CORVINUS UNIVERSITY OF BUDAPEST

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Essays in Health Economics

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Contents

1. Research background and justification for the selection of the topic

1.1 Background

This thesis has examined three aspects of household decision-making, healthcare systems, and health equity in Indonesia and China, respectively.

The first article addresses the research question of how decision-making affects the relationship between women's intra-household bargaining power and household spending on children's human capital in Indonesia. We analyze how decision-making authority is associated with the share of household spending devoted to food, education, and health for children. We also examined the determinants of women's bargaining power within the household in Indonesia.

The second article discusses what explains geographic (urban/rural or provincial) variation in healthcare utilization and health outcomes, and how large the effect of geographic variation is among middle-aged and older adults in China. In addition, this research studies how individual characteristics as demand-side factors (e.g., education, insurance, age) and supply-side factors (e.g., provincial health infrastructure)

influence healthcare use and health status. Lastly, the paper highlights the effect of migration (urban-to-rural or rural-to-urban) on healthcare utilization.

The third article addresses the integration of two separate public health insurance schemes, namely Urban Resident Basic Medical Insurance (URBMI) for urban residents, and New Cooperative Medical Scheme (NCMS) for rural residents, into unified Urban and Rural Resident Basic Medical Insurance (URRBMI). This study investigates how the integration of China's health insurance schemes affected healthcare utilization and health outcomes, and to what extent the reform reduced rural-urban disparities in healthcare access and utilization, and if the transition from separate rural and urban schemes to the unified URRBMI created short-term disruptions in utilization during the implementation period.

1.2 Why is it important

The first article highlights gender equality, women's role and decision-making authority in the household, and its contribution to child well-being in the long run through household budget allocation. The second and third articles address the inequality between urban and rural residents, their health status, and healthcare utilization. It also evaluates the impact of movement

and health insurance policy reform to minimize the inequality between urban and rural areas.

Considering together, the studies highlight the importance of both intra-household dynamics with implications for household budget allocation toward children, and institutional arrangements in shaping healthcare utilization, health equity, and policy design.

1.3 Data

The first article uses the cross-sectional data from the Indonesia Family Life Survey IFLS Wave 5 for the survey year 2015. The second and third articles utilize the same dataset from the China Health and Retirement Longitudinal Study (CHARLS). IFLS data is a cross-sectional survey dataset, and CHARLS data is a panel individual survey dataset covering waves 1-5 for the survey years 2011-2020 in China.

2. The methods used

The first article investigates the association of women's bargaining power with household budget allocation, with a focus on spending related to food, bad goods, education, and health, key channels for investment in child human capital. First, we identify covariates associated with varying levels of women's

bargaining power using a multinomial logit model. Then, we use Ordinary Least Squares (OLS) to examine the association of women's bargaining power on spending shares.

The second article employed a combination of pooled Ordinary Least Squares (OLS), individual fixed effects (FE) models, and a difference-in-differences (DiD) specification with an event study design to examine geographical differences and the impact of mobility between urban and rural areas on healthcare utilization.

The third article estimates pooled OLS models using the pre-integration sample (Waves 1-3) to establish baseline associations between insurance type and key outcomes, including self-reported health status, and the probability of outpatient and inpatient visits. Then, I turn to a difference-in-difference (DiD) framework with event study, comparing outcomes before and after health insurance integration between treated and control groups which are differentially exposed to the reform. In this research, individuals enrolled New Cooperative Medical Scheme (NCMS) during the in-pre-reform wave are classified as the treated group. In contrast, individuals covered by Urban Employee Basic Medical Insurance (UEBMI) in any pre-reform are assigned to the

control group, given that their insurance status was unaffected by the reform.

3. Scientific results of the dissertation (in bullet points)

3.1 **Women's Bargaining Power and Household Budget Allocation to Human Capital: Evidence from The Indonesia Family Life Survey**

- Higher levels of wife education sharply reduce the likelihood of women having no say in food, and education expenditure, and significantly increase their chances of having full decision-making power in food spending, but result in a strong shift toward joint decision-making in education and health spending. Further, a higher level of schooling for either wife or husband lowers the chances of the wife having no say and the wife deciding alone in health spending.
- Employment also increases women's bargaining power, though it tends to promote more joint decision-making rather than full autonomy.
- In high-income households, women are more likely to have full control over food expenditure decisions and

less likely to share or lack decision-making power. Resources and environment, for example income, urban living, larger families, push the balance towards greater wife autonomy, not toward joint decision making.

