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The effects of political capital on medical insurance in China

- A study with controlling effects of human capital and cultural capital

by

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Abstract

China's medical insurance has experienced series of reforms since 1978. During the market transition, the system confronted various challenges and improvements. A three-pillar basic medical insurance was formed for both rural and urban residents. At the same time, commercial medical insurance was developing and tended to play an increasingly critical role in medical welfare. Previous study found despite the market transition, political capital of an organization has significant effects on employees' social welfare obtaining. In order to investigate the current development of medical insurance and whether individual's political capital has effects on basic and commercial medical insurance coverage, this research employed China General Social Survey 2013 as the data resource. Among the entire respondents, 8381 valid observations were found for basic medical insurance and 8059 observations for commercial medical insurance. The result indicated that being a party member can increase probability of being covered by both basic and commercial medical insurance.

Key words: China, commercial medical insurance, political capital, market transition

Acknowledgement

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1. Introduction

China experienced economic transition since 1978; central-planned economy was reformed to market economy (Naughton, 2006). Meanwhile, medical care system confronted changes as well (Jung and Liu, 2015). Prior to the economic reform, rural residents enjoyed traditional cooperative medical schemes with the administration of communes; urban employees in stated-owned enterprises (SOEs) and collective-owned enterprises (COE) enjoyed Labor Insurance System. University students and civil servants including retired servants possessed Government Insurance System (GIS) (Barber and Yao, 2010).

Medical system reform was conducted under the guide of market transition. On one side, state-owned hospitals were replaced with more autonomy-managed hospitals and the non-profit medical system was changed into self-supported budget system. On the other side, instead of enjoying free medical payment charged by SOEs previously (Wu, 2005), both employers and employees had to partially take responsible for their medical expenditure. Cost of health care and medical service became significantly higher since hospitals had to obtain incomes by themselves (Liu, Tang and Liu, 2009). With the expanded profits in medical sector, medical technologies, advanced facilities and medicine researches were improved rapidly (Hu, 1991) but medical fee became increasingly expensive. More seriously, due to the economic reforms in 1990s the downsizing of SOEs caused a huge wave of laid-off; those unemployed workers totally lost their medical care from their employers. As consequence, out-of-pocket expenditure became a bigger challenge for medical care (Barber and Yao, 2010; Jung and Liu, 2015).

Since the marketization of medical system, getting healthcare service tended to be unaffordable. Wagstaff, Lindelöw, Wang, and Zhang (2009) pointed out that in 2003, due to high medical cost, there were 30 percent of respondents of an investigation in China did not have medical care because of high medical cost even though they were suggested to. From 1978 to 2003, the out-of-pocket medical cost has grown by 15.7 percent annually on average in Chinese currency. Based on this, the medical insurance underwent a series of reforms in order to reduce the household medical expenditure, providing risk protection from poverty and ensuring more residents to afford medical cares (Barber and Yao, 2010). Three-pillar medical insurance schemes were gradually formed with the focus on different resident groups including employees, retirees, the unemployed, the disabled, children and rural residents. Wu and Jacobson (2015)

indicated that through a series of medical insurance reforms, the coverage of medical insurance was expanded universally. Nevertheless, the contribution of insurance to each person is little due to large population against limited medical spending budget, demand exceeds supply.

As limitation of public medical insurance becomes apparent, commercial medical insurance seems to have opportunities to reduce the pressure of public medical expense. Pointed by McKinsey & Company (2012), nearly 30 percent of China's urban residents were found having commercial medical insurance recently, another 20 percent of urban citizen were found planning to purchase commercial insurance. Commercial medical insurance is playing critical role to meet residents' increasing needs on medical care, reducing their expenditure on treatment and sharing the government's pressure of public basic medical insurance deficit. In fact, China's government has been aware of commercial insurance for a long time. The commercial insurance was initially mentioned as a supplement to public basic medical insurance during the 9th Five Year Plan in 1996 (Chen and Lin, 2012). Additionally, Chinese premier Li Keqiang emphasized the importance of commercial medical insurance and the necessity of developing the market for commercial medical insurance. With government's supports, the coverage of commercial medical insurance was enlarged, from initially 7% of the whole Chinese population to approximately 27% of annual increase from 2002 to 2012. Following factors were expected to motivate the expansion of commercial medical insurance coverage, such as human capitals like aging population, increasing of household income, and the trend of urbanization (Chen et al, 2012). However, it is not clear whether commercial medical insurance coverage can be affected by other factors such as political capitals besides human capitals. Because it was political authority of China formed the institutional guides and intervened in reforming process at firm level (Nee and Opper, 2007). Therefore, people or organizations with political capital are regarded having higher social status, being covered by more social welfare. Political capital includes political connections which can create benefits or values for an organization or an individual (Faccio, 2006; Nee and Opper,2010). Political connection was found correlated with firm performance positively (Yao and Zhong, 2013). Since political capital matters benefit obtaining and social welfare, it is likely to be an important factor having influence on commercial medical insurance coverage. Dong (2009) stated that commercial medical insurance was at the beginning stage, largely focusing on consumers of upper class. However, it is not clear whether commercial medical insurance system has been covered as common as public basic medical insurance schemes after a few years of development.

1.1 Research purpose

The research purpose of this study is to investigate the effects of individual's political capital on medical insurance coverage in China. We build on prior work exploring the importance of political capital of an organization in explaining access to social insurances. One prior study suggested that social insurance in China has positive relationship with Communist Party branch and unionization among private firms; employees in an organization which has political capital in China may have more benefits of social insurance (Dong, Luo, & Wei, 2016). However, few prior studies specifically investigated whether the individual's political capital instead of organizational political capital had effects on medical insurance coverage in general. Therefore, this study can provide academic reference for the importance of individual's political capital. To be mentioned, this study applied Party member as a measurement of individual's political capital. This is because China has single-party system with the leadership of Communist Party of China. Whether a person is Party member of CPC is the most evident symbol of Individual's political capital.

1.2 Methodology

This study explores the relationship between CPC membership and the coverage of basic and commercial medical insurance. 5 hypotheses were formed on the basis of market transition theory which claimed that political capital becomes less important and human capital becomes more critical within the market transition (Nee, 1989). Insurance coverage dummy variable was employed as dependent variable and econometric estimation was applied to test hypotheses.

1.3 Data

Chinese General Social Survey (CGSS) 2013 database was used for this study. It was administered jointly by the Department of Sociology of the Renmin University of China and the Survey Research Center of Hong Kong University of Science and Technology. The CGSS of 2013 investigated 100 counties (districts) of Mainland China, plus Beijing, Shanghai, Tianjin, Guangzhou and Shenzhen. 4 resident committees or village committees were randomly selected from each county or district. In addition, 25 households were investigated from each selected committee. In general, the total sample of this survey reached 12,000, represented the main landscape of China's social development (China National Survey Data Archive, 2016).

1.4 Limitations

The data used for this study is cross-section data instead of panel data, which cannot make comparison of data with previous time series when medical system is not reformed. The change of effects made by political capital, human capital and cultural capital cannot be observed dynamically. Nevertheless, CGSS 2013 is still a reliable data resource for this study as there is no other dataset covers such large sample in China and provide representative and valid data about medical insurance with political capital from respondents.

1.5 Structure

Section two starts with a historical background of the medical reforms since 1950s. It explains the role of political capital in China and introduces the theoretical framework on market transition theory; the hypotheses are accordingly introduced. Section three describes the data, variable selection and model specification in details. The interpretation of results is discussed in the fourth section, and the model robustness is involved as well. The final section concludes.

2. Theoretical framework

In order to find out the current status of commercial medical insurance in China and to explore the effects of political capital on medical insurance, the evolution of medical system is to be introduced. The role of political capital has changed largely during the evolution. Market transition theory is relevant to explanation of the process of medical system reform and the association between political capital and insurance coverage.

