2006

The Impact of Inequalities in Economic Performance on their Health-Care Services Between Urban and Rural Areas in China

Lei Zhang

The Impact of Inequalities in Economic Performance on Their Health-Care Services between Urban and Rural Areas in China

by

Lei Zhang

Summer 2006

John C. Whitehead School of Diplomacy and International Relations

Master's Thesis

Advisor: Professor Yanzhong Huang

Reader: Professor Omer Gokcekus

ABSTRACT

While the economic achievement of China since the start of its market-oriented reforms in 1978 was compelling, the gap in the available health-care facilities and medical personnel between urban and rural sectors were incompatibly widening over 1980s and 1990s. This article tries to figure out what should be primarily responsible for the widening differentials in health-care facilities and medical staff between the two sectors during the institutional reform period.

Through reviewing the evidences on income disparities and health care services between the two populations during the two decades, this paper finds that out-of-pocket medical expenditure became the engine of Chinese health finance, so the levels of incomes/consumption of different groups of population largely determined the quality of health care services. As a result, the rising disparities in provision of health-care services between the urban and rural sectors were exacerbated by the larger inequalities in income distribution.

Moreover, China's pro-market policy orientation is the fundamental driving force behind this reform process. The privatization of health system caused an increasingly dualistic structure of health services in the urban-rural sectors. China's experience shows that the preponderance on market mechanisms combined with poorly equalizing measures resulted in unfair allocation of health resources and reduces availability and accessibility to health services for the rural population. Significant progress in the health care system will call for a deep, long-term political commitment and willingness to alter its development policy orientation to strengthen the universal health care services for all populations.

ACKNOLEDGEMENT

First, I would like to express my sincere gratitude to both Professor Yanzhong Huang and Professor Omer Gokcekus for their guidance, encouragement, suggestions, and patience during the entire period of preparing, writing, and completing the thesis. I am deeply indebted to Professor Huang whose inspiration helped me in all the time of study and research in the global health field, and whose essential support was throughout the whole research process of this thesis. I would thank Professor Gokcekus again who committed considerable time for individual meetings and offered extremely valuable advice for improvement of this thesis.

I am extremely thankful for several professors at the John C. Whitehead School of Diplomacy and International Relations who provided me with invaluable knowledge and inspired me to further my theoretical research in international relations and comparative politics.

Finally, I am especially grateful to my parents whose unconditional support for the two-year study at Seton Hall and their beliefs in me always encourage me to study harder in order to achieve higher levels of academic goals.

CHAPTER ONE

INTRODUCITON

Since1978, China shifted from a planned agricultural economy to a market–oriented economy. Various opening-up polices and export-oriented developing strategies contributed to China's successful integration with the world economy. The remarkable economic growth rates in the 1980s and 1990s have been impressive by international standards. The GDP growth rates were average 9.6 percent. The two-decade spectacular economic development led to substantial poverty reduction in China. Around 270 million people have been lifted out of absolute poverty.[1]

Although the rapid economic growth led significantly to poverty alleviation in China during the reform era, dramatically regional disparities have been accompanied with it. Urban and rural incomes/consumption differentials became the leading factor that makes China's overall income distribution much more unequal than ever before. The economic and institutional transition failed to reduce the initial disparities between urban and rural sectors; on the contrary, economic system reforms have spawned an increasing income gap between different sub-populations.[2]

China not only faces many challenges in how to promote its economic growth with equity and integrate growth gaps between different regions and different groups of population cross the country, but also confronts seriously detrimental differentials in health-care services for urban and rural populations. Base on the premise that the market would increase the efficiency of resource allocation, including health resources, pro-market procedure became the guiding principle in health system reforms. When government expenditure and social insurance shrank

---

[1] Shaohua Chen and Yan Wang, "China's Growth and Poverty Reduction: Trends between 1990 and 1999", *The Policy Research Working Paper* 2651, World Bank, July 2001, pp1.

[2] Yuanli Liu, William C. Hsiao, and Karen Eggleston, "Equity in Health and Health Care: The Chinese Experience", *Social Science and Medicine* 49 (1999) pp 1354.

and out-of pocket payments for health care became the engine of financing health system, the gap in the available health-care facilities and medical personnel between urban and rural sectors were incompatibly widening over 1980s and 1990s.[3]

The economic liberalization and decentralization is the two-edge sword on the China's sustainable development: on the one hand, the decentralization is the instrument to generate high economic growth; on the other hand, it also causes to greater inequalities in income distribution and health care between the urban and the rural. But the obsession with faster GDP growth rates made Chinese government tolerate a certain degree of inequality and sacrifice the health care. The ignorable and worsening health services in rural areas would further impoverish the rural population and augment further the gaps in incomes of the rural with the urban populations.

The urban-rural inequality is a key component in overall inequality in China. If China attempts to finally succeed in attacking poverty, it should address inequality challenges in both income/consumption distribution and health-care services because high inequality would dampen the positive impact of growth on poverty mitigation. Further differences may create serious threats to social and political stability. Therefore, top priority on China's development agenda should not limit to the rapid aggregate economic growth anymore. The sacrifice of certain basic social services such as health care is intolerable for long-term development because health care services serve as an imperative instrument to achieve economic prosperity and social development. The economic gains made by China must be balanced with its strong social development. The understanding of why the gap in health-care services between urban and rural areas was widening is the decisive implication for future economic policy and development strategy options to accomplish the objective of growth with equity.

[3] See the analysis on Chapter 4

This article will figure out why the delivery of essential health services was prior to the urban population rather than the rural population during the economic and health reform period. What should be primarily responsible for the differentiated health care facilities and medical staff between the two sectors? The unequal income distribution is a potential factor in causing the inequitable provision of health-care services. But what is the mechanism underlying relationship between the inequitable health care services and inequalities in income distribution between urban and rural sectors? In addition, health service markets without government involvement suffer from inequalities in services and outcomes, but why Chinese government intervention contrarily worsened the inequity in health care services?

In the second section, the paper presents previous research on China's inequalities in economic growth and health-care system between urban and rural areas. The third section shows the hypothesis, data, and the methodology of this study. The fourth section points out the importance of health care services and explore the differentials in health facilities and medical personnel between urban and rural sectors. The fifth section is the central part of this paper, which explores main factors lead to inequitable health care services between urban and rural China. The last section summaries what Chinese government should concern on its economic and social policy agendas towards on health system.

CHAPTER TWO

LITERATURE REVIEW

This chapter introduces the previous theoretical and empirical studies on China's economic growth, inequality in income distribution, health-care financing, and health outcomes. Moreover, this section also presents the contribution of this paper to the research on health care services and income inequality between urban and rural areas.

Martin Ravallion and Shaohua Chen (2004) document and explain China's performance in poverty reduction over two decades since 1980. They aim to figure out triangle identities of economic growth, poverty reduction, and inequality in the context of Chinese economy. They particularly examine the inequality between urban and rural sectors. They use urban and rural poverty lines as deflators for urban-rural cost-of-living (COL) adjustments in forming aggregate inequality measures and for measuring inequality between urban and rural areas. So they conclude that relative inequality between urban and rural areas has not shown a trend increase once one allows for the higher rate of increase in the urban cost of living. By measuring the absolute difference between the urban and rural mean incomes, they argue that the absolute inequality between urban and rural areas was in a rising trend, but there were some sub-periods including the early 1980s and mid-1990s that went against the trend.

When Shujie Yao (1999) explores the relationship between growth, income distribution, and poverty in China since 1952, he also studies the income inequality between the urban and rural areas and within them, and analyzes the extent of urban-rural inequality in two provinces. He first uses Liaoning and Sichuan provinces as examples to calculate the Gini coefficient and its decomposition. He also shows the official statistics of urban incomes and rural incomes. While urban incomes were raised 70 percent in 1981-1989 and 60 percent after 1990, rural

incomes were raised by 30 percent. The urban-rural income ratio would have been 3.4 in 1978, 2.26 in 1985, 2.91 in 1994 and 2.49 in 1996.

The World Bank's research paper *Sharing Rising Incomes: Disparities in China* indicates the extent of national inequality and focuses studies on the urban-rural and the coast-interior gaps in economy. This article pronounces that the income gap between China's urban and rural population is large and growing. The rural incomes were only 40 percent of urban incomes in 1995, down from a peak of 59 percent in 1983 without considering the differential increases in the cost of living between urban and rural areas. The urban-rural income ratio in China exceeds 2.0, which is higher than most countries around the world. The magnitude of the gap between China's urban and rural incomes points to imperfect mobility in factor markets and governments policies that continue to prop up urban standards of living.

The World Bank's document *China Promoting Growth with Equity* records the two-decade economic performance since 1979, assesses the patterns of inequality in China, and outlines policy options that could help accomplish China's objective o growth with equity. During the post-1979 reform period, inequalities have risen between the urban and rural areas. By using the Theil index, this report shows that the rise in the urban-rural income imbalance was sharpest in the late of 1980s and early 1990s. This report also presents the widening disparities the health outcomes between the two sectors. This report describes the main actionable components of a strategy to promote growth with equity. The cores of policy strategy are to promote market integration and flexibility of physical and human capitals and to address the importance of human development in economic growth. The suitable social insecurity system including social insurance should continue to adjust to the adverse consequences emanating from the expanding role of market forces in China's economy.

Gene H. Chang (2002) finds that China's income disparity is alarmingly high but the main reason for this disparity is the urban-rural income gap by calculating the nationwide Gini coefficient and the ratios of the per capita disposable income in urban areas to the net per capita income in rural areas. He also concludes that the urban-rural income ratio fluctuated during the entire reform period, showing a cyclical pattern. It has two cycles, starting to decrease in 1978 and 1994, and starting to increase in 1984 and 1997. There is no secular trend of widening income gap between the urban and rural areas. There is no effective way to reduce the Gini coefficient. The cure for this problem is to accelerate urbanization in the short-run and to promote the growth of the modern urban sector in the long run.

Aimin Chen (2002) finds that the per capita urban disposable income as multiple of per capita rural net income in 1978 was 2.57 and became 2.79 in 2000. Ding Lu (2002) attempts to use China's provincial data of the 1990s to quantify the impact of economic growth on urban-rural consumption disparities and tries to test barriers to urban-rural labor mobility are one of the main causes of urban-rural income disparity and the effectiveness of economic growth in raising local standard of living can help to improve urban-rural income equality. He finds that urban-rural consumption disparity on average increased in the 1990s, but the growth of disparity slowed in the second half of the 1990s. Shujie Yao, Zongyi Zhang, and Lucia Hanmer (2004) examine the extent of urban-rural income inequality by calculating the real per capita urban to rural consumption ratio from 1952 to 1998. They find that urban-rural per capita consumption ratio rose from the late 1980s to the 1990s.

