in its own way. It is often observed that peoples are inclined to use their social relations as social capital that can be transferred to economic capital (Bourdieu 1984). China is not an exception. In particular, Chinese appropriations of *guanxi* have been widely and actively made in their adaptation and survival in China’s rapid shift toward a market-oriented society. In the meantime, their *guanxi* practices have often been led to unethical practices and corruptions under weak regulation. It is an undeniable fact that overall corruption is pervasive in China. Transparency International\(^\text{25}\), an NGO that track corruption trends, ranks China 100th out of 175 countries in its 2014 corruption-perception index. Zambia, Colombia, Egypt, Algeria, Bolivia and Mexico are placed around China. Li (2002) argues that China’s corruption since the economic reform originated from its dual-track system, which has been considered an important policy for China's gradual and smooth economic transition to a market economy (Li 1999; Lau et al. 2000). Nevertheless, many officials who were in charge of resource allocation began to acquire personal gains, exploiting the gap between planned prices and market prices (Li 2002). People in the private and foreign business sectors needed to approach limited resources controlled by certain officials. For the task, they began to use *guanxi* to contact those officials. These practices radically came to change the neutral term of *guanxi* to the profit-oriented concept and practice. In other words, China’s initial stage of economic

transition was implemented with unfledged regulations and weak enforcement and was unethically entangled with many officials. In this context, it is appropriate to consider that the main culprit of criticism is not guanxi but China’s weak regulation and enforcement. The resolution of pervasive corruption should be found likewise.

Lastly, it is necessary to discuss MPCs’ localisation strategies. Since their entries to China, they had to rely on Chinese partners for product distribution and to try to localise their products and human resources. It is difficult for MPCs to find appropriate expatriates without cultural and language barriers. MPCs have tried to achieve management localisation for management cost reduction, replacement of the lack of expatriates, procurement of local talents, and development of guanxi with government officials (Fayol-Song 2011). In this way, they can more easily approach China’s market and customers. However, MPC’s localisation and empowerment frequently go without sufficient monitoring of local employees’ business practices as long as they make sales. As such, local marketing and sales managers and representatives focus more on direct contacts with hospitals and doctors to promote their drugs than domestic companies which have their distribution channels. In fact, it is one of the most significant tasks that sales representatives must identify appropriate doctors to visit with the information about their prescribing habits and needs (Katsanis 2015:57-58). Of course, this practice is usually accompanied with the distribution of pharmaceutical information for doctors’ better choice of medication.

Rather than focusing on guanxi practice as a cause of corruption in the pharmaceutical sector, more exact reasons and solutions need to be found for the healthier development of the pharmaceutical industry and healthcare. As discussed before, stricter regulation and enforcement by the governments are prerequisite for the
task. The corporate code of ethical practice must be applied to all local subsidiaries, communication between companies to set ethical standards needs to be enhanced, and both headquarters’ and interest groups’ monitoring of local business practices must be strengthened irrespective of host countries’ different ways of doing business (Francer et al. 2014). MPC’s headquarters have to take main responsibility for these tasks, although they have so far just tried to transfer the responsibility to local divisions when corruption allegations occurred. The GSK CEO Andrew Witty said, “The China situation is a China situation. Period. ... Certain senior managers in the Chinese business have acted outside our processes and our controls.” This issue of how to deal with such unethical responses from giant multinational companies is one that must be addressed for a sustainable global market.

I also need to introduce foreign companies’ complaints: only foreign pharmaceutical companies and not domestic ones have been targeted by Xi Jinping’s anti-corruption campaign. Foreign companies said that GSK became a case target of Xi’s campaign as a warning to other MPCs. In my interviews with managers working at foreign pharmaceutical companies, I could hear that they were very careful not to be a next target of the Chinese authorities. In fact, multinational companies have reaped higher profits in China’s market than their global profit average. They have long enjoyed low-wage labour and their monopolistic market positions with relatively new consumer products and high-quality products. As China’s market and its local companies have developed, the competition between global and domestic players has become

problematic for the Chinese officials. In this context, Chinese authorities began to probe the misconducts or corruptions of many multinationals including GSK, KFC, McDonald’s, Cisco and IBM, and the Chinese mass media aided in making such stories nationwide. Since such incidents frequently occurred with many multinational companies in China, their complaints seem to have reasonable grounds. One sentence that I most frequently listened to my interviewees in the pharmaceutical sector was “The Chinese Government is formidable.” They continued to say that they were always paying sharp attention to the government's real intention so that they could avoid the Chinese authorities’ possible attack.

This issue can be discussed from three intertwined points: China’s economic nationalism, new healthcare reform, and lastly local and regional officials’ opportunistic administration associated with Xi’s anti-corruption campaign. The Chinese Government, which focused on the overall economic growth based on foreign investment in 1980s, gradually began to protect domestic industries for China’s long-term economic security from extravagant foreign capital since the early 1990s (Gerth 2012). Along with the historical anti-Western sentiment and the Patriotic Education Campaign after the 1989 Tiananmen Square Incident, Chinese nationalism has been indoctrinated and surged in China’s economic, social and cultural domains as well as its political domain. Even after China’s accession to WTO in 2001, China’s economic nationalism has been strengthened in more subtle and sophisticated ways (Gerth 2012). In this mood, MPCs, which have

done unethical or illegal behaviours within the Chinese territory, have become instant targets of relentless criticism.

Secondly, the reduction of drug prices for people’s easier access to medication is one of the key policies in China’s new healthcare reform. This increasing pressure has been put on both domestic and foreign pharmaceutical companies. However, the situation is much worse for foreign pharmaceutical companies that tend to spend more costs on development, production, and distribution and marketing. Nevertheless, Chinese authorities are not satisfied with the facts that MPCs have been earning much more profits from drug sales than domestic companies and huge amounts of bribes spent by MPCs were transferred to drug prices. In this context, GSK bribery scandal was dealt with very strictly so that the case can serve as a severe warning to all MPCs in China.

Lastly, since the Xi’s nationwide anti-corruption campaign, local and regional officials have been under pressure to show their commitment to the campaign. Choosing a foreign company as the campaign target is easier because most of them have maintained closer, sometimes corruptive, connections with local companies and hospitals. In this campaign, Xi Jinping has aimed at all levels of government officials and businessmen and clearly stated, “We must uphold the fighting of tigers and flies at the same time.” In this bleak situation, it must be more difficult for government officials to make local companies their enemies. The expansive dynamic of Chinese officials’ guanxi reverses and acts as centripetal force, which reconstitutes the boundaries between insiders and the others.

In short, the GSK bribery scandal was settled and at the same time left the issues regarding pervasive corruption in China and Chinese officials’ aggressive attitude
towards foreign companies. In addition, a pervasive misunderstanding of *guanxi* as inherent in corruption was reconsidered. Although *guanxi* practice can be appropriated as an easy route to corruption, the roots of corruption are found in the Chinese economic system, weak regulations and enforcement as well as the unique features of the pharmaceutical industry. The second issue regarding foreign companies’ complaint seem to have reasonable grounds. China’s active implementation of new healthcare reforms associated with Xi’s anti-corruption campaign and China’s economic nationalism could have catalysed such situations. Nevertheless, their illicit business practices cannot be justified. This discussion was made to provide the more analytic understanding of MPCs’ unique circumstance in China’s pharmaceutical market.

**Korean Pharmaceutical Companies in China: Struggling Between Chinese Companies and Western MPCs**

China’s pharmaceutical market is not only an arena of competition for MPCs. Many other foreign pharmaceutical companies of various scales have also tried to enter China. They have tried to find niche markets between MPCs and Chinese companies. Among such companies, I describe the entries of Korean pharmaceutical companies as examples of foreign pharmaceutical companies other than Western MPCs. During my fieldwork, I interviewed one sales manager and two high-rank business managers of Korean pharmaceutical companies and visited a company that has been established successfully. Korea is a neighboring country of China and is also one of pharmerging countries like China. In fact, most Korean pharmaceutical companies have concentrated on the production and sales of generics. Only around 10 percent of 285 Korean pharmaceutical companies except drug substances manufacturers have experiences of investment in the development of new drugs or modified me-too drugs (Kim 2010; Park
Despite the Korean government’s stimulus policy to develop new drugs and some companies’ efforts, Korean pharmaceutical market has relied mostly on MPCs for innovative drugs.

MPCs such as Pfizer, Sanofi, GSK and Novartis have dominated Korean pharmaceutical market, accounting for 40 percent of the market (Walsh 2012). In effect, most Korean pharmaceutical companies have remained within the domestic market. As mentioned above, they have focused mostly on generics and have been very reluctant to invest in the development of new drugs. Most of them spend only 4–7 percent of their sales revenues on R&D, while MPCs usually spend 15–20 percent (Kim 2010). They say that they cannot deal with low success rate at exponentially increasing cost along the development phases of new drugs, worrying about its uncertain returns. Even in this domestic situation, China’s market is too big to be ignored. Since the early 1990s, major Korean companies have attempted to enter China with their best-selling drugs.

As soon as Korea and China established their diplomatic relations in 1992, major Korean companies including pharmaceutical companies began to gauge the possibility of entries into China’s market. Hanmi Pharmaceutical was one of them and one of the first Korean pharmaceutical pioneers to found a joint venture: Beijing Hanmi Pharmaceutical. Among Korean pharmaceutical companies entered China, Hanmi is publicly evaluated as most successful with its investment in R&D and the focus on pediatric medicines. Other major companies have also tried to enter China, but only few are making successes and most of them are struggling for survival. In this part, I deal with two Korean pharmaceutical companies that are struggling to find ways to enter China.
A Korean Major Pharmaceutical Company: A Long Journey to Making a Top Brand

Hanmi Korea first established a liaison office in Beijing in 1992 and completed the registration of three generic drugs until 1994. Compared with the current registration speed, it can be seen as a really fast track that is nowadays almost impossible. Especially two drugs among three were noticeable in that they reflect the practical strategy of Hanmi as a foreign latecomer. One is an antibiotic called as Ceftazidime, which could be easily registered because it is the first generation generic after the patent expiration of the original drug. The other is a modulator of intestinal disorders called as Medilac-Vita, which has become Hanmi's best-selling drug as a pediatric medicine. It was a major success because China at the time had almost no pediatric medicines and China’s one-child policy had prompted the rapid growth of the market of pediatric medicines. After the completion of drug registration in China, Beijing Hanmi Pharmaceutical was established as a joint venture with two other Chinese companies in 1996. Hanmi has taken full charge of management with 70 percent of the shares. Based on the success of Medilac-Vita, Hanmi has focused on the development of the first generation generics and has recently increased its investment in the development of new drugs. Among Korean pharmaceutical companies, Hanmi spends the most on R&D, around 20 percent of its sales revenue.

Before Beijing Hanmi started to produce its pharmaceuticals in China in 2002, the company imported finished products from Korea to sell in China. According to a general manager, Beijing Hanmi is still dealing only with the packaging processes of Medilac-Vita, using raw materials imported from Korea. He said that, since Medilac-Vita is the company's best-selling drug, this strategy has been maintained for the guarantee of raw
materials’ safety and the protection against prevalent counterfeit drugs. Like MPCs, fighting against counterfeit drugs is one of the biggest problems for Hanmi. Since Medilac-Vita was selected as one of top 60 pharmaceutical brands in 2009, the company has used its brand power to fight against Chinese imitations in addition to using imported materials. The general manager emphasised that the top brand award was very helpful to maintain its superior position in the market.

Despite Beijing Hanmi’s success, the general manager said that there have been difficulties in HR management. Many Chinese employees are inclined to consider Beijing Hanmi as a middle stage to move to Western MPCs. As a result, employee turnover rate is high. In fact, Chinese employees working in Samsung, one of Korean conglomerates, said that they planned to leave for Western multinationals within 2 years. Particularly young employees show stronger inclination to pursue their careers in this way for higher wages and pride. Along with the recent economic downturn, some of them choose major SOEs for occupational security and less stress. In order to overcome the HR problem, Beijing Hanmi provides various company activities and training programs to benefit employee and to build solidarity. In addition, the company has conducted various corporate social responsibility (CSR) programs mostly for children of migration workers and orphans. The general manager said that these kinds of activities could increase employees’ pride in the company. The company’s CSR programs have also been used as a way of public relations and distributed to the Chinese media and government officials so that the company’s new business plans can be more smoothly approved by the officials.

Beijing Hanmi hires around 1,500 employees. Its HR is highly localised in that there are only 6 Koreans among all employees. For smooth communication between
Korean managers and Chinese employees, the company hires Chinese Koreans or Chinese who speak in Korean as middle managers. Another distinctive feature in the HR management is that the number of sales representatives reaches about 1,000 and almost 70 percent are graduates in medicine or pharmacology. Medical students frequently choose the pharmaceutical industry as sales reps or researchers because of doctors’ low salaries and reputation. In fact, patients or their families’ physical attacks on doctors have become severe issues in China. However, pharmaceutical companies benefit from the situation because they can considerably reduce the cost and period of on-the-job training.

While MPCs usually make tertiary hospitals as their targets, most foreign smaller-scale pharmaceutical companies such as Hanmi try to sell their medicines to secondary hospitals. The pharmaceutical market has been differentiated in this way, but in recent years, MPCs began to marketise their medicines to secondary hospitals along with the expiration of their patented medicines and the following sales decrease. The general manager of Beijing Hanmi said that the company has already ventured into fierce competition. Therefore, the company has increased its investment in the development of new drugs. The company however has no plan to complete the whole procedure of drug development from research to production and marketing. He said that recently the company sold a new drug in the second-phase clinical trial to a foreign company. In fact, it is another business strategy of Hanmi's R&D. If the company missed a chance to sell

28 There are many news articles regarding assaults on medical staff. Among many, refer to the following two articles: “In Some Chinese Hospitals, Violence Is Out of Control and It’s Doctors Who are at Risk” by Jessie Jiang, published on Time on Oct. 11, 2011; “Violence against doctors in China” by Therese Hesketh, published on British Medical Journal on Sep. 07, 2012.
the drug to other company in the middle of development, the company could not help spending astronomical costs to continue the drug’s later phases of development.

Beijing Hanmi has shown fruitful outcomes from the development of IMDs (Incrementally Modified Drugs) and the first-generation generics. It has to face ongoing changes made by China’s new healthcare reforms. Especially China’s price control becomes a serious threat. In addition, the general manager mentioned about the widespread practice of kickback in the pharmaceutical industry. Since the GSK bribery case, all pharmaceutical companies have been very cautious about their business. During the interview, the general manager said repeatedly that the Chinese Government was formidable.

Since our company entered China, we have been more and more afraid of the Chinese Government. Last year’s incident (GSK accusation of corruption by the Chinese Government) of course impacted all pharmaceutical companies’ business in China because all companies have paid kickbacks to doctors. Anyway it is extremely difficult for us to find a right way between this vast market and the government intervention. We are always trying to catch up with the pharmaceutical and healthcare policies because they are following top-down directives. It can never be neglected. But the problem is that we sometimes do not understand what they really mean and how the policies will be implemented in actual fields. So we are afraid. The Chinese Government can do anything they want. We’ve seen it in many ways (a general manager of Beijing Hanmi).

Nevertheless, Beijing Hanmi’s situation is much better than other latecomers because it already retains dozens of medicines approved by China Food and Drug Administration (CFDA) including a best-selling drug. According to an employee in a Chinese contract research organisation (CRO) and a director general of Korean Health
Industry Development Institute, drug registration in China has become extremely slow and difficult particularly for generics. All of them say that unless a company has new or very innovative drugs to register, it can take more than 8 years to complete registration. In fact, most small- and medium-scale companies without sufficient resources cannot wait for that long. The next case shows another strategy of a medium-scale Korean pharmaceutical company that has been frustrated by China’s registration barrier.

A Korean Latecomer: Rejected Natural Product Medicine under TCM

Hegemony

Ahngook is a major Korean pharmaceutical company, ranked at 20th among Korean pharmaceutical companies. Its attempt to enter China was made relatively late in the early 2010s. Even when I had interviews with a sales manager in 2014, there were only a few people in Ahngook’s Beijing office. A Korean Chinese manager who used to work at a Chinese pharmaceutical company was in charge of the Beijing office. There were also a sales manager dispatched from the headquarters in Korea and a few Chinese employees in the Beijing office. The sales manager frequently visited hospitals in other cities to try to sell a diabetes analyser, which was developed not by Ahngook but another R&D oriented company. Ahngook established an MOU (Memorandum of Understanding) with the company to sell the product in China. It also focused on the sales of an orally disintegrating film-type modified drug of Viagra. For the task, Ahngook made an agreement with a Chinese company to take charge of clinical trials and sales in China. This product is also developed by another R&D-oriented company. Ahngook made an agreement for its monopolised supply in China and found a Chinese company to do the task.
In fact, such business strategies have become a norm for major Korean pharmaceutical companies have recently developed. Although they have their own medicines approved in Korea, most of their medicines are generics and are not sufficiently innovative to be approved by the CFDA. Indeed, Ahngook and other Korean companies had difficulties in the registration process\textsuperscript{29} of their drugs. When Ahngook tried to enter China, it had an IMD made of natural products that already proved higher efficacy and fewer side effects in clinical trials conducted in Korea. Ahngook chose this product for its entry to China, but its application for clinical trials in China was rejected by the CFDA in 2013. Not being able to conduct clinical trials, Ahngook could not even have a chance to complete the drug registration. The sales manager complained that China did not want to open the market of natural products to foreign companies despite their better efficacies. He continued that the CFDA almost never accepted the second application when it once issued the rejection of the application. In addition, the reasons of the CFDA’s rejection were not clearly delivered to applicants. In fact, most companies of which applications were rejected by the CFDA had no way of knowing why their applications were rejected and how to correct them for another try.

His complaint was reconfirmed with a more specific reason by the general manager of Beijing Hanmi. He affirmed that China would not approve natural products

\textsuperscript{29}The registration process for new drugs in China has three main steps: pre-clinical research, clinical trials and the CFDA’s final approval. The whole process is much more complicated with sub-processes and involves several CFDA-granted or affiliated organisations including the local and provincial FDAs, the CDE (Center for Drug Evaluation) and the CDC (Center for Drug Certification). The approval process of generics is a simplified version of the new drug registration usually without pre-clinical tests or clinical trials. The CFDA issued “fast track” for certain new, innovative or high-priority drugs in Jan. 2009. The valid period of a drug licence is 5 years and its renewal can be applied 6 months prior to its expiration (CMS 2010; Deloitte 2011).
developed in other countries because the Chinese Government wants not only to protect its domestic TCM (Traditional Chinese Medicine) companies but also to put the area of natural products under its TCM hegemony. It seems to be a reasonable explanation in that the clinical trials of the same drugs were approved in a couple of European countries and the US. Although traditional Korean medicine has been influenced originally by TCM, Korea has developed unique formulas, principles and practices (Cha et al. 2007). Although China has been quickly catching up with various pharmaceutical technologies, some Korean companies have produced more modern and effective drugs. The validity of those drugs is nevertheless not acknowledged practically and ideologically in China. Since the failure, Ahngook has been waiting for another drug’s approval. In this situation, Ahngook has taken another way to make profits in China with other R&D companies’ innovative products until their medicines are registered.

The abovementioned strategy of Korean pharmaceutical companies has been spreading into the Korean pharmaceutical industry. Since most of their medicines could not be approved in China, they have turned to medical equipment or incrementally modified drugs (IMD) developed originally by other R&D companies, or the first generation generics or IMDs developed by MPCs to enter China’s market. Needless to say, MPCs’ brand names are really helping their marketing and sales. At first appearance, they seem to show increasing sales, but their profit margins keep decreasing. Moreover, this situation strengthens the dominance of MPCs over the market and helps the penetration of MPCs into the lower-level consumer market.
Chinese Pharmaceutical Companies: Rising in Shade

In 2003, there were only two local companies among top 10 pharmaceutical companies in China: Yangtze River Pharmaceutical Group and Harbin Pharmaceutical. In other words, MPCs including Pfizer, GSK, Roche, AstraZeneca, Novartis, Merck and Johnson & Johnson dominated China's pharmaceutical market. This market circumstance was changed radically. Along with the increasing mergers and acquisitions (M&A) in the Chinese pharmaceutical industry, large-scale domestic companies increasingly emerged in the market. In fact, despite MPCs’ leading positions in the market in 2003, around 65 percent of total sales were taken over by Chinese companies (Festel et al. 2005: 104). According to Forbes (2013), in 2013, there is only one Western MPC, Bayer, among top 10 pharmaceutical companies in China. Even counting top 25, only 5 companies are foreign multinationals. However, this market dominance of Chinese companies needs more clarification on two points. Firstly, despite emergence of large-scale companies, the majority of domestic companies have competed mainly on prices often based on over-production, not on advanced products. For this reason, their profit margins are very low despite the increasing amount of their sales (Fernández and Fernández-Stembridge 2007: 192). Secondly, MPCs’ dominance over higher-grade hospitals has not been challenged (Cheng and Zhu 2012: 17). Especially MPC’s strong dominance over tertiary (三级) public hospitals (the highest grade in the Chinese hospital grade system based on the size, medical technology and equipment, the level of service provision and the medical research and education) is apparent. Doctors in tertiary hospitals are more inclined to prescribe MPCs’ medicines for their better efficacies for patients’ benefit as well as for global medicines’ higher
markup margins that contributes to doctors’ bonuses. Therefore, MPCs can maintain their sufficient profit margin relative to the amount of sales.

As mentioned above, the consolidation of the Chinese domestic companies has accelerated along with the new healthcare reforms. The restructuring of domestic manufacturers has accelerated with the stricter implementation of GMP (Good Manufacturing Practices) certification. In fact, China has implemented GMP certification to regulate manufacturers and to improve product quality since 1995. However, its effectiveness was frequently undermined by widespread corruption in GMP certification (PricewaterhouseCoopers 2009). Since 2004 when GMP certification became mandatory, the situation began to change. In addition, in 2007 the CFDA (China Food and Drug Administration) revised the guidelines of GMP enforcement and inspection to reinforce the administrative oversight. Manufacturing with reinforced GMP directly means the increase of manufacturing costs. As many small-scale companies do not have enough capacity to comply with GMP certification, many of them have been closed or forced to merge with other larger companies. Thus, among all pharmaceutical companies, the percentage of small-scale companies with the total revenue of less than USD 1.5 million was reduced by half from 28.45 percent in 2004 to 15.67 percent in 2008. Instead, the number of companies, which exceed the total revenue of USD 15 million, was doubled from 15.39 percent in 2004 to 26.6 percent in 2006 (Cheng and Zhu 2012: 11).

Nevertheless, the number of pharmaceutical companies has increased along with the growing emergence of private companies, increasing investment from foreign countries and Macao and Hong Kong, and the growth of China’s pharmaceutical market itself. Many newcomers including Korean companies, which cannot wait for the
uncertain and long procedure of drug approval, have been actively looking for small but healthy Chinese companies for mergers and acquisitions (M&A) as an alternative way of entrance. As shown in Table 4, private pharmaceutical companies, which accounted for only 13 percent of all pharmaceutical companies in 2001, reached 42 percent in 2013, while the percentage of pharmaceutical SOEs radically dropped from 40 to 7 percent.

Here, I need to explain the sudden drop of number in 2011 in Table 4. The number of large and medium-scale companies dropped in 2011 because the National Bureau of Statistics modified the designated size of such companies in its inclusion in the industrial statistics. Companies, which have revenue more than RMB 20 million (about USD 3.2 million), have been counted since 2011. Before then, companies with revenue more than RMB 5 million were included.

The growth of private companies has been spectacular during the last decade, although their average size is still incomparable to SOEs’. In 2010, the average size of pharmaceutical SOEs was USD 44 million, while that of private enterprises was USD 14 million (Spigarelli 2012: 5). On the other hand, the decrease of SOEs in number can be understood by the increasing bankrupts, disintegrations and consolidations of insolvent or small- and medium-scale SOEs. According to the Chinese National Bureau of Statistics, around 30 percent of pharmaceutical SOEs remained in deficit in the early 2000s and their reform has become an urgent issue in China’s economy. Along with the restructuring process during the last decade, SOEs’ size, revenue and profits have grown significantly. Nevertheless, compared with foreign multinationals, they still need more systemic reform to improve their deficiencies with regard to efficiency and productivity (Geng et al. 2009: 161).
Table 4. The Numbers of Medium and Large-scale Pharmaceutical Companies by Ownership (Source: National Bureau of Statistics of China) \(^{30}\)

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number</td>
<td>3,398</td>
<td>4,076</td>
<td>4,823</td>
<td>5,635</td>
<td>6,586</td>
<td>5,674</td>
<td>6,525</td>
</tr>
<tr>
<td>Private</td>
<td>445</td>
<td>926</td>
<td>1,573</td>
<td>2,198</td>
<td>2,911</td>
<td>2,436</td>
<td>2,705</td>
</tr>
<tr>
<td>SOEs</td>
<td>1,341</td>
<td>1,001</td>
<td>676</td>
<td>559</td>
<td>508</td>
<td>419</td>
<td>429</td>
</tr>
<tr>
<td>Foreign</td>
<td>568</td>
<td>701</td>
<td>890</td>
<td>1,035</td>
<td>1,144</td>
<td>951</td>
<td>951</td>
</tr>
</tbody>
</table>

The Chinese Government has maintained regulatory pressures for more consolidation of various pharmaceutical sectors including pharmaceuticals and medical devices manufacturing, contract research organisation (CRO) and distribution sectors. In addition, the government has increased pharmaceutical R&D spending to make domestic companies to be competitive in the global market and to cultivate world-class Chinese companies capable of producing innovative drugs. Here, I draw on Yangtze River Pharmaceutical Group (YRPG), Xiuzheng Pharmaceutical Group (XPG) as examples of leading private companies and Shanghai Pharmaceutical Group (SPH), Huarun or China Resources Pharmaceutical (CRP) and China National Pharmaceutical Group Corporation aka Sinopharm as examples of leading SOEs to demonstrate the abovementioned features of China’s pharmaceutical industry for more details.