2.1 Evolution of medical reform

Medical insurance system of China has a long history with; there are four critical stages of reforms and improvements. China's public medical insurance was firstly established in 1950s. The marketization of medical insurance system took place during 1980s with enhancement during 1990s. In the late 1990s and 2000s, the expansion of medical insurance coverage started to take into effort as medical reforms. Each reform generated different effects, consequently developed a three-pillar basic medical insurance as current.

2.1.1 Medical care system since 1950s

China's public basic medical insurance system was shaped in the planned economy era of 1950s. In urban regions the two initial medical schemes were Labor Insurance System (LIS) founded in 1951 and Government Insurance System (GIS) established in 1952. LIS was designed for employees in stated-owned enterprises (SOEs) and collective-owned enterprises (COEs). In terms of GIS, it was designed for university students and civil servants. They also possessed the free medical service as long as they went to the specific hospitals under the coverage of GIS (Dong, 2009; Barber and Yao, 2010). Residents from rural regions had access to the designated insurance as well. The traditional rural cooperative health care system (TRCHS) was established in 1950s. On the basis of agricultural commune, workers in the commune could get free health care from paramedical doctors who had been trained with basic medical skills in rural districts (Dong, 2009).

Although this medical insurance system was considered as a benchmark of public health care insurance system among developing countries during 1950s, some critical issues emerged. In aspect of urban medical insurance, public expenditure on medical kept increasing due to lack of cost controlling precautions. Liang (2003) mentioned during that time, the wasted medical costs occupied around 20 to 30 percent of public medical budget in total because free-riders tended to increase.

2.1.2 Challenges of medical insurance after 1978 reforms

Based on economic reforms during 1978, open-up policies brought corporatization of SOE in urban regions. It was inevitable that economic reforms brought changes of medical care. In rural regions, production commune disappeared and traditional rural cooperative health care insurance collapsed. Liu and Wangz (1991) found that only 9.5% of rural residents still enjoyed cooperative insurance by 1986. Moreover, township clinics were closed gradually due to the termination of public medical fund for villages. Compared with 1975, the number of paramedical doctors in rural regions declined by 18 percent in 1987 since they could not get enough payment from government as previously. Medical welfare development in rural region was considered being neglected by central governments during the reform (Cheng, 1989). Challenges also existed in urban regions, the downsizing and autonomy of SOEs in 1990s led to a huge number of employees confronted with Laid-off tide. Those who lost jobs also lost the LIS because the insurance scheme was connected with their employers (Liu and Zhao, 2014). Autonomic price of medical care made the situation even worse because of the marketization

of medical service sector (Barber et al, 2010). Consequently, the individual cost for medical care rose to a large extent. Estimated by Liu and Wang (1991), the average healthcare expenditure per capita increased from approximately 15 yuan in 1981 to 31 yuan in 1988.

2.1.3 Reforms of Medical Insurance from 1990s to 2000s

Having been conscious of the expanding medical expense for years, three insurance schemes were steadily designed from 1994 to 2007, made up of China's basic medical care insurance system. The three different insurance schemes of public basic medical insurance program are New Rural Cooperative Medical Insurance (NRCMI), Urban Employee-Basic Medical Insurance (UEBMI) and Urban Residents-Basic Medical Insurance (URBMI) serving for the retirees, students and children (Dong, 2009).

Central government officially issued new Urban Employee Basic Medical Insurance (UEBMI) countrywide in 1998 and 190 million of urban employees were covered by the new insurance (Chen, Liu and Xu, 2014). On the basis of national UEBMI, local governments designed detailed policies on reimbursement of medicine categories and healthcare services (Dong, 2009). All the urban employees were mandatorily required to share the payment of premium contributions with employers. All the premiums consist of personal account and social pooling. Personal accounts and social pooling were financed separately and had different functions. The function of personal accounts was mainly for outpatient, emergency, and medicine purchasing. The function of social pooling was used for inpatient service within the interval between the least deductible standard and the maximum limitation; the least deductible standard was normally depends on 10 percent of the local average annual salary (China Food and Drug Administration, 1998 & Dong, 2009).

Chinese government issued the New Rural Cooperative Medical Insurance (NRCMI) in 2003. Different from the UEBMI, the NRCMI was a voluntary insurance system. Instead of individuals' premium contribution for social pooling, local governments and central governments provided financing funds for the NRCMI. Central government provided financial support for poor regions in western and central China, while the rest part of rural regions were mostly charged by local governments (Dong, 2009). With development of the scheme, the premium for individuals reached from 20 to 40 yuan per person annually from 2006 to 2007. New Rural Cooperative Medical Insurance (NRCMI) covered 86 percent of rural counties in 2007 (Barber et al, 2010). By 2012, each rural participant of the NRCMI could enjoy 240 yuan

(approximately 192 SEK) annually thanks to the investments made by governments (Bai and Wu, 2014). Despite the voluntary system of NRCMI, rural residents were encouraged to establish individual accounts which contained residents' own personal premium contributions. To be emphasized, obtaining more autonomy on local NRCMI, local government had access to adjust the deductible level and reimbursement rules according to their own local economic condition (Dong, 2009). Therefore, it is possible that NRCMI welfare differs from regions; rural residents in poorer regions may get lower level of NRCMI welfare.

In 2007, the third pillar of public medical insurance system, Urban Resident Basic Medical Insurance (URBMI) was established. 420 million of urban residence including retirees, children and students not being employed in countrywide could enjoy this medical welfare (Chen et al, 2014). Before the establishment of the URBMI, this group of residents did not get any medical insurance since the 1980s when free medical welfare system was abolished. The pooling of the URBMI is mainly used for inpatient expense and outpatient treatment for critical diseases. The reimbursement ratio for students will have a positive relationship with quantity of expenditure as long as they meet the designed medical insurance policy (Dong, 2009). With government's efforts, the Urban Residents Basic Medical Insurance (URBMI) has reached to 308 cities in total by 2008 (Barber et al, 2010).

2.1.4   Current status and challenges of medical reform

In the light of the three-pillar medical insurance, public medical insurance coverage grew from 23 percent of the entire population in 2003 to 87 percent of that in 2008, with the coverage of 72 percent and 93 percent respectively in urban and rural regions (Center for Health Statistics and Information, 2009).

Indeed, some challenges were still remained despite the continuously reforms. Dong (2009) listed following issues, such as limited insurance coverage and risk protection, lack of funding for the NRCMI, imbalance of high-cost service and pooling surplus of the UEBMI, inequality of individual account and lacking pool risk protection, institutional limitation on "critical disease" priority, lack of consideration on labor migration and lack of monitoring approaches on medical service costs. The medical system issue also involves higher cost of medicine compared with cost of inquiry and expense on medical facilities. The expenditure on purchasing medicine accounted for 50.6 percent out of total medical expense in 2011 (Li, Liu and Glaetzer, 2013). Plus, with the development and innovation of medical technology, new medicines were

invented and put into use in the market. But the medicine reimbursement policy was not updated immediately, thus costs of new medicines could not be reimbursed in time accordingly.

2.1.5   Development of commercial medical insurance

Besides the improvement of public medical insurance, central government was also conscious of the construction of commercial medical insurance system. In 1996, commercial insurance system was mentioned for the first time and local government also took measures to follow the emphasis from central government (Chen and Lin, 2012). In 1998, Commercial Health Insurance policy was formally regulated by central government (Li, Liu and Glaetzer, 2013). Generally speaking, commercial medical insurance was developing rapidly but still at primary stage. The rapid growth of commercial medical insurance was attributed to the fast establishment of commercial medical insurance service operated by companies. By 2012, there were 61 companies listed by China Insurance Regulatory Commission (CIRC) have legal authority to provide commercial medical insurance related products. The fast start-up of commercial medical insurance brought huge amount of profits in short period. The income has increased from $596 million USD in 1999 to $14 billion USD in 2012.

