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Does health insurance matter? Evidence from China's urban resident basic medical insurance ☆

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ABSTRACT

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In 2007, China launched a subsidized voluntary public health insurance program, the Urban Resident Basic Medical Insurance (URBMI), for urban residents without formal employment. We estimate the impact of the URBMI on health care utilization and expenditure by a fixed effects approach with instrumental variable correction, using the 2006 and 2009 waves of the China Health and Nutrition Survey. We explore the time variation of program implementation at the city level as the instrument for individual enrollment. We find that this program has significantly increased the utilization of formal medical services, including both outpatient care and inpatient care, but it has not reduced total out-of-pocket health expense. We also find that this program has improved medical care utilization more for children, members of the low-income families, and the residents in the relatively poor western region. *Journal of Comparative Economics* xxx (xx) (2014) xxx–xxx. Central University of Finance and Economics, China; Renmin University of China, China.

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1. Introduction

Since the Chinese economic reform in 1978, China has been experiencing rapid economic growth. However, the economic success of China does not necessarily translate into social welfare gains for its citizens. For example, along with the economic growth, in rural areas we witnessed the dissolution of the Rural Medical Cooperative System, which was the cornerstone of

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the health care system in rural China. In urban areas, millions of workers lost their jobs and thus their employment-related health insurance during the retrenchment of state-owned enterprises starting from the mid-1990s. To improve the poor state of health care in China, the Chinese government has been trying to build up a universal public health insurance system in its recent health care reform. This ambitious public insurance system consists of three key programs: the Urban Employee Basic Medical Insurance (UEBMI) for the urban employed, initiated in 1998; the New Cooperative Medical Scheme (NCMS) for rural residents, established in 2003; and the Urban Resident Basic Medical Insurance (URBMI), covering urban residents without formal employment.¹ The last of these, the URBMI, is the focus of this paper.

After its launch in 2007, the URBMI was rapidly expanded from 79 cities in 2007 to 229 cities (about 50% of China's cities) in 2008, and to almost all cities by the end of 2009. This program covered 221 million persons in 2011 (NBS, 2012), amounting to around 16.5% of the Chinese population.

The main objective of this paper is to investigate the impact of the URBMI on health care utilization and expenditure. Understanding the effects of the URBMI, and comparing the effectiveness of the three major health care systems (UEBMI, NCMS, and URBMI), is an important endeavor. Each of these systems has its unique institutional setup, covers different populations, and has different levels of premiums and reimbursement. The comparison exercise will provide insights into resource allocation, the effectiveness of different components of the health care policy, the role of subsidies, etc. Study of the effectiveness of each individual program is an important step toward this kind of comparisons.² Nonetheless, there is little empirical research on the effectiveness of the URBMI, mainly because it started only a few years ago, and the proper data is limited. The only available study which examines the impact of the URBMI is Lin et al. (2009). Their study is based on cross-sectional data collected in December 2007, focusing on who are covered by the URBMI, who gain from it in medical expenditure, and whether the enrollees are satisfied with it.

Internationally, different aspects of public health care systems are widely studied in the literature. For example, Currie and Gruber (1996a,b, 1997, 2001) investigate the impact of the Medicaid expansion on health and health care in the United States, and find that the expansion has improved the health of newborn children and has increased health care utilization by their mothers. Card et al. (2008) find that the rise of Medicare coverage has decreased health disparity and increased health care utilization by the elderly in the United States. Cheng and Chiang (1997) and Chen et al. (2007) study the impact of the universal health care system in Taiwan, and find that it has significantly increased utilization of both inpatient and outpatient care services by Taiwanese elderly. Given the different development stages, subsidy levels, and copayment policies, it would be instructive to compare findings from developing countries, like China, with findings from the developed countries.

Different from public health insurance systems in most developed economies, the URBMI is a voluntary insurance program with heavy government subsidies. To estimate the impact of the URBMI, we use panel data from the China Health and Nutrition Survey (CHNS), which is a longitudinal survey project and has collected eight waves since 1989. The last two waves were collected in 2006 and 2009. This feature of the data and the timeline of the implementation of the URBMI allow us to better control for unobservables and possible selection bias (e.g., Heckman, 1990), which is especially important in the context of a health insurance plan with voluntary enrollment.

In this paper, we are interested in estimating the treatment effect on the treated of the URBMI, which is an important measure of the effectiveness of policy programs and a key policy variable with voluntary participation. Lei and Lin (2009) and Wagstaff et al. (2009) also estimate the treatment effect on the treated when they evaluate the impact of the NCMS, the voluntary health insurance program in rural China.

Our starting empirical strategy is the fixed effects approach at the individual level. Admittedly, individuals may select into the URBMI nonrandomly. While fixed effects can be used to control for time-invariant unobservables, it is still vulnerable to bias caused by time-variant unobservables. In order to control for this potential bias, we explore the time variation of the URBMI implementation at the city level as the instrumental variable to correct for possible endogeneity of individual URBMI enrollment status.³ So our main empirical strategy is a fixed effects model with instrumental variable.

The remainder of the paper is organized as follows: In Section 2, we briefly introduce the current Chinese health insurance system, and pay special attention to the institutional setup of the URBMI. In Section 3, we describe the China Health and Nutrition Survey, define the main dependent variables and independent variables, and present descriptive statistics. In Section 4, we discuss our empirical strategies. Section 5 gives our main results for the whole sample as well as results for different age groups, income groups, genders, and regions. In that section, we also conduct several empirical tests to validate our instrumental variable. We conclude the paper with Section 6.

¹ The enrollment rates are 80.7% for the UEBMI, 90.0% for the NCMS, and 63.8% for the URBMI in 2008; these percentages increased to 92.4%, 96.6%, and 92.9% in 2010, respectively (Yip et al., 2012). In 2010, there were 237 million, 835 million, and 195 million enrollees of the UEBMI, the NCMS, and the URBMI, respectively. Overall, 1.27 billion out of a total of 1.34 billion persons were enrolled in these three public health insurance programs in 2010; see National Bureau of Statistics (NBS) (2011) and the National Development and Reform Commission (NDRC) (2011).

² Several studies (Wagstaff et al., 2009; Lei and Lin, 2009; Yip and Hsiao, 2009; Sun et al., 2009) investigate the impact of the NCMS on health care utilization and health care expenditure, and find that it has had a positive impact on health care utilization, but its impact on health care expenditure has been limited. Wang et al. (2006) focus on the question of adverse selection in the NCMS, and finds evidence of adverse selection. Liu et al. (2014) find that social learning has been playing an important role in the NCMS take-up decision. Chen and Jin (2012) examine the linkage between the NCMS and the health and education outcomes, and find that the NCMS does not affect child mortality or maternal mortality, but improves school enrollment of six-year-old children.

³ We are grateful to one referee for suggesting this approach. Lei and Lin (2009), Wagstaff et al. (2009), and Chen and Jin (2012) rely on difference-in-differences (DID) methods in their studies on the impact of the NCMS. We also experimented with the DID method in the earlier version of this study, and the results are quantitatively similar.

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