\(^{30}\) Collective-owned and Cooperative Enterprises are not Included in the Table 4.
Table 5. The Outlook of Five Leading Pharmaceutical Corporations (RMB Billion)

<table>
<thead>
<tr>
<th></th>
<th>YRPG</th>
<th>XPG</th>
<th>Sinopharm</th>
<th>CRP</th>
<th>SPH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asset</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>16.21</td>
<td>9.2</td>
<td>105.45</td>
<td>81.51</td>
<td>56.31</td>
</tr>
<tr>
<td>2014</td>
<td>N/A</td>
<td>12.03</td>
<td>128.66</td>
<td>95.34</td>
<td>64.34</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>38.95</td>
<td>N/A</td>
<td>166.87</td>
<td>91.09</td>
<td>78.22</td>
</tr>
<tr>
<td>2014</td>
<td>46.77</td>
<td>N/A</td>
<td>200.13</td>
<td>106.05</td>
<td>92.4</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>N/A</td>
<td>N/A</td>
<td>6.1</td>
<td>4.21</td>
<td>2.59</td>
</tr>
<tr>
<td>2014</td>
<td>2.46</td>
<td>N/A</td>
<td>7.86</td>
<td>4.34</td>
<td>2.99</td>
</tr>
<tr>
<td><strong>Employee</strong></td>
<td>2013–2014</td>
<td>10,000</td>
<td>80,000</td>
<td>50,099</td>
<td>4,7619</td>
</tr>
<tr>
<td><strong>Registered City</strong></td>
<td>Taizhou Municipal, Jiangsu Province</td>
<td>Tonghua Municipal, Jilin Province</td>
<td>Beijing</td>
<td>Beijing</td>
<td>Shanghai</td>
</tr>
</tbody>
</table>

In advance, I introduce each company in brief. The companies’ data are sourced from their annual reports and websites, and several industrial reports. Both private companies are not listed on the stock market, so their annual reports are not officially published. In the cases of SOEs, their data have different scopes among different sources. For example, SPH and Sinopharm show the data as a whole holding or group corporation, while CRP publishes only its listed companies’ data. The official annual reports of listed companies belonging to SPH or Sinopharm can be found, but SPH and Sinopharm have many other unlisted companies of which data cannot be fully obtained. For this reason, data comparison among these companies at the same level is not possible.
YRPG\textsuperscript{31} accounted for 3.6 percent of the market value, overtaking Pfizer (3.0 percent) and AstraZeneca (3.4 percent) in 2010 (Datamonitor 2011) and was ranked first among all pharmaceutical companies in China in terms of revenue (Spigarelli 2012) despite its much smaller asset compared with other pharmaceutical SOEs. YRPG is a private enterprise founded in 1971 and its history shows very close interactions with the government. The YRPG’s founder Xu Jingren was elected as a delegate of NPC and has been actively involved in social and political activities for the implementation of government policy. At the same time, the CPC leaders have made frequent visits to YRPG to encourage the pharmaceutical sector’s reform and the enhancement of innovation. From their official visits, YRPG has earned the reputation of a leading pharmaceutical company.

XPG’s Chairman is also a member of NPC and is taking executive positions in several provincial and national-level industrial and commerce associations. XPG\textsuperscript{32} was founded in 1995 by Xiu Laigui who used to be a police officer. Although the establishment of the company is relatively late compared with other major pharmaceutical companies, its growth is spectacular. Only in 7 years since its establishment, the company was ranked second in the China Growth Enterprises with annual growth rate of 1,876 percent. In 2014, XPG was ranked second in terms of revenue among all pharmaceutical companies, even overtaking YRPG. XPG is affiliated

\textsuperscript{31} Yangtze River Pharmaceutical Group Co., Ltd.: www.yangzijiang.com. (The company’s official annual report is not available.)

\textsuperscript{32} Xiuzheng Pharmaceutical Group Co., Ltd.: www.china-xiuzheng.com; 修正药业集团股份有限公司 2014 年年度报告 Annual Report 2014. (The report is not officially published and the data regarding revenue and profit, in particular, shows big differences from other industrial reports.)
with the Tonghua municipal government in the south of Jilin province and is only company from Jilin on the top 500 Chinese private companies list announced by the All-China Federation of Industry and Commerce (ACFIC). It implicates the influential position of XPS in Jilin province.

The above two companies are registered in municipal cities that need to deal with financial deficiencies. The companies’ close interactions with the local governments and the leaders’ political roles led to institutional support for the companies’ success (Xiao et al. 2013: 121). In effect, the pharmaceutical and health sector is the field where the government frequently tries to intervene for the people’s health in general. Access to policy information, raw materials and distribution network has been dominated mostly by SOEs. Private pharmaceutical companies have also tried to gain access to those resources. As they grow bigger, their relationships with local governments become indispensable due to reciprocal benefits. However, such relationship has a possibility to bear illegal or unethical business behaviour under the auspices of the government. Later on, I describe one related case committed by XPG.

Sinopharm is one of the largest pharmaceutical producer and distributor under the direct management of the State-owned Assets and Supervision and Administration Commission (SASAC) in China. Sinopharm has 22 wholly-owned or share-holding subsidiaries and 6 listed companies, enjoying its monopolies of various high-end pharmaceuticals such as stupefacient and some psychotropic drugs. Currently, the company almost achieved nationwide distribution network through extensive M&A across the country. In addition to constant consolidation, Sinopharm has been actively

involved in cooperation with foreign pharmaceutical companies and has established 20 joint ventures. In 2014, SASAC has embarked on Sinopharm’s ownership reform through which the state plans to take a role as a shareholder instead of a manager to improve corporate governance and management efficiency. Sinopharm is jointly owned by its parent company, China National Pharmaceutical Group and the second largest shareholder, Shanghai Fosun Pharmaceutical. According to SASAC’s “mixed ownership” reform plan, Sinopharm continues to go through privatisation.

China Resources Pharmaceutical (CRP)\textsuperscript{35} emerged as one of the largest pharmaceutical companies in terms of total assets in 2013. In fact, CRP’s mother group, China Resources Group has a long history since 1938. The group has long played a role in imports of medicines and medical equipment during the Mao-era and began to expand its main business to various industrial sectors with the focus on pharmaceuticals. In 2007, the Group acquired an OTC pharmaceutical giant, Sanjiu Group and established CRP. Since then, CRP has evolved into one of the largest pharmaceutical companies through M&A and reorganisation. Besides M&A of small-scale research companies, CRP acquired Beijing Pharmaceutical Group to increase its market share of Western medicines and health products and founded joint ventures to expand the TCM market share. CRP’s investment plan actively follows the recent trend of OTC and TCM markets.


\textsuperscript{35} China Resources Pharmaceutical Group Ltd. (www.crpharm.com) 华润医药集团有限公司 社会责任报告 Corporate Social Responsibility Report 2014 (Only three listed companies in the Group provide their official annual reports. Therefore, the data for the whole group are sourced from its website and show differences from other industrial reports.)
Shanghai Pharmaceuticals Holding Company (SPH)\textsuperscript{36} was formally founded from an asset reorganisation between Shanghai Industrial Investment and Shanghai Pharmaceutical Group in 2010. Based in Shanghai, SPH focused on the eastern China and has extended to northern and southern China and to other areas. SPH has become one of the top three distributors in China. In addition to the expansion of distribution network, SPH began to cooperate with 69 MPCs for the distribution and development of innovative drugs and high-quality vaccines. From its wide investment and cooperation, SPH constituted a vertically integrated pharmaceutical company fully equipped with the whole pharmaceutical businesses from development and production to retail distribution. SPH has a retail network with almost 2,000 drug stores covering more than 10 provinces, municipalities and autonomous regions.

**Hand in Hand with the Government**

As mentioned above, pharmaceutical companies’ intimate relations with the government have played a significant role in their rapid growth. The two private companies, Yangtze River Pharmaceutical Group (YRPG) and Xiuzheng Pharmaceutical Group (XPG), have been developed in close affiliations with municipal governments and actively involved in related institutions. The chairmen of these companies are the members of the National People’s Congress (NPC)\textsuperscript{37}. Since the early 2010s, the central government has focused on the modernisation and internationalisation of the


\textsuperscript{37} The National People’s Congress (NPC) is the supreme legislative organ of state power in China. The primary functions of NPC are to amend the Constitution and oversee its enforcement; To enact and amend basic laws governing criminal offences, civil affairs, state organs and other matters; To elect and appoint members to central state organs; and to determine major state issues (The NPC website, www.npc.gov.cn).
pharmaceutical sector. In this context, the leading companies’ nationwide and global expansion has been strongly encouraged by the government. On the other hand, since the central government subsidies to local governments have decreased since the economic reform, monetary benefit from local companies has become more crucial to local governments’ budgetary management. This situation often leads to excessive protectionism by different levels of governments.

I draw a case to show the Chinese Government’s protectionism. XPG had a sensational issue in 2012 in regard to drug capsules. In April, the state broadcaster CCTV reported that more than 40 capsule manufacturers had produced and sold toxic drug capsules containing excessive levels of chromium. The capsules were made of industrial gelatine processed from leather wastes and the government investigation revealed that the capsules were used in nine pharmaceutical companies including XPG (Feng et al. 2013). The toxic capsule scandal immediately led to the public rage and panic, and the government suspended the sales of the contaminated medicines. Feng et al. (2013) conducted an online survey to explore the determinants of the public risk perceptions of the toxic pharmaceutical capsules crisis and reactions to the crisis. The survey confirmed that participants showed higher levels of risk perception and avoidance, and lower levels of trust in both pharmaceutical companies and capsule manufacturers.

No doubt, this scandal pushed XPG to a critical position and was expected to result in the plummet of the company’s sales and profit in 2012 and 2013 at least. However,

this prediction turned out to be wrong. In fact, the company was already in a situation of massive loss in profit in 2011, more than half compared with its previous year’s profit, since the National Development and Reform Commission (NDRC) had cut the retail prices of hundreds of medicines between Dec. 2010 and Sep. 2011. According to XPG’s annual reports, XPG’s profit fall in 2011 was slightly recovered in 2012 regardless of the capsule scandal. Then, XPG’s profit was fully restored in 2013 and 2014. During this period, the company’s revenue and assets continued to increase. According to these numbers, the impact of the scandal on the company seemed insignificant despite XPG’s loss from massive recall and the people’s fierce criticism. Among all pharmaceutical companies in China, XPG was ranked third in 2012 and second in 2013 in terms of revenue.

How can this be explained? This was mainly due to state-controlled media and the government and industry associations with which XPG was affiliated. Most news articles about the scandal shifted blame to the pharmaceutical capsule producers. XPG followed the criticism of the capsule manufacturers and announced in public that it would establish its own capsule factories to meet quality standards. According to the Forbes article39, Xiuzheng pleaded mercy from the government authorities in that “the 66 subsidiaries account for 80,000 employees and therefore cannot afford to be damaged.” The article added that there were a few quality problems between 2007 and 2009 too. However, those incidents never become the company’s crises.

The dependencies of large-scale pharmaceutical SOEs on various forms of the governmental organisations cannot be compared to private companies. Under the direct management of the State-owned Assets and Supervision and Administration Commission (SASAC), they need to follow the government policy, of which primary focus is on the pharmaceutical industry’s consolidation and innovation. Leading private companies including YRPG and XPG are also under the pressure of that policy. In fact, a large portion of local economies depends on the growth of those companies. Thus, local officials make every effort to promote their growth, which on the other hand, is consistent with the government policy. As a result, big companies often benefit from a wide range of institutional support from the local government even when they have critical problems.

**Hand in Hand with MPCs**

The average profit rates of Chinese private pharmaceutical companies are higher than those of SOEs, although both of them are much lower than those of foreign MPCs. Most domestic pharmaceutical companies have relied on mass production and sales of low-quality medicines rather than investment in R&D for high-quality or new drugs. Although some of them have achieved their larger sizes and a great amount of revenues, their profit rates remain low. To compete on price, they exert their resources more over marketing and sales and are frequently driven to over-production to lower price more. The worse thing for domestic companies is that the government’s pressure to cut drug prices has increased. Private companies must confront much fiercer competition for survival with such low profits or sometimes even in deficit.

In this situation, investment on R&D for innovative drugs becomes more significant particularly for Chinese large pharmaceutical companies that need a
breakthrough from a constant chain of low quality, low efficiency, low profit and over-production. However, it seems not easy for them to increase the amount of R&D investment. Instead, they are looking for a way of strategic cooperation with foreign MPCs. For instance, Shanghai Pharma made the extensive strategic cooperation with 69 MPCs for R&D on high-end drugs, high-quality consumption materials and vaccines in 2011. Guangzhou Pharmaceuticals Corporation, which was founded as a SOE under the Guangzhou municipal government in 1951, became a Sino-foreign joint venture with Walgreens Boots Alliance in 2007 to increase both domestic and international market share of pharmaceutical products and medical apparatus.

The meanings of Sino-foreign cooperation are much different from those in the 1980s and 1990s. Although MPCs maintain technological and financial superiority, Chinese companies are catching up at high speed and trying to increase their market shares in other developed markets. Some of them are growing into Chinese MPCs. Although their innovation capacities are evaluated as still far below those of Western MPCs, they enjoy the second biggest market that foreign MPCs have difficulties in approaching because of various political and social restraints.

**Booming Contract/Clinical Research Organisations (CRO)**

As a result of the global economic downturn and the staggering growth of the pharmaceutical industry in developed nations in the late 2000s, there has been a worldwide transfer of clinical trials to developing countries such as India and China (Masri et al. 2013). Clinical trials are essential experiments in the R&D process of new drugs to prove drugs’ safety and efficacy. At the same time, these processes are tightly bounded by regulations and are inclined to incur enormous cost with high uncertainties. This whole situation for drug development explains the boom of CROs in
China, to which a number of pharmaceutical companies including MPCs and local pharmaceutical companies have tried to outsource their R&D functions. The global market size of the CRO industry achieved USD 27 billion in 2014, which came to account for over one third of the R&D of new drugs. In China, the CRO industry started relatively late, but the CRO market rapidly reached about USD 6.65 billion from USD 1.3 billion in 2007 (ResearchInChina 2015). In 2014, the number of CROs in China reached about 300 that have provided discovery biology, preclinical research as well as clinical trials service (Shi et al. 2014; Xia and Gautam 2015).

In fact, China’s CRO market had been dominated by foreign multinational CROs such as Quintiles, Parexel, and Covance until the early 2000s. Western CROs had penetrated China by the establishment of branches or acquisition and cooperation with Chinese partners (ResearchInChina 2015). In the early stage of the CRO industry, there were only a small number of small-scale Chinese CROs providing relatively simple research services such as small-scale clinical trials, DNA synthesis and drug safety assessment. Since then, Chinese CROs have found their advantageous positions mainly through their integrated network of local universities, hospitals, and domestic pharmaceutical companies. In addition, they have made large-scale CROs through M&A of small CROs in order to compete with global CROs (Shi et al. 2014). For example, WuxiAppTech, which was established by four colleagues with a single laboratory in 2000, has become the biggest Chinese CRO and provided fully integrated services with 10,000 employees and 5.5 million square feet of laboratory and manufacturing space.40

Based on government support for biopharmaceutical innovation and their good relationship with hospitals, universities and research institutes that are able to conduct clinical research, Chinese CROs have developed rapidly and increased their size through consolidation. Chinese CROs can be a reasonable choice for foreign pharmaceutical companies that have sufficient R&D capabilities but difficulties in accessing to China’s R&D resources with a large patient population and low operating costs. In fact, it is hard for foreign companies to have easy access to various medical research mainly because such research in China are contained mostly within the government-supported institutions (Shi et al. 2014). Chinese CROs also have become the essential service providers for many domestic pharmaceutical companies. Many domestic companies not equipped with R&D capabilities increasingly turn to CROs for specialised help for the development of new or innovative drugs.

CROs in China have operated as a bridge between foreign pharmaceutical companies and Chinese medical institutions such as hospitals and medical universities. This role of CROs has become an opportunity for Chinese who studied or worked in foreign countries. The number of Chinese CRO firms is exceeding 300 and relatively large-scale firms have emerged through M&A. As the Chinese CRO industry has matured, their market differentiation has been noticeable. Large-scale CROs have established their fully integrated services from discovery biology, preclinical and clinical series to pharmaceutical development as risk-sharing partners. Relatively small-scale CROs have tried to offer their speciality services in niche market. Nevertheless, this boundary of differentiated market would disappear soon. As the Chinese CRO market has entered fierce competition, large-scale CROs also try to penetrate various
niche markets to avoid competition with other large-scale CROs and to reduce cost from such fierce competition (Xia and Gautam 2015).

In sum, the Chinese CROs are transforming their position from as a service provider just for cost-saving outsourcing to a collaborator for more comprehensive value-added chain. They are increasingly participating in the R&D process of new/innovative drugs and in the development and management of new drug pipelines, expanding beyond clinical trials and challenging the dominance of MPCs and multinational CROs. Chinese CROs have increased their investment in the improvement of R&D capabilities, the instalment of advanced laboratory instruments and facilities, and the commitment to global R&D standards and guidelines (Shi et al. 2014). However, as the number of CROs has increased and their competition has become fierce, there have been widespread concerns over quality and ethical issues in the Chinese CRO industry. More rigorous regulations should be established and implemented to construct the healthier environment of the Chinese CRO market.

Conclusion

As China’s pharmaceutical market has been radically transformed by market-oriented policies since the economic reform, it has become the arena of fierce competition like other capitalist nations. It cannot be ignored that pharmaceuticals are commercial products for profits. On the other hand, pharmaceuticals are often considered as public goods, which should be equitably controlled for people’s health. For this reason, the Chinese Government has tried to make medicines accessible by intervening often with policies such as price reduction, an essential drug list system, the control of drug approvals, etc. While market-oriented approaches were more emphasised in the 1980s and 1990s, the significance of people’s easy and equitable
access to medicines gained its strength again since the SARS epidemic in 2003. In fact, China’s pharmaceutical market and industry have been developed under these practical and ideological overlaps and contradictions. Various distortions and illegalities in the health sector have grown on such contradictions. It is loosely controlled contradictions as revealed in China’s dual-track price system in the 1980s. Under the system, many bureaucrats monopolised resources and profiteered on corruption. Once corruption has entered, it keeps reproducing and proliferating.

Global pharmaceuticals produced by foreign MPCs have dominated higher-grade hospitals with their renowned brands and advanced technologies and products. Most Chinese local companies have focused on the production of low-quality pharmaceuticals that are mostly copied generics. Despite their bioequivalence to Western original medicines, their qualities are not fully guaranteed because of their low-quality manufacturing system. Basically, technological differences between MPCs and Chinese companies have differentiated China’s pharmaceutical market and foreign latecomers began to find niches between them. Although the situation of the pharmaceutical market division remains to a great extent, the emergence of Chinese large-scale companies, the increasing international cooperation in the pharmaceutical industry and the comprehensive implementation of the healthcare reform have inserted more dynamics into this market.

Along with the increasing complexities and dynamics in China’s pharmaceutical industry, each group of pharmaceutical companies need to adopt new strategies for survival in China’s market. China’s pharmaceutical industry is very fragmented and thus makes every effort toward more consolidation and concentration to compete in the national and global market. Since the early 2000s, China’s pharmaceutical market has
developed rapidly along its economic growth and has been incorporated into the global economy. Nevertheless, foreign pharmaceutical companies have confronted various adverse issues: the wide prevalence of IP rights infringement, increasing pressure of price reduction, fragmented distribution system, strengthening economic nationalism and so on. China needs to take more measures to attract foreign investment, to maintain the growth of the pharmaceutical market, and simultaneously to improve the Chinese health and healthcare system.
Chapter 5. Towards Biopharmaceuticals

Introduction

Pharmaceutical companies have been searching for a breakthrough in stagnating and competitive global pharmaceutical market. In addition, they have been long put under the public criticism of their frequent involvement in corruptive business behaviours such as kickbacks and bribes handed over to medical staff and health-related officials for the sales of pharmaceuticals. The chance to breakthrough was given by the innovative development of biotechnology and genetic science. The Human Genome Project announced the sequencing draft of the human genome in Apr. 2003. Primate and human stem cells were created by somatic cell nuclear transfer respectively in 2007\(^\text{41}\) and 2013. These genetic developments opened the door to various possibilities of the cloning of therapeutic stem cells, personalised treatment of various genetic disorders, and thus the commercial expectation of biopharmaceutical products.

At the same time, the world has raised ethical and ontological questions regarding the global pervasion of genetic engineering in relation to pharmaceutical interests. In addition, as Ong (2010:3) adequately observed, “biotechnologies are not merely about the transformation of nature to market shares, but also biosecurity mechanisms aligned with nationalist projects” particularly in Asian nations. China is not an exception in this

Asian biotech context. It has been the only developing nation to participate in genome sequencing and the active promoter of its biopharmaceutical industry. Thanks to the Beijing Genomics Institute's (BGI) recent achievements including the DNA sequences of the cucumber, the giant panda and an ancient human, China is now called “the sequencing factory,” trying to play the role of a global leader in genome sequencing and biomedical research (Cyranoski 2010; Ong 2010).

In this chapter, I firstly discuss ongoing debates regarding the notions of biocapital and biopharmaceutical, and secondly provide the current situation of China’s biopharmaceutical industry. The first discussion must be started from the differentiation of ‘biopharmaceutical’ from ‘pharmaceutical,’ although both concepts have overlapped aspects in terms of established industrial situation and development history. In fact, even before pharmaceutical companies conducted biotechnological research on recombinant DNA and monoclonal antibodies in the 1970s, they did not try to establish their identities as biopharmaceutical companies. Their effort to define themselves as biopharmaceutical companies started from the worldwide recognition of “bio-” as advanced and promising techno-economy. Therefore, the emergence of biopharmaceutical market needs another paradigm and definition to clearly understand the recent trend and future direction of “new” biopharmaceutical itself and the biopharmaceutical industry. In addition, this discussion is expected to help understand Birch and Tyfield’s effort to re-theorise “the bioeconomy” (2006). They critically examine various discussions on “bio-”, which are conceptualised as “biovalue” (Waldby 2000), “biopolitics as molecular politics” and “bioeconomics” (Rose 2001), “biocapital” (Rajan 2006) and “life as surplus” (Cooper 2008). They argue that such previous
discussions missed “the importance of asset-based economic processes” in the bioeconomy (Birch and Tyfield 2006:301).

This chapter delves deeper into China’s biopharmaceutical industry in relation to China’s related policy and its realities. As discussed in Chapter 4, the global pharmaceutical market has witnessed that China’s changing industrial dynamics and the Chinese pharmaceutical giants have emerged from active mergers and acquisitions (M&A) encouraged by the government and affiliation with foreign MPCs. However, China’s focus was not on innovative pharmaceutical medicines but on its industrial restructuring. In this situation, China seems to jump directly at the future of biotechnology. China considers its biotechnological capacity as a promising opportunity to occupy the unfledged biopharmaceutical global market. Its capacity and possibility has been constructed on its large population as bio-resources and the subjects of biopolitics, the near non-existence of bio-ethical consideration and its nationalistic way of nation building.

**Bioeconomy and Biopharmaceutical**

Drawing on Foucault’s work on biopolitics and the Marxist political economy, Catherine Waldby (2000) and Nikolas Rose (2001) conceptualise the relationship between the life sciences and capitalism. Waldby (2000) discusses ways in which biotechnology, particularly biomedicine, produces ‘biovalue’ through a calculable, hierarchical and instrumentalised system of value extracted from various forms of the human body. She links the concept of biovalue with an economy of vitality for the production of others’ health and well-being. Drawing on Waldby’s conceptualisation of biovalue, Rose (2001) conceptualises biovalue in relation to economic or market practices. The following two quotes from Waldby (2000) and Rose (2001) provide some
conceptualisation of the relationship among biotechnology, biovalue and bioeconomy, the transformation of the human body, identity and subjectivity or new meaning of life itself.