Local governments started to pay attention to commercial medical insurance sector. In 2011, commercial medical insurance products were available in 36 provinces and large cities. Some companies also cooperated the insurance coverage with some other local governments. Those insurance companies provided commercial medical insurance as supplements for urban participants who joined UEBMI (Chen and Lin, 2012). Currently, commercial medical insurance opens its access for rural residents who have outstanding economic performance. However, rural residents are still a minority of the participants. Despite a rapid growth of commercial medical insurance which reached $14 billion USD in 2012, it still accounted for a small proportion of total insurance premium revenue, barely sharing 5 percent (Li et al, 2013). This small proportion indicated that commercial medical insurance has potential for large development in China and will play a notable role in the future.

For developing countries with middle income level, commercial medical insurance is particularly necessary to support basic health and medical coverage for urban residents (Sekhri and Savedoff, 2005). In terms of China, it is investigated that there is a huge latent demand for commercial medical insurance in urban regions. When it comes to commercial insurance product selection, residents were found more likely to purchase major catastrophic disease

insurance (MCDI), inpatient expenses insurance (IEI) rather than outpatient expenses insurance (OEI), they are also willing to pay more for MCDI and IEI since catastrophic disease and inpatient service usually account for huge amount of medical cost despite the cost reduction by provided basic medical insurance system. Moreover, some specific human capital factors are likely to stimulate purchasing commercial medical insurance. These human capitals include private-enterprise employment, self-employed, younger than 40, highly educated and higher income level (Ying, Hu, Ren, Chen, Xu and Huang, 2007).

2.2 Prior research on the role of political capital

Not only human capital, political capital also plays visible roles in obtaining social welfare. It was studied that there is a positive relationship between labor benefits and unionization in private enterprises (Dong, Luo and Wei, 2016). In terms of unionization in China, an enterprise can either establish a Party branch or a labor union, or have both or none of them. To be mentioned, private companies with both Party branch and labor union provide the largest social insurance coverage for its employees compared with firms that only have one political organization (Dong et al, 2016). The social insurance includes public medical insurance, pension insurance, unemployment insurance and injury insurance. As one type of the social insurance, medical insurance coverage also has strong and positive correlation with local Communist Party of China (CPC) connection. In general, the coexistence of Party and union may have effects on providing social insurance supports at the largest degree. This is because labor unions in China are submitted by CPC; therefore, if a company have both Party branch and labor union, it indicates that the company encompasses political capital to a large extent, which apparently causes positive effects on economic benefits and welfare including medical insurance (Dong et al, 2016). A company with strong political connection is always well documented thus being supported by credit easily (Nee and Opper, 2007). Due to the advantages of political connection in aspects of acquiring bank loan, gaining state resources, be protected by favored policies and dealing with property rights, private entrepreneurs are keen on looking for and generating local political connections (Su and Fung, 2007 & Agrawal and Knoeber, 2001 & Chen and Cao, 2016).

In rural areas, political capital makes different effects on access to job opportunities and monetary benefits. Wang, Li and Lien (2016) found that political capital provides more accesses to white-collar jobs and self-employments for local off-farm labor force. Cadre households are more likely to engage in local off-farm jobs. In opposite, Xia and Simons (2007) found that

political capital may decrease the tendency of self-employment or migration employment although it stimulates local off-farm job opportunities. This is because local cadres have more information about local employment opportunities, they accordingly tend to exploit their advantages on information while avoid taking troubles for self-employment. Furthermore, Zhang, Giles, and Rozelle (2012) stated that political capital such as village cadre status could help the cadre acquire more benefits from village business and economic production. Generally speaking, political capital plays irreplaceable role in welfare obtaining across working units and regions.

Chinese government plays the role as a dominator in controlling the order and improving regulations (Chen and Cao, 2016). As a representative of government, CPC takes responsibilities of designing economic reforms and controlling socio-economic uncertainty for the whole country. Having created significant contributions for rapid economic growth and macroeconomic stability, CPC successfully played a leading role for China's economic development. Nevertheless, the increasing inequality between political authority and other industries becomes more serious. Moreover, with market economy being developed by CPC government, political authority consolidated the social status at the same time (Gruin, 2016). Since the market discipline was still under the administration of CPC, and as a decision maker, it is not surprising that political capital does matter in economic aspect. Therefore, it is expected that basic medical insurance tend to generally favor people with political capital, not only in private firms.

2.3 Market transition theory

Based on previous explanation, the accesses to welfare or opportunities in China are different due to various determinants (Dong et al, 2015; Wang, Li and Lien, 2016). The theory of market transition provided a further statement that "the shift from hierarchies to markets in a socialist economy changes determinants of socioeconomic attainment and therefore the sources of power and privilege" (Nee, 1989:663). The theory stated that the power, defined as "control over resources" is "mediated more by transactive exchanges and less by administrative fiat" (Nee, 1991: 267). The market transition process shows change of benefits for political and economic participants during the transition process from redistributive allocation to market economy (Nee and Opper, 2007). Consequently, with the market transition process, "the growth of markets expands the range of opportunities outside the boundaries of the redistributive economy,

changing the structures of opportunity and incentives and stimulating entrepreneurship and economic performance" (Nee, 1991:267)

Previously in the state socialist redistributive economy, all the benefits and resources were assembled by the authority and then reallocated to individuals according to their political status in the bureaucratic system (Nee, 1989). Hence the vertical redistributive system in state socialist economies is more likely to generate social inequality such as welfare gaps universally (Konrad and szelenyi 1979; Szelenyi 1983). The income levels of household were determined by political power to a certain extent (Bian and Logan, 1996). Compared with normal residents, party members and government officers are always favored by welfare and benefits (Bian et al, 1996). The market transition from state socialist redistributive economies to market economy can reduce social inequality since the wage of labor force and supply of products are determined by market relationships rather than top-down redistribution. As an example, the household responsibility system provided production incentives for people in rural area, generated income growth of peasants in rural areas. The rural-urban inequality was reduced due to the bottom-up market reform (Nee, 1989; Nee and Opper, 2012). Chinese medical system experienced marketization during 1990s, it seems that political capital plays a less important role in terms of benefit acquiring from basic medical insurance. This is because the newly issued UEBMI unified medical welfare system between government servants and normal employees. However, the insurance coverage is not unified across different provinces. To explain by what means the factor of economic benefits is changed during market transition process, Nee (1989) stated that the theory of market transition embraced three following themes, namely are market power thesis, market incentive thesis, and market opportunity thesis. These three theses are connected with political capital, human capital and cultural capital respectively, which indicated that these three capitals plays different roles during market transition process.

Firstly, in terms of the market power thesis, the market power was moved from resource distribution by administrative sector to the mutual agreements in the marketplace during the period of market transition. Meanwhile, there will be no higher benefits for distributors resulted from dominating the resource through political power; instead, producers and entrepreneurs are probably more favored by transactions. Moreover, the more replacement generated by market economy through contract-based transaction, the less influence on market benefits are made by political capital (Nee, 1989). As a response to the market reform, local cadres are tending to start business. Plus, since business is likely to provide them more benefits than cadre did, they

therefore put more efforts on business instead of town and village affairs. Compared with some cadres who were previously successful in business with his political capital and social relation nets, cadres now can get less benefits through their political capital, they rely on business strategies instead.

This makes sense because China's medical system also experienced the same transition. When medical system initially shaped, civil servants and employees enjoyed different medical insurance schemes. Government staffs enjoyed GIS and enjoyed free medical care; employees from SOEs and COEs enjoyed LIS in which medical payment was charged from their employers, the unit. Through economic reform, different ownerships of enterprises emerged; along with marketization of medical system, UEBMI was issued and unified basic medical insurance welfare between government servants and employees from enterprises of various ownerships.