Adam Wagstaff (2001) points out that previous study on equity and poverty aspects of health have focused on the inequalities in health outcomes between the poor and the better-off. He argues that per capita income and income inequality are negatively correlated, no tradeoff

will be observed between average health and health inequality. A high per capita income will make for a high average level of health and a low level of health inequality. He analyzes the underlying determinants of health inequality. The household's resources including their financial income, physical assets, and human assets in knowledge and education and the prices, quality, accessibility, and availability of health services are the root causes of health inequalities. The health service utilization depends on user fees and insurance coverage. There are lots of evidences showing the connection of health outcomes and the availability, accessibility, quality and prices of health care services and the availability of medical staff. He also addresses the policy can influence these socioeconomic determinants of health.

Based on mortality data, Yuanli liu, William Hsiao, and Karen Eggleston (1999) present the indicative evidence of an increasing gap in health status between China's urban and rural areas during the 1990s. Thy also explore the causal factors that lead to inequality of health status between the two sectors: the income gap, inequality in health service utilization, and physical and financial access to health care. They conclude that economic reform and growth do not necessarily improve health status.

Magnus Lindelow and Adam Wagstaff identify the explicit roles of four actors—households, providers, third-party payers, and government—in health systems and they address the important government intervention in social insurance program and financial investment to health system. They also outline the patterns of financing health system in China. Total health spending grew dramatically in the 1990s, fuelled by private spending. The great majority of China's private health spending comes from out-of-pocket payments. Voluntary health insurance has disappeared as a financing source. Social insurance spending has declined as a share of public spending. Tax-financed spending is almost entirely undertaken by local governments.

They also review the past evolution of three insurance mechanisms since 1950s and their obstacles to meet the need and coverage of populations during the reform period. They recognize that the current allocation of government resources is biased in favor of urban areas. In addition, health care providers have become increasingly dependent on out-of-pocket payments rather than government subsidies or social insurance.

Shaoguang Wang (2005) explores how the Chinese government's reluctance and inability to invest in health has influenced the performance of its health system in the context of urban China. He traces how the urban health insurance has evolved since 1950s and analyzes three stages of reforms in health insurance after 1980. The structure of health expenditure drastically changed since the economic reform start. He finds the government and social spending declined and private payments increased to a great extent since the urban health insurance care reform began in the mi-1980s. His study also investigates how the health institutions changed when the government subsidies on health providers shrank during the 1980s and 1990s. Moreover, he focuses on the urban inequality in health financing and health-care utilization between the poor and the rich and the insured and uninsured.

Peter Smith, Christine Wong, and Yuxin Zhao (2004) discuss the role of public expenditure in financing the Chinese health system. They provide invaluable information on the level, financing, and composition of government health expenditures. The total expenditure (based on the National Health Accounts) includes government appropriation, social health expenditure, and out-of-pocket expenditure. The WHO divides total health expenditure into public and private expenditures. They also examines the differences in health expenditure are large and growing across urban and rural areas. The rising disparities in health spending between sectors and regions, combined with the preponderance of out-of pocket payments, imply large inequalities in

access to health care between urban and rural residents. Moreover, they assess trends in public expenditure on health and explain these trends through an examination of China's fiscal system and budgeting practices over the past two decades, focusing especially on the decay of the intergovernmental system. Finally, they discuss international experiences with public finance of health care. The intention is to indicate the various ways in which government revenues interact with other types of health care financing within the health system.

Gordon Liu, Brian Nolan, and Chen Wen (2004) explore urban health insurance and financing reforms in China since 1994. They address the linkage between health insurance and health outcomes and assess current compartment and pathway insurance models in urban China. Yuanli Liu, Zhengzhong Mao, and Brian Nolan (2004) present the rural health insurance and financing, criticize the existing problems in the new insurance scheme, and recommend some possible tools to improve the current insurance system in rural China.

While these academic researchers dedicate tremendous studies in the inequality between the urban and rural in income distribution, the health insurance and financing, the health outcomes association with health insurance or household income, very few systematically assess the impact of economic system reform on inequality of health in China and no one deepens analyses in the underlying linkage between the urban and rural health-care services differentials in terms of facilities and staff and unequal income/consumption distribution between urban and rural sectors. Through reviewing the evidences on income disparities and health care between the two heterogeneous populations during the 1980s and 1990s, this paper presents the comprehensive picture of China's economy and social services in the two decades; explores the causal linkage between the health-care services and economic inequalities; also points out relying on free

market policies to finance health system would inevitably lead to inequity in health care services for different social and geographic groups of the population.

CHAPTER THREE

HYPHOTHSIS, DATA, AND METHODOLOGY

In the hypothesis: inequitable health-care services in terms of health facilities and medical personnel between urban and rural populations would be deteriorated by widening inequality in income/consumption distributions from 1980 to 2000, the growing inequality in incomes/consumption between urban-rural sectors is the independent variable, and the differentials in health-care services are the dependent variable. Economic growth and social services improvement are two dimensions of overall development in China. Were the inequitable health-care services exacerbated by the rising economic inequality between urban and rural areas during the institutional transition period from 1980 to 2000? Why did the prosperous economic growth worsen the availability and accessibility of health care services in rural areas?

Based on the characteristics of the independent and dependent variables of the hypothesis, quantitative approaches are used to measure these variables. GDP and GDP per capita are the indictors to illuminate the overall economic performance. The income/consumption inequality is usually measured by the Gini index. Due to the limitation in collecting data and approaches utilized to analysis, the economic disparities between the urban and rural populations are demonstrated by the gaps in mean income per capita with adjustment of living costs and differentials in consumption without adjustment of living costs. The total health expenditure, government spending, social insurance, and out-of-pocket payments are World Health Organization's national health accounts indictors are used in this paper for examining different sources to finance health-care system. The World Bank's health care indicators—physicians and hospital beds per 1,000 people—are used to demonstrate the differential in health-care services between urban and rural areas.

Because the accuracy and authority of the statistical data are crucial for examining inequalities in income/consumption and health-care services between urban-rural sectors, the data collected in this paper are from the official documents: World Bank research paper, the China Statistics Year Book, and the National Health Accounts. These authoritative datasets provide the reliable and detailed information. The World Bank research paper presented by international leading economists Martin Ravallion and Shaohua Chen offers the mean income per capita in urban and rural areas with the adjustment of living costs. The China Statistics Year Book shows the household consumption without adjustment of different living costs in urban and rural sectors, the number of health institutions, the beds, and medical personnel including doctors, nurses and technical personnel. The National Health Accounts demonstrate the total health expenditure, its composition, and their changes over time.

In order to test the possible causal linkage between the economic inequality and inequitable health services, other feasible variables besides economic factors that could explain why the widening differentials in health care services. The control variables include the economic policies and pro-market health policies towards health care services. In details, due to the context that China is in the liberalization process, the decentralized fiscal system with limited equalizing transfer results in a highly inequitable allocation of public resources across different regions and different groups of populations; these heath system reform policies lead to that the old health insurance systems collapsed in both urban and rural areas, which result in the rising costs of health care, falling health insurance coverage, and the government increasingly withdrew from its role of payer of last resort to health care funding. The government should play a central role in engaging in areas where markets are known to perform badly and equalize geographic variations resources through its social policies. The government policies to national economy

and health care in the structural transmission context are the appropriate and rational control variables to test the relations between the independent and dependent variables identified.

The longitudinal design is used in this study to explore how the economic growth, income distribution, health expenditures, and health facilities change from 1980 to 2000. The methods to specify the association of the economic inequality with differential health services between the urban and rural sectors are quantitative and qualitative analysis. The qualitative analyses will examine why the higher inequality causes the worsening equity in health care and figure out that the nexus in the correlation of the independent variable with the dependent variable is increasing out-of-pocket health expenditure. But why do the out-of-pocket payments for health care expand? The research on government policy on fiscal and health systems will clarify the reason why out-of-pocket spending grew in 1980s and 1990s.

CHAPTER FOUR

HEALTH-CARE SYSTEM

This section first shows the importance of health-care system in the economic and social development; subsequently, presents severe problems existing in the health-care system in China and particularly explores an ignorable but serious problem—the inequality in provision of health facilities and medical staff between the urban and rural areas.

Physical capital and human capital are not only direct component of national welfare, but also promoters for economic and social development. In modern economy, the human capital and its productivity are significantly addressed determinants to the economic growth in a long run. Good health is the basic dimension of human capital and primary factor of enhancing human productivity. Furthermore, there is a well-known vicious cycle of illness and poverty: poor health is a common consequence of poverty and poverty is also affected by poor health. Poor health can cause poverty by impairing or disrupting human income-generating capabilities. The dire economic impact of poor health poses a constraint on further poverty reduction. For a developing country like China, augmenting human capital productivity is crucial for achieving its long-term development goals in economic development and poverty reduction. So, the improvement in health of its population should be the first concern on China's economic and social policy agenda.

Besides nutrition and exercise, the health-care system plays another extremely important role in achieving the desirable good health of the population. Through its core function to provide broadly, equitably accessible and basic health-care services to the sickness, a health system could protect the population from the illness and the death, maintain and promote their health, and further overcome effects of social disadvantages on health. Widespread access to

health-care services could be one of the factors to further alleviate the poverty in the process of economic reforms.

A series of indictors such as life expectancy at birth and child mortality are widely used by scholars to track health-care system performance in terms of health outcomes. But, this paper will examine another dimension of a health-care system: the availability of health-care services and their inequities between different geographic groups. The World Bank's health care indictors in terms of hospital beds and physicians per 1,000 people are used to demonstrate differentials in health-care system in urban and rural areas of China during the 1980s and 1990s.

After two decades of health reforms in the context of greater fiscal decentralization, China has transformed its health-care system from universally free services to largely fee-based services. Under the planned economy, government budgetary support for the health sector was channeled mainly through supply-side subsidies that went to health institutions, facilities, and salary costs. Compounding the problems of declining government budgetary support to health institutions, system-wide weakness in the new health-care system reflects several severe problems—the inadequate health insurance across the nation, the rapid health-care cost escalation, the supplier-induced demand, widespread lack of access to essential heath services in rural areas, questionable quality of care, and inadequate provision of essential activities such as basic curative care, and public health programs. Besides these mentioned problems, considerable inequalities in provision and availability of essential health facilities and medical personnel in health institutions between the urban and the rural areas are threatening to the efficiency, quality, and equity of China's health-care system.

Urban facilities and personnel and rural facilities and personnel are separately estimated. Evidenced by the Table 1 data[4], the provision of health-care services facilities in terms of hospital beds and medical personnel is growing with deteriorating disparities between the urban and rural areas in the 1980s and 1990s. While the beds in city health institutions continuously rose from 76.8 per 10,000 capita to 138.7 per 10,000 capita in 1990, and grew up to 191.4 per 10,000 capita in 2000; the beds in county health institutions increased from 121.4 per 10,000 capita in 1980 to 127 per 10,000 capita in 1987, then they fell greatly to 103.4 per capita in 2000. The bed numbers per 10,000 in city health institutions in 2000 is over 2 times in the level of 1980; however, the bed numbers per 10,000 in county health institutions in 2000 even much lower than 1980. Shown in the Table 2, the ratio of beds in city health institutions to country's continued to increase from 0.633 to 1.851 without interruption over the 1980s and 1990s.