[The Visual Human Project] is then a technology which, like all biotechnologies, produced certain kinds of surplus biovalue, defined in general terms as a yield of biomedical knowledge and technique... [biovalue] specifies ways in which technics can intensify and multiply force and forms of vitality by ordering it as an economy, a calculable and hierarchical system of value. Biovalue is generated wherever the generative and transformative productivity of living entities can be instrumentalised along lines which make them useful for human projects – science, industry, medicine, agriculture or other arenas of technical culture (Waldby 2000: 33).

... the truth regimes of the life sciences have mutated, contemporary biopolitics has become molecular politics. ... [Molecularization] was a reorganization of the gaze of the life sciences, their institutions, procedures, instruments, spaces of operation and forms of capitalization. ... Biopolitics becomes bioeconomics, driven by the search for what Catherine Waldby has termed ‘biovalue’: the production of a surplus out of vitality itself (Rose 2001:1-15).

The above conceptualisation of biovalue and bioeconomy finally meets the concept of biocapital used by Sarah Franklin and Margaret Lock (2003) and Kaushik Sunder Rajan (2006). In particular, Rajan adds “speculative value” to the conceptualisation of biocapital as productive/reproductive technologies generating surplus value (Birch and Tyfield 2012). Rajan’s argument is significant in that it adequately represents the aspect of contemporary capitalism increasingly intertwined with biotechnology. This aspect is also related to Cooper’s discussion on the life science’s logic of “financialization that promises surplus value from life itself” (Cooper
In the above chronological development of bioeconomy, Birch and Tyfield (2012) suggest more relevant conceptualisation of biovalue and biocapital. Their critical examination on these concepts is derived from the significance of knowledge labour and the social and ethical values that make biological matter profitable and commercial products. They emphasise financial asset values secured by intellectual property rights (IPR). They maintain that most biotech companies are “asset-based enterprises rather than commodity-based ones, in that their value is derived from trade in intellectual property and financial investments” (Birch and Tyfield 2012:312).

I link the above conceptual discussion with the definition of biopharmaceutical differentiated from pharmaceutical. This will make clear the industrial boundary and current situation of biotechnology, the biopharmaceutical industry and the unique features of its products. As abovementioned, public esteem for pharmaceutical companies has been ranked lowly, along with tobacco and oil companies (Rader 2008:749). Thus, large pharmaceutical companies began to move to rebrand themselves as biopharmaceutical companies to benefit from the public’s perception of biotechnology as innovative and promising. In fact, most large-scale pharmaceutical companies have recently transformed themselves into biopharmaceutical companies through various forms of M&A and associations with smaller biotechnology firms (Rader 2008). In this context, one must define the specific boundary of biotechnology and its medicinal products - biopharmaceuticals. Rader (2008) has found the unfixed and often arbitrary appropriation of the term biotechnology by the pharmaceutical industry. He recommends that the scientific communities and those in industry maintain the broad view of biotechnology that includes pharmaceutical products.
manufactured by both old (e.g., proteins and vaccines) and new biotechnologies (e.g.,
genetic engineering and recombinant proteins). Nonetheless, he also requests them to
develop integrated terminology and taxonomy and a registry for biopharmaceutical
products in order to prepare for the coming years of the mature biopharmaceutical era.

Rader’s recommendation was made on the recent transformation of the
pharmaceutical industry. I agree with him in that the biopharmaceutical industry
remains unfledged yet. However, in this chapter I adopt a narrow view of biotechnology
to make clear China’s desire for biotechnology. It is a restricted version of
biotechnology, which involves genetic engineering and other new(er) biotechnologies
of recombinant proteins and monoclonal antibodies. I also choose this narrow
definition because it is more relevant to the abovementioned conceptual discussions,
particularly that of Birch and Tyfield (2012) among them. The industrial move towards
biopharmaceuticals necessitates the speculative and financialised market where asset-
based biopharmaceutical firms can survive until they have commercial products on the
health and medicine market. Following the restricted definition of new biotechnologies
in connection with the political-economic and conceptual framework of bioeconomy, in
the next section I show the current status of China’s biopharmaceutical industry and its
actual relevance to the controversial definitions of biotechnology and
biopharmaceutical.

China’s Biopharmaceutical Industry

1. Biopharmaceuticals in China

China’s pharmaceutical market is expected to overtake Japan’s in a couple of years.
The annual growth rate of China’s pharmaceutical industry as a whole was 19 percent
between 2000 and 2005 (Jia 2007) and 16.8 percent between 2010 and 2014 (Earls
China’s biopharmaceutical sector’s growth was more surprising, showing 20–30 percent annual growth rate since 2001 (Zhou 2007), although its contribution to China’s entire pharmaceutical industry remained at 7.4 percent in 2005 (Frew et al. 2008). In effect, this rapid development was supported by the Chinese Government’s 10th (2001-2005) and 11th (2006-2010) Five-Year Plans (Frew et al. 2008). The 10th Plan emphasised China’s more involvement in international research programs in life sciences and put biotechnology as a priority industry. The 11th Plan continued to specify the national science and technology agenda including national research programs linked with commercial projects for the promotion of the biotechnology industry.\(^{42}\) China’s emphasis on the industrial development of innovative biotechnology as one of its priority industries was maintained in the 12th Five-Year Plan (2011-2015) (KMPG 2011). In this section, I describe the developmental situation of China’s pharmaceutical industry mostly in the last decades and discuss its current status.

China’s biopharmaceutical industry was in the making in the mid-1990s and composed of small-scale private research-based institutes or firms supported mainly by the Chinese Government. The global trend of innovative biotechnology and genetics stimulated China. The Chinese Government actively attracted Chinese biotechnology researchers who lived outside China to participate in its national ambition to be a leader of innovative biotechnology. It planned to invest USD 1.45 billion on its biotechnology industry between 2001 and 2005, and the number of biotech researchers reached more

\(^{42}\) China has operated two major funding programs to support biotech firms: the National High-tech R&D Program (called 863 Program) and the National Basic Research Program of China (973 Program). The latter has focused more on early-stage research and academic publication, and the former has focused more on applied work and commercialisation (Frew et al. 2008:47).
than 20,000 and more than 374 public laboratories were established in 2004 (Yan 2004; Hu et al. 2006)). However, the government financial support was not sufficient for biotechnology firms to be able to sustain their long-term and highly technological research. In addition, China still lacked talented human resources and was notorious for its weak implementation of IPR protection, which made it hard to attract foreign venture investment. In this situation, it has become difficult for both biopharmaceutical firms and venture capital investors to find decent exit strategies for financial returns and viability. As a result, China’s biopharmaceutical industry has been dominated by biogenerics (copies of original biopharmaceuticals that were developed mostly in Western countries and lost patent protection), accounting for over 90 percent of the market (Zhou 2007; Frew et al. 2008).

More than 20 biogenerics have been approved by the CFDA since the first recombinant interferon Alph-1b for treatment of hepatitis B and C (approved in 1989 and marketed in 1993) (Hu et al. 2006). No doubt, this achievement has been made mainly because these biogenerics can be manufactured by relatively simple technologies and the low regulatory barrier. Nevertheless, it is meaningful that a number of Chinese patients have benefited from those biogenerics thanks primarily to their reasonable prices. On the other hand, there has been concern over the biotech industry’s leaning to low level biotech contrary to China’s national ambition to be a leader in the global biotech market.

Although China’s biotech industry fell short of the Government’s expectations, there were a few successful results. China had a chance to be the first country in the
world to have a commercially approved gene therapy product called Gendicine. Gendicine, a recombinant human adenovirus-p53 injection, was developed by Shenzhen SiBiono GeneTech Co., Ltd. and acquired approval to gene therapy for treatment of head and neck squamous cell carcinoma in 2003 (Hu et al. 2006; Frew et al. 2008). Another gene therapy came in Dec. 2006. It was H101 (brand name: Oncorine) developed by Shanghai Sunway Biotech Co., Ltd., which was a genetically engineered adenovirus injection for treatment of head and neck squamous cell carcinoma and the first oncolytic virus biopharmaceutical in the world. Oncorine is in fact a copy of Onyx-015 developed originally by Onyx Pharmaceuticals, an American biotech company. During its slow advancement of clinical trials in the US, Shanghai Sunway Biotech licensed Onyx-015 and successfully developed it into a gene therapy medicine (Hu et al. 2006). Until now, there are 5 gene therapy products – Glybera (Netherland), Neovasculogen (Russia), Gendicine (China), Rexin-G (Philippine), and Oncorine (China) – commercially approved, although they are not approved by the US FDA. Only Glybera developed and marketed by Amsterdam-based uniQure was approved by the European Commission in 2012. There have been unresolved questions regarding the exorbitant price and safety of the gene therapy products (Ref. to Regalado 2016). In addition, most

43 According to Market Research Future (2016), “gene therapy is the treatment of a disease by replacing, altering, or supplementing a gene that is absent or abnormal, and whose absence or abnormality is causing the disease.”

44 P53 is known as tumour suppressor protein. Thirty years of research on p53 found that the inactivation of p53 functions is an almost universal feature of human cancer cells. This discovery has led to various research efforts to develop p53-based cancer therapies (Lane et al. 2010).

45 Oncolysis means the destruction of tumour cells, according to Merriam-Webster Medical Dictionary. Oncolytic viruses selectively replicate and systematically spread in and kill cancer cells, while no harming normal tissues (Chiocca and Rabkin 2014).
revenue from these products is generated from clinical trials, which means that investors still cannot expect immediate returns (Regalado 2016; Market Research Future 2016). Nevertheless, the biopharmaceutical industry has persuaded both patients and investors to expect a promising future with innovative biotech. China has 2 gene therapy products among 5 and exerts more efforts to be an innovator, instead of an imitator.

Other than gene therapy products, China has also developed therapeutic monoclonal antibodies (mAbs) and recombinant vaccines. In particular, monoclonal mAbs is one of the fastest growing classes of biopharmaceuticals around the world, accounting for one third of the total biopharmaceutical market (Hu et al. 2006). Since the first approval of therapeutic mAbs in 1986, 46 products have been approved in the US or Europe and widely used for treating various diseases, ranging from rare diseases such as paroxysmal nocturnal hemoglobinuria and the cryopyrin-associated periodic syndromes to some cancers, multiple sclerosis, asthma and rheumatoid arthritis (Ecker et al. 2015). As of 2014, the CFDA has approved 8 mAbs. However, their sales contribution to the global mAbs market was only 1.7 percent, which was far below the global average. In addition, as much as most mAbs launched in China have been technologically outsourced to Western biotech firms, China is still at the early stage of mAbs technology (Zhang et al. 2015). Nonetheless, China has witnessed the rapid market development and therapeutic possibility of mAbs. Along with China's move towards a research-oriented innovator as seen in the gene therapy sector, the constant support from the Chinese Government may make a turning point soon.

Since the inception of China's biopharmaceutical industry, private biotech firms have been at the heart of its development mostly around 2000: Bio-Bridge Science,
FusoGen Pharmaceuticals and Shanghai Genomics, Sinovac Biotech, Shenzhen SiBiono GeneTech and Shanghai Sunway Biotech, to name a few.

<table>
<thead>
<tr>
<th>Biotech Firms</th>
<th>Founded in</th>
<th>Ownership</th>
<th>Products</th>
<th>Technologies</th>
</tr>
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<tbody>
<tr>
<td>Sonovac Biotech</td>
<td>2001</td>
<td>Private Holding Company</td>
<td>Vaccines against Hepatitis A and B, Avian Flu (H5N1 Influenza) and Swine Flu (H1N1 Influenza)</td>
<td>Vaccine Research Capabilities</td>
</tr>
<tr>
<td>FusoGen Pharmaceuticals</td>
<td>2002</td>
<td>Private Biotech Company</td>
<td>Therapeutics against Serious Viral Infections (HIV, Hepatitis B and C)</td>
<td>Proprietary Platform of Computer Drug Design</td>
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Their efforts to apply for patents have extended to Japan, Europe and the US and shown some achievement. In effect, it has become essential for them to present their IP portfolios to both domestic and foreign investors. The financial subsidy from the Chinese Government has played a key role in their concentration on R&D, which is however insufficient to advance to the next riskier levels. Other than state funding, a
large amount of foreign investment must be made to successfully develop innovative biopharmaceuticals. However, this is not easy because of China’s regulatory hurdles and a high-risk future. In this situation, some of the biotech firms have shown “hybrid business models,” which first provide contract research services or non-novel products to fund R&D for innovative products (Frew et al. 2008). Many may fail to sustain their mixed business. In the lack of technological capacity, they cannot help but manage only the development of biogenerics and provision of simple diagnostic or contract services.

2. Biogenerics\textsuperscript{46} in China

Despite the abovementioned achievement and the fast growth, China’s biopharmaceutical sector is still in its early stage. Moreover, the biopharmaceutical market is not mature enough to attract domestic and foreign venture capital and to generate sufficient revenue. In fact, biogenerics have generated more than 90 percent of biopharmaceutical sales in China. In addition, it is ambiguous whether or not biogenerics belong to the scope of new biotechnology like gene therapy products and innovative recombinant antibodies. According to Rader (2008) and Birch and Tyfield’s conceptualisation of bioeconomy (2012), it is not always essential to deal with biogenerics as new biotech-based products and those companies as asset-based enterprises. Nonetheless, this does not always have negative connotation. Biogenerics in China are significant because they provide easy access to public health for China’s

\textsuperscript{46} According to Herrera (2004), a biogeneric product is defined as an off-patent biological medicine produced by manufacturers other than the originator. It is similar to the original product. It is sometimes called biosimilar products because biological products produced by different manufacturers are not strictly identical, but similar.
large population like pharmaceutical generics. Moreover, biopharmaceuticals in general are among the most expensive drugs on the market.

As pharmaceutical generics have played an important role in the improvement of China’s public health thanks to their accessible prices, biogenerics have also emerged rapidly as alternative choices in this biotech era. There are several factors that contributed to the increasing attention to biogenerics in China (Hu et al. 2006; Langer 2007). Firstly, small-scale biotech companies can enter the biogenerics market with relatively easier manufacturing technologies. As a result, more than 20 companies are manufacturing the same biogenerics with small-scale bioreactors or cell culture roller bottles. Secondly, China’s low regulatory hurdle makes biotech companies prefer biogenerics as their first category of products. This loose regulation has played a key role in the increasing production of biogenerics and the government has encouraged doctors to prescribe pharmaceutical generics. In fact, most Chinese patients cannot afford to buy the treatment of exorbitant biopharmaceuticals. Yet their accessibility to biogenerics is recently increased. For instance, a vial of biogeneric rhIFN-alpha for treating Hepatitis B and C can be purchased at a much lower price than its original in China. Thirdly, the best-selling biopharmaceuticals marketed by Western companies lost patent protection in the 2000s, which provided opportunities for Chinese firms to

47 Bioreactors are vessels or tanks in which whole cells or cell-free enzymes transform raw materials into biochemical products and/or less undesirable by-products (Erickson L.E. 2009, Encyclopedia of Microbiology, 3rd Edition). Cell culture roller bottles are used for the production of virus vaccines or recombinant proteins used for therapeutic approaches (from the Introduction of the product, CELLMASTER™ Cell Culture Roller Bottles in the GBO website, www.gbo.com)

48 Recombinant human Interferon (rhIFN) alpha-2a and alpha-2b are originally manufactured by Roche and sold at USD 24.75 and USD 158.00, respectively. They are sold at USD 5.75 and USD 11.00 from Chinese biotech firms (Langer 2007: 3).
develop biogenerics and to increase the variety of biopharmaceuticals. As a result, the abundance of biogenerics benefits uninsured patients, patients in poor economic situation, health insurance companies and China’s national health system as a whole (Hu et al. 2006).

China’s per capita health expenditure is USD 420 and per capita drug spending is around USD 100 in 2014. In 2006, China’s annual per capita drug expenditure was less than USD 20.00. Chinese individual health spending has been rapidly increased along with China’s economic development and nation-wide insurance coverage. Nevertheless, it is still considered far below those of other Western developed countries: Canadian per capita health expenditure is USD 5,292, USA’s is USD 9,403 and UK’s is USD 3,935. As Langer (2007: 5) mentions, the primary concept of biogenerics is a healthcare issue in China, not only an IP and policy issue as in Western countries. Of course, the Chinese Government has implemented stricter IP laws to conform to international standards and TRIPS (Trade-Related Aspects of Intellectual Property Rights) since its entry to the WTO in 2001. It is essential for China to attract foreign investment and innovative biopharmaceuticals.

Towards a “DNA Superpower”

1. The World Largest Genomics Company: The Beijing Genomics Institute

49 The data is extracted from “Health expenditure per capita” in the World Bank website (http://data.worldbank.org/indicator/SH.XPD.PCAP).
50 The same source the above footnote 53.
51 This section title is borrowed from Cyranoski’s article (2016), of which title is “China’s bid to be to a DNA superpower.”
The mission of the Beijing Genomic Institute (BGI) is “to prove that genomics matters to ordinary people,” according to BGI staff.\textsuperscript{52} BGI was founded as a non-profit research-based organisation in 1999 and played a key role in China’s contribution to the Human Genome Project. Since then, it has grown into the world’s largest DNA sequencing company equipped with 156 sequencers including 128 Illumina HiSeq 2000 machines.\textsuperscript{53} BGI has more than 5,000 employees in their R&D and manufacturing operations and subsidiary companies across the globe.\textsuperscript{54} Until 2013, BGI claims to have sequenced more than 50,000 human genomes and accounts for 10 to 20 percent of all DNA sequencing data in the world (Larson 2013).

The explosive growth of BGI was possible due to its talented and ambitious young bioinformaticians, various forms of collaboration with both domestic and international researchers, and the Chinese Government’s financial and political support. It published the complete sequence of rice in 2002 and decoded the DNA of the giant panda and discovered the genetic mutation of Tibetans adapted to high altitudes, stimulating both domestic and global interests (Larson 2013). In recent years, BGI has expanded their business to various microbial, plant and animal sequencing, stem-cell research, non-

\textsuperscript{52} The quotation was brought from “China Bioscience: The sequence factory” published on Mar. 3, 2010 on Nature (464).

\textsuperscript{53} The HiSeq 2000 sequencing system, which was developed by Illumina, delivers the industry’s highest sequencing output and fastest data generation rate with Illumina’s cutting-edge scanning and imagining technology (partially extracted from the specification sheet of HiSeq 2000 Sequencing System published in 2010 by Illumina Inc.). A HiSeq 2000 can produce 25 billion base pairs of sequence a day (Cyranoski 2010). Illumina Inc. is a San Diego-based biotech company that sells sequencing machines and analysing software and services of DNA data. The company dominates this market, holding 70 percent of the genome sequencing machines market (Zimmerman 2014).

\textsuperscript{54} The data is brought from BGI website (http://www.bgi.com/about-us/introduction-int/).
invasive pre-natal testing, etc. Nevertheless, BGI remains as a non-profit organisation. The largest portion of its revenue comes from local municipalities, the central government covers around 10 percent, and the rest come from some grants, donations and clients’ fees (Larson 2013).

BGI's growth was not always easy. A rival company, Novogene was founded by former BGI vice-president in 2011 and bought Illumina’s latest sequencing machine, HiSeq X Ten. At this time, BGI's machines were outdated and it had to lay off employees at its US subsidiary when it failed to manufacture its own genome sequencer in 2015 (Cynoraski 2016). In fact, this failure was expensive because BGI ambitiously purchased Complete Genomics Inc., a California-based biotech company, to provide whole genome sequencing services to build its own sequencing machines. The process of purchasing was not easy since it irritated the US biotech firms and had to confront their resistance (Larson 2013). Their resistance was related to the US national security concern over losing technological dominance. “The Chinese, until now dependent on U.S. machinery, could dominate next-generation technology,” warned Illumina’s CEO, Jay Flatley (Larson 2013).

In any case, BGI has built its identity as an enthusiastic pursuit of basic science on the one hand and tries to gather business opportunities based on its world-class science and technology on the other. There are some instances of basic science research: BGI is conducting the research to find genes that influence intelligence (Larson 2013). For this project, it compares the genomes of geniuses with those of ordinary people, which may be controversial due to ethics related to eugenic connotation; another is that BGI is sequencing the DNAs of families with autistic children; BGI is even sequencing the
genomes of obese and lean people. BGI’s recent move does not stay within basic science research. Its sequencing service has been developed into a business.

BGI has exerted its effort to orient the direction of BGI’s genome sequencing towards the medical use of genome scans. It was realised as a partnership between BGI and the Children’s Hospital of Philadelphia in 2011 to conduct large-scale genome sequencing and analysis for clinical use. “As the technology enters clinical use, the number of genomes sequenced in their entirety could catapult into the millions per year. That is what both the Philadelphia Hospital and BGI are preparing for (Larson 2013).” Larson depicts the future of biotechnological, medical and therapeutic assemblage, where hospitals will offer medical services to people with potential for certain diseases as well as patients with diagnosed or undiagnosed diseases. In 2013, BGI’s price of a person’s genome sequencing was quoted at USD 3,000 (Larson 2013). In 2016, it has dropped to almost USD 1,000 by using the latest machine. It is expected to bring the price down to USD 200 in the near future (Cynoraski 2016). China is equipped with advanced machinery at least in the area of genome sequencing and analysis. China plans to move towards precision medicine with millions of individual human genomes.

2. Precision medicine

Precision medicine is “an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle for each person,” according to the US National Institutes of Health (NIH). In the booming waves of DNA sequencing, the first genomic medicine set-up was made by

55 The definition of precision medicine is provided by the NIH (http://syndication.nih.gov/multimedia/pmi/infographics/pmi-infographic.pdf).
the USK in late 2012. This 4-year project was called the 100,000 Genomes Project, which was led primarily by Genomics England, a company wholly owned by the UK Department of Health. Genomics England planned to sequence 100,000 whole genomes from the UK National Health Service with a focus on the treatment of patients with rare diseases and cancer.\textsuperscript{56} The UK’s initiative was followed by the US and China. President Obama announced the Precision Medicine Initiative (PMI) in the State of the Union address on Jan. 20, 2015.

Twenty-first century businesses will rely on American science and technology, research and development. I want the country that eliminated polio and mapped the human genome to lead a new era of medicine, one that delivers the right treatment at the right time. In some patients with cystic fibrosis, this approach has reversed a disease once thought unstoppable. So tonight, I’m launching a new Precision Medicine Initiative to bring us closer to curing diseases like cancer and diabetes, and to give all of us access to the personalized information we need to keep ourselves and our families healthier. We can do this. (Excerpts from the US State of the Union, Jan. 20, 2015)

The US planned to invest USD 215 million on the PMI in 2016. After his remark on the PMI at the State of the Union address, Obama passionately asked more hospitals and researchers as well as related entrepreneurs and non-profit organisations to join the PMI and called more than one million American participants’ involvements in health

\textsuperscript{56} Refer to the website of Genomics England (https://www.genomicsengland.co.uk).
research based on individual health records, physiological measurements and genomic analysis.\textsuperscript{57}

In March 2016, over a year after the US’ announcement of the PMI, China confirmed its own plan of the Precision Medicine Initiative as a part of the 13th Five-Year Plan (2016-2020), which was planned to proceed for the next 15 years by 2030 with a USD 9.2 billion fund, much larger than that of the US PMI. BGI was prepared to support this project. In addition to BGI, Novegene, WuXi PharmaTech and Cloud Health, of which all three are equipped with the upgraded sequencing machine bought from Illumina, are also ready for the project. In addition to genomic sequencing and analysis technology of genomes, the project needs the full integration of hardware infrastructure and data centre that can deal with genomic big data. For this task, Huawei, an IT solutions provider, and Wuxi NextCode, a subsidiary of Wuxi AppTec and one of the leading genomic information companies applying sequencing data, made a strategic alliance to provide a cloud computing platform for the application of genomic big data for the China PMI. In particular, Wuxi NextCode has already participated in the UK 100,000 Genomics Project and thus its experience in population-scale projects is expected to facilitate the Chinese project.\textsuperscript{58}

Other than China’s industrial integration for its PMI, the China National GeneBank (CNGB), which was established by BGI in 2011, would play a key role in the preparation for the development of precision medicine. It was granted by the National Development

\textsuperscript{57} Refer to an article regarding “Precision Medicine Initiative Cohort Program” provided by the US National Institutes of Health (NIH). Its webpage address is https://www.nih.gov/precision-medicine-initiative-cohort-program.

and Reform Commission, Ministry of Finance of Industry and Information Technology and National Health and Planning Commission for the collection and provision of the genome data of people as well as other living organisms such as animals, plants and microbes (Zhang 2015; Cynoraski 2016). In effect, for the realisation of precision medicine, this kind of genomic big data must be correlated with clinical information supported by medical professionals who directly deal with patients. Thus, it is meaningful that BGI celebrated its achievement of one million NIFTY (Non-Invasive Foetal TrysomY) tests in March 2016 (Cyranoski 2016). Based on clinical information and involvement, the China PMI will move on to the development of clinical decision support system. This system needs to integrate genetic data and clinical information with hospital management system ultimately to provide individuals with precise and personalised clinical diagnosis and treatment planning (Zhang 2015).