Unfortunately, despite government's' efforts to issue a unified welfare system to all urban employees across working units, political capital has been found having significant effects on medical insurance coverage in private firms; employees in private firms which have party branch and labor union are likely to be covered by insurance welfare to the largest extend (Dong et al, 2016). Not only organizational political capital affects individuals' welfare, political capital of a person also matters. Although market transition could remove the market power from resource distributor to marketplace, there is still existed privilege or extra benefits among people who owns political capital. Just like sample cadres in Nee's (1989) study, despite the rapid increase of labor salary due to the market reform, those with more individual political capital still have higher average incomes as before. Besides, it is found political capital plays significant roles on benefit acquiring in other aspects such as job opportunities and monetary benefits (Nee, 1989). Therefore, people with more political capital are more likely to have job opportunities, thus getting more possibilities to be covered by UEBMI. Even though they do not have jobs, there is still a high likelihood to get URBMI. Plus, different from UEBMI, the later issued NRCMI for rural residents was a voluntary scheme. Consequently, political capital is a potential factor determining the coverage of NRCMI. Moreover, given the proposition that those with political capital are likely to have higher average incomes (Nee, 1989), here comes the following two hypotheses:

Hypothesis 1: Generally, political capital has significant positive effects on basic medical insurance coverage.

Hypothesis 2: Political capital has significant positive influence on commercial medical insurance coverage. Party members are more likely to be covered by commercial medical insurance because they believe commercial medical insurance can bring extra welfare to them and they might have more access to institutional information on commercial medical insurance, which can help their purchase decision.

Secondly, according to market incentives thesis, producers are likely to gain more incentives from the market rather than from the central distributive mechanism since they are able to obtain more profits and enlarge incomes through their production and business strategies on the basis of market transaction. Moreover, educated people are found more likely to gain incomes than those who are less or not educated because education promotes individual's sensitiveness and ability of comprehension. At the same time, usage of various media platforms to acquire information differs learning efficiency from each other. Instead of being neglected before the reform, education and usage of media were emphasized during the transition because the more educated a person is, or the more media channels an individual uses, the more manipulated and sensitive he will get the information (Nee, 1989). As a human capital and a cultural capital, education and the usage of media for intelligence is becoming more and more important. Hauser and Xie (2005) had proved that education can apparently promote the income level; Zhao and Zhou (2002) also supported that in the private-owned sector, education contributes to income benefits more significantly than in the state-owned sector. In sight of medical insurance, a well-educated person is likely to be more sensitive to get information about medical system policy, thus making a more comprehensive analysis whether current medical insurance is sufficiently favorable for him, leading to strategic decision on commercial medical investment. In general, the effect of human capital and cultural capital on commercial medical coverage is needed to be explored with following hypotheses:

Hypothesis 3: The more educated an individual is, the more probability is that being covered by commercial medical insurance.

Hypothesis 4: The usage of new media platforms for obtaining information creates the probability of being covered by commercial medical insurance.

Thirdly, according to market opportunity thesis, the opportunity of entrepreneurship and business was growing with the expansion of free market because the producers are allowed to enter the marketplace and get involved in transaction. Therefore, more and more people cast off the central distribution and start to look for opportunities from the marketplace in order to get benefits on their own. On the other side, the expanded market reduced transaction distance between rural regions and urban regions; more economic transactions are conducted between urban and rural regions. This growing market accesses generated market opportunities for rural marketers and created positive effects on declining income gap between rural and urban regions.

As a voluntary rural medical scheme, NRCMI is designed for rural residents who want to gain medical cost reduced. At the same time, commercial medical insurance is opened access for rural residents currently. Rural residents could also find more opportunities to get expense reduction or compensation from commercial medical insurance based on NRCMI. It can also help reduce the welfare gap between rural retirees and urban retiree. Therefore, it is interesting to explore the current commercial medical coverage in rural regions, to find out whether rural residents are more likely to purchase commercial medical insurance compared with urban residents, in order to get more compensation and to reduce welfare gap from urban regions. The following hypothesis was accordingly established:

Hypothesis 5: Rural residents are more likely to be covered by commercial medical insurance since they enjoyed a different basic medical system from urban residents and are willing to look for more opportunities to get welfare and reduce income gap from urban regions.

More importantly, there are some imbalances of resource distribution between rural and urban areas, including education, job opportunities, pension welfare, and political interactions. Normally, rural residents rely on agriculture, township and village enterprise and cheap migration employment in urban regions for economic incomes. Consequently, they have more incentives for obtaining monetary income while less political motivation than urban residents.

Based on above, it is hard to cultivate market discipline in the state-owned sector since bureaucratic tradition is likely to suppress market coordination while retain the redistributive allocation. Urban regions are at the early stages of market transition with comparison of rural areas, there was still bureaucratic remaining with state sectors in urban regions despite the

efforts on the introduction of market concepts. By contrast, market coordination is developed much easier and more rapidly in rural areas. Through the market trade, peasants obtained more sources of income rather than the reliance on harvest previously. Consequently, there are more bureaucratic dominants in urban regions when it comes to economic transaction, compared with rural area. It is the same in the circumstances of medical coverage. With the marketization of basic medical insurance, rural area had a higher coverage of medical insurance than urban regions by 2009. To be demonstrated, 72% of retirees from urban mainly were covered by basic medical insurance while there was 93% of medical coverage in rural areas (CSFI, 2009). As an explanation, it was rural areas that started market transition through household responsibility (Lin, 1988). This is also a supportive explanation of *hypothesis 5* why rural residents are more likely accept commercial medical insurance.

3. Data and Methodology

The data of this paper is based on Chinese General Social Survey (CGSS) database. It was administered jointly by the Department of Sociology of the Renmin University of China and the Survey Research Center of Hong Kong University of Science and Technology. As a lately issued dataset, CGSS 2013 was used in this paper. This survey investigated 100 counties (districts) of Mainland China, plus Beijing, Shanghai, Tianjin, Guangzhou and Shenzhen. 4 resident committees or village committees were randomly selected from each county or district. In addition, 25 households were investigated from each selected committee. In general, the sample in this survey reached 12,000 represented the result of this study on China's medical insurance development (China National Survey Data Archive, 2016). Stata 14 was used in this paper for the econometric analysis.

3.1 Model specification

According to Nee (1989), there are three elements reflecting changes from planned economy to market economy in China, namely are market power, market incentive and market opportunity. Market power on price was enhanced through mutual agreement between buyer and seller, while power on resource allocation was eliminated from previous resource controller. Market incentive drove productivity improvement in order to gain benefits. Market opportunity was increased which cultivated marketplaces. To be mentioned, the three aspects of market transition are determined by political capital, human capital and cultural capital (Nee, 1989). During the market transition period, effects resulted from political capital is eliminated while human capital and cultural capital play an increasingly critical role. Based on market transition

theory, this study also covers the three factors since all of them are likely to have different effects on medical insurance coverage. However, human capital and cultural capital which are employed in hypothesis 3, 4 and 5, are only considered as control function.

In order to compare the change of benefits between political capitals, human capitals and cultural capitals during the process of mechanism replacement, following determinants have been taken into consideration by Nee (1989). Firstly, as a measure for benefit level, household income is adapted as a dependent variable. Household income was regarded as various economic resources to support living. Secondly, the core variable is whether a respondent is a cadre or not. Cadre status is regarded as a measurement of political capital. This is because, in the rural area, it is only cadre that has political power to deal with village and township affairs and to distribute the allocation. Followed by, human capital variable was defined as exogenous variable, which contains educational achievement of household head and the spouse, age of the household head, number of labor force and number of children under year of 14. These indicate the household capacity of economic supporting. Specifically, the education level measures the sensitiveness and comprehension ability of gaining knowledge, which determines how an individual get benefits through information. The age of household head reflects physical capacity while accumulating working experience. The number of children measures not only the expenditure level of a household before children find a job, but also the potential labor force and income supporting of a household when the children get jobs. Cultural capital was considered as another control variable, containing usage of media. This indicates the access to information which is related with benefits.