- According to the results, women's involvement in the household budget decision decreases the allocation toward bad goods in the family at each level of involvement compared to no participation.
- Compared to no female decision making, the share of food spending is larger under partial (joint) decision-making and less partial decision-making, but lower under full female decision-making.
- For education, compared to households in which women report no bargaining power, the budget share allocated to education is lower in households where women exhibit greater decision-making authority. A similar pattern emerges for health expenditures, where joint decision-making is associated with a smaller share devoted to child health.
- Having full bargaining power and less partial control compared to no bargaining power does not make a

difference in insignificance in how much households allocate to health spending. As far as the other variables are concerned, urban households spend a smaller share on undesired goods, but allocate a larger share to education compared to their rural counterparts.

- Larger households dedicate a greater share of their budget to food, reflecting increased overall demand. However, they tend to allocate less to education and health, likely due to resource constraints.
- Spending on bad goods is relatively higher, which may further reduce investment in essential categories such as education and health.
- Households with older wives allocate slightly less to food, likely reflecting shifts in consumption preferences. These women appear to place greater emphasis on education spending while reducing expenditures on bad goods.
- Wealthier households (with higher total spending) allocate a smaller proportion of their budget to food and bad goods, and a larger proportion to health.

- Households with female and older children spend more on education but less on health, while, understandably, less is spent on health if the child is healthier.

3.2 The Geographic Variations in Utilization of Healthcare Services in China: Evidence from The China Health and Retirement Longitudinal Study (CHARLS)

- As for urban and rural residences, urban residents have reported better health. However, urban people have a higher risk of hypertension and diabetes.
- Self-rated health is influenced by income, age, gender, education, and urbanization.
- Objective health outcomes (hypertension, diabetes, blood pressure) worsen with age and urbanization differences.
- Older age groups (56+) have higher outpatient visit probabilities and visit counts.
- Females are more likely to visit outpatient care and have higher visit counts.
- Tertiary education significantly increases outpatient visit probabilities but not visit count.

- Poorer self-rated health is associated with more outpatient and inpatient visits and higher costs.
- Greater provider or institutional density does not guarantee higher utilization, highlighting the importance of system design, financial protection, and patient behavior.
- Compared with the uninsured, all insurance schemes are associated with significantly higher probabilities of outpatient and inpatient visits. However, important differences emerge across types of coverage. Urban Employee Insurance exhibits the strongest effects, with beneficiaries not only more likely to seek care but also to have more visits and substantially higher expenditures, particularly for inpatient services.
- Mobility between urban and rural areas does not independently drive healthcare use once fixed effects are accounted for, whereas economic context, worsening self-health, and broader temporal trends are the main forces behind rising outpatient and inpatient utilization.

3.3 The Impact of Change in Health Insurance on Utilization of Healthcare Services in China: Evidence from the China Health and Retirement Longitudinal Study (CHARLS)

- The results confirm well-known demographic patterns: older individuals report worse health and use more healthcare, while higher education is associated with better health. Importantly, when comparing insurance types, no significant differences emerge between the New Cooperative Medical Scheme (NCMS) and Urban Resident Basic Medical Insurance (URBMI) in terms of self-rated health or healthcare utilization, while those with Urban Employee Basic Medical Insurance (UEBMI) show better health status and have a higher probability of utilizing outpatient and inpatient care.
- Before integration into unified urban and rural insurance, disparities between NCMS and urban schemes were not strongly reflected in utilization probabilities, but the urban employed were advantaged, and the uninsured were clearly disadvantaged.
- During the transition period, NCMS enrollees exhibited significantly lower outpatient and inpatient utilization

relative to controls, consistent with administrative frictions in the early phase of integration. By the post-reform period, however, these disparities appear to narrow, as overall outpatient and inpatient use rises and NCMS participants show levels closer to those of UEBMI.

- The event-study result suggests that health insurance integration does not lead to sustained increases in outpatient and inpatient use among treated individuals. Instead, the reform appears to generate only a small, short-lived reduction in both outpatient and inpatient visits during the transition period, which is consistent with temporary administrative or behavioral frictions rather than structural changes in access.

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