However, China’s higher-grade public hospitals in particular, which have played a major role in the provision of medical service, have been notorious for high concentration of patients, constant discontent among both patients and medical staff and various kinds of disputes between them. Chinese patients who expect better services at higher-grade hospitals are unsatisfied with the long waiting from registration to treatment and busy doctors and their indifferent attitude. At the same time, doctors are unsatisfied with too many patients, patients’ violence and their low salary and social reputation. In fact, this situation has been in a vicious cycle for over two decades. Therefore, it would not be easy to achieve the final goal of the China PMI. Nonetheless, China’s preparation for the PMI is moving forward. How to deal with China’s hospital reform and to attract clinical support will be a key point to the PMI implementation. At least regarding genomic data, China has achieved its goal faster than
any other countries primarily because of their large population and the government’s active intervention (Cyranoski 2016), although China’s ethical consideration remains under-discussed.

**Conclusion**

Increasing discussion in both academic and industrial arena regarding concepts and terms with the prefix, “bio-”, reflects the rapid development of bio- and genetic technologies and worldwide efforts to commercialise them. In the stagnation of the global pharmaceutical industry, advanced biopharmaceutical technologies and products provide existing pharmaceutical companies, biotech-based start-ups and medical service providers a chance to move towards the next level of medical service. More advanced biotechnology, which has synergised with stem-cell research, genomic technologies and IT, has been integrated into a vision of precision medicine. China is not an exception. It has been eagerly moving to occupy the major position in the global biopharmaceutical market. Based on its nationally organised biotech research centres, biopharmaceutical companies and state-owned hospitals, it has been trying to lead the market of precision medicine.

In recent years, precision medicine projects have been initiated by the US, China and Britain, respectively. With the rapid development of genome sequencing technology, all of them are trying to establish the new medical service system that provides individualized treatment and health management. For this project, China has accumulated the largest amount of human genome data in the world. The precision medicine project provides an opportunity for China to catch up foreign MPCs. At the same time, China has various problems to resolve in its healthcare and hospital reforms.
Although the nationwide application of precision medicine cannot be realised in the near future, its experimental application will be embarked upon soon.

Along with China’s rising in global politics and economy, global industrial dynamics has been changing and the Chinese pharmaceutical giants have emerged with the strong support of the government and close affiliation with foreign MPCs. Nevertheless, it is a fact that China still remains primarily as a producer of generic drugs. In this situation, China has not missed the chance of its biotechnological capacity to be able to lead the precision medicine market. Its capacity and possibility has been constructed on its large population as bio-resources, almost non-existence of bio-ethical consideration and its nationalistic way of building the nation. The precision medicine project is based on the nationwide integration of genetic data on both individual and population level, IT infrastructure that can store and process such big data, and the changing system of diagnosis. In effect, it leads to a new era of a digitalised form of human being in the provision of medical services and the management of both individual and population health as a whole.
Chapter 6. Pharmaceutical Medicine in Hospitals on a Leash: 

Serve the People!

Introduction

Public hospitals have been the heart of the national healthcare system since the establishment of the PRC in 1949. After the extreme socialisation of China’s healthcare system ended with the death of Mao in 1976, public hospitals were suddenly confronted with the market-oriented economic reform. Nevertheless, they have retained responsibilities as primary providers of pharmaceutical and medical services, accounting for around 90 percent of medical personnel, hospital beds and inpatient and outpatient services in China (Wang and Ouyang 2011; NHFPC 2013). Despite the rapid growth of private hospitals since the early 2000s, private hospitals’ contribution remains relatively insignificant. Along with the privatisation of public healthcare, public hospitals have been allowed to make a profit from the sales of medicines and medical services so that they can offset reduced government subsidy. In fact, hospitals have attempted to make as much profit as they can from the sales of pharmaceuticals, which have become a central component of their business. Consequently, higher-grade hospitals tend to prescribe high-quality and expensive global pharmaceuticals to make more profit. Profit-oriented practices among doctors, for hospitals’ financial viability and monetary rewards for themselves, have been increasingly observed. Still, however, more than 90 percent of underfunded hospitals are not expected to make ends meet (IBISWorld 2011). This overall situation has led to catastrophic increase in patients’ out-of-pocket expenditures and dissatisfaction with medical services. Medical disputes
have been frequently implicated in violence. The rise of physical violence against doctors by patients has become a serious problem (Zhang et al. 2006).

In this chapter, I discuss mainly how hospitals’ management and medical practices have been reconstructed in relation to China’s economic and healthcare reforms. Since hospitals were released from the socialised medical system in the early 1980s, various aspects of hospitals have been jumbled and distorted between socialist ideology and market-oriented privatisation. Along with the improvement of Chinese living standards and increasing concerns for health, Chinese people have rushed to higher-grade hospitals for medication and hospitalisation. China’s three-tier referral hospital system, which had contributed to the relatively balanced distribution of healthcare resources, is not in place anymore (Tam 2008; Barber et al. 2013). As medical resources have been concentrated in higher-grade hospitals in urban areas, hospitals have been increasingly differentiated by grades, drug prices, patients’ social and economic status, and the state ideological appropriation. In addition, private hospitals have been gradually integrated into this differentiated hospital system, although their contribution to healthcare delivery remains at a low level. For a more comprehensive understanding of hospitals in China, the recent situation of private hospitals, particularly their emergence and the changing dynamics of China’s healthcare sector, is discussed.

In recent years, China has pushed forward pilot reform of public hospitals as a key pillar in the new healthcare reform, in order to correct the aforementioned problems and to improve hospitals’ efficiency and service quality. However, the current situation and expectations of the reform are not so optimistic. For instance, the patient concentration in higher-grade hospitals has been unresolved for more than two decades. Rather, the trend has accelerated intensified. This unbalanced distribution of
patients has become a serious obstacle in dealing with China’s massive population with limited high-quality medical resources. Before I proceed, I describe a scene that I observed at a highest-grade public hospital in Beijing in the early winter of 2013 to better illustrate these problematic realities. According to my observations, the same situation repeats itself every morning at highest-grade public hospitals. This was not an especially busy weekday. Standing in a long waiting queue for registration is the first step for patients to receive medical consultation.

The hospital entrance was filled with a packed crowd of over a hundred people. They were waiting in line to register for consultation with medical specialists. It was 6:20 a.m. in the grey winter dawn. The chilly darkness was full of hasty walking steps, the sounds of rubbing hands, the smell of dumplings with slurping sounds, some staring eyes and low voices of scalpers who wanted to resell pre-reserved registration tickets. As time went by, the crowd was growing. Some of them standing outside were blowing thick and grey smoke into the dark sky.

The hospital’s registration service opens at 7 o’clock. Booming voices notified them that the time was coming. Each person began to move forward inch by inch so that the large open space in front of the registration windows for consulting reservation was more tightly packed. In the middle and back, some parts of lines collapsed with shrieking sounds and rearranged themselves quickly as though nothing had happened. A moment of sudden silence! Several registration windows finally opened. Most of the people began to strain their voices at the windows because of overlapped voices from other people. The crowd was gradually forming several in-and-out lines. The sun was rising outside, dimly shining through the smoggy sky in Beijing. People who finished registrations went upstairs for consultation or went outside for breakfast at the street vendors.
Such queuing usually continues until around 11 a.m. After lunch hours, the hospital scene changes, suddenly becoming quiet and slack. Patients who plan to see medical specialists must come as early as possible. The registration and reservation slots for consulting specialists are always insufficient even though they are much more expensive than general registration. In addition, there are always people from other regions to seek better treatment, although they cannot benefit from social medical insurance because they do not have Beijing hukou (household/resident registration). Scalpers who have bought those registration tickets to resell are wandering around the hospital entrance.

This hospital scene reconstructed from my observation is nothing more than a part of the everyday experiences of many Chinese. Nevertheless, such a situation looked chaotic, which impression spontaneously forms part of this thesis. The fact that large crowds are waiting in front of higher-grade hospitals at dawn everyday implies not only the limited accessibility of quality medical services, but also the structural weakness of China’s healthcare system as a whole. Although the healthcare reform has embarked on the pilot reform of public hospitals, this structural weakness cannot be resolved in the near future and continues to exacerbate or maintain people's sufferings from diseases and illness.

**Overview of China’s Hospitals: Numbers, and Financial and Administrative Governance**

This chapter firstly provides a statistical outlook on China’s hospitals. The following two Tables are inserted to show numeric comparisons between public and private hospitals and their changes in number from 2005 to 2012. As shown in Table 8 below, the number of general hospitals was 15,021 and accounted for 65 percent of all
hospitals in China in 2012. Another 35 percent included TCM hospitals, TCM and Western medicine integrated hospitals, Ethnic minority hospitals and specialised hospitals. Their average scales and revenues are much smaller than those of general hospitals. In fact, general hospitals have taken primary responsibility for Chinese health and make more than 76.3 percent of the total hospital revenue (IBISWorld 2011). They deal with various kinds of diseases and injuries, providing medical diagnosis and treatment to inpatients and outpatients. Hospitals’ finances are composed of government subsidies, the provision of medical services and the sales of pharmaceuticals.

As mentioned in Chapter 2, Chinese hospitals are classified into three levels and three sub-classes of each level by the hospital’s size, the number of beds, personnel, medical service quality, etc. A tertiary hospital is usually a general hospital at city, provincial or national level, providing the most comprehensive medical service with more than 500 beds. As summarised in Table 7, a tertiary hospital takes responsibility not only for medical services and healthcare, but also for medical and health education and research. A secondary hospital is a medium-level hospital at county, district or medium-size city level, with beds between 100 and 499. Lastly, a primary hospital is a township hospital with small clinics equipped with basic facilities. Each hospital grade is sub-divided into three classes, again, based on size, personnel, the quality of medical service and equipment, etc.
Table 7. Hospital Classification in China

<table>
<thead>
<tr>
<th>Grade</th>
<th>Beds</th>
<th>Size per Bed</th>
<th>Personnel per Bed</th>
<th>Service Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary</td>
<td>500 and above</td>
<td>60m²</td>
<td>1.04 doctors and 0.4 nurses</td>
<td>Comprehensive and specialist services, medical education and research, and medical hub</td>
</tr>
<tr>
<td>Secondary</td>
<td>100–499</td>
<td>45m²</td>
<td>0.88 doctors and 0.4 nurses</td>
<td>Comprehensive healthcare services, and medical education and research</td>
</tr>
<tr>
<td>Primary</td>
<td>20–99</td>
<td>45m²</td>
<td>0.7 doctors</td>
<td>Preventive and basic healthcare and rehabilitation services</td>
</tr>
</tbody>
</table>

Table 8. The Numbers of Hospitals by Ownership, Grade and Type in 2012

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Total</th>
<th>Grade</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tertiary</td>
<td>Secondary</td>
</tr>
<tr>
<td>Public</td>
<td>13,384</td>
<td>1,558</td>
<td>5,995</td>
</tr>
<tr>
<td>Private</td>
<td>9,786</td>
<td>66</td>
<td>571</td>
</tr>
<tr>
<td>SUM</td>
<td>23,170</td>
<td>1,624</td>
<td>6,046</td>
</tr>
</tbody>
</table>

Table 9. The Numbers of Hospitals by Ownership between 2005 and 2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>15,483</td>
<td>14,309</td>
<td>13,850</td>
<td>13,384</td>
</tr>
<tr>
<td>Private</td>
<td>3,220</td>
<td>5,403</td>
<td>7,068</td>
<td>9,786</td>
</tr>
</tbody>
</table>

As shown in Table 8, private hospitals are mostly certified as “primary”, the lowest grade among three grades, and almost half of all private hospitals are in inferior status.

60 Source: Chinese Health Statistical Yearbook 2013, NHFPC.
61 Source: Chinese Health Statistical Yearbook 2013, NHFPC.
out of official grades. On the other hand, public general hospitals are distributed properly in all three grades and, noticeably, 96 percent of tertiary hospitals are public. Although the number of public hospitals has gradually decreased since 2005, as shown in Table 9, their average size has increased through consolidation and construction of facilities and buildings. Table 9 also shows the rapid increase in private hospitals. The growth of the private health sector has been accelerated by private and foreign investment along with the broad privatisation of the medical and health sector. Although their contribution to China’s healthcare is expected to increase significantly in the near future, the Chinese reliance on public hospitals has not changed much yet. For instance, in 2012, 86 percent of all private hospitals were small-scale hospitals with below 100 beds and the number of private hospitals with over 500 beds did not even reach 100, while the number of public hospitals with more than 500 beds was 2,268 (NHFPC 2013).

Table 10 shows the revenue compositions of public hospitals by grades in 2013. The most remarkable feature in this statistic data is that the revenue of tertiary hospitals reaches 85.5 percent of total revenue of all graded hospitals, which explicitly means the very high concentration of medical service provision and patients in tertiary hospitals. As a result, most lower-grade hospitals constantly suffer from the risk of deficit, which needs to be covered by government subsidy. Secondly, the sales of Chinese medicines for outpatients have increased significantly. In the 2000s, they accounted for 10 to 20 percent of total drug sales and their share percentage was higher in lower-grade hospitals. In recent years, the sales of Chinese medicines have been increased to around 30 percent of drug sales for outpatients, while Western medicines are mostly prescribed for inpatients. The government’s support for the standardisation
and quality improvement of Chinese medicines, increasing demand from patients who consider Chinese medicines to be less toxic and have fewer side effects than Western medicines, and the increasing integration of Western medicine and Chinese medicine have promoted the prescriptions of Chinese medicines and the growth of the Chinese medicine market (IBISWorld 2012; 2014).

Table 10. Public Hospitals’ Average Revenue Structure by Grade in 2013 (RMB 10,000)⁶²

<table>
<thead>
<tr>
<th>Hospital Grade</th>
<th>Tertiary</th>
<th>Secondary</th>
<th>Primary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Number (% among the total number of hospitals)</td>
<td>1,683 (16.4)</td>
<td>5,892 (57.5)</td>
<td>2,672 (26.1)</td>
</tr>
<tr>
<td>Average Revenue (% among the total revenue)</td>
<td>60,969 (85.5)</td>
<td>9,243 (13)</td>
<td>1,073 (1.5)</td>
</tr>
<tr>
<td>Outpatient Income (%)</td>
<td>Medical Services</td>
<td>8,998 (14.8)</td>
<td>1,523 (16.5)</td>
</tr>
<tr>
<td></td>
<td>Western Medicines</td>
<td>6,727 (11.0)</td>
<td>1,001 (10.8)</td>
</tr>
<tr>
<td></td>
<td>Chinese Medicines</td>
<td>2,808 (4.6)</td>
<td>398 (4.3)</td>
</tr>
<tr>
<td>Inpatient Income (%)</td>
<td>Medical Services</td>
<td>22,550 (37.0)</td>
<td>3,110 (33.6)</td>
</tr>
<tr>
<td></td>
<td>Western Medicines</td>
<td>13,347 (21.9)</td>
<td>1,958 (21.2)</td>
</tr>
<tr>
<td></td>
<td>Chinese Medicines</td>
<td>1,105 (1.8)</td>
<td>187 (2.0)</td>
</tr>
<tr>
<td>Government Subsidy (%)</td>
<td>3,912 (6.4)</td>
<td>883 (9.6)</td>
<td>151 (14.1)</td>
</tr>
</tbody>
</table>

The revenue of public hospitals is composed of three main sources: government, employers and individuals. In 2010, each component made up 21, 30 and 49 percent respectively (Süssmuth-Dyckerhoff and Wang 2010). In more detail, financial sources from the Chinese Government among hospital revenue accounted for 21 percent, which was divided into eight percent of direct subsidy to hospitals and 13 percent of insurance subsidy for unemployed urban residents and rural residents. Employers took up 30

⁶² Source: Chinese Health Statistical Yearbook 2014, NHFPC
percent wholly for the urban employee insurance scheme. Lastly, individuals took responsibility for 49 percent, among which individual out-of-pocket expenditure accounted for 32 percent and the remaining share was spent largely on various insurance premiums. In this composition, it is noticeable that the government direct subsidy remains at a very low level, taking up only around eight percent of total hospital revenue, while the individual contribution accounts for half of the total hospital revenue. It is true that the absolute amount of government subsidy has increased constantly, but it does not represent an effective contribution to the financial management of hospitals. In other words, the rate of government subsidy had been increased slightly from six percent in the early 2000s to seven to eight percent since the new healthcare reform in 2009, but the upward trend did not last long. It reached a peak, 8.7 percent in 2011 and returned to decrease (Table 11 below).

In place of the decreased government subsidy, public hospitals have made more income from medical services for inpatients who may benefit from increased insurance coverage (Table 11). Here, the disproportionate concentration of service provision appears again. The occupation rate of hospital beds has increased alongside the expansion of insurance coverage and the increasing number of inpatients since the mid-2000s. The acceptance of inpatients has already exceeded the bed capacities of tertiary hospitals since 2008 and the bed occupancy rate of secondary hospitals reached 90.7 percent in 2012, while that of primary hospitals has remained at about 60 percent (NHFPC 2013). The expansion of insurance coverage has led to the increase of inpatient admissions by two and a half-fold from 2003 to 2011 (Barber et al. 2013: 369).

As a result, individual payment remained at 34.4 percent of total health expenditure in 2012, although it was a big reduction from 60 percent in 2001 (NHFPC
It is true that the increasing government spending has gradually covered individual out-of-pocket payment along with the ongoing healthcare reform. Nevertheless, public hospitals’ revenue structure has not been changed. They continue to rely on the sales of medical services and medicines that account for around 90 percent of their revenues (Barber et al. 2013; NHFPC 2013). No doubt, this revenue structure has been frequently associated with overprescription and over-treatment. In this situation, hospitals have made efforts to attract more patients seeking quality medical services in higher-grade hospitals. In reality, most of their efforts have been invested towards physical upsizing to acquire higher-grades.

Table 11. Revenue Compositions of Public Hospitals between 2008 and 2013 (RMB 10,000)\(^6^3\)

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>13,920</td>
<td>13,766</td>
<td>13,510</td>
<td>13,180</td>
<td>12,979</td>
<td>12,971</td>
</tr>
<tr>
<td>Average Revenue</td>
<td>4,766.1</td>
<td>5,890.2</td>
<td>7,179.3</td>
<td>8,832.1</td>
<td>10,950.5</td>
<td>12,666.8</td>
</tr>
<tr>
<td>Outpatient Total Income/Medicines (%)</td>
<td>1,638.6 (34.4)</td>
<td>1,958.9 (33.3)</td>
<td>2,318.7 (32.3)</td>
<td>2,805.0 (31.8)</td>
<td>3,410.5 (31.1)</td>
<td>3,934.1 (31.1)</td>
</tr>
<tr>
<td>Inpatient Total Income/Medicines (%)</td>
<td>2,635.0 (55.3)</td>
<td>3,308.5 (56.2)</td>
<td>4,121.4 (57.4)</td>
<td>5,073.9 (57.4)</td>
<td>6,385.2 (58.3)</td>
<td>7,427.4 (58.6)</td>
</tr>
<tr>
<td>Government Subsidy (%)</td>
<td>372.3 (7.8)</td>
<td>479.5 (8.1)</td>
<td>586.9 (8.2)</td>
<td>766.7 (8.7)</td>
<td>892.8 (8.2)</td>
<td>1,006.3 (7.9)</td>
</tr>
</tbody>
</table>

\(^6^3\) Source: Chinese Health Statistical Yearbook 2009, 2013 and 2014, NHFPC
In fact, the two Tables above also indicate the direction of China’s healthcare reform. Firstly, the Chinese Government has facilitated public hospitals’ restructuring. The restructuring plan is associated with the decreasing number of public hospitals and the increasing amount of their revenues as shown in Table 11. Secondly, instead of increasing the government subsidy, the government has utilised its administrative power to increase the mandatory participation of corporations in employment insurance and the individual voluntary participation in both urban and rural resident insurances. In effect, the government’s directive was realised as the new Social Insurance Law, which took effect in July 2011. According to the law, all employers must enrol their employees in five insurance programs: pension, medical insurance, unemployment insurance, work-related injury insurance and maternity insurance (Ligornoer et al. 2012; Reintgen 2014). Both employers and employees are required to pay monthly premiums for the former three insurances, and only employers need to contribute a small amount to the latter two insurances. In Beijing, the monthly contributions of employers and employees amount to, respectively, about 30 and 10 percent of capped employment income. However, some problems have been found in the actual implementation of the law. I heard from the owner of a real estate business in Beijing when I asked about the medical insurance practice for his employees:

“Yes, we must keep the law, but small companies like us cannot pay their employees’ insurances. If we pay almost 30 percent of their salaries for insurances, it’s too much; it must be hard for us to make ends meet. So we make informal contracts with employees to transfer the companies’ share of insurance to employees to some extent. As you see, they usually accept this practice because most of them already know it and want to have jobs.”
In addition, the fines imposed on fraudulent companies range only from 200 to 500 percent of the claimed amount, so that there are some employers who are inclined not to regard them as punitive risk (Livermore 2012). No doubt, employers’ participation is essential to make the social security system sustainable with a reasonable share from the government. However, since the economic reform, the Chinese Government moved to withdraw from comprehensive support for healthcare provision and to confine its role to regulation and supervision with minimal financial contribution (Tam 2008: 109). The financial burden has been transferred from the government, firstly to individuals, and recently to employers. Counteracting the economic downturn in the 2010s, the government has increased companies’ contributions, and some companies have illegally transferred their financial burden to their employees. In sum, the government seems to make every effort to manage its financial burden only within minimum limits, despite its accelerating healthcare reform that has just entered into the final stage, which includes hospital reform.

Instead, the government has focused more on the value of solidarity for Chinese social security (Liu and Darimont 2013). China’s new healthcare reform has repeatedly emphasised that medicines and medical services should be considered as public goods rather than commodities. In fact, such an ideological imposition had been intensified during the Mao era and has been reiterated officially even since the economic reform. It was also one of several reasons why China postponed the establishment of IP law for pharmaceutical patents (Deng and Katin 2004). In any case, it must be hard for hospitals to reverse again the ways in which they have been operated by profit-oriented management for the last three decades. As explained earlier, public hospitals must rely
mostly on the sale of medical services and medicines rather than the government subsidy.

Besides the financial structure of public hospitals, there is another problematic issue regarding hospitals’ administrative governance. Chinese hospitals are assumed to lack professional hospital management, and this is intertwined with low levels of autonomy of hospital managers and directors, lack of formal accountability mechanisms and relatively low levels of welfare benefits for medical staff (ChinaCare Group 2008; GHMS-China 2014). It is the main reason that the Health Reform Office of the State Council included the improvement of hospital operation and personnel management in the hospital reform in 16 pilot cities. However, as emphasised by Barber et al. (2013: 368), the public hospital reform is “one of the least understood aspects of the Chinese reforms”, because the financial and administrative governance of public hospitals is very fragmented and disorganised. Given the lack of professional administrative and financial management, hospitals’ financial responsibilities are not managed systematically and are often distributed to individual physicians, which makes it hard to introduce more complex insurance and payment systems into hospitals (World Bank 2010; Barber et al. 2013).

In addition to the government’s various administrative interventions, public hospitals are required to install internal committees consisting of Communist Party members, like other state-owned companies. Such committees are supposed to oversee overall political affairs in hospitals. In fact, their specific roles are barely known to the public, but they must hold influential power in hospital governance. Committee members participate in various decision-making processes, although it is not frequent (ChinaCare 2008). Hospital managers are inclined to consult with the party committee
leaders before making high-level decisions such as hiring executives (ChinaCare Group 2008). According to my interview with a managing director of a multinational company, the internal party committee’s roles are not restrained within political affairs. While he emphasised the importance of guanxi in China, he mentioned a case of the party committee’s business intervention. He had maintained a close relationship with a member of the committee of the partner company. When his company tried to make a cooperative contract with the Chinese partner, the company’s party committee swiftly intervened in the final decision-making and drove it for the benefit of his company.

Against the past three-decade trend of the government’s withdrawal from welfare provision, internal Communist Party committees in state-owned/run companies operate as virtual state apparatus and seem to be critical for China’s sustained governmentality. It has become harder for China to control extremely diversified economic and industrial structures entangled with the explosive growth of the private sector. Against this economic background, such institutional practice of internal party committees, which had been applied only to state-owned business entities, began to pervade the private sector. In recent years, several successful private companies, such as smartphone company Xiaomi, online media firm Sina and web service giant Baidu, established internal party committees. In any case, this phenomenon has happened against foreign and public expectations that private companies could be developed more freely without intervention of the government. The roles and operations of party committees within private companies are largely unknown to the public as well.

64 “Private’ biz Xiaomi sets up Communist Party exec committee” by Alexander J. Martin (Published on 29, Jun. 2015 on theregistered.co.uk, accessed on 20 Jul. 2015)
However, there must be differences in the ways and degrees of government intervention in business and political affairs between private companies and state-owned companies.