The number of medical technical personnel in city health institutions extended from 131.3 per 10,000 capita in 1980 to 283.5 per 10,000 capita in 2000. The number of medical technical personnel changed in a different way in the rural areas. Medical technical personnel in county institutions boosted from 148.5 per 10,000 capita to 171.3 per 10,000 capita in 1980s, but they declined from 171.3 per 10,000 in 1990 to 165.6 per 10,000 in 2000. Obviously, the ratio of medical technical personnel in the two areas showed a constantly increasing tendency from 0.884 in 1980 to 1.712 in 2000.

The doctors in both city and county institutions increased in the two decades. The doctors in city health institutions changed from 57.6 per 10,000 capita in 1980 to 97.8 per 10,000 in 1990, and moved up to 126.8 per 10,000 capita in 2000. The doctors in county health institutions did increase from 62.6 per 10,000 capita to 78.5 per 10,000 capita in 1980s; but in the next ten years,

[4] See China Statistics Year Book

the number of doctor in county health institutions increased only from 77.7 per 10,000 to 80.0 per 10,000 in 2000. While the number of doctors in city institutions in 2000 were more than twice than the level of doctors in 1980, the number of county doctors increased only around 28 percent over twenty years, especially in the 1990s, the doctors in county institutions raised just 1 percent.

The number of senior or junior nurses in city health institutions grew from 30 per 10,000 in 1980 to 89.8 per 10,000 in 2000, and in the county health institutions increased from 16.6 per 10,000 in 1980 to 36.9 per 10,000 in 2000. The number of senior or junior nurses in both city and country health institutions enhanced a lot: the number of nurses in city institutions in 2000 was around 3 times as they were in 1980; the number of nurses in county institutions in 2000 was over twice as they were in 1980. But one noticeable finding lies in that the number of nurses in both city and county health institutions increased faster in 1980s than in 1990s. Table 2 shows an increase in the ratio of nurses in the two decades.

In summary, the basic health service facilities in terms of bed and medical staff in urban areas has developed much faster than in rural areas over two decades. The health services in county health institutions improved only in a very tiny step in 1990s. Consequently, the gap in basic health-care system between the urban and rural sectors was not obvious in 1980s, but a growing differential in quantitative measure of health-care facilities and staff between the two sectors becomes visible in 1990s. This trend evidently demonstrates the exacerbating problem of inadequate supply of primary health care services to China's rural population over the two decades after economic and health reforms. Because improvements in health facilities and the growing number of senior level health professional are concentrated on the urban, rural population are suffering from physical barriers to accessing basic health care. But why the health

system reform, rather than alleviating, failed to reduce the geographic disparities in health care services between urban and rural sectors?

CHAPTER FIVE

CAUSING FACTORS TO INEQUITY IN HEALTH CARE

This section is the nucleus of this paper, and it analyzes three main causes to inequalities in the health-care services between the urban and rural population: the health system financing, the inequality in economic growth, and government policies.

Health Funding

Health financing is central to achieving the goal of health-care systems to improve population health in an equitable and efficient manner. Before 1978, all expenditure for the development of the health system and investment in health facilities and personnel were totally supported by the government. Due to the market transition over two decades, the rapid economic growth has no doubt increased the available resources to pursue a better health system for all population. China's total health expenditures have grown both in absolute terms and as a share of GDP has from 1980 to 2000. Table 3 illuminates public expenditure and resource allocation in health sector.[5] The second column shows the upward trend in absolute total expenditures on health during 1980-2000. In 2000, China's total expenditure on health were RMB 458.66 billion yuan, up from RMB74.74 billion yuan in 1990, and from 14.32 billion yuan in 1980. Total expenditure on health per capita (shown in the fourth column) rose from RMB 14. 51 yuan in 1980 to RMB 65.37 yuan in 1990, and increased up to RMB 361.88 yuan in 2000. Total expenditure on health in 2000 was six times the level in 1980 and total expenditure on health per capita in 2000 was almost 25 times the level in 1980. Health expenditures as a share of GDP

[5] Data from the National Health Accounts (NHA)

increased from 3.17 percent to 5.13 percent over the period 1980 to 2000. The share of health expenditures to GDP increased around 1% every 10 years.[6]

In China, total expenditure on health care disaggregates into three sources: government health expenditure, social expenditure, and out-of-pocket expenditure. Although China spends an unexpected large share of its GDP on health, the share of the government spending, social insurance, private expenditure on health financing significantly changed since the 1980s. In the early period of economic and health-system reforms, the government spending and social insurance on health normally accounted for around 80 percent of total health expenditure. With the decentralizing reforms, the shares paid by the government and social insurance have declined drastically; on the contrary, out-of-pocket expenditure on health increased incredibly and it was the main growth factor of total expenditure on health.

Shown in Table 3, while government appropriation accounted for 36.24 percent of total expenditure on health care in 1980, it dropped to 25.06 percent in 1990 and to 15.47 percent in 2000. Social health care insurance accounted for 42.57 percent in 1980 and declined to 39.22 percent in 1990 and further dwindled to 25.55 percent in 2000. Meanwhile, out-of-pocket health expenditure rose especially fast from 21.19 percent in 1980 to 58.98 percent in 2000, with its growing at an average annual rate of 1.4 percent in these twenty years. Figure 2 shows comprehensible changes in the overall structure of health expenditures from 1980 to 2000.

The invariable involvement of the government in health-care system is based on the fact that the government could retain and promote equity in the health sector, and respond to the

---

[6] Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", http://www.worldbank.org.cn/english/content/cr1_en.pdf, pp. 2

market failure (a free market would lead to socially inequitable outcomes) in health system: unregulated health service markets and social or private insurance. The government has a variety of instruments for building up these roles in the health sector: financing or subsidizing to the health supply side in terms of health institutions and the demand side, namely the whole population. However, as Chinese government has become less willing to invest to health care during the process of economic and health reforms, the shrinking coverage of health financing by the government naturally not only dramatically changed the structure of overall health expenditure, but also reproachfully impacted distributions of the health finance between differential social and geographic groups.

Like many other social programs, health financing and delivery have been segregated between urban and rural populations. During 1990-2000, the expenditure share of city hospitals in total expenditure on health showed a steady upward trend, rising from 32.76 percent to 47.16 percent. The share of county hospitals showed a definite downward trend in total expenditure on health, falling from 10.8 percent to 8.7 percent.[7] The government's intervention in combating inequality in health-care provision appears diminishing, which leads to widespread lack of available and accessible health services for the rural. After two decades of market transition, government expenditures and resource allocation in the health sector appear to have lagged behind the needs of China's rapidly changing economy.

Social insurance is the most usual approach to provide financial support for health care in most countries. Before 1978, the coverage of health insurance in China was nearly universal for

[7] Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", the World Bank 2004, http://www.worldbank.org.cn/english/content/crl_en.pdf pp7

all the urban and rural populations. The transition from a planned to a market economy from 1980 brought dramatic reductions in health insurance coverage. Health insurance has disappeared in rural areas, and is under a good deal of strain in urban areas. Before the economic liberalization reform, there were three different insurance mechanisms established in China. The health insurance for the urban population was provided by two major health-care programs—the Government Insurance Schemes (GIS) and the Labor Insurance Schemes (LIS). The GIS was financed through the public budget and LIS was financed through the enterprise welfare funds retained as a certain portion of the total salary outlays (usually at a rate of 8 percent).[8] Before the decollectivization in the agricultural sector in the early 1980s, health services for China's rural population were financed through the old Cooperative Medical System (CMS). From a historical standpoint, GIS, LIS, and CMS played vital roles in financing health system through both provide and demand sides, ensuring all the population's access to health care, and consequently contributing greatly to the improvement of the health status before health system reforms.

The rural medical scheme collapsed in the early 1980s. Subsequent attempts to set up collective financing schemes based on voluntary contributions have largely been unsuccessfully due to village-level risk pools that are not sufficiently large, adverse selection and low participation, and ineffective administration. Currently, reforms are under way to broaden coverage of rural population. A new Medical Care Assistance Scheme seeks to overcome some of the problems of the voluntary schemes by broadening the risk pool and providing financial

[8] Gordon Liu, Brian Nolan, and Chen Wen, "Urban Health Insurance and Financing in China", the World Bank 2004, http://www.worldbank.org.cn/english/content/cr4_en.pdf, pp 2

incentives to participation. The government has started piloting the new CMS in over 300 counties across China.[9]

The GIS and LIS have also experienced problems. Under the GIS and LIS, government agencies and state enterprises self-insured. Because the GIS and LIS could meet the need of the urban unemployed and poor, a newly reformed urban insurance system, BMI scheme, which extends coverage beyond government agencies and state enterprises, has been introduced in many cities. During the transformation process, both the urban and the rural insurance coverage are plummeting and unsatisfied for the huge population's need for health care. The challenge of extending and deepening health insurance coverage in cities is small compared to China's huge challenge of providing coverage to the uninsured 80% of China's rural population, which accounts for 60 percent of overall population in China.[10] The health insurance reforms did not narrowing the gap; there are the stark divisions in coverage between the rural and urban health insurance schemes.

Government expenditures and social insurance on health are dwarfed by growing out-of-pocket payments, which comprise nearly 60 percent of total health expenditure in 2000. This transformation essentially shifts the responsibility of financing health system from the government and social resources to individual citizens. Health institutions in China have become increasingly dependent on private payments, which shifted from that these health care providers were fully financed thorough government subsidies and insurance.

---

[9] Yuanli Liu, Zhengzhong Mao, and Brian Nolan, "China's Rural Health Insurance and Financing: Critical Review", the World Bank, 2004, pp1-24 http://www.worldbank.org.cn/english/content/cr2_en.pdf

[10] China's Health Sector - Why Reform is Needed, http://www.worldbank.org.cn/english/content/BN2_en.pdf, pp4

The market-oriented health-system reform in China resulted in that private expenditures became the engine of health finance. Unusual reliance on out-of-pocket payment as the main source of funding is worrying from an equity perspective because it probably has serious consequences for inequity. When health financing is primarily borne by out-of-pocket payments, the distribution of income and wealth between different social and geographic groups would largely determine who have available health care services and the access to these necessary health cares. Unless income and wealth are equally distributed among all social and geographic groups, economic inequality will inevitable be converted into health inequality. After a series of reforms in health-care financing, government spending, health insurance coverage, and private funding led to a widening urban-rural gap in health resources distribution impeded the equitable and available medical services for the large rural population. It is obvious that the market-oriented health reform in China has tightened the constraints in availability of health facilities and medical staff for the rural population. Inadequate health care facilities and medical personnel for the large rural population have blocked their access to health-care services.

Economic Inequality

Over two decades, increased openness to international economy and tense domestic market competition offer China with significant opportunities to fast economic growth. The historical data show that China was experiencing a tremendously impressive growth from 1980 to 2000. The GDP and GDP per capita are two economic performance indictors used in this section. Through the statistical calculation (data from Table 5), the real GDP grew an average 9.4 percent a year from 1980 to 2000 and the annual GDP per capita growth rate was similar to be 9.5 percent in these twenty years. China's economy has been continuously growing under the complex economic reforms and structural changes.