The purpose of our study is to investigate the coverage of medical insurance among Chinese residents in rural and urban regions, and to figure out potential factors that affect the coverage after medical reforms on 3-pillar basic medical insurance system. These potential factors contain political capital human capital and cultural capital. On the basis of binary distribution of dependent variable for both basic and commercial medical insurance, Probit model is suitable to find out the relationship between 2 insurance coverage and their factors. To test *hypothesis 1*, model 1 is established with Probit estimation:

$$Basic\ medical\ insurance = \alpha\ +\ \delta_1 Political\ Capital + \delta_2 Human\ Capital$$
$$+\delta_3 Cultural\ Capital + \varepsilon_i$$

Here basic medical insurance is the dependent variable and political capital is the main independent variable. α represents the constant and δ is the vector of corresponding coefficient of human capital and cultural capital and ε_i is the error term. Model 1 is to find out current status of basic medical insurances coverage and to test *hypothesis 1*. Despite two mandatory basic medical insurances in urban areas (UEBMI and URBMI), NRCMI in rural regions is still a voluntary basic medical insurance scheme. Therefore, it is workable to use Probit model to explore the probability of changes of basic medical insurance coverage by the effects of individual political capital.

To test *hypothesis 2, 3, 4 and 5,* model 2 is established with Probit estimation:

$$Comercial\ medical\ insurance = \alpha + \beta_1\ Political\ Capital + \beta_2\ Human\ Capital + \beta_3\ Cultural\ capital + \epsilon_i$$

Where commercial medical insurance is the dependent variable and political capital is core explanatory variable; α is constant term; human capital variables include age, education, registration, number of sons, number of daughter and spouse's education. In addition, cultural capital contains the usage of media, completing the set of independent variables. β is a vector of corresponding coefficients and ϵ_i is the error term which captures effects not explained by the explanatory variables. Model 2 was established for testing hypothesis 2, 3, 4, and 5, which are related with commercial medical insurance coverage. As this medical insurance is still a voluntary insurance at initial stage, people are likely to purchase the commercial medical based on different factors. Hence, Probit model is necessary to be applied in order to investigate the changing probabilities. Furthermore, in case there may probably be some variables which we overlooked, thus leading to error term not identically distributed or heteroscedasticity, we conducted estimation with robust standard error.

3.2 Variables

There are two different dependent variables for two different models, but core variables and control variables are selected similarly. Since the study is based on theory of market transition, variables selected by this study are based on the variable selection from Nee's (1989) market transition study as well. The countrywide study obtained a large quantity of observations for each variable. There are 11,438 respondents who took participation in the CGSS 2013. Excluded by invalid answers and missing data, there are still a large number of valid data

remains. Valid observations from each selected variables exceed 8,000 by and large.

3.2.1   Dependent variable and core explanatory variable

In model 1, whether being covered by basic medical insurance is the dependent variable, which is taken from the first question from A61 in CGSS 2013. A dummy variable is created with value 1 if the person has basic medical insurance and 0 otherwise.

In model 2, the dependent variable is whether a respondent joined the commercial medical insurance. It is selected from the third question of A61 to measure the coverage of commercial medical insurance. A dummy variable is generated to capture the dependent variable with the value 0 if people do not have commercial medical insurance and 1 if people have commercial medical insurance.

On the basis of research purpose, it is inevitable to find out whether political capital has impact on basic medical insurance and commercial medical insurance. Therefore, the core explanatory variable is related with political capital. Question A10 was selected for measuring political capital; whether the respondent is a CPC member becomes a criterion for political capital possession. The dummy variable captured from question A10 is defined as value 1 standing for a CPC member and 0 otherwise. Since CPC has the leadership for controlling the order in China, membership of CPC symbolizes higher political status. However, according to Nee's (1989) study, whether the person of a household served as a team, brigade or commune is not necessary to explore for our study since the economic reform has been a long period of time with abolition of commune. Hence this traditional social experience related with political capital plays little significance on household development nowadays.

3.2.2   Control Variable

Human Capital

In terms of human capital, the education level of the household head and spouse may lead to different abilities of gaining knowledge on institutions and financial products regarding commercial medical insurance. From CGSS13 survey, question A7a and A72 are used to measure the education level of household head and his/her spouse. In accordance with the arrangement of the questionnaire, there are 13 different education levels from low to high. As it is not workable to quantify the 13 discrete education levels, we divide the education levels into two parts and generated a dummy variable. Those who finish nine-year compulsory

education or have higher education level are defined as 1, while those who have not finish nine-year compulsory education are valued 0. People have higher education level have better sense to prevent the poverty. In this research, people who have at least completed 9-year compulsory education are considered as having higher education level.

Question A3 in the survey shows the birth date of the person. The age of household head is derived by subtracting of 2013 minus the year of birth. The number of children has been selected by Nee (1989) as it is important on the budget of living cost which accounts for a critical share of an entire household expenditure. On the other hand, with the Chinese tradition, children have the duty to support their parents. The number of children can reduce the probability of poverty since the children could afford the payment of health care. Therefore, people having more children will have less demand of medical insurance. It is worth noting that Chinese government issued One-child policy since 1980 and abolished this policy by 2015. In spite of this policy, it is possible that there is more than 1 child before 1980. Moreover, from the survey of our study, respondents who were born before 1980 accounted for a large proportion. Therefore, one child policy does not affect our result significantly. Since human capital's characteristic such as age, education, number of children were found having impact on benefit acquirement in rural regions according to market transition theory, these human capital factors are also likely to have influence on the purchasing behaviour regarding commercial medical insurance.

In order to test hypothesis 5, it is necessary to involve household registration which is a variable neglected by market transition theory. In Nee's (1989) study, all the respondents were from rural regions. As a contrast, CGSS covers the whole country, including rural and urban areas. Plus, due to the purpose of this research, which is to investigate the current status of medical insurance coverage in China, household registration is a critical human capital determinant to control effects on medical insurance coverage. In CGSS 2013, there are 7 types of household registration, such as agricultural, non-agricultural, blue stamped, civil registration (previously agriculture), civil registration (previously non-agriculture), military, and other. Since blue stamp registration has been abolished in most provinces and regions, it is excluded for the study. Military and other-type registrations are also excluded since they account for extremely small quantity out of the entire observation. As a unified household registration, civil registration, no matter what type of previous registration an individual had, is categorized as non-agricultural registration. Hence a dummy variable for household registration is set that is whether an individual has non-agricultural registration. The non-agricultural registration is valued 1 while

agricultural registration is valued 0.

Cultural Capital

The usage of media may reflect how much they are related with the society and have access to information. This measures exposure to acquire new information, involved the institutions of public medical system and considerations of commercial medical insurance. The variable for cultural capital is obtained from CGSS13 survey question A29, which asks about the most frequently used media by respondent, including newspaper, magazine, radio, TV, internet and mobile. A dummy is applied based on the category of traditional (printed) media usage and new media usage. Printed media is also defined as an opposite choice from new media, which includes newspaper and magazine. New media includes radio, television, internet and mobile. New media is valued 1 when it is regarded as the most frequently used media and vice versa.

Regional factor is another cultural capital which needs to be considered in this study. Due to the inequality of economic development between eastern and western China, central government provides different financial supports on basic medical insurance for eastern and western regions. The government's support of medical insurance for mid-western rural regions is generally higher than that of in east regions. As an example of NRCMI, mid-western rural residents who participated in NRCMI can get 40 yuan per year from central government. Eastern rural resident who participate NRCMI can only obtain welfare at a proportion of those for western rural residents (NPC, 2008). Therefore, the difference of basic medical welfare for residents in various regions is possible to generate difference of commercial medial insurance purchase. According to the Fourth Session of the Sixth National People's Congress in 1986, 11 provinces and cities were defined as eastern China region, namely were Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan. However, since Heilongjiang and Jilin are also two provinces of East-northern China, this study also covers these two provinces as eastern region. Hainan province is not included from CGSS 2013 dataset, therefore this province is excluded from our study.