**Differentiated Disciplines**

As seen from the establishment of internal party committees in all kinds of business entities for as long as possible, the Chinese Government must have exerted every effort to integrate business with politics to various extents. Likewise, public hospitals retain the same aspect as business organisations. However, they show more complexities because they are considered to be not only market-oriented businesses but also welfare providers. In addition, public hospitals have been used not only as therapeutic places, but also for health education and government propaganda. In that they are physically open to public access, certain appearance of the integration of politics, business, and therapeutics can be observed more easily than in other business entities that usually block outsiders’ free entrance.

Even so, all hospitals are not used as politically disciplinary places, according to my observation of several public hospitals. The dissemination of political propaganda was increasingly found in lower-grade public hospitals. In other words, while I barely found the public display of government propaganda in Tertiary Class-A hospitals, there was an excessive amount of display items in both secondary and primary public hospitals. As the financial roles of the Chinese Government in public hospitals have dwindled for three decades, the Communist Party’s intervention might be weakened and have been maintained just to a small extent in lower-grade hospitals that receive more government subsidies than higher-grade hospitals.
Among three hospitals where I conducted participant observation, the highest-grade (Tertiary Class-A) hospital has no signs for political propaganda. The next tertiary (upgraded from secondary grade in 2015) hospital has displayed several signs like “practice core socialist values” and “civility and harmony” on its LED display on the top of the entrance.

![Figure 7. The Government Propaganda Displayed at the Entrance of Haidian Hospital](image)

Literally translated, the LED sign displayed in the above picture means, “Practise core socialist values” and “Become a civilised and well-mannered Beijinger”. In this way, political phrases are linked up with the social and moral dimensions of disciplinary phrases, and both of them are intertwined with health-related phrases such as quitting smoking, disease prevention and hygiene. Actually, the overbearing architectural style of the hospital, with steep stairs towards the entrance, looks well suited with those red
signs. Nevertheless, inside, the hospital reclaims its therapeutic and business space, released from politics.

Compared to higher-grade hospitals, lower-grade hospitals’ involvement in the dissemination of government propaganda is more intense. Shown in the following two pictures, the mixed displays of disciplinary phrases do not remain at the entrance but extend to the inside of the secondary hospital. Besides the similar propaganda signs, including the 12 words of “core socialist values” on its LED display on the entrance, the hospital has dozens of posts hung on the ceiling. China’s core socialist values are composed of 12 words: prosperity, democracy, civility, and harmony at the state level, and freedom, equality, justice, and rule of law at the society level, and patriotism, dedication, integrity, and friendship at the individual citizen level. The CPC announced that core socialist values should be included in the national education plan, and that the media should support the guidelines for public opinion. 

To all appearances, the lower a hospital’s grade is, the more propaganda signs it displays. Despite the government’s weakened intervention, China’s public hospitals have never remained only within the therapeutic landscape. Translated, the four phrases shown in the following Figure 8, respectively mean, “Do not smoke”, “Control chronic diseases,” “Pay attention to civility” and “Promote harmony”. Health-related phrases are displayed with the political agenda at the same time on the hospitals’ LED displays. And those signs are displayed inside too.

65 China’s core socialist values were issued by the General Office of the CPC Central Committee in 2012 (published on People’s Daily on Dec. 25, 2013, accessed on 10 Jan. 2014).
To my question about patients’ attention to those signs, they replied with a slight shrug, saying that, although they did not pay much attention to those signs, the phrases looked right anyway. The phrases of core socialist values have been moralised as “right” in their pervasive presence, not only in public hospitals, but also in main streets, schools
and the media, through various forms of signs and voices. Lower-grade hospitals receive more government subsidies and seem to install more propaganda posts. Accordingly, the CPC’s propaganda is more visible to patients in lower-grade hospitals that provide relatively cheap medical services and medications.

Among the 12 words of China’s core socialist values, “harmony” is most frequently displayed in public and emphasised by the government. In fact, the CPC has used this term to address pervasive inequalities and inequities in China. At the same time, the CPC has justified various governmental intervention, including Internet censorship, for the construction of a harmonious society on the premise of the state’s stability and authority (Wang et al. 2015). However, Chinese people have witnessed the ever-widening gap between rich and poor and pervasive corruption of higher-rank officials. They have been dissatisfied with the contradiction between the government’s advocacy of harmonious society and the real situation. Against this background, the government’s censorship has driven rise in public dissatisfaction. Public sarcastic criticism poured out on the Internet, and Chinese people began to use the term “harmonious” as a euphemism for censorship. The government instantly blocked the word usage on the Internet. Then, Chinese netizens changed it to another homonymic word, “river crab” (河蟹 héxiè) in place of “harmonious” (和谐 héxié).66

Although I consider Chinese people’s sarcastic response on the Internet as their resistance to the government’s disciplinary intervention, it also cannot be denied that China’s public hospital has been used as a disciplinary institution as well as a medical

66 Refer to Wang et al. (2015) for more detailed explanation.
institutions. Following Foucault (1978), this is a significant aspect of China's
governmentality as the exercise of disciplinary biopower resulting in the control of the
country's population. In public hospitals, biopower has been exercised “to include the
active management of the population to stimulate its vitality, and the adoption of codes
and techniques by individuals to govern their own lives” (Lock and Nguyen 2010: 24).
In particular, lower-grade hospitals have become the key space for more active
intervention by the government for the management of subpopulations and individuals
with both medical and political codes and techniques. At this point, China's exercise of
biopower is differentiated by the hospitals’ grades. Chinese people who have more
socioeconomic room for healthcare choices become the neoliberal subjects rather than
remain within the direct influence of the government’s disciplinary power. They are
learning how to deal with their own health by themselves in the competitive and
market-oriented situation of higher-grade public hospitals. It is the effect of disciplinary
power of neoliberalism. In China's transition from a socialist state to a market-oriented
state, these differentiated disciplines are observed in public hospitals in separate or
mixed forms.

**Differentiated Medicines**

As discussed earlier, public hospitals have relied on markup income from the sales
of medicines since China’s economic reform and the differentiated provision of medical
services. Some higher-grade hospitals have been observed to make profits from the
provision of even more expensive private services for wealthy individuals. In any case,
the more expensive drugs hospitals sell, the more income hospitals make. In general,
global medicines produced by MPCs are more expensive than local medicines, and their
markup percentage is higher than that of local medicines. Therefore, higher-grade
hospitals are inclined to prescribe global medicines because of their better efficacy and qualities, as well as their higher markup income. Nevertheless, given growing patient dissatisfaction with hospital services, doctors must be more careful in prescribing. During my fieldwork, I heard from Chinese doctors that they often used to choose medicines’ brands according to patients’ outfits and appearance.

In tertiary hospitals, there is fierce competition among all pharmaceutical companies including multinational, foreign and domestic companies, and this phenomenon is more remarkable in cities (Cheng and Zhu 2012). Nevertheless, MPCs have maintained higher rankings in the tertiary hospital market. For instance, they took all higher rankings from the first to the fifth in 2011, according to the 2011 rank of pharmaceutical companies’ market share in tertiary hospitals (Cheng and Zhu 2012: 230). Although there is fiercer competition because of the emergence of big domestic enterprises and the increasing entry of Chinese patent medicines into the market, MPCs have still maintained their advantageous position. Chinese patent medicines are produced on the principle of TCM but modernised and standardised in their formulas and production (ResearchInChina 2010; Chen et al. 2014). “Patent” in “Chinese patent medicine” does not mean the traditional sense of the word in other countries. Chinese patent medicines are not “patented” and are sold in the Chinese hospitals and pharmacies like Western OTC medicines.

Competition among pharmaceutical companies is lower in secondary hospitals than in tertiary hospitals. Further, competition for the secondary hospital market occurs mostly among domestic companies that usually produce generics (Cheng and Zhu 2012: 255). Although another differentiation can be drawn from the sales of Western medicines, Chinese patent medicine and TCM, all public general hospitals basically rely
on the sales of Western medicines. For example, in prefecture-level cities, hospitals’ income from the sales of Western medicines, Chinese patent medicine and TCM herbal medicines took respectively 87.92, 9.12 and 2.97 percent in 2010 (Cheng and Zhu 2012: 110).

All secondary and tertiary public general hospitals I visited in Beijing had TCM departments and were prescribing Chinese patent medicines and TCM-based herbal medicines. Secondary hospitals were selling Chinese patent medicines more than tertiary hospitals, although the difference was not so considerable. Unfortunately, I could not observe any prescription case of TCM-based herbal medicines during my participant observation in the hospitals. As shown in the following table, TCM-based medicines, including herbal medicines and Chinese patent medicines, account only for 6.8 percent of total hospital medical-related revenue. The average percentage of hospital revenue from herbal medicines among TCM-based medicines is estimated around at two percent (Cheng and Zhu 2012:111). Nonetheless, the use of TCM is not unpopular in the Chinese population. It has, often in conjunction with Western medicines, been widely prescribed by Chinese doctors who treat Chinese patients with chronic and intractable illness (Harmsworth and Lewith 2001; McQuade et al. 2012). The abovementioned low income figure from TCM products reflects their low prices.

Among the three grades of hospitals, primary hospitals are the ones that provide TCM-based herbal medicines the least. It is suspected that they focus on the sales of local generics and Chinese patent medicines for the provision of inexpensive and easier medication. In addition, because of their small number of beds and insufficient equipment and space, they make even more income from outpatient service than inpatient service. The income composition of secondary hospitals is very similar to that
of tertiary hospitals with one exception. In secondary hospitals, the income percentage from TCM-based medication for inpatients is much higher than that of tertiary hospitals. In general, inpatients in secondary hospitals are less wealthy than those in tertiary hospitals, so they often choose cheaper TCM-based medication, particularly when they need long-term treatment for chronic illnesses. In addition, along with their traditional preference for TCM, many of them consider that TCM-based medication has far fewer side effects than Western medicines. On the other hand, tertiary hospitals are inclined to focus mostly on the sales of Western medicines and, as mentioned earlier, global medicines are prescribed much more than local medicines.

Table 12. The Incomes from Western and TCM-based Medicines’ Sales in Public Hospitals by Grades (RMB 10,000)⁶⁷

<table>
<thead>
<tr>
<th>Hospitals’ Grade</th>
<th>Tertiary</th>
<th>Secondary</th>
<th>Primary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals’ Number</td>
<td>1,545</td>
<td>5,941</td>
<td>2,702</td>
</tr>
<tr>
<td>Income from Medication and Medical Services (RMB 10,000)</td>
<td>50,161</td>
<td>7,412</td>
<td>821</td>
</tr>
<tr>
<td>Outpatient Medication (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8,751 (17.4)</td>
<td>1,324 (17.9)</td>
<td>229 (27.9)</td>
</tr>
<tr>
<td>Western Medicine</td>
<td>6,280 (12.5)</td>
<td>958 (12.9)</td>
<td>169 (20.6)</td>
</tr>
<tr>
<td>TCM-based Medicine</td>
<td>2,470 (4.9)</td>
<td>366 (4.9)</td>
<td>60 (7.3)</td>
</tr>
<tr>
<td>Inpatient Medication (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13,515 (26.9)</td>
<td>2,037 (27.5)</td>
<td>169 (20.6)</td>
</tr>
<tr>
<td>Western Medicine</td>
<td>12,588 (25.1)</td>
<td>1,877 (25.3)</td>
<td>151 (18.4)</td>
</tr>
<tr>
<td>TCM-based Medicine</td>
<td>928 (1.9)</td>
<td>159 (7.8)</td>
<td>19 (2.3)</td>
</tr>
</tbody>
</table>

⁶⁷ Source: China’s Health Statistical Yearbook 2012
As much as the involvement of public hospitals in propaganda is differentiated by their grades, hospitals’ choices of medicines are also differentiated by their grades. Tertiary hospitals equipped with higher-quality medical staff and services are inclined to find global medicines with higher markup rate than local medicines in order to make more income for overall maintenance. It is true that many Chinese prefer global medicines to local medicines, because they believe in global medicines’ quality and effectiveness more than local medicines, when they choose Western medicine for their treatment. Although whether patients’ illnesses are chronic or not is an indication for choosing drug types, according to my interviews with several Chinese, it turned out to be relatively meaningful only in secondary hospitals. In addition, doctors’ education levels and prescribing inclinations are other key factors, as will be explained in the next chapter.

In recent years, many major public hospitals in cities began to have another try to make more profits by installing so-called “VIP wards”. Hospitals provide more skilled medical staff and up-to-date medical equipment only for very wealthy patients and high-rank government officials therein.68 As this business trend of public hospitals became more popular nationwide, China saw widespread public criticism of such an inequitable approach to public service. Thus, the National Health and Family Planning Commission (NHFPC) set a 10 percent limitation: hospitals must use only 10 percent of their bed capacity for VIP wards.69 As a result, some VIP wards in public hospitals were...


eliminated or moved to other facilities. Nevertheless, public hospitals keep trying to find an opportunity to maintain and expand VIP services, which, they knew, would become a good source of income. Many Chinese argue that public hospitals should be operated only for the public good, and thus such kind of market-oriented and differentiated medical services should be taken over by private hospitals. In reality, a few foreign-invested private hospitals have been providing VIP services. But those private hospitals are overall in the early stage of development and, without insurance benefit, are still more expensive than VIP wards in public hospitals.

**Private Hospitals: Growing on a Leash**

Since the 1980s, private healthcare providers such as small village clinics have emerged. However, their services have been limited and are provided mostly for outpatients. Their services have been focused on primary care, and their quality has been considered lower than that of public hospitals, but they have tried to take advantage of price at least (Eggleston et al. 2010). Therefore, they can be an inexpensive option for many migrants who cannot benefit from social medical insurance because they do not have household registration in the locale. Since the late 1990s, a few foreign-invested private hospitals have begun to provide high-quality medical services, both inpatient and outpatient services, mostly for foreign expatriates with international medical insurance and for very rich Chinese patients or high-rank officials. Between these private healthcare providers, there are small-scale foreign-invested hospitals that provide high-quality medical services mostly for inpatients. These hospitals are more accessible for middle-class expatriates without full international insurance and for middle-class Chinese families.
In Beijing, one of the most prestigious private hospitals is United Family (Chinese pinyin: Hemujia) Healthcare Hospital. In addition to the main hospital, they operate 11 branch clinics in several strategic places in order to secure accessibility and to provide primary or emergency medical services within the city. The hospital hires foreign physicians and Chinese doctors who can speak English or were trained in Western countries. In the introduction catalogue of the hospital, there are several American doctors. Most of them are Chinese-Americans who can speak in both Chinese and English. It has been said that some of the hospital’s doctors have become very famous for their medical knowledge and skills. Interestingly, although I’m not sure whether it is the hospital policy, its doctors seem to take great care about winning popularity. For example, some of them make efforts to provide timely medical information and communicate with the public in Weibo, known as Chinese Twitter or Facebook. One paediatrician in this hospital has over four million Weibo followers and has published several books about child healthcare. As a result, it has become really difficult to make a registration for consultation with him, and the consultation fee has been hiked. This situation is particularly apparent in paediatric services. Recently, despite their high treatment fee, some middle-class Chinese families are trying to use these hospitals for their children. It is a well-known fact that China’s one-child policy often led Chinese parents to become lavish consumers for their children. As far as they can afford to pay, they want their children to receive more special medical care without bothering themselves in public hospitals.

In reality, the majority of private hospitals in China are small-scale Chinese clinics or hospitals. According to my observation in a private hospital, there seemed to be two or three doctors and a few nurses walking around or standing at the information desk.
They usually did not look busy. In general, Chinese people are inclined not to trust the service quality of these Chinese-run private hospitals. It can be one of the reasons various advertisements by private hospitals are easily observed on the streets or buses. Such advertisements usually emphasise big discounts on examination and treatment fees, like other commodities. I also could often see advertisements on the hospital wall, saying that the hospital hired a couple of prestigious specialists who presently work in higher-grade and university-affiliated public hospitals. Although I did not actually see them working there, it must be possible, because of the government’s recent reform effort to incentivise doctors in public hospitals. According to the changed policy, doctors in public hospitals are allowed to work in private hospitals once a week to make extra income.

Between these hospitals are foreign-invested small-scale hospitals that are targeted mostly at foreign expatriates and their families who want better medical services without a language barrier. Particularly in Beijing, I found several foreign-invested private hospitals, mostly for Koreans, and thus I first thought that they were funded and run by Koreans. However, they were established by Taiwan or Korean Chinese funds, and a few Korean physicians were employed to treat Korean patients. One Korean doctor in the hospital said that it was almost impossible for foreigners to establish and run hospitals without guanxi and understanding about Chinese organisational culture.

He drew on his own experience of establishing his hospital eight years ago. To establish his hospital, he spent almost USD 0.3 million on buying medical equipment, apart from building rent and various administrative fees. Then, he had to pass administrative inspections from several government offices, including fire,
environment, hygiene, and industry and commerce departments. According to him, each inspection would take place every three months if he did not slip a decent amount of bribes to the related officials. It took one and a half years for him to receive final approval to open his hospital, and he hired five Chinese doctors and five nurses. But Chinese staff did not work enough to attract patients and, according to him, they were just satisfied with monthly salaries. Finally, his hospital suffered from deficits and was closed, and then he had to find a job in another private hospital in Beijing.

He mentioned another case of Korean investment, which also ended in failure. It was SK Aikang hospital, co-invested by SK Group, one of the Korean conglomerates, and the Chinese-Singaporean Evercare Medical Group. Despite their big investment, including informal payment to administrative officials, it took two and a half years to get hospital approval. And then, the hospital’s operation was frequently interrupted by inspections by the Chinese administrative and health offices, without knowing specific reasons. The hospital was closed and sold cheaply in four years after opening. According to a pharmaceutical consultant, this case was strongly influenced by China–Korea political relations. When something bad happens between the two countries, Korean-invested hospitals easily become a target of China’s revenge. Besides, he added that China was inclined to order inspections on foreign hospitals that were considered to make more profits than expected. Although China’s recent hospital reform loosened various regulations regarding hospital ownership and management, the Chinese Government continued to emphasise that all kinds of hospitals should be managed for the public good. On the other hand, foreign interviewees complained that one of the main reasons those inspections used to be made was because of corrupt officials. To them, Chinese officials’ visits for inspection often meant additional spending of bribes.
Despite cultural and political barriers against foreign hospitals, foreign investment in medical services in China keeps increasing along with the ongoing deregulation of hospital business. For example, since the establishment of solely foreign-owned hospitals was allowed recently in designated regions, foreign hospitals can have more liberty to manage their hospitals without fearing business interruptions by Chinese partners. The new healthcare reform is expected to be more favourable to foreign investment in hospital business. However, given the previous failures of foreign-invested hospitals, it is still significant that private hospitals’ market-oriented management needs be accompanied by their generous social contribution and guanxi with the government officials. In the meantime, many Chinese private hospitals, which make up the majority of private hospitals in China, are often operated outside official grade system. Insofar as they try to provide low-priced medical services to attract patients, their service quality is often in doubt. However, the private sector of healthcare needs to be more rapidly and maturely developed to make up for the current situation of nationwide deficiencies in the provision of public healthcare.

**Unleashed Drugstores (Retail Pharmacies)**

In order to reduce hospitals’ profit-oriented prescriptions and to increase people’s access to medication, the 2009 new healthcare reform has pursued the separation of pharmaceutical sales from hospital management and operation. Based on this policy direction, the Chinese Government has encouraged an increase in the number of community retail pharmacies (drug stores not affiliated to hospitals) and has stimulated the consolidation of independent pharmacies into chain retail pharmacies. Fundamentally, the government has tried to establish more accessible pharmaceutical care by growing community retail pharmacies as another pillar of China’s healthcare
system. As a result, the number of community retail pharmacies has soared since the early 2000s and reached nearly 388,000 in 2009. Among them, the growth of pharmacy chains is noticeable, absorbing independent pharmacies and accounting for 35 percent of all pharmacies (Fang et al. 2013).

In reality, Chinese people are conventionally inclined to buy OTC drugs through doctors’ prescriptions at hospitals, and thus most pharmaceutical sales still come from hospital-affiliated pharmacies. As mentioned earlier, hospitals have tried to make more profits from drugs sales by overprescription since the government’s increasing withdrawal from welfare provision. It could be hard to understand this ironic association between people’s conventional behaviours of seeking medication at hospitals and hospitals’ seeking profits by overprescription. Nevertheless, community retail pharmacies accounted for 26 percent of total pharmaceutical sales in 2009, and the number has increased (Fang et al. 2013). The separation of drugs sales from hospital medical-related operation and the separation of pharmacies from hospitals are not realised yet, but there are plans for these to be implemented more intensely in the final phase of the new healthcare reform.

Against this background, retail pharmacies are more easily found elsewhere in recent years, although they make up around 25 percent of total medication provision (Deloitte 2011; Fang et al. 2013). China’s OTC market and the retail pharmacy sector are together facing explosive growth. Global retail companies such as Watson’s and Walmart have actively set foot in China’ retail pharmacy market. And the growth of Chinese pharmacy chain companies is surprising. As the Chinese Government began to approve online pharmaceutical retail business, online retail companies such as Alibaba and JD.com, as well as pharmacy chain stores such as Nepstar Chain Drugstore and Jo-Jo
Drugstores, have extended their businesses to the online pharmacy market. Online drug stores, which used to be allowed to sell only OTC drugs and nutritional supplements, acquired additional approval for the sales of prescription drugs from the China Food and Drug Administration (CFDA) in 2015. Online pharmacies are becoming threatening competitors to hospitals and other offline pharmacies, in that there are an explosive number of mobile Internet users, and drugs sold online are usually 10 percent cheaper than offline drugs.

Along with the growth of retail pharmacies, China’s OTC market has been developing rapidly. Still many Chinese are inclined to use public hospitals for medications even for common illnesses, but various changes in lifestyles along with the economic development have led to easier self-medication with OTC drugs. In effect, the sales of the overall OTC drug market increased from USD 3 billion in 2001 to 20 billion in 2013 (Song et al. 2015). The promotion of the OTC drug market is consistent with the government healthcare policy that wants to alleviate the concentration burden on public hospitals. At the same time, the development of the OTC drug sales at retail pharmacies is a good opportunity for both local and global pharmaceutical companies. Historically, China’s OTC market has been dominated by TCM medicines, mainly because of Chinese cultural familiarity and perceptions about lower side effects (Deloitte 2011: 15). However, many Chinese consumers who visit retail pharmacies prefer more convenient and easy medication with standardised Chinese patent medicines or OTC Western medicines to TCM medication. In addition, as many Chinese perceive that OTC Western medicines have better quality and quicker efficacy than Chinese patent medicines, Western medicines are expected to take more market share. In reality, I found that the presence of MPCs’ products has been increasingly noticeable
in retail pharmacies in the main streets of Beijing. At the same time, I found that many pharmacists or sales assistants at pharmacies still often recommended Chinese patent medicines for common illnesses. They emphasised that Western medicines had more side effects and Chinese medicines would work better for the Chinese body.

In any case, according to the survey that I conducted at 19 retail pharmacies in Beijing and the statistical data from pharmaceutical market reports, the market capacity and growth of OTC western medicines were confirmed as bigger and faster. Here I summarise the survey, which focused on Chinese consumption behaviours and pharmacists’ perceptions of medication recommendation for common illnesses. The survey questionnaire consists of two parts: 1) consumers’ choices, reasons, and brands of certain medicines by common illnesses such as headache, fever, cold and indigestion; and 2) consumers’ responses to pharmacists’ recommendations and initiative in the choices of medicines and the influence of pharmacists’ recommendation and advertisements. A one-page questionnaire was distributed in person to 90 retail pharmacies located in Haidian and Chaoyang districts of Beijing, and 19 of them were answered.

In effect, the result was not statistically meaningful, due to the small number of responses, but I came to find some results that were repetitively and commonly observed in this survey. Firstly, pharmacists’ recommendations and medicines’ brands were the two most important factors in Chinese consumers’ choices of pharmaceutical medication, when consumers do not have knowledge or experience of necessary

\[\text{\footnotesize 70}\] The questionnaire form is attached as Appendix 2 at the end of the thesis.
drugs.\textsuperscript{71} Secondly, the influence of advertisement publicised by MPCs turned out to be very successful. As a result, particularly analgesic drugs used for relieving pain, headache and certain symptoms of colds were widely recommended by pharmacists and sought by consumers. Fenbid/Ibuprofen produced by SK&F, co-established in 1987 by GSK and Tianjin Zhongxin Pharmaceuticals, and Saridon, produced by Roche and Bayer, were most recommended and purchased. China has witnessed MPC's advanced technology of marketing and advertising and their increasing investment in the OTC market. It is difficult to assert now whether or not they can make their way through fierce competition with numerous domestic companies armed with inexpensive OTC medicines. Nevertheless, it cannot be denied that they will play an even bigger role in the rapid development of China's retail pharmacy sector.