China's remarkable economic performance in 1980s and 1990s, with the high GDP and GDP per capita annually growing, was expected to alleviate the transmission and competition pressure from structure reforms across China's economy. Unfortunately, current growth failed to mitigate the initial inequality in natural endowments and economic differentials between different sectors. Economic gains, which are indicated by per capita mean income and household consumption, were distributed even more unequally between the urban and the rural populations during the structural transmission and economic liberalization. The urban population tended to gain more from the economic growth than the rural population.

The widening growth disparity in China has caught lots of attention from academic research and policy analysis. Many previous studies have examined the past progress in China's income distribution. Inequalities in income and consumption have been worsening, especially in recent years. According to China's national statistics, the Gini coefficient of income rose from a low level of 0.33 in 1980 to 0.40 in 1994 and to 0.46 in 2000. China has been transformed from a highly egalitarian society into inequitable country since the economic reform. Rising incomes have been unequally shared among different groups of populations.

China's income and consumption disparities are alarmingly high from two sources: the differentials between the urban and rural sectors and those between coastal and inland regions. But the biggest contributor to increasing inequalities is the widening gaps between urban and rural areas. A World Bank study concludes that the urban-rural income gap was responsible for one third of total inequality in 1995 and one-half of the increase in inequality since 1985.[11] "China's rural-urban income gap is large by international standards. Data from thirty-six countries show that urban income rarely are more than twice rural incomes, in most countries

[11] Shujie Yao, "Economic Growth, Income Inequality, and Poverty in China under Economic Reforms", *The Journal of Development Studies*, Aug 1999, 35, 6 pp 115

rural incomes are 66 percent or more of urban incomes."[12] The World Bank official income data shows that urban-rural income ratios peaked at 2.36 in 1978 as a result of fast growth in farm incomes during 1978-1984, the ratio dropped to 1.72 in 1985 but climbed to 2.6 by 1994 as urban income grew much faster than rural incomes in the following decade.

Based on their estimates of mean income for rural and urban areas, Martin Ravallion and Shaohua Chen[13]conclude that absolute inequality has increased appreciably over time between and within both urban and rural areas. Their declaration confirms the above World Bank's findings that the urban-rural segregation is increasing. However, while some other researchers argue that there has been a decline in income disparity in recent years (Yang & Cai, 2000), some claim that the urban-rural income ratio does not show a clear sign for a secular trend. They find that the ratio fluctuates during the entire reform period, showing a cyclical pattern. It has two cycles, starting to decrease in 1978 and 1994, and starting to increase in 1984 and 1997. Has the inequality in income/ consumption increased, or the gaps narrowed, or no clear tendency in the changes of income gaps between the two groups of population? Based on the data derived from Ravallion and Chen's research paper and China's Statistics Year Book, the following section investigates how the income and consumption distributions diverge between the urban and rural areas.

Figure 3 illuminates the urban and rural mean income changes during the 1980s and 1990s. If looking at the trend line of these mean incomes of the urban and rural areas, there is an upward tendency in the disparity in income between the two sectors. But look closer to see the individual spots that present the annual mean incomes, the absolute difference between the urban and rural mean income shown on the Figure 3 demonstrates the gap between the urban and rural income

[12] World Bank, "China 2020: Sharing Rising Incomes: Disparities in China", the IBRD, 1997, pp16
[13] Martin Ravallion and Shaohua Chen, "China's (Uneven) Progress Against Poverty," *World Bank Policy Research Working Paper* 3408, September 2004, pp 8

does not always increase or decline continuously over time since the economic reform initiation. The overall trend in the income disparities magnifies the income differentials between the urban and rural. But the sub-period trends in the changes of the urban and rural mean income per person need scrutinizing.

The Gini index is the most reliable instrument to measure the inequality in income between the urban and rural areas. Unfortunately, due to the limitation in data collection, this paper could not explore the inequality in income based on the Gini coefficient. Instead, this paper depends on the ratio of urban mean income per capita to the rural and the ratio of urban household consumption to the rural to manifest the extent of urban-rural inequality. Shown in the Table 6, the ratio of the urban mean income per capita to the rural actually was declining to a great extent from 1.82 to 1.33 between 1981 and 1985, which is opposite to the Yang (1997) argument that there was a rising urban-rural disparity in mean income in post-reform China. Since 1986, the disparities were in a rising trend and peaked to 1.77 in 1994. During 1995-2000, the gaps in mean incomes between the urban and rural were lower than the peak year but the differentials were starting expanding after 1997. The urban-rural gap shows a weak upward trend.

Through examining the official data from China's Statistics Year Book about household consumption ratio of the urban to the rural, the similar findings could be reached. But these figures do not take into account the differential increases in the cost of living between urban and rural areas. There is a significant fading trend in the ratio of urban to rural household consumption from 1981 to 1985 (see Table 7 and the index of the ratio). The household consumption ratio fell sharply from 0.98 to 0.75. The data reveal that the ratio between urban household consumption and rural household consumption gradually increased from 0.79 to 0.99 between 1986 and 1993. The high urban-rural income gap can be confirmed by the urban-rural

household consumption ratios. After 1993, the consumption ratio was declining somehow; however, it was rebounding from 1998 to 2000 again. In summary, the rising disparity in income or consumption between the urban and the rural populations is just a general trend of the inequality. The ratios of mean income/household consumption between the two sectors do not remain constant over the twenty-one years, and there are some periods that went against the trend, including in the early 1980s and mid-1990s. However, given the rising imbalance in urban-rural mean income and the household consumption during the 1986-1994 and the 1998-2000, the economic gains to the urban population from the distribution-neutral growth of course are greater than the benefits to the rural population.

Figure 3 indicates that an increasing economic growth is interrelated with a rising trend in urban-rural income distribution. But sub-period data analyses show a different version of economic inequality. The disparities in income/consumption were falling between the urban-rural during 1981-1985. From 1986 to 1992, the magnitude of the gap between urban and rural was increasing. From 1992 to 2000, the inequality in urban-rural income/consumption fluctuated. Although both urban and rural populations have experienced steady rises in their incomes/consumption in the reform era, there was a perceptibly increasing income/consumption gap between urban and rural sectors.

Pro-market reforms were important in promoting economic growth in order to reduce the high incidence of extreme poverty in China. However, while the above statistical evidence implies that not every reform was good for rapid economic growth was also good for equity. The market-oriented reforms have certain negative impacts on China's long-term development because these policies tend to swell rather than lessen inequality intensity in both income distribution and public services such as health care between the urban and rural population even

though the initial gap between the two sectors was already large. The income/consumption ratios of urban areas to rural areas were in the growing trend over the 1980s and 1990s. Meanwhile, the gaps in health-care facilities and medical personnel between the urban and the rural are also incessantly widening. Is it possible that the widening income/consumption inequality could lead to the inequitable health care between the two sectors?

The rapid economic growth of real GDP per capita has no doubt increased the total resources available in the society to pursuer better health care for all populations in China. Both the absolute amount of health expenditure and the percentage of health care expenditure as GDP were growing. The government investments in health and better health insurance systems are likely to reduce inequality in distribution of incomes between the urban-rural populations. However, both the shares of government spending and social insurance on health care were shrinking and the effective social insurance coverage in urban and rural areas was much declining due to the health insurance systems in the transmission process. Out-of-pocket payments for health care became the increasing and predominant source to the magnitude of increase in overall health care expenditure. Out-of-pocket spending accounted for around 60 percent national total investments to the health system. The levels of incomes/consumption of different groups of population decided the quality of health care services. In other words, the economic status of the populations is the determinant to their health care status. People who are economically disadvantaged have to struggle with not only inaccessible to good quality health facilities, but also the unavailable health facilities or medical personnel.

The rural population accounts for over 60 percent of the total Chinese population. But, because differentials in income/consumption caused the inequality in financing capacities to the health system between the urban and rural sectors, the urban sector with higher levels in incomes

and consumption could increase the financial investment to health-care system. Consequently, the rural, compared to their counterparts, had to suffer from disadvantage in health care services in terms of the availability and accessibility to health-care facilities and medical personnel. Urban populations are easily accessible to health care services with good quality. The health facilities such as hospital beds and medical staff such as doctors and nurses for the rural population are much less than that for the urban population.

On the one hand, rural populations who are disadvantaged in income distribution from economic growth are also dilapidated in their health care; on the other hand, inequitable health care status correspondingly deteriorates economic status. Out-of-pocket payments for health-care services further worsen existing inequality in income/consumption distribution between urban and rural populations. Because if the rural populations with lower incomes are using health-care services, they have to spend proportionately larger shares of their incomes on them than the urban populations, medical spending on health-care services would cause financial hardship for the rural population. Therefore, widening gaps in out-of-pocket expenditure on health care leave the distribution of income and consumption more unequal between these two sectors.

Out-of-pocket payments are supposed not to exacerbate income inequality and further negatively influence the performance of the health system. The most devastating consequences of the higher inequality in income re-distribution and poor performance of health-care system that caused by the out-of-pocket medical expenditure are the poverty reduction stagnation and poor health status, which means the rural populations are more probable to be impoverished by the medical spending and suffer from catastrophic illness than the urban populations. The direct impact of out-of-pocket payments for health care lies in two dimensions—widening the income/consumption gaps and representing more inequitable health-care availability and

accessibility between urban-rural areas. The potential effects of out-of-pocket spending for health care are deepening the rural poverty and worsening health outcomes in rural areas due to unavailable and inaccessible health-care services. The higher private medical expenditure and low coverage of social insurance left the rural population less resources to cope with risk and escape from the trap of poverty and illness. Income inequality is closely correlated with health care differentials between urban-rural areas. The worse health care services for the rural population are associated with their lower levels of incomes/consumption.

The widening inequality in availability and accessibility to health care with disparities in the quality between the urban and rural areas is currently a major economic, social, and political issue in China. High inequalities in both economic and social-services statuses would impede growth and intensify social and political conflicts between these two sectors. The knock-on effects of income/consumption gaps on health-care services caused a medical poverty trap emerge in the civil society. A better understanding of the links between poor health services and sickness, the illness and poverty can help initiate effective development plans to reduce the economic and social disadvantages of rural population.

Free-market economic reforms in the 1980s and 1990s have certainly been instrumental in the incredible growth performance through improve productivities in different economic sections. The productivity gap between agriculture and the rest of the economy has continued to widen during the economic liberalization process, which leads to the urban-rural inequality in income/consumption increase rather than dwindle. The rising economic inequality between urban-rural areas has also been associated with a widening rural-urban health services division in both quality and quantity of health facilities and medical personnel. Increasing inequality would undermine growth or social harmony, which challenges the sustainability of growth in China.

Why does the economic growth fail to maintain equity in both economic and social statuses between the urban and rural populations over the twenty-year reforms? Should the high inequality in distribution of health-care services all blame for the market forces?