Table 1: Description of variables in basic medical insurance analysis

Variables	Observation	Mean	Std.Dev.	%
Basic medical insurance (dummy)	8381	0.91	0.28	100
Yes	7647			91.24
No	734			734
Independent variables				
Political capital (dummy)		0.11	0.31	100
Yes	912			10.88
No	7469			89.12
Age	8381	49.05	14.02	
Education (dummy)	8381	0.65	0.48	100
yes	5467			65,23
no	2914			34.77
Num. son	8381	0.97	0.81	
Num. daughter	8381	0.82	0.85	
Spouse education (dummy)	8381	0.63	0.48	100
yes	5317			63.44
no	3064			36.56
Registration (dummy)	8381	0.43	0.50	100
Non-agricultural	3627			43.28
Agricultural	4754			56.72
East Region (dummy)	8381	0.50	0.50	100
East	4225			50.41
Non-east	4156			49.59
Use new media most frequently	8381	0.97	0.17	100
Yes	8117			96.85
No	264			3.15

On the whole, Table 1 illustrates all the selected variables in details which we used for model 1 establishment. Table 1 contains basic medical insurance as dependent variable, and independent variables of basic medical insurance models. The core independent variable is

Table 2: Description of variables in commercial medical insurance analysis

Variables	Observation	Mean	Std.Dev.	%
Commercial medical insurance	8059			100
Yes	689			8.55
No	7370			91.45
Independent variables				
Political capital (dummy)	8059	0.11	0.31	100
Yes	887			11.01
No	7172			88.99
Age	8059	49.04	14.04	**100**
Education (dummy)	8059	0.65	0.48	100
yes	5267			65.36
no	2792			34.64
Num. son	8059	0.97	0.81	100
Num. daughter	8059	0.82	0.86	100
Spouse education (dummy)	8059	0.64	0.48	100
yes	5124			63.58
no	2935			36.42
Registration (dummy)	8059	0.43	0.50	100
Non-agricultural	3491			43.32
Agricultural	4568			56.68
East Region (dummy)	8059	0.50	0.50	100
East	4043			50.17
Non-east	4016			49.83
Use new media most frequently	8059	0.97	0.18	100
Yes	7802			96.81
No	257			3.19

party member, a measurement of political capital. Control independent variables covered human capital and cultural capital. Table 2 illustrates all the variables used for Probit model of commercial medical insurance study, except for dependent variable which contains commercial medical insurance, the rest core variables and control variables are the same as those of model 1.

Based on Table 1 and Table 2, the coverage of basic medical insurance across rural and urban area in 2013 was 91.24% (7,647 out of 88381 respondents answered "Yes"), while that of commercial medical insurance across rural and urban area in 2013 was only 8.55% (689 out of 8,059 respondents answered "Yes"). The average age of respondents is around 49. This is means mid-aged residents share a large proportion of the study. This group of respondents concern social insurance, which is suitable for getting reliable findings of medical insurance study. In general, these two tables provide a consistent result with previous researches that basic medical insurance is the main access for Chinese residents to reduce medical expenditure pressure while commercial medical insurance is still at initial stage. Again, these 2 tables shows our study of basic and commercial medical insurance, variables from which are not only based on market transition theory but also take considerations of geographical distribution into account.

According to what was mentioned previously, there are some answers that respondents refused to provide or being not sure. These invalid data were given -3 and -2 value in the dataset, which were excluded in this research in order to obtain more precise empirical results. In the light of large sample volume, valid observations in two Probit models are still of large quantity. There are 8381 observations made up of model 1 and 8059 that of model 2.

4. Empirical results

Table 3 shows the results of Probit model 1. Including core explanatory variable and controls variables, there are 6 independent variables that are significant; among which, party member, spouse's education, age, registration and east region dummy are significant at 1 percent level while new media usage are significant at 5 percent level. To the opposite, individual's education and number of children do not have significant effects on basic medical insurance. In the theoretical framework, 5 hypotheses have been formed, relating effects of political capital, human capital and cultural capital on basic and commercial medical insurance coverage. The following findings are the testing results of previous hypotheses.

Table 3: Results of Probit regression in Basic medical insurance coverage

Independent Var	Coefficient (Std.Err.)	Marginal Effect (Std.Err.)
Party member	0.296***	0.046***
	(0.075)	(0.012)
Education	0.032	0.005
	(0.053)	(0.008)
Spouse's edu	0.144***	0.022***
	(0.051)	(0.008)
Age	0.013***	0.002***
	(0.002)	(0.000)
Num-son	-0.020	-0.003
	(0.034)	(0.005)
Num-daughter	0.006	0.000
	(0.029)	(0.004)
Registration	-0.184***	-0.028***
	(0.050)	(0.007)
East region dummy	-0.337***	-0.052***
	(0.044)	(0.007)
New media usage	0.258**	0.040**
	(0.103)	(0.016)
Cons	0.638***	
	(0.150)	
N	8381	8381
Pseudo R-Square	0.0332	
Prob>chi-square	0.0000	
Wald chi-square	151.22	

Test with robust standard errors

Note: *** Significant at the 1 percent level; ** Significant at the 5 percent level;

* Significant at the 10 percent level

As table 3 shows, the result is consistent with *hypothesis 1*: political capital generally has significant positive effects on basic medical insurance. The P value of core explanatory variable in model 1 is 0, which is significant at 1 percent level. The marginal effect of political capital

is 0.046, which means being a party member will increase 4.6 percent of probability to be covered with basic medical insurance.

More than that, as human capital factors, individual's age and spouse's education also play significant role on basic medical insurance coverage. The P value of age is 0, significant at 1 percent level. The margins of age is 0.002, showing that adding 1 year of age may increase 0.2 percent probability of basic medical insurance coverage. A reason to explain why age plays such an important role on basic medical insurance is that the CGSS survey includes young respondents in rural regions who are probably not aware of whether they are covered by the basic medical insurance coverage, thus providing negative answer. This is necessary to be explored in the future. The P value of number of spouse's education is 0.005; the marginal effect of that is positive, which reaches 0.022. This indicates that spouse's completion of nine-year compulsory education can create 2.2 percent more probability of basic medical insurance coverage. Registration is found having strongly significant effects on basic medical insurance coverage. The P value of registration is 0, which is significant at 1 percent. This is because rural residents enjoy a different basic medical insurance scheme (NRCMI) from urban residents (UEBMI and URBMI). Nevertheless, the marginal effect of registration is -0.028, showing that rural registration rather than urban registration may create 2.8 percent of probability on basic insurance coverage. It is consistent with the medical coverage development in 2008; coverage in rural regions (93 percent) is higher than that of urban areas (72 percent) (Center for Health Statistics and Information, 2009). East region factor seems to have strongly significance on basic medical insurance, yet the marginal effect of which is -0.052. This shows residents in western and middle China have 5.2 percent more probabilities to be covered by basic medical insurance, which demonstrates that central government has continuously emphasized on basic medical insurance coverage in western and middle China. As cultural capitals, being exposed into new media can have significant positive influence on basic medical insurance coverage. The P value of new media is significant at 5% level. The marginal effect of new media usage is 0.040, which indicates using new media the most frequently can increase 4 percent probability of being covered by basic medical insurance.

When it comes to commercial medical insurance results in Table 4, individual's and spouse's education, age and registration are significant at 1 percent level; party member, number of daughter and new media usage are significant at 5 percent level. The result of model 2 also explained hypothesis 2, 3, 4 and 5. In terms of *hypothesis 2* that predicted that political capital

has significant positive influence on commercial medical insurance coverage. The result of research is consistent with it. The P value of Party member is significant at 5 percent level (0.028), the marginal effect of Party member is positive, reached 0.019. This means being Party member increases 1.9 percent of probability of related coverage. Previous studies found individuals in the organizations with more political capitals are likely to get more welfare coverage. Also, party members were found having more information about opportunity and benefits, thus getting access to benefits more easily. In our research, party members are found more likely to purchase commercial medical insurance. This is probably because they have more information about how commercial medical insurance can bring more benefits to them, which can be discovered in the future.

Table 4 also tested the *hypothesis 3, 4, and 5*. When it comes to *hypothesis 3*, the P values of both individual's education is 0, which is significant at 1 percent level. The marginal effects of individual's and spouse's education are similarly 0.031, which shows that education of an individual, can create 3.1 percent probability to be covered by commercial medical insurance. This is consistent with *hypothesis 3:* the more educated an individual is, the more probable that individual is covered by commercial medical insurance. An individual with higher education level will be more aware of their benefits or welfare. They are accordingly more sensitive and strategic to grab opportunities for their welfare obtaining.