Several critical problems have followed the growth of the pharmaceutical retail sector and the increase in pharmaceutical medication at retail pharmacies. Most of them are complicated by pharmacists' low social and economic status (Du 2004) and the deficient supply of licensed pharmacists (Fang et al. 2013). In effect, they are long-standing problems, which however haven't been considered so seriously until the shift of the pharmaceutical policy in the late 2000. Since the establishment of the PRC in 1949, the Chinese Government has monopolised the control of professional standards and norms regarding pharmaceutical practice and trade, rather than leaving it at pharmacists' professional disposal (Du 2004). As far as pharmacists' social and professional status has been regarded as lowly by the Chinese public (Du 2004), their

\textsuperscript{71} Also refer to "The Analysis of the OTC Consumers' Behaviours in Zhangzhou" (漳州地区 OTC 药品消费者购买行为分析) (Zheng 2012). My survey result is consistent with the article.
salaries are relatively low, accordingly. In fact, their low social and economic status was easily observed during my fieldwork. For example, the average salary of pharmacists working at retail pharmacies in Xi’an is about USD 3.30 per hour (Fang et al. 2013). And there was an interesting point that helped me estimate pharmacists’ social status. Whenever I asked some Chinese interviewees how they called “people working at pharmacies,” they never answered that they were “yaoshi (pharmacists).” Most interviewees called them “drug salespersons,” although some of them were actually licensed professional pharmacists.

The deficiency of licensed pharmacists is closely related to the government policy, which has been changing recently, and their low social and economic status, which has been barely changing. As revealed during my fieldwork, the absence or deficiency of licensed pharmacists has been covered by “drug salespersons” or “pharmacy technicians” in a formal term. According to Fang et al. (2013), more than four million pharmacy technicians, of which role requires a high school diploma or equivalent and three to six months’ training and certification at the college level, work in retail pharmacies. According to the law, they must work under the direct supervision of licensed pharmacists. But the reality is different. I found that only pharmacy technicians were working, without the presence of licensed pharmacists, at many retail pharmacies, which was against the legal stipulation. In addition, pharmacists themselves considered their professional role to be often ambiguous and recognised their lack of scientific evidence of Western OTC medicines when they provided pharmaceutical care to consumers (Song et al. 2015). As a result, this complication has led to the public underestimation of a pharmacist as a professional occupation. Even worse, retail pharmacies, rather than playing the role of a primary healthcare provider, are often
associated with profit-driven pharmaceutical sales, pharmaceutical malpractice, the illegal sales of prescription medications and so on (Fang et al. 2013).

In the situation where those existing problems are not being resolved, China’s pharmaceutical retail sector has increasingly expanded into the online market. In fact, many problems intertwined with Internet pharmacies have been widely reported in many other developed countries, including the US and EU countries that already approved the Internet pharmacy business (ASOP 2015). This complex business trend clearly has two implications. Firstly, the expansion of the online pharmaceutical marketplaces often associated with advanced IT is beneficial to pharmaceutical retail business on the one hand. Secondly, it is hard to control and regulate Internet pharmacies partly because of their mobile, trans-territorial and ubiquitous aspects on the other. Health-related oversight institutions including ASOP,72 LegitScript,73 and the World Health Organization (WHO) have repeatedly documented that “about 97 percent of Internet pharmacies operate illegally and unsafely” (ASOP 2015: 3). According to ASOP’s assessment (2015), the China situation was already not very different, for example, 97 percent of the Chinese Internet pharmacies were defined as “rogue/unapproved” Internet pharmacies in non-compliance with China’s laws and regulations. Many of them run their business without a pharmacist licence. They sell prescription medicines without requiring doctor’s prescriptions and even sell illicit versions of lifesaving medicines such as cancer medication. From time to time, those

72 “The Alliance for Safe Online Pharmacies (ASOP) is a global nonprofit dedicated to protecting patient safety online” (ASOP 2015: 2). The ASOP website is www.safeonlinerx.com.
73 “LegitScript is a company that monitors healthcare products and Internet pharmacy websites with a focus on patient safety” (ASOP 2015: 2). Its website is legitscript.com.
medicines are found to be counterfeit drugs, and some controlled substances are marketed with implicit suggestions of various criminal purposes.

In recent years, the CFDA has made an effort to control the situation, in cooperation with the State Internet Information Office and the Ministry of Industry and Information Technology (ASOP 2015: 36). The control of Internet pharmacies is achieved by the related government organisations and the major Internet companies such as search engines and portal websites. The active involvement of the Chinese Government is needed to establish the healthy development of the online pharmaceutical sector in China. Despite several critical problems, online pharmacies and pharmaceutical websites play a role of providing people with pharmaceutical information and easy access to medication, outside hospitals.

Conclusion

Since China’s economic reform, public hospitals have been differentiated by their grades, patients’ economic and social status, and medical services and drugs. Although the overall situation has been not changing, along with the economic development, more Chinese have rushed into higher-grade hospitals for better services. People’s concentration in higher-grade hospitals has resulted in a serious imbalance of medical service provision. On the other hand, even in this situation, the Chinese Government has tried to use public hospitals as places for propaganda as much as it can. As a result, lower-grade hospitals and their patients and families with relatively lower social and economic status have become the main targets of propaganda. According to my observation, higher-grade hospitals were relatively free from government intervention in this aspect. In general, China’s public hospitals have never been used only as therapeutic places, but as integral places for medicine and governmentality.
Apart from their propaganda display, China’s hospitals in their business aspect seem to be unleashed from government intervention and socialist ideology. In effect, the healthcare reforms of 1985 and 1989 had led to public hospitals’ liberalisation and privatisation. The reforms mainly purposed to promote hospitals’ efficiency and to improve medical staff’s performance. On the other hand, the reforms had another purpose: to reduce the government’s financial burden of healthcare delivery. Actually, the Chinese Government achieved the reduction of its financial burden, which came with various unexpected distortions in medical service delivery by hospitals. China has witnessed widespread overprescription, informal payments from patients to doctors, soaring individual spending, and increasing medical disputes. In the meantime, small-scale private clinics and hospitals have been established to provide cheap and accessible medication. Despite their rapid increase in number, the private sector is still in the early stage of development. Overall public hospitals take responsibility for 90 percent of total healthcare provision (Wang and Quyang 2011), with many unsolved problems. It is the primary reason that the reform of public hospitals is a key to the new healthcare reform.

The new healthcare reform included hospital reform in its final stage, focusing on the separation of drug sales from medical services, separation of medical service operation from hospital management, reduction of drug markup, value correction of medical services, payment system improvement and personnel management reform (World Bank 2010; GHMS-China 2014). The correction of long-sustained insufficient incentives for doctors and hospitals is prerequisite to reduce hospitals’ reliance on pharmaceutical sales. However, officially stipulated fees for basic medical services are still very low, sometimes below costs. For example, doctors’ consultation fees are still
under USD 2, even in large hospitals. On the other hand, more sophisticated medical
diagnostics and services are set above costs (Barber and Yao 2010). In effect, there is no
promising result yet regarding hospital reform in particular. The new healthcare reform
has entered in its final stage and has conducted various pilot hospital reforms, but
progress has been too slow (Barber et al. 2013: 368).
Chapter 7. Living through China’s Economic and Healthcare Reforms: Further Contextualizing Pharmaceutical Medicine

Introduction

In this chapter, I discuss Chinese daily lives associated with health and medicine. This chapter describes various daily practices for health, various ways of self-medication to treat common ailments, unpleasant and bothersome happenings or accidents necessitating medical treatment, or life crisis as unbearable sufferings, frustrations, and losses. These practices and experiences, which are situated in diverse social, cultural, and economic landscapes, must be evaluated in context as such. As many anthropologists have argued, medical knowledge and practices for health are constructed and informed in diverse regional and cultural contexts, and thus health and medicine should be understood as integral parts of society at large (Lock and Nguyen 2010: 60). The standard of living and quality of lives are likewise intertwined with health and medicine.

In China, the government has taken the market-oriented and neoliberal policies of public health since the economic reform in the late 1970s. As a result, the responsibility for healthcare has been increasingly transferred to individuals and simultaneously health-related businesses have been highlighted and developed rapidly. Against this background, the pharmaceutical industry has strengthened its dominant position in the health and medicine sectors as a developer, manufacturer, and distributor of medical products. Given this assemblage of health and illness, medicine, pharmaceutical technologies and businesses, and health policies, this chapter focuses on Chinese
people’s lives in the context of China’s market-oriented transition. Along with the introduction of a market economy to the Chinese socialist society, Chinese people have tasted the market’s power and faced ideological and practical ambivalence at the same time. They have experienced various reforms of economy, society and public health, in which they have moulded their lives.

In this context, several individuals’ stories will be drawn to show their frustration, adaptations and challenges made in China’s transitional healthcare system and institutions. Each story shows the problematic status of China’s health and medicine. These individuals are patients/consumers, medical students, doctors, pharmaceutical-related business people, and their families. Some of them have Beijing hukou (household/resident registration), and some others do not. Some of them are Chinese, and some others are foreigners. They seemed to become callous after experiencing various changes and old systems incompatible with continuous changes, and some of them tried to make informal ways for their own sake irrespective of its legality. Once it turned out to show any successful result, it has pervaded the Chinese health sector until the extent of such pervasion reaches a risky point to China’s governmentality.

Contrary to my expectation based on knowledge about widespread public dissatisfaction with the present state of China’s health and medical system, I often found Chinese indifference and avoidance rather than complaints about the health system. Instead of challenging the impregnable fortress, Chinese people who have been long disciplined by their authoritarian government try to take another opportunity for themselves between its socialist system and market-oriented transition. Such individual pursuits have been made mostly behind China’s legal authority. Among many problematic phenomena are doctors’ profit-centred overprescription and medical
service, informal payments from patients to doctors in expectation of better care, patients’ reselling prescribed drugs to brokers, increasing medical disputes, devaluation of medical schools and doctors, medical students’ career turning from doctors to pharmaceutical sales representatives, etc.

**Unsatisfied Doctors**

Firstly, I describe the scene of doctors’ consultations that I observed one day in the morning at Peking University Third Hospital. After watching the crowded first-floor used for registration, I went up to the third-floor and sat on a seat in the waiting space in front of doctors’ offices, trying to peek through the slightly open doors of their offices. I chatted with patients sitting next to me, although most of them looked reticent. I tried to catch an atmosphere around the consultation corridor and between doctors and patients. Most patients came to this waiting place were waiting for their turns to see doctors. When their registration ticket numbers were shown on the monitor in front of the waiting room, they entered the appointed doctor’s office with a nurse’s guide. Compared with the waiting time at registration windows, each patient’s turn did not take that long. Many of them came to the hospital very early in the morning to see medical specialists.

Although I could not observe closely, doctors looked busy with continuing consultations during the whole morning session at Peking University Third Hospital. The number of patients whom they had to deal with for 3 hours in the morning was about 40. Simply estimating without a short break, a consultation duration allocated to each patient did not reach 5 minutes. According to my observation, a consultation session usually took less than five minutes, although certain cases took more than five minutes. Time may not be really related to the quality of consultations and must vary
according to the patients’ conditions. However, a few minutes consultation may cast some doubt about doctors’ careful examinations. In any case, doctors have to work quickly to complete their morning allotments. Such a short and hurried consultation cannot guarantee face-to-face interactions between doctors and patients. Doctors, after taking a brief look at patients, asked some questions and at the same time scribbled something on patients’ blue medical history books. After the brief exchange of several questions and answers, some patients were sent for other examinations, such as urine or blood tests, or X-ray examination. Then, patients or their families went to the payment windows to pay test fees. Waiting for the tests and results for a while, they came back to doctors with their test results.

![Figure 10. Medical History Book Used at Public Hospitals](image)

In whatever situations they find themselves, most patients who visit this hospital seem to believe that doctors here have much better medical expertise and skills. It must
be true. This hospital is one of the highest-grade hospitals in Beijing. However, because of the hospital’s grade and reputation, there are always too many patients waiting for their turns. Dr Zhang, who was an attending doctor in a tertiary public hospital, said that his salary was around USD 1,500 a month, of which amount has been recently increased and was not bad at all, compared to those of doctors in other lower-grade hospitals and hospitals in suburban regions. He said that the monthly salary of those doctors would be no more than USD 800. He continued to say that, compared to those of doctors in Western countries or those of employees in foreign companies, his salary was much lower. He lastly added that it was too low, considering his everyday overwork: too many patients and too low income. In general, his talk is true, which has often been shown by the Chinese mass media as well as medical professionals themselves.

Here, I need to mention that there is another report about doctors’ salary particularly in higher-grade hospitals: Chinese doctors have been earning much more than generally known amount thanks to additional income. Woodhead reports in his news article⁷⁴ that, for example, a doctor at a tertiary hospital in Beijing officially earns about USD 7,500 a year, but the actual amount reaches at around USD 29,000 a year, three times more than official salary. According to him, the additional income comes from 4 areas: bonuses from the hospital for meeting performance quotas, commissions from pharmaceutical companies for prescribing their medicines and tests, informal payment (hongbao/red envelop) from patients and moonlighting at other private

 septem

medical facilities. Nevertheless, it cannot be denied that their salaries are estimated much lower than those of professional workers in Western countries.

In addition to doctors’ dissatisfaction with low income, there is the increasing pressure of hospitals on doctors’ publication of journal articles, according to Dr Zhang. I came to know this phenomenon when he asked me to look into his article written in English. Although it was the only 2-page length article, such requirement must be a burden to him who had to spend extra energy on research and was not trained to write in English. He said that he could not ignore this hospital policy because the hospital’s research requirement is related to incentive and promotion. In addition, many doctors try to write academic articles in English to receive more incentives along the pervasive practice of globalisation in China overall.

According to Dr Kim who is a Korean doctor working at a foreign-invested private hospital, salaries and workload are differentiated by their citizenships. He as a foreign doctor was contractually given more liberty of work and prescription than Chinese doctors who have more pressure to overprescribe and overwork to make more profits for the hospital owners and thus to receive more incentives. In return for his work flexibility, the hospital has used his global level of medical skills and knowledge as an advertisement towards Chinese patients who seek better quality doctors as well as Korean expatriates who seek better medical services with easy communication. His explanation about the work condition of private hospitals is consistent with Qin et al. (2013)’s find: Chinese doctors in private hospitals in cities work longer under the pressure of making extra income. The situation of foreign doctors in private hospitals is relatively flexible and, according to Qin et al. (2013), those hospitals are specialty care hospitals with advanced facilities in cities.
Actually, many private hospitals in cities are this kind of speciality care hospitals. But there is the increasing number of private hospitals, and thus their differentiation is also expected. Thus, I need to mention another exceptional case. Dr Kim had an experience of establishing a hospital before he moved to the present hospital. There he worked as a main physician and hired Chinese assistant doctors who graduated from lower ranked medical schools. Under loose attention and control, Chinese doctors did not work hard enough for extra income and were just satisfied with their fixed salary, which was around USD 600 a month. Although he did not understand fully how to run a hospital and how to control Chinese employees before starting a hospital in China, Chinese doctors who can hardly go to higher-grade hospitals, among various reasons, because of their educational level seem to take different occupational lifestyle: easy life free from pressure. Other than these cases, most Chinese doctors in private hospitals are often implicated in unethical medical services of overprescription.

According to Qin et al. (2013), doctors in public hospitals tend to work less than those in private hospitals because their salaries are regulated by the government. Moreover, performance-based bonus system does not work systematically and properly under the loose attention of managers who also receive insufficient incentives within the government-fixed salary rate. However, my interviews with doctors found that the situation of higher-grade public hospitals in cities is different. It has been said that doctors’ occupational life, from employment and medical service evaluation to incentive and promotion, is situated in fierce competition under the constant pressure of overprescription and research requirement. Based on a profit-seeking principle made in the insufficient funding from the government, hospitals’ allotment of planned revenue is transferred to doctors who suffer from low wage and high workload (Yang 2016). In
addition, pharmaceutical companies attempt to incentivise hospitals and doctors to sell their medicines. In the cases of drugs without officially proved efficacies, under-the-table payments and illicit remunerations in return for doctors’ prescription of those medicines become more prevalent (Yang 2016).

During my fieldwork, I had a few chances to have interviews with foreign medical students and doctors. In reality, international medical students and doctors are rare in China. Despite China’s deficiency in medical professionals, the inflow of international students and doctors into China’s medical schools or facilities has not been made enough. From my interviews, I found that their lives in China have been intertwined with various uncertainties and complications.

The following story came from a Korean student attending a medical school in Beijing and working as an intern at the university-affiliated hospital. He had to choose China as an easier way to become a doctor because medical schools in Korea like those of the US and Australia require applicants to have the highest level of score for admission. In any case, his future as a medical student is not so promising in China because of China’s legal regulation on the employment of international medical students. Even after he acquires a medical licence later, China’s public hospitals cannot hire him, actually not only him but also all foreign doctors. And private hospitals do not want to hire him without a sufficient practice career. So, I naturally wondered whether or not he knew this serious problem when he chose to study abroad at a medical school in China. He answered that he knew it but expected that the regulation could be changed soon because of a shortage of doctors in China. However, the regulation does not seem to be changed soon enough upon his graduation in a year. Therefore, he said
that, if the law is not changed until he graduates, he was considering moving to Japan that accepts doctors with a medical licence acquired in China.

The number of Korean doctors in Beijing is around ten, of which there are eight physicians in plastic surgery, one in obstetrics and gynecology, and one in dentistry. According to Dr Kim and the director of Health at the Korean Embassy in China, as the competition of Korean hospital market has become intense and the number of Chinese patients who go to Korea has decreased, hundreds of Korean doctors have tried to take the licence examination for practicing in China. However, the pass rate has been controlled very strictly by the Chinese health ministry. Only highly specialised doctors can pass the examination more easily, and it is known to be almost impossible for other general practitioners to pass particularly in big cities such as Beijing and Shanghai. Other regions have relatively higher chances of pass. Plastic surgery, in particular, has become popular in China, and Chinese demand for Korean surgeons has increased due to their advanced skills and knowledge accumulated as experienced earlier. However, the Chinese Government has maintained a precaution against the plastic surgery boom and has begun to restrict the number of Korean plastic surgeons more strictly. The Korean health director said that there were some Korean doctors who visited China with Visiting VISAs and conducted dozens of surgeries for a couple of days in China and

75 Under the free trade agreement (FTA) between China and Korea that took effect on December 20, 2015, doctors licensed in Korea can work in China for 6 months to a year. Korean doctors will have more chances to work at Chinese or foreign-invested private hospitals out of the fierce competition of the Korean hospital market. In particular, Korean plastic surgeons who have managed in the nearly saturated Korean market and have been restrained by China’s regulation are expected to make collective moves towards China. Refer to the news report contributed by Zu, Wenqian (Dec. 23, 2015): “South Korea medical workers allowed to work in China” published on China Daily (http://europe.chinadaily.com.cn/business/2015-12/23/content_22782203.htm, accessed on Mar. 13, 2016).
returned to Korea. The director continued to say that Korean doctors were often required to conduct more difficult operations. As a result, there was a strong possibility of malpractice and medical disputes after surgical operations.

**The Uninsured: Migrant Workers Living in a City**

During my fieldwork, I came to have many chances to have short interviews with various patients with Beijing hukou who visited hospitals. Frankly speaking, it was not easy for me to have interviews with patients and their families who visited hospitals from other regions. It is a fact that an increasing number of patients from other countryside regions have visited larger hospitals in big cities as Chen (2001: 173) already recorded one and a half decades ago. In hospitals, I could even notice those peoples from their different accents and appearances. However, most of them looked more serious, busy, and tired so that I would not dare to intervene in their situations. Therefore, I chose two uninsured migrant workers as my key informants for this section. I start with Shuixiu's story. He is a migrant worker originated from a small village in Gansu province and lives on the outskirt of Haidian District in Beijing with his wife and a 6 years old son. I summarise his story with a focus on his son's situation:

Shuixiu runs every morning for about 20 minutes to take the first bus for work because he lives in a small village out of the reach of public transportation. He is working regularly as a shift waiter in a café and sometimes working as a casual labourer in close construction sites after his café shift, making about 550 US dollars a month. He came from Gansu province near Xi’an to find a job in Beijing 5 years ago. He is 27 years old, got married and has a 6 years old son. His wife is from the same home village and hopes to find work to make extra money for her family’s living. However, they do not have enough disposable income to have their son taken care in a kindergarten. So, she
has to take care of their son at home at least until he enters primary school. Recently, they came to know that their son could not get in a primary school because he was not vaccinated against any of contagious diseases such as hepatitis, measles, chicken pox, etc. Shuixiu says that these immunizations are very expensive without social insurance benefits. They cannot benefit from any social insurances because they do not have Beijing household registration (hukou), which is a product of the 1950s’ command economy. Although they start now to vaccinate their son at all costs, it would take at least two years to be done when several vaccinations’ processes and all costs are considered. They are considering returning to their hometown for their baby’s health and education.

Shuixiu’s life as a migrant worker in Beijing must not be easy, although he always looked bright. Even when he talked about his son’s situation, he never said that it was a very difficult problem. Whenever I asked about the problem, he answered that, if it was too harsh, he would go back to his hometown where his parents lived. He tried to make a living in Beijing, while he left all other problems behind. Once, when he went to work, he was slightly hit by a car. When I heard about the accident, I was shocked not only by the accident itself but also at his nonchalant attitude. Although he did not get injured, I thought that at least he must be angry with the driver who caused the accident. He did not even receive the driver’s apology or contact information. He just checked no injury with him and ran for work. When he said to me about the accident, I angrily pointed out his problem in dealing with such situation. Then, he just smiled back at me, and I had nothing more to say. I talked to myself that maybe this could be migrant workers’ living in a city. They do not want to make any trouble in public, and it can be more critical for
him to be at work on time in his situation without any social and welfare security. Healthcare may not be so important to him right now.

He did not take any OTC medicines when he caught a cold. Like many other Chinese, he usually brings a glass bottle filled with hot green tea. He thinks that drinking hot tea is the better way to keep health rather than taking medicines in case of having common illnesses. He often said about the natural healing capacity of the human body and added with laughter that he was young, so everything could go to be all right. Although he also said that his son’s vaccination was not a serious problem, I could not help worrying about his son’s health and the delay of his son’s admission to a primary school. In about a year after I had finished my fieldwork and left Beijing, I heard from him that his son entered a primary school. He happily said that his son could receive a kind of social medical benefit for migrant workers’ families in Beijing and got quick vaccinations to enter a primary school. Although he did not explain more in detail about the process, I suspect that the recent reform of the hukou system has fortunately reached his son. Now, his wife can find a part-time job while his son stays in the school.

Along with the ongoing hukou reform, the social welfare situations of migrant workers are expected to improve, and the exercise of biopower must be institutionalised differently. Nevertheless, China’s exercise of biopower on migrant workers, which was once institutionalised as the hukou system, was clearly observed in Shuixiu’s case. Although it was originally implemented to limit rural-to-urban migration, it has been working more comprehensively on the lives of migrant workers without urban hukou. Most of them are situated outside urban social welfare with precarious employment. In this situation, they have embodied obedience and adaptation in their behaviours. As Foucault (1978: 140-141) observes, their disciplined
bodies have been inserted into the machinery of capitalistic production. This form of health management also reflects the influence of biopower under the hukou system. Without sufficient access to the urban healthcare system, large sectors of the Chinese population are inclined to rely on natural healing and the traditional Chinese medicine. Biopower is exercised through the hukou system over the lives of migrant workers by administering their life processes and managing the population of migrant workers’ labour force.

While Shuixiu is a migrant worker who has no disposable income for healthcare, the next story is heard from another migrant worker who has made some wealth from his own business in Beijing. He is a Chinese of Korean ethnicity in his mid-40s. He came to Beijing almost 15 years ago and, after trials and errors, started a small-scale real estate business mostly for Korean expatriates and students, and has extended his business with neighbouring Chinese people. Along with the increased inflow of Korean people to Beijing, his business became successful mainly thanks to his bilingualism. It was the boom of the real estate business. As a result, the number of realtors soared, and the fierce competition followed. Real estate frauds and scams also began to permeate. Once, one of his employees took a lot of deposits directly from several tenants without following the formal procedure and ran away with that money under cover of night, of which cases, he said, often happened at the time in this business. I did not fully understand his explanation. But he argued that he had no full responsibility to pay back to those deceived tenants because they also had partial responsibility for entrusting the runaway realtor with deposits without double-checking the official procedure. And he proudly said that, contrary to other business owners, he compensated them in full. He
emphasised that his business could survive in the muddy competition because of his occupational integrity.