Every country's economic and social development performance different in groups or regions can result from the combinations of initial conditions, geographic features, market forces, government policies, inside/outside shocks, and other development factors. To some extent, the economic and social inequalities between the urban and rural populations were stemming from their historical differentials. The increasing inequality in distribution of incomes and consumption and health care services should be analyzed in the context of China's economic structural transition and institutional development during the 1980s and 1990s. The geographic identities and government policies to development are supplementary factors besides market forces to determine the patterns of economic and social development in China over the two decades.

It is known from development experiences that market forces that promote growth can also cause to winners and losers from economic gains in terms of their income and consumption. Under the economic structural reform, the institutional changes appeared in the urban and rural sectors. The greater openness to international economy was expected to raise less distorted policy environment for further equitable economic growth and easy access to good public services infrastructure. The economic reforms in China ruined the base of GIS-LIS financing system and its implications for equity and resource allocation. Decentralization of the fiscal system has fueled disparities, which has increased costs for social services and constrained the rural population from the access to these services. Pro-market health system reform is the determinant factor leading to the rising medical costs, the quality of services, and the gaps in

availability, accessibility, and utilization of health-care services between groups of populations. The decentralization of health expenditure, combined with limited equalizing transfers, result in a higher inequitable allocation of public resources between urban and rural areas. The rural population, with lower levels of incomes and consumptions, was relatively difficult to comply with complex and time-intensive medical regime changes in over twenty years.

Much of the increase in inequality reflects a welcome adjustment to an incentive and remuneration structure more typical of market economies. China's inequality may imperil the sustainability of growth and challenge the social and political stability. Social tension can result when the benefits of growth accrue unequally to easily identifiable urban-rural imbalances. Experience suggests that mounting inequalities in access to basic health typically accompany higher income inequality intensify its negative effects on society. Changes in access to public services such as health care will profoundly affect the income redistribution after the crucial out-of-pocket payments for health care.

On this basis, broader and long-term economic and social policies should include more public investments in health-care system, especially for the social insurance, to provide social protection of the disadvantaged rural populations. The trade-off effect on poverty between impressive gains from the market and worsening income distribution has been emerging over the twenty-year reform process. The future changes in poverty would be the joint consequences of rapid economic growth and more inequitable income distribution. If further increases in inequalities in China are to be curtailed, per capita incomes need to grow in a more equitable manner across rural and urban areas.

Since economic growth has the largest impact on poverty reduction, the government should continue its reforms to enhance growth. However, with no doubt, the gains of growth should not

sacrifice the equality between the urban and rural population. Escalating medical costs, poor quality services, inaccessible and unaffordable health care, and social and private insurance concentrated amongst the population with high income, reinforced the failure of health care system to equitably serve for all the population in different geographic populations. Future economic policies to reduce poverty should operate in cycle on a broader front with other broad-based development strategies such as reducing inequality and establishing efficient social services system.

Social sector policies, besides economy-wide policies, could cause people at similar initial incomes to be rewarded very differently after the social services spending. Like socio-economic inequalities in health, income inequality is higher after health care payments than it is before. Therefore, economic and social policies to increase equality in the distribution of income and health care services will be not only valuable in subsequently reducing inequality itself, but also improving national health outcomes. Political policy agenda is one of the forces to justify unequal gains to the rural population from growth in economy and perceptible inadequacy in public services.

Government Policy

Economic liberalization played a positive and significant role in increasing the income and consumption for both rural and urban sectors in China. But the GDP and per capita GDP boost turns out to have a negative correlation with urban-rural mean income/consumption disparity over the economic reform periods. Especially after 1985, further economic growth ultimately holds the deteriorating trend of urban-rural divergence in China. This phenomenon becomes significant to warn that economic reforms fail to create an environment for continuing reduction in urban-rural inequality after 1985; on the contrary, they lead the rural population to

disadvantage in the access to market opportunities and exacerbate its inferior initial conditions in natural endowments and human capitals, compared to its urban counterpart.

Apart from the level of economic growth, other identified factors have contributed to the urban-rural development disparity. Yang (1999) attributed the rise in urban-rural disparity after 1985 to what he called "urban-biased policy mix," including increased urban subsidies, investment, and bank credits. Johnson (2000) summarized three major policy areas that have adversely affected rural incomes, namely, the restrictions on rural-to-urban migration, the less accessibility of education in rural areas, and the urban-biased allocation of investment and credit.[14] In other words, widening inequality in health care between the urban and rural areas is not only caused by free market but also induced by the government policy. Chinese government has sought to respond to the emerging challenges to health care systems, but its policy responses have had some disagreeable consequences. Persistent economic and social policies favor urban population rather than the rural.

The economic growth has led to continued improvements in health care services, but economic and institutional reforms have also put growing stress on the health system. As trade liberalization and financial decentralization deepened, market-reform principles steadily infiltrated the health sector and guided the health system reform because markets were assumed to increase the efficiency of health resource allocation. Decentralization might have been instrumental in generating high economic growth in China over the past two decades, the massive fiscal decentralization practiced significantly weakened the government capacity to fund health system. Decentralization shifted an increasing share of social expenditure to sub-national

[14] Ding Lu, "Rural-Urban Income Disparity: Impact of Growth, Allocative Efficiency, and Local Growth Welfare", *China Economic Review* 13, (2002) pp 420

government and thus created pressure on them to meet such costs from locally generated revenues. A high level of decentralization of health expenditure, combined with limited equalizing transfers, resulting in a highly inequitable allocation of public resource.

The planned economy model of health care system was discarded and replaced in the 1980s by the Management Responsibility System (MRS). To reduce its fiscal burdens, the government started reforms in health institutions' financing in the early 1980s. Under the new MRS system, Chinese government drastically cut its health subsidies to hospitals and other health institutions. The decline in government health spending on the provider subsidy put enormous pressure on these health institutions across the nation. Hospitals and rural health centers were allocated a fixed subsidy. Subject to their budget constraints, these health institutions became free to generate additional revenues by depending on user charges. The market-oriented health care reform has endangered the principle of universal access to health care. The inequality in availability of heath services between the urban and rural health institutions is obviously a by-product of this rapid health system reform.

Besides the declining government budgetary support to health institutions, the pro-market health system reform also ruined the financial base of GID, LIS, and CMS insurance systems.[15] Fiscal decentralization shifted an increasing share of social expenditure to sub-national governments and thus created pressures on them to meet such costs from locally generated revenues. By having a larger impact on the rural health care system, public health spending should serve to reduce health-care inequality between the urban and the rural areas. A health insurance system is supposed to function as an income-protection mechanism for the poor and

[15] Mariam Claeson, Hong Wang, Shanlian Hu, "A Critical Review of Public Health in China", the World Bank, 2004, pp 9

the vulnerable. Unfortunately, the majority of the rural population in China has no health insurance and they are vulnerable to catastrophic medical expenses.

Increasing private expenditures on health are supplementary and underlying determinants to exacerbate the inequitable health-care services in the urban-rural sectors. The out-of-pocket payment to heath care services must be associated with the residents' income and consumption. Unequal levels of out-of-pocket payments across the country predict difficulties in improving health facilities and recruiting and retaining clinical personnel in rural areas, where the capacity to pay out-of-pocket is low.

During the economic and health system reform processes, the availability, accessibility, quality, and costs of health-care services are all correlated to the socioeconomic capacities of households. The rising disparities in health care services between the urban and rural sectors, combined with the preponderance of paid-for-services, imply larger inequalities in access and utilization of health care between the urban and rural populations. Different proportions of income spent on health care by urban-rural sectors indicate the mutual influence relationship between the income inequalities and out-of-pocket for health care services. These market-oriented health system reforms have exacerbated the degree of inequality in health care financing and delivery in China over the 1980s and 1990s. The government should intervene in the health sector to address these problems induced by market-oriented reforms, and play a major role in reestablishing universal coverage of essential health services for all citizens.

However, Chinese government was insufficiently engaged in health sectors where markets are known to perform badly in the post-reform period. Government involvement in the health sector is to be rationalized in terms of the government trying to overcome market failures where a free market fails to deliver efficient and equitable outcomes. Adam Wagstaff outlined three

classic market failures that provide a rationale for government intervention in the health sector: asymmetric information in insurance markets, asymmetric information in health care markets, and externalities and public goods.[16]

But for China, the government should involve in the equity of health care between different regions and population groups and protect access to health care for all citizens and safeguard the quality of health care. In spite of increased budgetary spending, the government's role in the health sector is diminishing. More importantly, interventions by government appear increasingly ineffective in combating market failures and inequities in health care provision. Smaller shares of government expenditure in total health spending are commonly associated with less fair distributions of the financial burdens of health care.[17] After two decades of market transition and incremental reform, public expenditures and resource allocation in the health sector appear to have lagged behind the needs of China's rapidly changing economy.[18]

To understand the diminished and increasingly ineffective role of government over the two decades requires understanding the evolution of China's fiscal system and intergovernmental relations through the transition period, as well as the lagging efforts to modernize public expenditure management. Two aspects of China's decentralized fiscal system are especially important for understanding health system reform. The decentralization would be powerful instrument to generate an environment for economic growth during the 1980s and 1990s, but the massive fiscal decentralization significantly influenced the central government's important impact on the health system financing. The fiscal system assigns unusually heavy expenditure

[16] World Bank, "Taking Stock of China's Rural Health Challenges", *Brief Notes Series* http://www.worldbank.org.cn/english/content/BN1_en.pdf, pp 4
[17] Shaoguang Wang, "State Extractive Capacity, Policy Orientation, and Inequality in Financing and Delivery of Health Care in Urban China," the World Bank, July 2005
[18] Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", the World Bank 2004 PP13

responsibilities to lower levels of governments, including responsibilities for providing health and other social services. The central government did not serve for the payer of last resort in health care. Health service responsibilities are rarely assigned solely to local governments, since they often exceed the financial and management capacities of lower level governments. China is among the most decentralized countries in the world by the conventional measure of expenditure shares: the central government accounts for only 30 percent of budgetary expenditure. The other 70 percent are distributed among the four levels of sub-national government: provinces, prefectures/municipalities, counties and townships.[19]

Moreover, there was no effective transfer systems designed to ensure that the central government allocated health-care resources equally across the regions. Local governments had to take responsibilities for both financing and provision of health care for health institutions. Each level of government is directly responsible for maintaining the health institutions under its administration. Health are also costly and important services whose responsibilities are unsuitably and rarely assigned solely to local governments, since they often exceed the financial and management capacities of lower level governments. Without doubt, Chinese local governments, especially for the rural areas, were difficulty to finance a minimum level of services assigned as their responsibilities and finance largely their own facilities in health institutions. As a result, the quantity and quality of health services vary tremendously across localities are greatly depending on the status of local budgets, which give wide variation tope capita expenditure across localities (The World Bank 2002).