Testing result of *hypothesis 4* demonstrated that culture capital seems to have significant effects on commercial medical insurance, but with negative effects. The P value of new media usage is 0.066, significant at 10 percent level. Interestingly, the marginal effect of new media usage is negative (-0.027), which indicates the more frequently individuals use new media, the less probable (2.7 percent of less probability) he/she is covered by commercial insurance, which is opposite to the *hypothesis 4*. One explanation for this is when people use new media channel including radio, television, internet and mobile phone; they are less likely to search institutional information including commercial medical insurance. Furthermore, since commercial medical insurance is still a commercial business, despite information relating commercial insurance exists online, via radio or in the screen, people are tend to regard that information as advertisement or commerce, instead of considering it seriously. In contrast, the more printed media channel individuals use, the more probable they will be covered by commercial insurance.

Table 4: Results of Probit regression on Commercial medical insurance

Independent Variables	Coefficient (Robust Std.Err.)	Marginal Effect (Delta-method Std.Err.)
Party member	0.150**	0.021**
	(0.062)	(0.009)
Education	0.216***	0.031***
	(0.062)	(0.009)
Spouse's edu	0.196***	0.028***
	(0.060)	(0.009)
Age	-0.014***	-0.002***
	(0.002)	(0.000)
Num-son	-0.028	-0.004
	(0.038)	(0.005)
Num-daughter	-0.063*	-0.009*
	(0.035)	(0.005)
Registration	0.386***	0.055***
	(0.051)	(0.007)
East region dummy	0.240***	0.034***
	(0.046)	(0.007)
New media usage	-0.187*	-0.027*
	(0.102)	(0.015)
Cons	-1.157***	
	(0.156)	
N	8,059	8,059
Pseudo R-Square	0.0934	
Prob>chi-square	0.0000	
Wald chi-square	348.88	

Test with robust standard errors

Note: *** Significant at the 1 percent level; ** Significant at the 5 percent level;

* Significant at the 10 percent level

In terms of *hypothesis 5* that predicted that rural residents are more likely to be covered by commercial medical insurance. The result of this study is inconsistent with this hypothesis. The P value of household registration is 0, which is significant at 1 percent level. However, the

marginal effect of registration is positive 0.055, which indicates that urban registration increases 5.5 percent of probabilities on commercial medical insurance coverage. This result is can be explained by a previous study which mentioned that commercial medical insurance in China is still targeting at consumers of upper class (Dong, 2009). Despite the current status that commercial medical insurance opened its access for rural residents who have outstanding economic performance. Urban residents with higher household income are still the main targeted consumers of commercial medical insurance (Li et al, 2013).

When it comes to other control variables of human capital, following determinants are found significant, such as individual's and spouse's education, individual's age, number of daughters, registration and east region dummy. Number of sons does not have significant role on commercial insurance coverage. Number of daughter seems play more significant role than sons. However, the negative marginal effects of daughter number on commercial medical insurance provides an explanation that because of daughters' considerate taking care of their parents, these investigated "parents" are less likely to purchase commercial medial insurance since they regard it is unnecessary. Education of both individual and the spouse are important. Another interesting finding is although individual's age plays important role on commercial medical insurance, the negative marginal effect means that the older an individual is, the less likelihood he is willing to purchase commercial medical insurance. One explanation for this is that the older a person is the more conservative he/she is. East region factor plays significant role on commercial medical insurance coverage. The P value of east region factor is at 1 percent level, and the marginal effect is 0.034. The finding shows that residents in eastern China are 3.4 percent of more probability they have to purchase commercial medical insurance. Firstly, it is consistent with the previous explanation that commercial medical insurance are now targeting at consumers of upper class; the economic development in eastern China assembles more wealth and upper class residents. Secondly, based on government's efforts and investment on basic medical insurance coverage expansion focus on western regions, local residents are able to have more accesses to medical services and be more likely to afford medical expenditure. Therefore, in the current situation, commercial medical insurance does not play important role of expense reduction in western and rural region of China.

4.1 Robustness check

With illustration of Table 5, Table 6 and Table 7, this part tests whether the previous two models are robust, whether there is potential factor which can also have effects on medical insurance coverage, and whether the sample selected from CGSS 2013 dataset is representative.

4.1.1 Split sample tests

Based on what has been found above, region determinant leads to difference on basic and commercial insurance coverage. As Li, Yu and Yu (2010) pointed, the imbalance of economic development between east and west region had caused difference of pooling level and coverage level. Therefore, it is probably that political capital, human capital and cultural capital in our study may have different effects on medical insurance coverage on the basis of different regions. As consequence, it is necessary to discover how these determinants affect medical insurance coverage in east and non-east region, whether the effects are consistent with the 5 original hypotheses or satisfy the previous empirical results.

We first employed split sampling test based on region factor to check whether the previous results of hypotheses will change if it occurs in different regions. With the illustration of Table 5, split sample test results on the basis of region is as followed. In terms of hypothesis 1, party membership in east region plays more significant role in basic medical insurance coverage; the P value of which is under 1 percent level. In non-east region, party membership as political capital is under 5 percent level. In general, political capital does affect basic medical insurance in both east and non-east regions. Meanwhile, the positive sign of coefficients indicate that party membership will increase probability of being covered by basic medical insurance. This test satisfies the hypothesis 1 and related previous empirical result.

In terms of hypothesis 2, the P value of party membership for commercial medical insurance is at 10 percent level similarly in east and non-east region. This means political capital plays significant role in commercial medical insurance coverage but less important than that in basic medical insurance. The positive sign of coefficients also shows consistence with hypothesis 2, people with more political capital may increase probability to be covered by commercial insurance across different regions.

When it comes to hypothesis 3, the P value of education for commercial medical insurance in non-east region is at 1 percent level. That of east region is under 5 percent level. Due to positive signs of two educational coefficients, it demonstrates that education has significant positive effects on commercial medical insurance coverage in all regions. To be emphasized, education differ the purchase of commercial medical insurance more significantly in non-east region compared with east region.

Turning to hypothesis 4, as a measurement of cultural capital, the usage of new media is found not significant in non-east region but it is significant under 5 percent level in east region. This indicated that region difference can affect importance of cultural capital determinant. The negative sign of related coefficient in east region shows the similar result as previous test, which indicates that the usage of new media will not increase probability of being covered by commercial medical insurance. This is against the hypothesis 4 as well, but the robustness test focuses more on east regions.

Table 5: Split sample test based on region difference

	Basic medical		Commercial medical	
	East	Non-east	East	Non-east
Party_member	0.318***	0.282**	0.132*	0.180*
Education	-0.062	0.124	0.214**	0.222***
Spouse_edu	0.239***	0.034	0.192**	0.216***
Age	0.016***	0.008***	-0.017***	-0.009***
Num_son	-0.055	0.022	0.009	-0-068
Num_daughter	-0-061	0.083**	0.007	-0.148***
Registration	-0.128**	-0.289***	0.476***	0.270***
New_media	0.244**	0.418**	-0.246**	0.046
Cons	0.193	0.658**	-0.822***	-1.478***
Number of obs	4,225	4,156	4,043	4,016
wald chi2	69.39	41.58	180.31	108.31
Prob> chi2	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0231	0.0219	0.0739	0.0783

Test with robust standard errors
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

As to hypothesis 5, the previous empirical result shows urban registered people instead of rural residents are still more likely to be covered by commercial medical insurance, which dissatisfies

the original hypothesis. The split sample test finds that no matter in east or non-east region, registration is obviously important for commercial medical insurance coverage. Based on their positive coefficients, it demonstrates the empirical results but against the hypothesis 5.