As soon as he overcame the crisis, another more serious one came. His wife got cancer around 6 years ago. They had a three years old son at the time. His family did not have Beijing hukou so that she could not receive social insurance benefit. Actually, he and his wife had another employee medical insurance based on the Urban Employee Basic Medical Insurance (UEBMI), to which subscription has been strictly enforced along the new healthcare reform, but its coverage was too low and most of global medicines for cancer treatment were not covered by the insurance. In any case, they could not go back to their hometown just to reduce medical expenses and had to choose a better hospital in Beijing while he kept running the business. Despite his successful business and her early stage of cancer, he could barely manage to pay the cancer treatment bill and finally had to sell their newly prepared apartment. She received a surgical operation and a series of anti-cancer treatments and took expensive anti-cancer pharmaceuticals produced by an MPC for a while and was recovered fully. During my fieldwork in Beijing, their son entered a prestigious university-affiliated primary school with extra registration fees to the school because they did not have Beijing hukou. Confronting the recent downturn of the real estate business, they have been looking for a chance of another business expansion.

According to the Beijing Statistic Bureau, the number of migrant workers in Beijing reached over seven million among nearly 20 million population of Beijing in
2010, meaning that one in three Beijing residents is a migrant worker.\footnote{“One in three Beijingers a migrant worker” by Juan, Shan, published on China Daily on May 6, 2011. (http://www.chinadaily.com.cn/china/2011-05/06/content_12455057.htm, accessed on Mar 13, 2016)} There have been called “floating population” (流动人口 liudong renkou), which are mostly temporary residents in cities and have no access to various social welfare benefits including healthcare benefits, which often put them into vulnerable status (Peng et al. 2010). According to the sampling survey by Peng et al. (2010), 33 percent of migrant workers in Beijing chose self-medication and 30.3 percent did not take any healthcare measures while they have illnesses as Shuixiu did. The above two families belong to a different migrant workers group in that they try to stay in Beijing permanently, while many other migrant workers move between their home villages and cities. Nevertheless, their social and economic situations and positions are very different, although both of them still cannot help being vulnerable to certain emergencies without well-prepared social security.

Fortunately, the realtor has made sufficient wealth to be able to overcome his wife’s medical situation. And Shuixiu’s son could benefit from the recent change of welfare policies made out of the government’s concerns over the increasing social instability and environmental degradation intertwined with the uncontrollable influx of migrant workers to cities. Nevertheless, there are still hundred millions of migrant workers and their families in several big cities surviving by themselves out of any public welfare benefits. In recent years, the Chinese Government announced new guidelines regarding urbanisation and migrant population, which included over 100 million migrant workers' acquisition of new urban hukou and the extension of welfare benefits.
However, the main focus of the Chinese Government is on the inducement of migrant workers to small- and mid-size cities, while maintaining restrictions on migration to the big cities such as Beijing, Shanghai, and Guangzhou. Actually there was a result of China’s urbanisation policy that I witnessed whenever I traveled by high-speed train between cities: “ghost cities” without people with uncompleted construction.

The Insured: Consumer Patients

In this section, I draw some cases from patients with Beijing hukou. The first case is related to the choice of medicine brands. I had a brief interview with a Chinese couple in late twenties at Haidian Hospital. While I was sitting in the waiting space for receiving prescribed medicines, a girl helped her boyfriend to have a seat next to me after they received medicines from the pharmacy window. He had a fractured leg in a cast. I could unintentionally overhear their conversation.

*S (girlfriend): Is the prescribed medicine imported one?*

*H (boyfriend): No, it’s a Chinese one. That’s all right.*

*S: Why not? Imported medicine must be better, isn’t it?*

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H: *Maybe. But my condition is already much better and Chinese one is cheaper. The doctor said that this medicine is a good one too. That’s all right.*

Then, I carefully intervened in their conversation with curiosity about his medication choice. Both of them answered that they usually preferred global/imported medicines, but he wanted to receive more reimbursement for consultation fees and medicines within the limits of student medical insurance. In addition, Haidian Hospital at the time was a Secondary Class-A hospital, which provides more reimbursement rate than that of a tertiary hospital. She added that she was a little worried about the effectiveness of that drug because the previously prescribed medicines were global ones and seemed effective for his improvement. When he had an accident two weeks ago, they had to focus only on the quick recovery and followed the doctor’s prescription. As his condition showed improvement, he began to take alternative and cheaper medication into consideration and asked the doctor for it. Instead, his economic choice left her worrying over his health between moral obligation and economic consideration.

Like the above case, more and more patients want to have choices between Chinese and global pharmaceuticals, although most doctors are inclined to prescribe certain medicines without allowing some room for patients’ choices. Doctors and interns in tertiary hospitals who I interviewed confirmed these cases. Recently, some doctors have suggested the alternative options of medication between Chinese and global products. Patients’ long-standing dissatisfaction at doctors’ overprescription or prescription of expensive medicines has led to both patients’ and doctors’ negotiation of medication choices between prices and efficacies. Of course, expensive medicines do not always guarantee definitely better efficacy, which, however, tends to be repetitively stated and prescribed so by doctors and believed by most patients in association with
widespread faith in MPCs’ advanced technology. Therefore, as shown in the above case, when they had to change to cheaper domestic medicines for economic reasons, they could not help but have a feeling of uneasiness. And their families or close friends who take care of patients may feel guilty for not being able to provide sufficient care because of economic reason.

Actually, I met this kind of cases several times during my fieldwork. Another case is about a family of which both parents suffer from high blood pressure. Their only son is a Ph.D. student at Beijing University. His parents are very proud of their son, but he has no economic ability yet, living on his parents’ support and a small amount of scholarship. His father worked at a famous state-owned company and retired a year ago. Although they live only on father’s pension now, they look living in affluent circumstances. According to him, his only worry is parents’ high blood pressure, which is a chronic illness that needs lifetime medication. Despite their middle-class affluence and decent medical insurance, the cost of medication must be a burden for their sustainable living. Therefore, his parents decided to change their medicines from global ones to Chinese medicines. Compared with the previous medication with global medicines, the condition of father’s high blood pressure did not get better. After considerations of cost and effect, they made another decision to return to the previous medicines only for his father, while they maintained his mother’s medication with Chinese pharmaceuticals. Although his mother’s condition was better than his father’s, their choice must be another psychological burden to him.

China’s one-child policy has made this kind of families entangled with parents’ chronic illnesses that need long-term medication and difficulties in economic sustainability without child’s financial support. Many middle-class parents are inclined
to support their children’s marriages, housing, and often living expenses for a while even after marriages. Nursing their grandchildren often becomes their responsibility too, while their children go to work. In this situation, many Chinese parents try to reduce medical expenses for themselves as much as they can, which frequently results in moral guilty among family members. Some of the Chinese elderly have shown avoidance of a hospital visit and have practised the traditional way of body discipline, or self-medication with TCM or OTC drugs.

The next case shows another aspect of the elderly patients’ hospital visits. One day, I had a chance to have an interview with a 65 years old man at the department of ophthalmology of Peking University Third Hospital. He was a retired middle school teacher and could use some English words to explain his condition when our conversation in Chinese did not go well. Three years ago, he was diagnosed with the early stage of senile cataract that could lead to visual deterioration. Since then, he has been on medication to mitigate the aggravating progress of cataracts, taking pharmaceuticals including Pirenoxine sodium eye drops, which has been commonly used for the treatment of cataract. However, such medication does not mean the stop or full recovery of cataract progression. Most ophthalmologists agree that senile cataract presently has no ultimate cure except surgery. He also said that he was considering surgery if his eye condition became worse. When I asked why he used Western medicine instead of Chinese medicine, he answered that he had no other choice but Western medicines because there was no Chinese medicine for the treatment

of senile cataract. However, I found several medical news articles arguing that nutritional approaches, acupuncture and TCM medicines were also effective for anti-cataract in its early stage.81

In any case, he said that he was satisfied with that medication and visited the hospital every month to receive simple check-ups and medicines. In reality, Pirenoxide sodium eye drops belong to OCT drugs so that he does not need to pay a monthly visit and can buy them directly at pharmacies. Nevertheless, he has made his hospital visits as one part of his life from registration, consultation, to the reception of medicines. Medical expenses seemed to be reasonable for him because firstly he was a Beijing resident with Beijing hukou who can benefit from social medical insurance. Secondly, Pirenoxide sodium eye drops labeled Baineiting, which is a very popular generic medicine produced by Wuhan Grand Pharmaceutical Group Co. and has been widely used already for 50 years, is relatively cheap, less than USD 5 for 15 ml of which amount can be used for 20 days. In that this medicine already turned out to be effective and has been used in China for 50 years, the Chinese elderly preference to TCM may not be relevant in this case.

Besides several medical-related reasons of his regular visit to the hospital, making it as one part of daily life must be important for him. He seemed to naturally spend some time on sitting in the waiting space and chatting with other patients and me at the time. As long as his health risk is not high and medical expense is not a problem with

him, his hospital visits seem to become one of his social activities. As China has become an aged society, various social relations and activities for the Chinese elderly must be prepared but the governmental measures have far to go. During my fieldwork, I watched every day that elderly peoples were playing cards or mah-jongg for fun or money on the side of streets and in parks or taking care of their grandchildren around apartments. For them, spending some quality time in the social environment becomes more important in China. In this context, I suspect that public hospitals have become places used by the aged people with chronic illnesses but without difficulties in mobility for their active extension of social interactions as well as medical treatment.

In fact, there is one more reason for regular hospital visits by some of the elderly patients with chronic illnesses. Some Chinese patients including the elderly patients are known to resell their prescribed medicines. Reading the advertising stickers spread on the streets near hospitals (see Fig. 11), medicine dealers buy various medicines for high blood pressure, diabetes, cancers, etc. According to the secret investigation by a news reporter, in particular, global medicines for high blood pressure and lung cancers are paid the most.\(^82\) When some of those medicines are covered by medical insurance, patients can make extra profits or compensate in part for their medical spending by sell their remained medicines to medicine dealers. The news report introduces one trade with the case of an Insulin Aspart Injection labelled in Chinese as Nuohuorui. Its usual price at hospitals is RMB 86.7 consisting of RMB 78.03 from social medical insurance and RMB 8.67 from patients’ out-of-pocket. Medicine dealers buy it at RMB 50 and resell

at higher price to other medical facilities. Patients make extra profit of almost RMB 40. The higher medicines’ prices are, the more profits patients can make.

Figure 11. Advertising Stickers on the Pavement, "Buy Medicines with High Prices"

This phenomenon is closely related to doctors’ overprescription and increasing out-of-pocket healthcare expenses. In addition, it must be fundamentally associated with China’s concentrating structure of healthcare provision on public hospitals under the decreased funding from the government. China’s public hospitals accounted for 76 percent of total health spending in 2010, whereas it was 31 percent in the US and 33 percent in Australia. Resulting from low public trust in doctors’ service quality, Chinese patients are inclined to seek specialists even when they have common illnesses, while 80 percent of American and Australian rely on general practice physicians (Renshaw 2014: 317). Higher medical expenses with more expensive medicines follow these behaviour of seeking healthcare and medication. This informal trade isLastly added to various informalities formed from the whole medical process from registration, consultation, to medication. These informalities have been made and negotiated among doctors, patients, and scalpers and medicine dealers who have sought economic gains.
**Doctor-Patient Relationship**

“Kanbingnan, kanbinggui” (Seeing a doctor is difficult and expensive) has become a lamented phrase among Chinese people. Furthermore, Chinese hospitals and doctors had to be accustomed to Chinese people’s resentment against their profit-obsessed and unethical attitude of “jiansibuiju” (not even save people on the verge of death) (Tam 2008: 104). In reality, there is a principle in Chinese hospitals: payment before treatment, and there have been several actual cases of hospitals that did not treat or expelled patients who could not afford to pay (Tam 2008). Facing the soaring public dissatisfaction with the qualities and prices of medical services, some doctors try leaving some room for patients’ choices of medication. According to an intern who I interviewed, some doctors are often inclined to prescribe certain medicines after looking into patients’ outfit. In other words, they prescribe expensive global medicine when the patient looks wearing expensive outfit or accessories. Otherwise, they tend to prescribe conventional Chinese pharmaceuticals to avoid patients’ complaints.

Nevertheless, it is only a makeshift. In recent years, medical disputes implicated in violence have surged up:

*In October 2011, Dr Xu, an otolaryngologist in a Beijing hospital was brutally stabbed 17 times by a patient on whom Xu had conducted operation several years ago. She was critically injured by the attack.*

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83 “In Some Chinese Hospitals, Violence Is Out of Control and It's Doctors Who are at Risk” by Jessie Jiang, published on Time on Oct. 11, 2011.
In March 2012, a young man stabbed four members of the hospital staff in Harbin, complaining that his treatment was refused. Among four injured doctors, a junior doctor who was not involved in his treatment died soon afterwards.84

Besides the above two cases, there have been reported numerous medical disputes involving physical violence. The Ministry of Health reported 9,831 medical disputes in 2006 and the number increased to 17,243 in 2010 (Hesketh et al. 2012; Liebman 2013; Tu 2014). Tu (2014) adds that over 10,000 medical professionals are attacked or injured every year. Patients’ and their families’ grievance and physical violence have reached a very serious level. Although they have their reasons such as doctors’ malpractice, low-quality care and unnecessary overprescription, and doctors’ inhumane refusal of treatment when patients cannot afford to pay, there must be another reason for them not to rely on legal procedures. Among various reasons, there are China’s legal weakness in dealing with medical disputes, patients’ perception of the courts’ leaning towards medical institutions, and low settlement amounts dissatisfying patients’ expectations (Liebman 2013).

In the meantime, medical professionals who feel and witness the risk of their safety have made collective movements to protest violence and ask for their safety. Nevertheless, doctors’ morale has also been discouraged seriously. Accordingly, these cases have aggravated China’s lack of the supply of medical professionals. There is no doubt in the increasing choices of interns and doctors who turn their careers to pharmaceutical sales representatives. This phenomenon is definitely profitable for

pharmaceutical companies in that these sales representatives who can use their school network as well as pre-acquired medical knowledge. However, it has resulted in side effects too: “Some chose instead to work in the pharmaceutical industry, now embroiled in bribery allegations which could damage the public image of the medical profession.”

![Figure 12. Doctors and Nurses Taken to the Street to Ask for Their Safety](image)

To violent medical disputes, the Chinese Government has implemented a series of new regulations since 2012. And in December 2013, the central government issued an

85 The quotation from “China’s doctors not part of society’s elite” by Patti Waldmeir on the Financial Times on Oct 6, 2013. (http://www.ft.com/intl/cms/s/0/35a081ae-2653-11e3-8ef6-00144feab7de.html#axzz43Uwr9rAh, accessed on Mar 12, 2016)

86 The picture was fetched from the following news article: “Doctors and Nurses Mourning the Deceased Doctors in Wenling” by Xiao, Hui and Wei, Mingyan, published on Xinjingbao on Oct. 29, 2013. (http://www.bjnews.com.cn/feature/2013/10/29/289769.html, accessed on Mar 11, 2016)
Action Plan to Fight Medically-related Illegal and Criminal Actions to Preserve Health Care Order (Tu 2014). These measures criminalise discontented patients and their families who are involved in violence. According to Liebman (2013: 187), it reveals the Chinese Government’s “overresponsiveness to some individual grievances” as a threatening factor to its governance, and the lack of convergence of its political process with formal legality. In April 2014, China witnessed that two patients who had killed doctors were executed with death penalty.87

As medical disputes implicated in violence have increased, various Chinese mass media and the central and local governments together have increasingly introduced “model medical professionals” like the long-standing Chinese communist selection of “model workers”88 representing the ideal of the socialist workers. There are various exemplary stories reported in the media: Doctors and nurses who have their own physical disabilities or illnesses earnestly care for their patients rather than care for themselves; doctors and nurses who take care of the injured people first when accidents such as fire break out; doctors who reject informal payment (hongbao/red envelop) from patients or their families in expectation of better treatment; doctors who courageously refuse medical consultation with high-rank government officials coming directly without the registration process.89 This kind of the government propaganda


88 Refer to Yu (2011) about “model worker”: The CCP adopted the Soviet practice of selecting model workers, in order economically to increase productivity with emphasis on workers’ devotion to labour and politically to cultivate communist consciousness towards the collective good.

89 “Model doctor” by Chen, Xiaoping, published on XinGushi (Vol. 3. 2011).
publicises medical professionals’ noble sacrifices to the public and, on the other hand, imposes occupational morality on medical professionals despite the increased threats to their safety and long-standing low compensation.

In effect, this complex situation that medical professionals and patients have confronted does not show any resolution yet even in the final stage of the new healthcare reform. As mentioned above, a shortage of medical professionals has become worse. In recent years, the number of applicants to medical schools has decreased radically and thus applicants’ qualities and scores have decreased too (Yang and Huang 2014). In fact, it has been said that best students do not go to China’s medical schools mainly because of low salary and hard work. And dangerous work environment is added to the reason. During my fieldwork, I came to meet several students in other majors at Beijing University and Qinghua University, the two most prestigious universities in China. They said that it was not so difficult to enter medical schools in China and thus sometimes it was a little hard to trust doctors’ qualities particularly in lower-grade hospitals. Dr Kim also confirmed this phenomenon. He epitomised it as a vicious circle of low salary and low quality students.90

One day, Jay, who worked as an intern at a tertiary hospital, said to me that there was a form that requires the signatures from doctors and patients. The NHFPC (National Health and Family Planning Commission) finally intervened in doctors’ pursuit of additional income through informal channel in 2013. The form is about the prohibition

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90 Regarding the admission of students with low grade to medicine, refer to this news article, “China’s doctors not part of society’s elite” by Patti Waldmeir on the Financial Times on Oct 6, 2013. (http://www.ft.com/intl/cms/s/0/35a081ae-2653-11e3-8ef6-00144feab7de.html#axzz43Uwr9rAh, accessed on Mar 12, 2016)
of giving and receiving informal payments from patients to doctors. However, it is doubtful whether the form has any actual effect to block those informal channels, while the government does not guarantee sufficient financial subsidy for hospitals and doctors. The government’s propaganda effort to strengthen medical ethics among medical professionals is in the same situation. In fact, the related rule clearly states that medical staff and facilities should provide treatment to patients in urgent conditions without delay (Tam 2008: 106). However, there is no practical stipulation in the rule. Tam sarcastically criticises that the rule does not stipulate who should bear the cost of treating patients who are incapable of paying bills instantly. In this ambiguity, medical staff and hospitals choose to evade the responsibilities.

**Living in the Smog City**

As Zhang et al. (2014) mentioned in their article, “living in smog has become normal to most people living in mainland China”. One of the first things to do in every morning in Beijing is to check the today’s AQI (Air Quality Index) and then today’s schedule for outdoor activities is decided. China’s capital, Beijing is one of big cities suffering from severe smog for decades since its industrial transformation. However, the health effect of smog has not drawn the serious attention from the Chinese Government as well as Chinese people, which have been intoxicated with the economic achievement. After the air situation has reached the most dangerous level, China begins to be disenchanted. Various studies have followed to report the strong association of air pollution and hospital visits/admissions for pulmonary and respiratory diseases (Kan 2007; Li et al. 2009; Tao et al. 2014). Damaged health and environment by polluted air in turn damages the economy (Nielsen and Ho 2007). For example, in recent years, China has witnessed many foreign expatriates leaving China because of air pollution.
Figure 13. Smog in Beijing (around 10 a.m. on Jan 16, 2014, AQI 500)

Figure 14. Monthly AQI Trends of Beijing (Nov 7, 2013 – Jan 16, 2014)
In particular, the winter of Beijing is the most hazardous season because of the additional increase of coal burning for heating systems literally everywhere. The figure 14 includes two monthly AQI index trends between Nov. 7 and Dec. 7, 2013 (in Chinese) and between Dec. 17, 2013 and Jan. 16, 2014 (in English). According to the AQI guideline by the US Environmental Protection Agency (2006), the index level is designated by the concentration calculation of pollutants including Ozone (O₃), PM2.5 (particulate matter with a diameter of 2.5 micrometres or less), PM10, Carbon Monoxide (CO), Sulphur Dioxide (SO₂) and Nitrogen Dioxide (NO₂). The AQI level is shown in various air pollution report websites and mobile applications with five categorised groups according to the index values: Good (up to 50), Moderate (51-100), Unhealthy for Sensitive Groups (101-150), Unhealthy (151-200), Very Unhealthy, and lastly Hazardous (301-500).

As shown in the following graph, the air quality in Beijing has been aggravated as it has become the dead of winter. During three months between December and February, the AQI index is mostly above 150, which means unhealthy for everyone. The main causes of smog are coal burning, industrial pollution, vehicle emissions, and farmers’ burning of agricultural residues (Zhang et al. 2014). As a result, for example, a research reported the rate of lung cancer increased 60 percent over the past decade in Beijing (Hu and Jiang 2013). In recent years, the Chinese Government has actively implemented more stringent laws against air pollution, including China's Air Pollution Prevention and Control Law (adopted in 1995, and amended and updated in 2000 and 2013), Action Plan for Air Pollution and Control (adopted in September 2013), and Performance Assessment Measures for Air Pollution Prevention and Control Action Plan (adopted in April 2014). In reality, Beijingers have witnessed many chemical factories’
moving out of Beijing and closing in some severe cases. However, the air condition has not shown any improvement, which bears public doubt on the real effectiveness of the government enforcement.

During my fieldwork, I had to be accustomed to wearing a mask to block the absorption of air pollutants. However, contrary to the pictures of Chinese people wearing masks in news articles, I came to see that many Chinese did not wear masks even when the AQI value reached a hazardous level. I wondered about the phenomenon and asked several Chinese friends. They usually answered: not comfortable; already accustomed to smog without wearing masks; because most foreigners wear masks; and lastly neither know nor care about any harmful effect of smog. Some of them also worried about the mocking response from male friends. Dr Zhang emphasised the insufficiency of China’s health education and Chinese people’s negligence of the impact of smog on health. In fact, their answers did not resolve my curiosity in that there had been various reports and the government’s enactment and implementation regarding smog in recent years. The phenomenon of Chinese not-wearing masks has come from the curious mix of China’s nationalism, public health situation, and masculinity among Chinese men. In any case, many of them confront smog without wearing masks and will be more vulnerable to the harmful effect of smog in the near future.

On Feb. 28, 2015, a documentary film directed by a journalist Chai Jing and titled as “Under the Dome” was released on the Internet. The documentary, which dealt with the catastrophic air pollution of China, soon attracted hundreds of millions of views and stimulated Chinese nationwide concerns over air pollution and its critical impact on health. While she detailed how smog does harm to lungs and arteries, she pointed out the coal and oil industries as main accomplices. In reality, the state-owned giant coal
and oil companies, including China National Petroleum Corporation and Sinopec, that have monopolised the industries has had no interest to upgrade the quality of petroleum products and manufacturing facilities. In the opening part of the film, she asks a 6 years old girl: In the opening part of the film, she asks a 6 years old girl:

*Chai Jing: Have you ever seen real stars?*
*A girl: Never.*

*Chai Jing: Blue skies?*
*A girl: I've seen one that's a little blue.*

*Chai Jing: White clouds?*
*A girl: Never.*

In fact, this interview was made in 2004. Smog in China has not shown any improvement over a decade since then. The film went viral among Chinese people and people in other countries in a couple of days. And a sudden thing happened in a week of the film’s release. It disappeared from all major video websites in China. The CPC (Communist Party of China) central propaganda department confidentially ordered the prohibition of the public access to the film. The CPC could not stand Chinese people’s


too much attention to the film other than the government’s effort and seemed to worry whether Chinese people’s criticism of air pollution could turn to the government. Despite every effort, Beijing’s smog reached a hazardous level in the winter of 2016.

**Conclusion**

In this Chapter, I described both doctors’ and patients’ lives in China’s medical system and its changes. There are various informalities among doctors and patients out of unfledged legal establishment. Although the news healthcare reform has been actively implemented by the Chinese Government, the hospital reform has far to go. Hospitals and doctors still rely on pharmaceutical sales, which often results in overprescription and over-treatment. In addition, pharmaceutical companies armed with pharmaceutical sales representatives who change their careers from medical professionals to the pharmaceutical industry are accustomed to being involved in briberies and often-illegitimate drug remuneration. Confronting soaring medical expenses associated with low-quality medical services, medical disputes between doctors and patients have reached a serious level. Moreover, those disputes have been frequently implicated in physical attack on medical professionals by patients and their families who had complaints against doctors’ treatment or doubt about the fairness of China’s legal judgment on medical disputes.

China’s three decades of emphasis on the economic development has resulted in various critical problems in its healthcare system. It has resulted in Chinese people’s informal ways of survival in association with both practical and ideological contradictions between socialism and capitalism. At the same time, it has borne China’s environmental degradation, which is apparently shown in the sky shrouded with smog. Nevertheless, the Chinese Government do not sufficiently increase its financial support
for public health as a whole. Against this situation, both doctors and patients continue
to pursue their own profits by themselves. The government propaganda emphasises
medical ethics among medical professionals and harmonious life based on socialist
values among Chinese people.
Chapter 8. Conclusion

In China, the struggle to consolidate the socialist system, the struggle to decide whether socialism or capitalism will prevail, will still take a long historical period. But we should all realize that the new system of socialism will unquestionably be consolidated. We can assuredly build a socialist state with modern industry, modern agriculture, and modern science and culture.94

As Mao announced in 1957, China has tried to achieve modern industry, agriculture and science and culture through its political and economic upheavals. However, contrary to the predicted pathway towards a socialist society, China has built an “authoritarian” state capitalist society, which is different from Mao’s prediction of the establishment of “democratic” state capitalism ultimately towards socialism. In this thesis, I position the Chinese health and medicine in the debating conceptualisation and practices of Chinese capitalism and socialism. The field of health and medicine is considered as an essence of social welfare and simultaneously as one of promising businesses in both domestic and global markets. As China has witnessed various critical problems in public health and environment, China, which has been enchanted with its economic achievement, has made efforts to find a balance between economy and welfare.