[19] Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", the World Bank 2004, pp 15

Because of the differential financing capacities of different tiers of government, the level of subsidy tends to diminish down the administrative hierarchy.[20] By the late 1990s, since the amount of subsidy available depended on local fiscal health, the outcomes of these supply-side subsidies became increasingly regressive: in rich localities residents enjoyed a higher level of subsidization than in poor localities, for example, the urban and rural areas. Most of the spending on health comes from local government investments, which has lead to imbalances in public health inputs between urban and rural, with widening inequalities in public spending. Diminishing inputs to the grass-root health system: with the reform of the economic and financial system, especially the reforms of the rural economic system and its infrastructure, the township health center and cooperative medical system have lost their economic base.

Apart from the significant decline in government spending on public health, there are significant geographic differences in expenditure as a result of the financial decentralization. The inequitable distribution of funds is a result of the decentralization of the government fiscal system. The structure of government health care financing has been changed so that each level of government is directly responsible for maintaining the health institution under its administration.[21] Through the 1980s and 1990s, when budgetary support was gradually declining, health institutions (health providers) were allowed to raise revenues through user fees. Before 1978, all expenditure and capital investment in equipment and facilities, and personnel salaries and operation cost in the health institutions were fully supported by the government. Since 1978, the central finance system has gradually decentralized to local government.

[20] Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", the World Bank 2004, pp19

[21] Mariam Claeson, Hong Wang, Shanlian Hu, "A Critical Review of Public Health in China", the World Bank, 2004, pp 12

The market-oriented health-care system reforms and the inadequate and inappropriate government intervention in China have resulted in some disturbing troubles. Survey data indicate that out-of-pocket payments as a share of household expenditures in both the urban and rural sectors accounts for an average of 5-6 percent of household disposable income in recent years.[22] It implies that medical expenditures are large enough to impose an onerous burden on lower income households. Along with rapid cost escalation, the usually heavy reliance on out-of-pocket payments would cause serious consequences for equity in using health care across the population as they are exposed to the high risk of catastrophic medical expenditure. Since more than 90 percent of health institutions are at the sub-national levels, local fiscal problems led to under-funding of services across-the-board. One serious problem exists in health institutions reflect the inequalities in health-care facilities in terms of beds and medical staffs in terms of medical technical personnel, doctors, and junior and senior nurses in city-county health institutions. The inequality in availability of health facilities and medical staffs between the urban and rural sectors would lead to larger and more persistent inequalities in access to and utilization of health care services in the two sectors.

A system that distribute health care according to one's socioeconomic ability to pay only leads to more inequitable health-care services between the urban and rural population, which have seriously adverse consequences for the general levels of social development. A heath system that fails to provide effective and affordable heath care services for all the populations with different levels of income would not only widen the economic gaps between these groups of populations, but also ultimately harm the nation's overall health status. Therefore, health care

[22] Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", the World Bank 2004, pp13

policies need to focus on disadvantaged populations, seeking to ensure that the health care services are available and accessible for all citizens.

Almost all health systems around the world deploy public expenditures including government spending and social insurance as a major source of financing health care, in the form of public subsidies to the health system. But, there exist enormous variations in the level of public expenditure. Low-income countries are more based on out-of-pocket payments; transition countries are with government subsidies to providers and informal user charges; the US depends on private insurance, the UK finances its health system by national government, and some European countries rely on social insurance system. Most of health systems are financed by mixed arrangements of these variations. China is in the transition process, so its health system is reliance on mixed financing by government subsidies, social insurance, and out-of-pocket payments as the main sources of health system finance.

Public forms of insurance are the most usual approach to funding health care in most countries, defined either as direct government subsidies (funded by taxation) or social insurance. While the new insurance systems in the rural and urban areas seek to expand their coverage and provide financial incentives to participation, these insurance systems could not satisfy the need of most of the population and address the problems of cost escalation and small risk-pools. The current design of both of the new urban and rural insurance schemes in China places the main insurance function at the local level. This is consistent with the decentralized system of fiscal management. However, unless substantial commitments are put in place for subsidies from the central and provincial governments, this design subjects the schemes to the risk of reproducing the large inequalities in the current system, which are the products of variations in local fiscal

capacities.[23] The adverse consequences of health insurance reforms lie in reducing the financial burden of health care for governments but containing the rocketing health costs paid by the patients.

Since the health care reforms started in China, policy concerns of central government were supposed to raise its financing support for the universal health care services for all the populations in different geographic regions. However, nearly two thirds of government financing is allocated to urban areas and rather than the rural areas (the rural population accounts for two thirds of the total population). The World Health Report 2000 ranked China the 61st out of 191 countries in overall quality of health, but the 188th in fairness of government financial contribution on health.[24] The root causes of health inequalities should focus on Chinese government policy orientation on social services.

The strong government policy is an essential component of a market-based economy. There are many ways that policy in economic and health sectors can reduce the inequalities between the urban and the rural areas by influencing underlying socioeconomic determinants of health care. Policies could break up the level of economic status and health care status relationship and favor the disadvantaged regions or population groups because policies can be directed at trying reduce inequalities in health care services between the urban-rural populations. If deepening economic reform exacerbates income inequality without adequate programs to counteract some of the negative health consequences for the disadvantaged, health inequality may complicate efforts to further development, poverty reduction, and maintain social stability.[25]

---

[23]Yuanli Liu, William C. Hsiao, and Karen Eggleston, "Equity in Health and Health Care: The Chinese Experience", *Social Science and Medicine* 49 (1999) pp 1354

[24] World Bank, "China Promoting Growth with Equity", Country Report, September 2003, pp 42

[25] Yuanli Liu, William C. Hsiao, and Karen Eggleston, "Equity in Health and Health Care: The Chinese Experience", *Social Science and Medicine* 49 (1999) pp 1355

Unfortunately, China's policy priority was on rapid economic growth and further poverty reduction rather than the human development, so the country was tolerating the deteriorations in income/consumption and health-care service equality in exchange for growth. The tradeoff between the inspiring GDP growth and inequalities in income distribution and health care services between the urban and rural sectors would not only increase adverse effects of inequality on poverty reduction, the heath care services effects on health outcomes of the population, but also deepen the economic and social tension between the two sectors and obstacle to the mobility of physical and human capitals. But government social policies favored urban over rural areas, which were exacerbating inequality caused by economic policies alone. Health care remains unequal. The urban population unevenly benefited from economic liberalization and institutional reforms.

There are key levels of government action in the economic and health systems during the reform period. Government and its policies at each level should minimize the side effects on health care services of fiscal and health system reforms, which plagued the inequalities between urban-rural sectors. Governments should shift their policies to decide how much to spend on health care and how to raise the revenues to finance them, how to establish the mode of health service delivery and how to regulate the private sector, how to raise the availability and accessibility of health facilities and medical staff for all population cross the country. The government can potentially influence the extent of inequalities in economic status and health care status through its policy references. Continued liberalization of economy, while having overall positive effects on the China's development, cannot be expected to contribute by itself to higher growth with equity in both economic and social services without a more supportive government policy environment. Policy reforms should be address to promote growth with

equity. While it seems clear that more public spending will be required for government to effectively carry out its critical role in protecting health system and access to health care for all the population, it is also clear that fundamental changes in government policies are also required to minimize undesirable social consequences from health care systems.

CHAPTER FIVE

CONCLUSION

The compelling economic growth was witnessed in 1980s and 1990s. But meanwhile, the rapid economic liberalization has also brought some dramatic, disappointing changes. China evolved into a high inequality society. Although most developing countries have a clear urban-rural division, the inequality in China is extremely serious. According to the above data analyses, inequalities in economic and social services development were steadily increasing. These trends generated concern about the quality of China's economic growth. The rural population shared fully in the gains from growth is clearly a stretch.

A look at the components of the worsening urban-rural inequality at the national level reveals unique features in China's income distribution and private financing to health system and points to the unfinished institutional transition. Growing income disparity between rural and urban population is an issue of policy concerns. The government's reluctance to finance more to health has influenced the structure of the national health system. A privatization of health system caused an increasingly dualistic structure of health services in the urban-rural sectors. Medical services became both less accessible and affordable to the rural population. Under the decentralized health-care system, increasing unequal availability and accessibility to basic health care services between the urban and rural population in 1980s and 1990s has become a key challenge to sustainable development in China. Widening inequalities in access to health care inevitably lead to widening inequalities in health outcome, and may even threaten future re-distributional performance and the social and political stabilities.

The conclusion that income/consumption inequality between urban and rural sectors is the substantial factor leading inequitable health-care services, but China's decentralization policies

are the fundamental driving force behind this process over the 1980s and the 1990s. Because of pro-market policy orientation, the central government left its responsibilities for the provision and financing of the health system to local governments and private payments. The funding bases of the previous social insurance schemes in both urban and rural sectors also gradually collapsed during the decentralization process. New schemes are undertaking the transition. Due to the budgetary constraints of rural areas and the lower level of income/consumption than their urban counterparts, the rural population had to suffer from the less available and accessible health care facilities and medical personnel. Chinese government failed to play a balanced role in growth with equity in social service development. Its economic and social policies continued to prop up urban development and shifted opportunities in favor of urban opportunities, leaving rural areas farther behind. As a result, as China became richer and GDP per capita rose, the effect on population health services of income inequality became understandable.

Economic growth does not necessarily improve health care for all the population. China's experience shows that the preponderance on market mechanisms combined with poorly equalizing measures resulted in unfair allocation of health resources and reduces availability and accessibility to health services for the rural population. Neutralizing impacts of economic forces on health-system depends crucially on national policies. Rational policy choices would play a crucial role in affecting reform outcomes. Policies to reduce inequality are compatible with the objective of promoting economic growth. So, Chinese government should get rid of the economic rationale in every respect for its social services programs and gradually remove sectoral and regional biases in institutions and policies to reduce disparity and generate balanced strategies to limit the economic and social costs of structural reforms, and reduce rather than widening inequalities in economic status and health care status in urban and rural areas.

Significant progress will call for a deep, long-term political commitment and willingness to alter its development policy orientation to strengthen the universal health care services for all populations.

The task to reduce and eventually eradicate the widening inequality between the urban and rural areas is still tremendous and challenging. Further growth requires a continuous income growth as well as a more equal income distribution and equitable health care services. Increasing government and public investments in health and other social services is crucial for achieving rapid, equitable and sustainable development of China in a competitive environment. How China builds up one of the most affordable and equitable health care systems and make remarkable stride in improving the health status of its population and how to develop and promote pro-health policies should be on the top of development agenda of Chinese government.

REFRENCE

Adam Wagstaff, "Poverty and Health", *CMH Working Paper Series*, World Health Organization, March 2001

Angus Deaton, "Health, Inequality, and Economic Development", *Journal of Economic Literature*, vol.41, May 2003, pp113-158

Aimin Chen, "Urbanization and Disparities in China: Challenges of Growth and Development", *China Economic Review* 13 (2002) pp 407-411

David Woodward, Nick Drager, Robert Beaglehole, and Debra Lipson, "Globalization and Health: A Framework for Analysis and Action", *Bulletin of the World Health Organization* V.79 N9 Genebra 2001.