Table 6: Robustness check for basic medical insurance

Basic Medical Insurance	(1) Probit model	(2) Probit model	(3) Probit model
Party member	0.331***	0.230**	0.251***
	(-0.051)	(0.076)	(0.070)
Education		0.0144	0.0548
		(0.053)	(0,049)
Spouse's edu		0.141**	0.139**
		(0.141)	(0.047)
Age		0.0129***	0.0116***
		(0.002)	(0.002)
Num-son		-0.0135	-0.0136
		(0.031)	(0.031)
Num-daughter		0.0096	0.0154
		(0.029)	(0.026)
Registration		-0.239***	-0.208***
		(0.047)	(0.047)
New media usage		0.266*	-0.0445
		(0.102)	(0.027)
East		-0.337***	-0.305***
		(0.043)	(0.041)
Labor union		0.517***	
		(0.082)	
Cons	1.239***	0.656***	0.926***
	(-0.0166)	(0.149)	(0.98)
N	11,313	8326	9060
Pseudo R-Square	0.0042	0.0421	0.0282
Prob>chi-square	0.0000	0.0000	0.0000
Wald chi-square	31.5	208.5	143.74

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In general, based on split sampling test, our empirical results are robust across different regions. However, the determinant of cultural capital determinant is not the same as previous results but specifically demonstrates the same effects in east regions. All in all, the previous empirical results are trustworthy basically.

4.1.2 The problem of over control

In previous chapter, the paper employed many control variables which could be problematic. Whether the insignificant variables for the core variable coefficient estimation still have the intended effect or not? Would it be possible to have interference effect instead? In order to solve this problem and better understand the relationship between medical insurance and political capital, re-estimation of the models are established without any other control variables. There is only political capital dummy used in the model. Column (1) of Table 6 and Table 7 shows an over control analysis exclude all the control variables namely for basic medical and commercial medical.

Compared with the original model in chapter 3, the results of over control analysis for both basic medical insurance and commercial insurance have no considerable changes. The sign of the coefficient is consistent and the value of coefficients has slightly increased. In addition, the results are statistically significant at 1% level, which clearly prove that party member is not influenced by other control variables in the previous part.

4.1.3 Extension of Model Estimation

In the second column of Table 6 and Table 7, the labor union dummy from Question A45, whether the respondent is currently a member of labor union is added to the baseline model to detect a potential political effect on basic medical welfare. The coefficient of Party member decreases from 30.14% to 23% after running the regression with labor union variable. The respective P value increase and the variable is significant at 5% level. The extension of the model does not quantitatively alter the magnitude and the size of the coefficient of the core variable. This illustrates the stability and supports the fit of the model. Labor union, as the additional variable is statistically significant at the 1 percent level and has positive sign of coefficient. The result is in line with the previous literature. Dong, Luo and Wei (2015) found that both Party and union have positive association with better insurance coverage. What's more the people in labor union have higher basic medical insurance coverage than Party.

Table 7: Robustness check for commercial medical insurance

	(1)	(2)	(3)
Commercial Medical Insurance	Probit model	Probit model	Probit model
Party member	0.280***	0.105	0.164**
	(-0.51)	(0.063)	(0.060)
Education		0.211**	0.213***
		(0.064)	(0.059)
Spouse's edu		0.196**	0.210***
		(0.063)	(0.0.056)
Age		-0.0138***	-0.0142***
		(0.002)	(0.002)
Num-son		-0.0232	-0.0145
		(0.037)	(0.034)
Num-daughter		-0.059	-0.0457
		(0.035)	(0.0311)
Registration		0.357***	0.376***
		(0.051)	(0.049)
New media usage		-0.193	-0.0255
		(0.103)	(0.029)
East		0.237***	0.262***
		(0.046)	(0.044)
Labor union		0.1805**	
		(0.060)	
Cons	-1.402***	-1.147***	-1.359***
	(-0.18)	(0.163)	(0.112)
N	10,870	8006	9060
Pseudo R-Square	0.0045	0.0950	0.0938
Prob>chi-square	0.0000	0.0000	0.0000
Wald chi-square	28.9	444.62	379.68

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.1.4 Sample Representativeness

Column (3) represents robustness check in the form of sample representativeness of baseline model. In the survey, it is difficult to avoid nonresponse, refuse to answer or other answer. This may result to the possibility of nonresponse error. Such error will affect the representativeness of the samples. The higher probability of nonresponse, There are two factors influence the nonresponse error (Groves, 1989). If there is no systematic difference between the respondents with answer or without answer, then nonresponse just reduce the actual sample size, thus leading to increased sampling error. If there are systematic differences of variable between respondents, then nonresponse will affect the representativeness of the sample in terms of variables.

In order to check the sample is representative of the target people, for Column (3), we add back all the response include people refuse to response, nonresponse and answer "other" in the baseline model. Therefore, the model will include all the people to avoid selection bias. The results of Column (3) in Table 6 and Table 7 are consistent with our hypothesis 1, 2, 3. It indicates that the main variable of interest have positive association with basic medical and commercial medical insurance coverage. Furthermore, party member is statistically significant in 1% level in both models.

5. Discussions

Along with economic reform, China's basic medical insurance system experienced series of improvements. Initially, residents of both rural and urban region could get free medical care since 1950s. With economic reforms, traditional medical system collapsed, marketization became an inevitable process of national healthcare reform after 1978. This created serious challenges to people both in rural and urban areas. Out-of-pocket expense on medical care increased rapidly from 1980s to 2000s. In view of challenges, further reforms of medical insurance were conducted with government's efforts, eventually shaping 3-pillar basic medical insurance. However, it is inevitable that some new problems emerged, such as inefficiency and limited contributions to cost reduction. Meanwhile, commercial medical insurance is in the track of development. It can reduce risks of poverty caused by catastrophic disease and provide necessary compensation for participants when they meet trouble of medical care. Commercial

medical insurance has expanded the coverage to both urban and rural residents currently. However, urban residents with higher income are still the main targeted consumers.

With market transition, political capital seems become less important than human capitals. However, previous studies found employees in private firms which have both Party branch and labor union are able to obtain the largest social welfare coverage. This indicates that organizational political capital still has effects on social welfare obtaining. In order to find out whether individual's political capital has significant effect on medical insurance obtaining, this study applied 2 Probit models for basic medical and commercial medical respectively. Political capital as a core variable is found to have significant positive effects on basic and commercial medical insurance coverage. That is to say, being a Party member can increase possibilities of both basic and commercial medical insurance coverage. Moreover, human capital factors including age, spouse's education and registration have significant impacts on basic medical insurance at 1 percent level. To be mentioned, urban registration surprisingly reduces the likelihood of basic medical insurance coverage, which indicates local governments has made great efforts on rural basic medical insurance coverage. As cultural capital factor, the usage of new media plays significantly positive role on basic medical insurance.

In terms of commercial medical insurance, many factors affect commercial medical insurance purchase, including political capital and human capital. The study demonstrated that education, as an important determinant of human capital, can have significantly positive impact on commercial medical insurance coverage because of its related ability and sensitiveness of information acquiring. The effect of urban registration demonstrates that commercial insurance is still targeting urban residents who are likely to possess higher income level to afford extra welfare related purchase. Interestingly, age and number of daughter plays negative role on it. The analysis of these two factors is because people tend to be more conservative, unwilling to try new stuff including commercial medical insurance. Also, with the considerate care taken by daughters, people think it unnecessary to be covered by commercial medical insurance. As to cultural capital, the usage of new media reduced probability of being covered by commercial medical insurance. One explanation is people are less likely to search insurance-related information via advanced media.

Given the conclusion that political capital of a person has positive effect on basic and commercial medical insurance, this study potentially provides suggestions to institutional

improvement, such as to give more supports on basic medical insurance coverage for eastern and urban residents; to popularize information and knowledge about commercial medical insurance at a larger scope; and to design more favorable policies on commercial medical insurance purchase for supporting rural customers. In terms of the future research, based on the given limitation of this study, given results and related analysis, some further investigation shall be conducted. Since the usage of cross-sectional data for this study cannot present a dynamic change of political effects on medical insurance, further investigation can be considered to apply panel data in order to find out the trend of political capital having effects on medical insurance coverage since 2000s. Another variable such as *number of labor* in a household which was not covered in this study, as well as *household income* which was analyzed in result yet was not involved in market transition theory, also needs to be considered for further study on impacts to commercial medical insurance coverage.

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