94 “Speech at the CPC’s National Conference on Propaganda Work” (Mao Zedong 1957)
In effect, China’s transformation from the socialist-oriented revolution to the capitalist reformation has been comprehensive and penetrating. On the other hand, it has been inevitably fragmented and incomplete in the contradictory coexistence between market-oriented reform and remaining socialist system. Since the market opening, China’s curious mixture of socialist and capitalist structures have brought about institutional, ideological and practical contradictions, which has been thus often involved in informal/illegal variations in social and institutional relations (Xing 1999; Chang 2009). This complication has also permeated into the healthcare system, medicine and pharmaceutical market. For instance, various forms of corruption between government officials, doctors, and pharmaceutical companies have become prevalent. And the cost of corruption has been transferred to patients. Since the SARS epidemic in 2003, the Chinese Government has actively implemented the healthcare reforms, which seemed to tackle China’s three decades of focus only on its economic development. Despite the increased insurance rate and the development of China’s pharmaceutical market, the underlying situation has not been changed much and much more financial investment in the healthcare reform is requested. The promising result of China’s healthcare reform has far to go to resolve the long-existing problems.

The diagram (Figure 15) below shows the structure of this thesis with the focus on China’s changing industrial dynamics and related policies, although it cannot represent Chinese people’s lives therein. Since China’s economic reform in the late 1970s, critical problems in its medical system and healthcare had been ignored until the situation had reached the level of governmentality crisis.
As much as China achieved its economic growth, individual out-of-pocket payment soared along with the increasing price of medication and various kinds of corruption among pharmaceutical companies, hospitals and patients has been prevalent. China has been filled with the nationwide dissatisfaction of medical staff and patients. No doubt, China’s governmental disability to deal with public health surfaced finally, which resulted in 2003 SARS epidemic. Since then, the Chinese Government launched healthcare reforms and has shown some optimistic results. Its focus has made on its industrial restructuring to compete in the global market and the healthy growth of domestic pharmaceutical companies that can provide low-price generics to Chinese people. In particular, China’s strict control of low-price generics market and its ambition towards being the world leader in the global biopharmaceutical market clearly shows the rising role of China’s economic nationalism. In sum, China’s effort to balance between socialist ideology and capitalistic reformation has been made on its state
capitalism entangled more tightly with nationalistic way of making an authoritarian nation.

In fact, it is still hard or too early to assert whether or not China has achieved any real balance. The Chinese Government has maintained its authoritarian way of governmentality, while it has to deal with various problems resulting from over three decades of focus on the economic growth. China’s authoritarian government seems to make every effort to go forward over accumulated problems. Of course, there have been some political successes made by Xi Jinping’s government against corruption prevalent in politics and economy. These successes are analysed as a result of political struggle among different factions and seem to result in strengthening Xi’s political power. In the midst of political struggle and economic downturn, other problems are often neglected to some extent. There are still lots of hidden problems that cannot be resolved in a short period of time. In China’s healthcare sector, its long-standing three-tiered healthcare system, which had long helped to control the regional distribution of patients by their states, was already broken but not reorganised systematically, and crowded public hospitals in urban areas have filled with unsatisfied doctors and patients. China’s authoritarian government has achieved the surprising increase of the insured rate and accelerated the anti-corruption campaign. China’s healthcare reforms and anti-corruption policy have played a significant role for the CPC to maintain its governmentality. However, Chinese people often express confusion in the mixed medical system of socialist remnants and capitalist orientation. Therefore, they choose to find various informal ways of pursuing their own gains without the agreed norms in the healthcare sector.
In this thesis, I firstly described the historical transformation of China’s healthcare system from China’s communist revolution to the economic reform and to the present. These historical descriptions are entangled with the rapidly changing dynamics regarding the pharmaceutical industry, hospitals, and peoples’ experiences therein. These subjects are divided into each chapter as the main analytic focuses of this thesis. I deal with a pharmaceutical medicine as a key object or product, which links and mediates among them. In addition, although biopharmaceutical field is not covered much in this thesis, I include some significant parts of its recent development and future ambition in relation to existing pharmaceutical field. In fact, medical services and medicines based on more advanced biotech has not emerged enough to be observed. It is an ongoing project in which most developed countries and MPCs have increased their investment for their future medical systems and new markets as well.

Based on these analytical descriptions, I condense my emphases regarding China’s pharmaceutical industry into the following three argumentative points. As the first point regarding the Chinese pharmaceutical industry, I emphasise the rise of economic nationalism in the Chinese pharmaceutical industry. Although China’s medicine registration control on first-generation generics or new drugs produced by foreign companies becomes loose, it has maintained its strict approval control on foreign generics’ registration for sale in China’s market. In effect, this way of control has been critically applied to foreign pharmaceutical latecomers. Despite their better efficacies, China has tried to keep its protection for domestic pharmaceutical companies which have similar but lower-quality generics. Of course, it cannot be denied that lower-price domestic generics have helped many Chinese maintenance of health. At the same time, it is a fact that more Chinese patients who have sufficient disposable income have
chosen foreign first-generation generics with better quality. China’s economic nationalism has been more easily observed in the case of traditional and natural medicines. It has been said that it is almost impossible for foreign companies to acquire their medicines’ approval for sale. China, which has a long history of traditional medicine, has shown its hegemonic ambition in this market.

Secondly, I point out the recent strategic change of China’s pharmaceutical industry. It has no doubt that China’s pharmaceutical industry has long relied on Western products and technologies. In recent years, the Chinese Government has stimulated the industrial restructuring in order to grow domestic companies’ competitive capacity in the global pharmaceutical market, which has borne Chinese giant pharmaceutical companies. In effect, the emergence of domestic giants is also intertwined China’s nationalistic perspective on the industry. At this point, their business behaviour reveals a different strategy. The pharmaceutical industry, which has been grown on the highest level of technology, is known to make a great amount of investment in research and development. However, Chinese pharmaceutical giants have focused on the growth of scales and their business expansion in support of China’s central and local governments. As they have acquired meaningful hold over both domestic and global pharmaceutical market, they have built concrete consolidations involving Western MPCs that retain advanced products, rather than investing in the development of advanced products on their own. This strategy can be more easily observed in the area of biopharmaceuticals. China tries to preoccupy a biopharmaceutical market with its massive accumulation of genome sequence technology and data. It sees this market as its opportunity of being a leading country in association with its implementation plan of precision medicine.
The third one regarding the pharmaceutical industry is the widespread corruption, which has often been related to the Chinese practice of *guanxi*. Such observation and analysis is reasonable, but needs more explanation to accurately understand the nationwide prevalence of corruption in the industry. Since the economic opening in the late 1970s, China had maintained a dual-price system for its domestic market until its market-oriented reform had been settled. However, the relevant regulations were not prepared to prohibit individual uncontrolled pursuit of illegitimate profits. The situation has been aggravated with moral slackness of the government officials and pharmaceutical companies including Western MPCs. In reality, MPCs, which had advanced technology and products, had enjoyed their dominance over the Chinese pharmaceutical market. China was far behind in pharmaceutical technology and thus was desperate to learn from them. In this context, the Chinese practice of *guanxi* became a reinforcing agent for the prevalence of corruption. In sum, I point out that the primary reason of widespread corruption in China must be found firstly in the unfledged regulations and the government’s loose law enforcement.

China’s loose regulation on the pharmaceutical industry and its active reception of Western technologies and products had nurtured Chinese pharmaceutical companies. China has become the third biggest pharmaceutical market and is expected to catch up Japan soon. Therein, briberies, kickbacks, and illegitimate drug remunerations have been increasingly implicated along with the government’s retreat from the provision of social welfare. While China has witnessed the rapid growth of the pharmaceutical market and industry, its public health has been severely degraded. Even in this situation, the Chinese Government did not actively intervene until the 2003 SARS outbreak. In the middle of the healthcare reform, Xi’s government made another effort
to crack down the corruptive practices of pharmaceutical companies including MPCs. Such effort goes towards the price decrease of essential medicines for people’s easier access to medication. This price pressure in turn requires another reorganisation and restructuring process of China’s pharmaceutical industry.

Pharmaceutical marketing in China has been concentrated on public hospitals that have played a main role in the provision of medical services in China since its Communist Revolution. Along the rapid increase of pharmaceutical medication and the following concerns over Chinese overuse intertwined with companies’ unethical marketing, China’s loose regulation on pharmaceutical advertisements indiscriminately distributed to ordinary Chinese in the 1980s and early 1990s have been more stringently tightened. As a result, MPCs have tried to concentrate their advanced products and marketing resources into larger public hospitals in urban areas and cities. Most small- and medium-sized Chinese companies and foreign companies have focused on lower-grade public hospitals, which have become their main market targets mostly with generic drugs. Despite the increasing market overlap and competition along with the emergence of Chinese giants, the Chinese pharmaceutical market is clearly differentiated by pharmaceutical companies’ products and national origins.

In effect, the differentiated hospital market is closely linked with hospitals’ financial management. Larger tertiary public hospitals, which need to make more revenues for their management without sufficient government subsidy, are inclined to prescribe more expensive global medicines with higher markup margin rather than Chinese medicines. Compared to Tertiary hospitals, lower-grade hospitals are relatively free from profit-oriented management and rely more on the government subsidy. I found that lower-grade public hospitals are used to display the government propaganda
in return. Various political propaganda phrases mixed with public health education are displayed on the electric billboards, walls and ceilings of the hospitals. Since the Communist Revolution, Chinese public hospitals have played a role not only as therapeutic places but also as politically disciplinary places. This phenomenon is still observed but is differentiated by the extent of hospitals’ reliance on the government financial support.

Since China’s economic reform, overall hospitals’ profit-oriented management has led to doctors’ overprescription and over-treatment directly resulting in the increase of patients’ out-of-pocket payment. Therefore, the 2009 new healthcare reform has made an effort to decrease hospitals’ reliance on pharmaceutical sales and to separate pharmacy business from hospital operation. Any promising result is not shown yet. Actually, hospitals cannot follow the directive of the healthcare reform without sufficient increase of the government subsidy. On the other hand, the Chinese Government has stimulated the growth of private hospitals and retail pharmacies unaffiliated to hospitals. In particular, the growth of chain drugstores is surprising along with the Chinese increasing use of OTC drugs. The competition between public hospitals, and private hospitals and non-affiliated pharmacies is expected to be fierce in the near future, and the competition among pharmaceutical companies in the OTC market is likewise. For over three decades, China’s public health has been constructed in a very complex, fragmented, and distorted situation along with the privatisation of public health. The Chinese Government attempts to make public health more affordable and accessible through the reform enforcement and the stimulation of competition. However, there are various complications in the way of the reform. For instance, China has fallen into a nationwide deficiency in the supply of medical professionals and a
vicious circle of low salary and low quality medical students. It may take more time to achieve the purpose of the healthcare reform, or it may be already too late.

China has long been shrouded in grey smog emitted from cars, antiquated coal heating systems, state-owned chemical and petroleum factories, and so on. Living in smog has become normal in China with a dangerous impact on people’s health. Chinese doctors and patients are also living in the similar grey healthcare situation composed of old socialist systems such as hukou system and SOEs’ monopolies, the market-oriented privatisation of public health. Doctors have been forced to serve the people with insufficient rewards and asked to learn from “model doctors” selected by the government. In this context, unsatisfied doctors have been easily attracted to informal additional incomes from overprescription, pharmaceutical companies and patients.

Although China’s healthcare reform has tried to improve these situations, it is still hard for patients to expect satisfactory services from medical professionals in public hospitals. Affluent Chinese already began to pursue their treatment in highly qualified private hospitals equipped with better medical staff and equipment or VIP sections in higher-grade public hospitals. Some of them have increasingly use medical tourism to foreign countries that can provide better medical services. In fact, those hospitals are too expensive for ordinary Chinese to be able to approach and China’s health insurance does not cover them. Most Chinese cannot help but use public hospitals. The situation of migrant workers is even incomparable. Migrant workers and their families who do not have city hukou and thus cannot benefit from social medical insurance are even more vulnerable to various health risks. Although there are some who can manage to pay medical expenses when they fall ill, most migrant workers are inclined to choose self-medication or even avoid medication itself rather than visit pharmacies or hospitals.
Compared to migrant workers, Beijingers with Beijing hukou have more choices of medication according to their economic situations. Despite doctors’ inclination to prescribe more expensive medicines for more profits, more Chinese patients try to have the choice between Chinese pharmaceutical medicines and more expensive global medicines, while they weigh medicines’ efficacies and costs. Along with the increased insured rate in the late 2000s, the number of hospital visits has rapidly increased. More patients began to seek better treatment and to choose higher-grade hospitals as much as they can. As a result, higher-grade public hospitals have become more and more crowded, which, in association with doctors’ overprescription, has aggravated the level of patients’ satisfaction.

In this complication, China has witnessed the increase of violent conflicts between doctors and patients. Medical disputes have often been implicated in physical attacks on medical professionals without relying on legal settlement. In reality, this dangerous work environment has led some of doctors and medical students to turn their career from medical professionals to pharmaceutical sales representatives. China’s chronic deficiency in the supply of medical workers comes to meet another deadlock. In the meantime, some patients are observed to appropriate the circumstance of doctors’ overprescription. Against prevalent overprescription and soaring medical expenses, they sell their leftover medicines to medicine brokers who resell those to other medical facilities. From this informal/illegal trade, patients can compensate for their out-of-pocket expenses or sometimes can even make extra profits. While China’s biopolitics of population has been strongly sustained by its authoritarian government, its disciplinary power imposed on individuals has disappeared on the other. Chinese individuals have to find their own informal ways to manage their health. This macro-micro conflict has
already begun to threaten its whole system of public health and its governmentality ultimately. For most Chinese management of health, low-priced pharmaceuticals have long been an essential key to live in such a risky situation. To some level, the era of pharmaceuticals is coming to an end and shifting towards the era of biopharmaceuticals based on genomic technologies. However, various existing problems directly intertwined with peoples’ lives are left behind and unresolved. Instead, the new forms of biopolitics equipped with more advanced bio- and genetic technology are designed for the management of its population.

**Limitations and Directions for Future Research**

Despite its academic contribution to the field of medical anthropology, business anthropology, and China studies in pharmaceuticals and healthcare system, this research has mainly three limitations. The first is about its accessibility to study subjects: industry people, medical professionals, and patients. In the situation that various informal/illega business behaviours have been acknowledged, outside researchers cannot but help have serious limitations in conducting interviews with insiders and participant observation inside companies. So-called, they have too many secrets that they do not want to reveal to the public. In addition, as abovementioned, the GlaxoSmithKline’s corruption case in 2013 has critical impact on this research.

Unfortunately, my fieldwork was overlapped with China’s denunciation of foreign pharmaceutical companies and over a year legal procedure to deal with the case. All my prearranged interviews were cancelled, and I had to find another way to make it. Finding Korean pharmaceutical companies in Beijing by using my Korean ethnicity became another breakthrough to guide my fieldwork research to the pharmaceutical industry in China. Nevertheless, I could not include sufficient ethnographic
explanations regarding multinational pharmaceutical corporations (MPC) and their present inside stories. The narratives and stories for analysis about MPCs were collected mostly from a former marketing manager, industry people in other small- or medium-sized pharmaceutical companies, and some doctors.

My access to doctors also had some limitations. Firstly, it was hard for me to ask about patients’ or companies’ informal payment to medical professionals. In addition, most junior level doctors at public hospitals did not show sufficient knowledge or interest in the purchasing process of pharmaceuticals. In effect, such process was relatively hidden from most medical staff in hospitals. Therefore, I approached doctors with a focus more on their prescription inclination, work environment and condition, and their relationship with patients. My access to patients was relatively easier. But I had to consider patients’ and their families’ conditions and feelings very carefully before I tried to have interviews with them. Hospitals are often filled with people’s suffering and desperation. This research should be conducted always with ethical considerations in every aspect not to harm study subjects.

The second limitation is the diversion and dilution of this research topic. Before starting my fieldwork in Beijing, the primary topic was supposed to be concentrated on MPCs and their products in China. As it became difficult for me to make contacts with them after the GSK’s bribery issue, I had to deal with the pharmaceutical industry more broadly and extend more to hospitals and patients than the original research plan and in many parts I had to rely on secondary data such as industrial reports and government statistics. Although this information could show the near-present situation of the pharmaceutical industry and market, more recent and present happenings inside the industry could not be involved in this thesis. It was also almost impossible for me to
read the most comprehensive and recent industrial reports because of their high prices. For example, “Pharmaceutical Industry in China to 2020” published by Kelly Scientific Publications in 2015 was priced at USD 3,400 for single user licence. In other words, I, as an individual researcher, could not buy those reports and did not have sufficient access to the most recent in-depth analysis regarding the pharmaceutical industry and market in China. In addition, I had to carefully filter out some non-objective inclination or inflated statistic data made for the benefit of the Chinese Government or the pharmaceutical industry.

The third limitation is related to the time frame of the ongoing new healthcare reform that will be implemented until 2020. Since its embarkment in 2009, the second phase was completed in 2015 and the final phase will be implemented until 2020. The results of the previous phases are about to be observed and analysed, but it will take some time to be officially reported. Although this research can be the academic contribution to the overall transformation of the Chinese healthcare and its reform, it has been conducted without full acknowledgement of the reform’s present and future. However, this is why future research must be instantly followed in association with the interim reform reports and the ongoing implementation of the final phase until the early 2020.

Based on this preliminary and comprehensive research, future research must be designed to achieve more in-depth observation and analysis of each study subject and object. China's three decades of focus on its economic development has been contaminated with environmental degradation, social and economic differentiation, and public health risk as well. Against this background, this thesis shows how the pharmaceutical industry, hospitals, pharmacies, and people’s lives have been entangled
in the controversial transformation of China's healthcare system. The sector of health and medicine has been dealt as one of the core mediums between market-oriented reform and socialist-oriented reform in China. Nevertheless, the sector's politically, economically, and geographically differentiated features were not fully described. As emphasised in this research, the differentiation of each subject should be analysed more specifically and extensively.

Regarding the pharmaceutical industry, future research needs to collect and study more cases of different business strategies adopted by multinational, small- and middle-scale foreign and Chinese pharmaceutical companies. As emphasised in this thesis, their dynamics have been associated with China’s healthcare and pharmaceutical reform, China’s increasing involvement in global health and the global pharmaceutical market, and China’s rising economic nationalism. The dynamics keep changing and become more complex in China’s accelerating integration into and vantage positioning in the global politics and economy. Several cases dealt in this thesis could have a representative limitation to be able to show full understandings and future directions of the pharmaceutical industry in China. In addition, this thesis does not deal with the wide geographic variations of the pharmaceutical industry in China. Pharmaceutical companies’ different features from region to region have been observed in association with their affiliation to local society, cultural, and governments.

In the similar sense, China’s hospitals have also shown increasing differentiation by their grades, ownership, and locations. The influence of the new healthcare reform is also differently made on individual hospitals. As the new healthcare reform has moved into the final phase, hospitals must be under even more direct impact of the reform implementation. Accordingly, the serious conflicts between the reform and hospitals are
expected. In contrast to pharmaceutical companies inside which it is almost impossible to conduct ethnographic research, hospitals have more chances to allow outside researchers to study on their operations. In-depth interviews with medical professionals and participant observation in more hospitals selected by systematised multi-regional research design will contribute to the comprehensive understanding of China’s hospitals’ reality and future direction.

While conducting interviews with patients, I came to realise the significance of China’s social strata based on hukou and social and economic status. China’s effort to construct a “harmonious society” must have faced various barriers. In the health sector, Chinese people have witnessed that increasingly differentiated social strata makes their access to healthcare less equal and even discriminative, which is the opposite result of the new healthcare reform. In this vein, future research must integrate the ethnographic study on China’s social strata of patients into its focus towards the balanced construction of public health. Without understanding their real situations particularly in terms of subsistence and health management and medical accessibility, China’s public health must remain fragmented with lots of cracks, which is now plausibly painted by statistics.

In conclusion, Western pharmaceuticals entered China in the name of modernity and advanced science and technology under the auspices of imperial powers in the late Qing dynasty. Since then, pharmaceuticals have penetrated Chinese society and represented as a symbol of modernisation, a symbol of socialist ideology towards public welfare, and a symbol of a capitalistic market. In effect, pharmaceuticals have never remained only within the scope of health and medicine. Standing on its long transition to a socialist market economy, China now shows the contradictory assemblage of
socialist remnants and capitalistic markets. In reality, China’s medical system has become the tabloid edition of the present China. Built on such unresolved contradictions and three decades of focus on the economic development, the medical system and people’s experiences therein have been intermingled with various informalities and illegalities as ways of maintaining health and business.

Since 2016, China has entered the final phase of the new healthcare reform, which is planned to establish the universal healthcare system. Considering the outcomes of the previous healthcare reform, China’s healthcare system seems to be not settled with but leashed with the old socialist system. Therefore, China seems to have many difficulties to achieve the final goal of the new healthcare reform. In addition, China has confronted its economic downturn, which may have critical impact on the reform’s financial sustainability. However, China showed a surprising record of the insurance rate increase from around 20 percent to almost 90 percent of its total population only within 5 years between 2003 and 2008. As a result, Chinese people’s accessibility to public medical facilities has been significantly increased, despite the increase of overall medical expenses and commercial differentiation of medical services. Chinese people have also witnessed the government’s embarkment on the fights against various informalities/illegalities prevalent in China. It is worthwhile observing and studying the ways in which the Chinese authoritarian governance implements the new healthcare reform several years more.
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### Appendix 1. Key Informants Details

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<th>Groups</th>
<th>Position</th>
<th>Pseudonym</th>
<th>Citizenship</th>
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<tr>
<td>Medical Staff</td>
<td>Attending physician at the surgery dept. of a tertiary public hospital</td>
<td>Dr Zhang</td>
<td>Chinese (Beijing hukou)</td>
<td>Medical school graduate in Beijing</td>
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<td></td>
<td>Resident physician at the cardiology dept. of a tertiary public hospital</td>
<td>Dr Liu</td>
<td>Chinese (Beijing hukou)</td>
<td>Medical school graduate in Beijing</td>
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<td></td>
<td>Associate chief physician at private hospital</td>
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<td>Minho</td>
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<td>Pharmaceutical Company</td>
<td>Former marketing manager at Johnson &amp; Johnson, China</td>
<td>Mr Park</td>
<td>Korean</td>
<td>(Presently) CEO of pharmaceutical consulting firm</td>
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<td>General manager at Korean pharmaceutical company, China</td>
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<td>Korean</td>
<td>Long-term expatriate with family</td>
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<td></td>
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<td>Mr Xu</td>
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<td>Ordinary People</td>
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### 中国药店的推荐药品和消费者的选择调查表

*(A survey questionnaire on Chinese pharmacies’ recommendation and consumers’ choices of medication)*

**研究介绍 (Survey Introduction)** 该研究项目旨在描述和分析70年代后期以来中国人对药品消费的看法。研究的主要重点是西药在中国医药市场发展中的作用。因此，任何有患病经验、药物治疗经验、药品销售经验和消费经验的人都可以是这项研究的参与者。过去三十年来，中国的医药市场和医疗保健体系发生了根本性的改变。中国人在这期间的种种经验，应该为他们获得更好的医疗保健政策提供依据。在研究期间和之后，你的身份和录制的声音将被安全保护，以防止任何可能出现的伦理问题。如果您需要任何进一步的信息，或者有任何疑虑，不要犹豫，请联系研究人员。

（文宇钟 博士生 墨尔本大学 社会学政治科学部 联系：183-1010-8743, wjmoon1@yahoo.com）

This research plans to analyse Chinese way of recognising pharmaceutical medicines after China's economic reform in the late 1970s. The focus of this research is put on the role of Western medicine in the development of China's medicine market. Chinese patients’ treatment and medication experience, and their purchase behaviours of medicine will be dealt in this survey. For the last three decades, Chinese medicine market and medical system have changed much and Chinese people’s perceptions regarding such changes have changed as well. After the survey, interviewees’ identities and records will be securely saved and they are used only for the academic purpose.

(Rough translation in English)

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305
1. **药店的推荐药品** (pharmacies’ recommendation of medication for common illnesses: headache, fever, cold, pains, indigestion, and bronchial problems)

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<th>推荐药品 (recommended medicines)</th>
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2. **推荐时消费者的反应和选择** (pharmacists’ recommendation and consumers’ responses by gender and age, and the influence of advertisements)

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