Ding Lu, "Rural-Urban Income Disparity: Impact of Growth, Allocative Efficiency, and Local Growth Welfare", *China Economic Review* 13, (2002) pp 419-429

D.R. Gwatkin, "Health Inequalities and the Health of the Poor: What Do We Know? What Can We Do?" *Bulletin of World Health Organization*, 2000, 78 (1)

Gene H. Chang, "The Cause and Cure of China's Widening Income Disparity", *China Economic Review* 13 (2002), pp 335-340

Dennis Tao Yang, "What Has Caused Regional Inequality in China?" *China Economic Review* 13 (2002), pp 331-334

Gordon Liu, Brian Nolan, and Chen Wen, "Urban Health Insurance and Financing in China", the World Bank 2004, pp 1-17, http://www.worldbank.org.cn/english/content/cr4_en.pdf

Kai-yuen, Tsui, "Decomposition of China's Regional Inequalities," *Journal of Comparative Economics*, 17, 1993, pp 600-627

Jian Chen, "Regional Income Inequality and Economic Growth," *Journal of Comparative Economics*, 22 1996, pp 141-164

Ian G. Cook and Trevor J.B. Dummer, "Changing Health in China: Re-evaluating the Epidemiological Transition Model", *Health Policy* 67 (2004), pp 329-343

Mariam Claeson, Hong Wang, Shanlian Hu, "A Critical Review of Public Health in China", the World Bank, 2004, pp 1-29

Magnus Lindelow and Adam Wagstaff, China Health Sector Issue Note, the World Bank

Martin Ravallion and Shaohua Chen, "China's (Uneven) Progress Against Poverty," *World Bank Policy Research Working Paper* 3408, September 2004, pp1-57

Martin Ravallion, "Competing Concepts of Inequality in the Globalization Debate", *World Bank Policy Research Working Paper*, 3243, March 2004,

Peter Smith, Christine Wong, and Yuxin Zhao, "Public Expenditure and Resource Allocation in the Health Sector in China", the World Bank 2004
http://www.worldbank.org.cn/english/content/cr1_en.pdf

Ravi Kanbur and Xiaobo Zhang, "Which Regional Inequality: The Evolution of Rural-Urban and Inland-Coastal Inequality in China?" *Journal of Comparative Economics* 27, 1999, pp 686-701

Shaoguang Wang, "State Extractive Capacity, Policy Orientation, and Inequality in Financing and Delivery of Health Care in Urban China," the World Bank, July 2005

Shaohua Chen and Yan Wang, "China's Growth and Poverty Reduction: Trends between 1990 and 1999", *The Policy Research Working Paper* 2651, World Bank, July 2001, 1-24.

Shujie Yao, Zongyi Zhang, Lucia Hanmer, "Growing Inequality and Poverty in China", *China Economic Review* 15 (2004), pp145-163

Shujie Yao, "Economic Growth, Income Inequality, and Poverty in China under Economic Reforms", *The Journal of Development Studies*, Aug 1999, 35, 6 pp 104-128

World Bank, "China Promoting Growth with Equity", Country Report, September 2003,
http://www.worldbank.org.cn/English/content/cem03.pdf#search=%22china%20promoting%20growth%20with%20equity%22

World Bank, "China 2020: Sharing Rising Incomes: Disparities in China", the IBRD, 1997, pp1-80

World Bank, "China Overcoming Rural Poverty", *World Bank Country Study* 22137, March 2001, pp1-154, http://www.help-poverty.org.cn/English/zspk/zspkE43.htm

Yuanli Liu, William C. Hsiao, and Karen Eggleston, "Equity in Health and Health Care: The Chinese Experience", *Social Science and Medicine* 49 (1999) pp 1349-1356

Yuanli Liu, Zhengzhong Mao, and Brian Nolan, "China's Rural Health Insurance and Financing: Critical Review", the World Bank, 2004, pp1-24
http://www.worldbank.org.cn/english/content/cr2_en.pdf

World Bank, "Taking Stock of China's Rural Health Challenges", *Brief Notes Series*
http://www.worldbank.org.cn/english/content/BN1_en.pdf

World Bank, "China's Health Sector - Why Reform is Needed", *Brief Notes Series*
http://www.worldbank.org.cn/english/content/BN2_en.pdf

World Bank, "Health Service Delivery in China: A Review", *Brief Notes Series* http://www.worldbank.org.cn/english/content/BN4_en.pdf

Public Expenditure and the Role of Government in the Chinese Health Sector http://www.worldbank.org.cn/english/content/BN5_en.pdf

World Bank, "Rural Health Insurance: Rising to the Challenge", *Brief Notes Series* http://www.worldbank.org.cn/english/content/BN6_en.pdf

Xin Meng, Robert Gregory, and Youjuan Wang, "Poverty, Inequality, and Growth in Urban China," *Journal of Comparative Economics* 33, 2005 pp170-729

ANNEX

TABLE 1

Beds and Medical Technical Personnel in Health Institutions by City and County Areas

	Bed in Health Institutions (10,000)		Medical Technical Personnel (10,000)		Doctors 10,000		Senior and Junior Nurses (110,000)	
Year	City	County	City	County	City	County	City	County
1980	76.8	121.4	131.3	148.5	52.7	62.6	30	16.6
1981	80.3	121.4	143.5	157.5	58.6	65.8	33.4	19.1
1982	83.2	122.1	150.9	163.4	62.8	67.9	35.4	21
1983	86.9	124	157.4	167.9	66.5	68.7	37.3	22.3
1984	91.9	124.7	164.2	170.2	69.4	68.8	39.3	22.3
1985	96.2	126.7	167.7	173.4	70.9	70.4	39.2	24.5
1986	103.3	126.4	177.4	173.3	74.9	69.5	42.9	25.2
1987	112.7	127.7	188.2	172.6	79.3	68.9	46.1	25.7
1988	125.5	124.8	202.8	169.6	88.6	73.2	53.7	29.2
1989	133.5	123.3	212.1	168.8	95	76.8	59.9	32.2
1990	138.7	123.7	218.5	171.3	97.8	78.5	63.4	34.1
1991	144.8	124	226.4	172.1	100.3	77.7	66.6	34.6
1992	152.4	122	236.3	171.1	104.3	76.5	69.5	34.5
1993	159.6	119.9	243.3	168.5	107.7	75.5	71.5	34.1
1994	170.7	112.4	258.9	161	115	73.2	76.2	33.2
1995	174	109.7	265.9	159.8	118.4	73.4	79	33.5
1996	179.1	107.5	272.2	159	120.3	73.8	82.3	34
1997	184.2	106.1	279.5	160.3	123.5	75	85.3	34.6
1998	187.2	104.2	281.9	160.5	124.2	75.7	87	34.9
1999	188.7	104.2	283	162.9	126.1	78.4	88.6	35.9
2000	191.4	103.4	283.5	165.6	126.8	80.8	89.8	36.9

(Source: The China Statistics Year Book)

TABLE 2

City/County Rates in Beds and Medical Personnel

Year	Bed in Health Institutions	Medical Technical Personnel	Doctors	Junior and Senior Nurses
1980	0.635	0.884	0.842	1.807
1981	0.661	0.911	0.891	1.749
1982	0.681	0.924	0.925	1.686
1983	0.701	0.937	0.968	1.673
1984	0.737	0.965	1.009	1.762
1985	0.759	0.967	1.007	1.6
1986	0.817	1.024	1.078	1.702
1987	0.883	1.090	1.151	1.794
1988	1.006	1.196	1.210	1.839
1989	1.083	1.257	1.237	1.860
1990	1.121	1.276	1.246	1.859
1991	1.168	1.316	1.291	1.925
1992	1.249	1.381	1.363	2.014
1993	1.331	1.444	1.426	2.097
1994	1.519	1.608	1.571	2.295
1995	1.586	1.664	1.613	2.358
1996	1.666	1.71	1.630	2.421
1997	1.736	1.744	1.647	2.465
1998	1.797	1.756	1.641	2.493
1999	1.811	1.737	1.608	2.468
2000	1.851	1.712	1.569	2.434

(Source: China Statistics Year Book)

TABLE 3

China Total Expenditure on Health

Year	CTEH 100 Million Yuan	CTEH as % of GDP	Per capita (yuan)	Gov't Health Appropriation %	Social Health Expenditure %	Out-of-pocket Health Expenditure %
1980	143.23	3.17	14.51	36.24	42.57	21.19
1981	160.12	3.29	16	37.27	38.99	23.74
1982	177.53	3.35	17.46	38.86	39.49	21.65
1983	207.42	3.5	20.14	37.43	31.12	31.45
1984	242.07	3.38	23.2	36.96	30.41	32.64
1985	279	3.11	26.36	38.58	32.96	28.46
1986	315.9	3.1	29.38	38.69	34.93	26.37
1987	379.58	3.17	34.73	33.53	36.16	30.31
1988	488.04	3.27	43.96	29.79	38.93	31.28
1989	615.5	3.64	54.61	27.27	38.64	34.09
1990	747.39	4.03	65.37	25.06	39.22	35.73
1991	893.49	4.13	77.14	22.84	39.67	37.5
1992	1096.86	4.12	93.61	20.84	39.34	39.81
1993	1377.78	3.98	116.25	19.75	38.09	42.17
1994	1761.24	3.77	146.95	19.43	36.62	43.95
1995	2155.13	3.69	177.93	17.97	35.63	46.4
1996	2709.42	3.99	221.38	17.04	32.32	50.64
1997	3196.71	4.29	258.58	16.38	30.78	52.84
1998	3678.72	4.7	294.86	16.04	29.11	54.85
1999	4047.5	4.93	321.78	15.84	28.31	55.85
2000	4586.63	5.13	361.88	15.47	25.55	58.98

(Source: the National Health Accounts)

TABLE 4

Gross Domestic Product (100 Million Yuan)			
Year	Gross National Income	Gross Domestic Product	Per Capita GDP
1980	4517.8	4517.8	460
1981	4860.3	4862.4	489
1982	5301.8	5294.7	525
1983	5957.4	5934.5	580
1984	7206.7	7171	692
1985	8989.1	8964.4	853
1986	10201.4	10202.2	956
1987	11954.5	11962.5	1104
1988	14922.3	14928.3	1355
1989	16917.8	16909.2	1512
1990	18598.4	18547.9	1634
1991	21662.5	21617.8	1879
1992	26651.9	26638.1	2287
1993	34560.5	34634.4	2939
1994	46670	46759.4	3923
1995	57494.9	58478.1	4854
1996	66850.5	67884.6	5576
1997	73142.7	74462.6	6054
1998	76967.2	78345.2	6308
1999	80579.4	82067.5	6551
2000	88254	89468.1	7086

(Source: China Statistics Year Book)

TABLE 5

Year	Gross National Income	Gross Domestic Product (1978=100) Growth Rate of GNI	Gross Domestic Product	Growth Rate of GDP	Per Capita GDP	Growth Rate of Per Capita GDP
1980	116	N/A	116	N/A	113	N/A
1981	122	0.051724138	122.1	0.052586207	117.5	0.039823009
1982	133.3	0.092622951	133.1	0.09009009	126.2	0.074042553
1983	148.2	0.111777944	147.6	0.108940646	137.9	0.092709984
1984	170.9	0.15317139	170	0.151761518	156.8	0.137055838
1985	193.5	0.132241077	192.9	0.134705882	175.5	0.119260204
1986	209.9	0.084754522	210	0.088646967	188.2	0.072364672
1987	234.1	0.115292997	234.3	0.115714286	206.6	0.097768332
1988	260.5	0.11277232	260.7	0.112676056	226.3	0.09535334
1989	271.5	0.042226488	271.3	0.040659762	231.9	0.024745913
1990	283	0.042357274	281.7	0.038333948	237.3	0.023285899
1991	308.8	0.091166078	307.6	0.091941782	255.6	0.077117573
1992	352.2	0.140544041	351.4	0.142392718	288.4	0.128325509
1993	398.4	0.131175468	398.8	0.134889015	323.6	0.122052705
1994	448.7	0.12625502	449.3	0.12662989	360.4	0.113720643
1995	489.1	0.090037887	496.5	0.105052304	394	0.093229745
1996	536.8	0.097526068	544.1	0.095871098	427.1	0.084010152
1997	582.9	0.085879285	592.2	0.088402867	460.3	0.077733552
1998	628.4	0.078057986	638.5	0.078183046	491.5	0.067781881
1999	673.5	0.071769574	684.1	0.071417384	521.8	0.061648016
2000	730	0.083890126	738.8	0.07995907	559.2	0.071674971

(Source: China Statistics Year Book)

TABLE 6

Year	Mean Household Income per person (yuan) Urban	Rural	Mean adjusted for COL diff. Urban	Urban/Rural (after adjusted)
1980	N/A	191.33	N/A	N/A
1981	486.28	218.19	407.2	1.8662
1982	514.94	258.86	430.92	1.6646
1983	536.94	292.46	447.1	1.5287
1984	598.46	326.35	498.59	1.5277
1985	604.06	368.18	490.32	1.3317
1986	686.49	377.29	514.97	1.3649
1987	702.93	388.74	541.78	1.3936
1988	686.51	391.83	515.01	1.3143
1989	687.38	363.83	528.79	1.4533
1990	744.9	357.2	591.48	1.6558
1991	798.11	360.48	616.87	1.7112
1992	875.78	381.03	652.44	1.7123
1993	959.18	394	699.61	1.7756
1994	1040.88	423.05	749.37	1.7713
1995	1091.69	465.25	790.63	1.6993
1996	1133.63	526.41	814.17	1.5466
1997	1172.58	557.32	837.24	1.5022
1998	1240.19	582.3	881.95	1.5145
1999	1355.87	604.39	962.27	1.5921
2000	1442.99	616.79	1014.95	1.6455

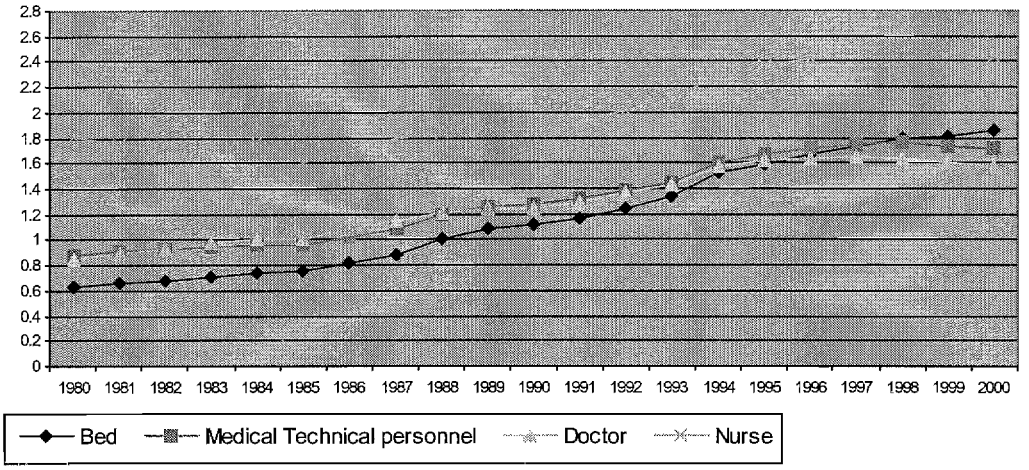
(Source: Ravallion and Chen: China's Uneven Progress Against Poverty)

TABLE 7

Year	Household Consumption						Final Consumption Expenditures			
	Absolute Figure (yuan)			Index 1978=100			Absolute Figure (Million yuan)		Index Expenditures=100	
	Urban	Rural	Ratio	Urban	Rural	Ratio	Urban	Rural	Urban	Rural
1980	496	178	2.786517	111.9	115.5	0.968831	889.8	1427.3	38.4	61.6
1981	562	199	2.824121	123.8	125.2	0.988818	973.3	1630.8	37.4	62.6
1982	576	221	2.606335	124.3	136.6	0.909956	1041.4	1826.5	36.3	63.7
1983	603	246	2.45122	127.4	150.8	0.844828	1119.1	2063.4	35.2	64.8
1984	662	283	2.339223	137.8	170.4	0.808685	1288.8	2385.7	35.1	64.9
1985	802	347	2.311239	147.5	194.4	0.758745	1667.5	2921.5	36.3	63.7
1986	920	376	2.446809	158.3	199.3	0.79428	1965	3210	38	62
1987	1089	417	2.611511	172	207.9	0.827321	2331.1	3630.1	39.1	60.9
1988	1431	508	2.816929	187.3	220.4	0.849819	3159.9	4473.2	41.4	58.6
1989	1568	553	2.835443	184.4	218.8	0.842779	3603.7	4919.8	42.3	57.7
1990	1686	571	2.952715	198.1	219.5	0.902506	3984.1	5129.1	43.7	56.3
1991	1925	621	3.099839	216.6	234.2	0.924851	4676.1	5639.8	45.3	54.7
1992	2356	718	3.281337	249.9	257.2	0.971617	5888.2	6571.6	47.3	52.7
1993	3027	855	3.540351	272.1	272.8	0.997434	7815.2	7867.2	49.8	50.2
1994	3891	1118	3.480322	276.7	285.4	0.969516	10501.5	10308.3	50.5	49.5
1995	4874	1434	3.398884	289.6	308.7	0.938128	13697.4	13247.1	50.8	49.2
1996	5430	1768	3.071267	296.7	351.9	0.843137	15754.3	16398	49	51
1997	5796	1876	3.089552	307	363.6	0.844334	17417.8	17436.8	50	50
1998	6217	1895	3.280739	332.4	370.2	0.897893	19253.9	17677.2	52.1	47.9
1999	6796	1927	3.526725	370.1	387.6	0.95485	21186.8	18147.6	53.9	46.1
2000	7402	2037	3.633775	407.4	406.2	1.002954	23698.7	18147.6	55.2	44.8

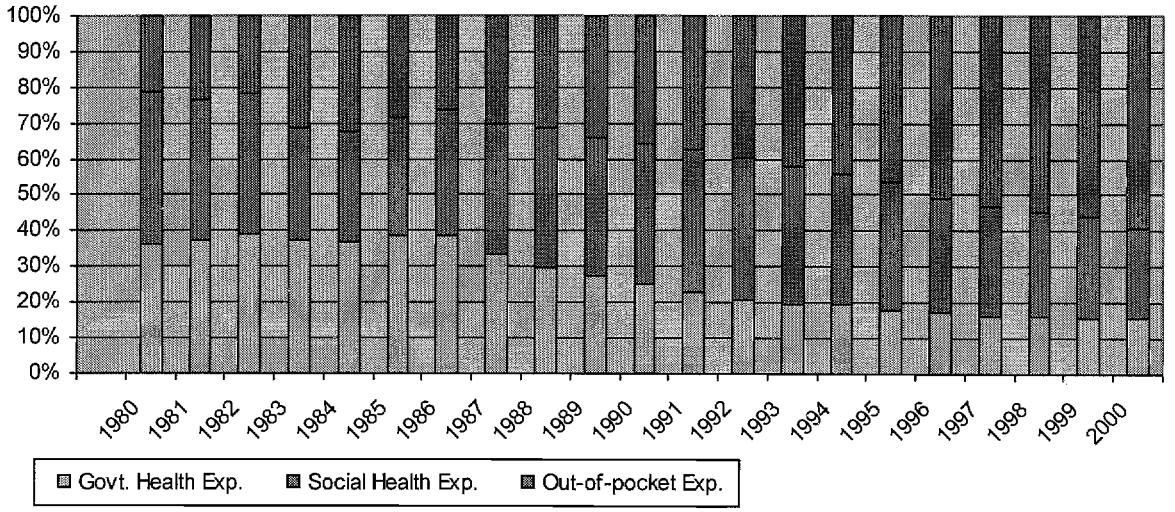
(Source: China Statistics Year Book)

Figure 1 The ratios of city to county in beds/technical personnel/doctors/nurses/ Ratio



(Source: China Statistics Year Book)

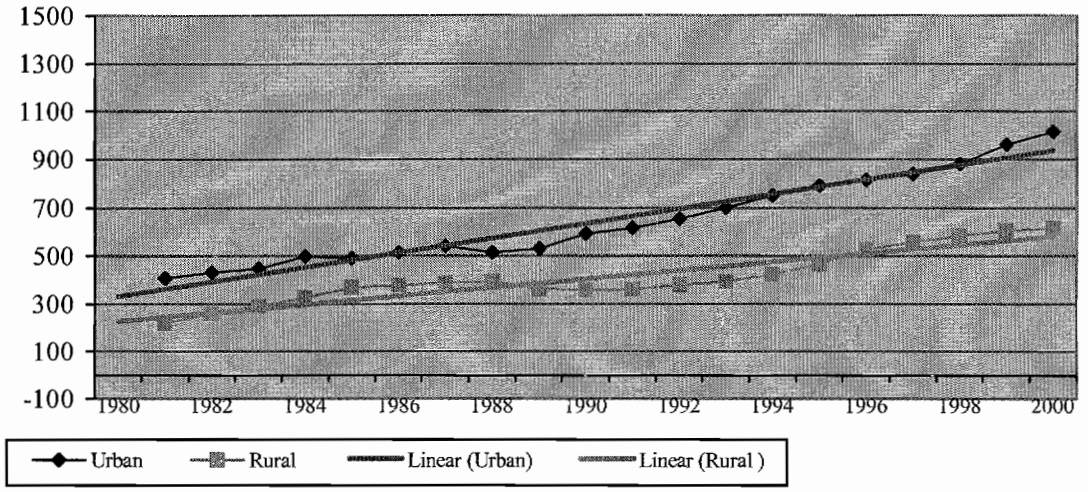
Figure 2 The Structure of Health Funding



(Source: Ministry of Health 2004)

Figure 3 Urban-Rural Mean Income

Income



(Source: Ravallion and Chen: China's Uneven Progress Against Poverty)