Impact of Universal Health Coverage on Household Precautionary Savings in Thailand

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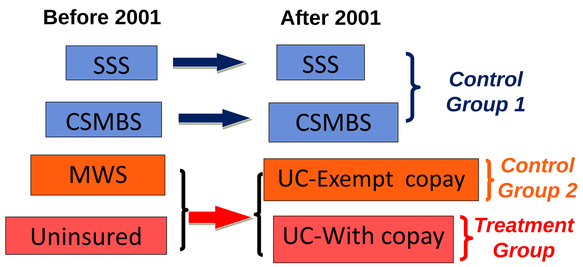
Background

In 2001, the Thai government launched a Universal Healthcare Coverage Scheme that provided access to healthcare for all individuals who were previously uninsured and who were covered by Medical Welfare Scheme (MWS). With this new scheme in place, Thailand now has three public schemes: the Civil Servants Medical Benefit Scheme (CSMBS), the Social Security Scheme (SSS), and the Universal Coverage (UC) Scheme.



Percentage of Population Covered by Different Health Insurance Schemes

Type of health insurance	1996	2001	2004	2007
No insurance	53.88	28.5	5.28	3.6
MWS	13.67	32.26	-	-
Voluntary health card	14.87	20.15	-	-
UC – Exempt 30 baht	-	-	32.43	43.56
UC – Pay 30 baht	-	-	41.08	29.4
SSS	5.41	7.11	9.65	11.07
CSMBS	10.9	8.95	9.84	9.31

Source: Health and Welfare Survey (1996-2007)

Objective

The objective of this study is to evaluate the impact of the UC Scheme on the economic behavior of households whose members became eligible for UC coverage in 2001, as opposed to the behavior of households who were covered by the other two existing public insurance schemes in 2001, namely the Civil Servant Medical Benefit Scheme (CSMBS), Social Security Scheme (SSS), and the previous Medical and Welfare Scheme (MWS).

Significance of Research:

• A multi-period life-cycle model is developed to explain precautionary savings for uncertain medical expenditures, and applied to the context of universal health coverage, which has not been done before.

•Findings on the relationship between health insurance and precautionary motives for savings will promote a better understanding of the broader economic impacts of government health care policy, such as changes in consumption behavior and the re-allocation of resources from the general population to the UC beneficiaries.

Precautionary Savings for Medical Uncertainty

• The introduction of the UC Scheme, which guarantees access to health care services, reduces a household's uncertainty about future health expenditures and also reduces its expected size of future health care expenditure. This risk reduction effect should lead to an increase in consumption and a decrease in saving.

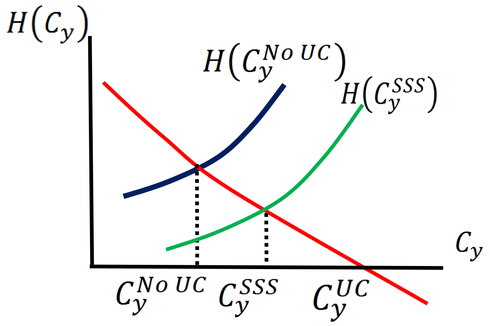
• In addition to the risk reduction effect, there is an income effect; UC increases expected life cycle income net of medical expenses for the households whose members are UC beneficiaries, because UC is funded largely by general tax revenue and households contribute only a trivial amount of payment to use the program.

Methodology

• The analysis will be based on the economic theory of precautionary saving. By extending the models proposed in Kotlikoff (1989) and Chou et al. (2003), a multi-period life-cycle model is developed to explain precautionary savings for uncertain medical expenditures.

• Based on the preliminary model, it is expected that the change in consumption level of households who were previously uninsured and had recently become insured will be greater than the change in consumption level of households who are always insured.

Relationship between Savings and Consumption in a 2-period Model



Where Cy = consumption level and H(Cy)= saving function.

Results from a Multi-period Model

• Optimal consumption satisfies:

$$C_{t+1} = C_t + \frac{\alpha}{2}[\omega^2\sigma^2 + \delta^2] + \omega\eta_t + \varepsilon_t$$

Where ε_t =income shocks and η_t = health shocks

(delta and sigma are variances of the two shocks).

•The difference in the optimal consumption before and after the introduction of the UC Scheme is positive, and its magnitude depends on the current medical expenditure and the variances of expected income and health shocks.

Empirical Strategy

• **A difference-in-difference method** is used to compare the change in savings before and after the enactment of the UC between the treatment and control groups.

•**Treatment group :**UC beneficiaries (who were previously uninsured)

• **Control group:** the CSMBS and SSS beneficiaries (who received the same insurance packages before and after the UC).

•**Difference-in-difference estimator:**

$$\Delta S^{UC} = (S_{Treat}^{After} - S_{Treat}^{Before}) - (S_{Control}^{After} - S_{Control}^{Before})$$

Where *Sit*=saving:

$$S_{it} = \alpha + \beta_1 UC_{it} + \beta_2 Treat_{it} + \beta_3 UC_{it} * Treat_{it} + \gamma_1 X_{it} + \gamma_2 \tau_t + \varepsilon_{it}$$

Data

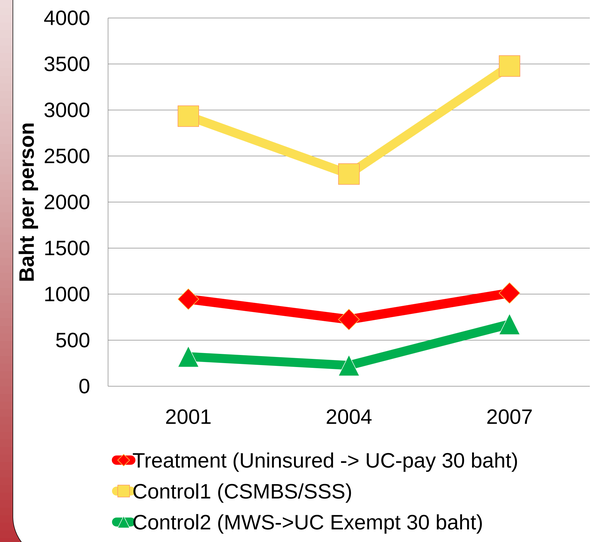
Two main datasets used in this study are the Socio-Economic Survey (SES) and Health and Welfare Survey (HWS) collected in the years 1996, 2001, 2004, and 2007.

• **HWS** includes information on individual health status, health care utilization, out-of-pocket health care expenditure, health insurance status.

• **SES** includes data on household members' characteristics, such as age, gender, education, and occupation.

The total income and total expenditures data available in the SES data can be used to calculate the implied level of household savings, which will be used in the analysis of household precautionary saving behavior.

Average Monthly Savings for Treatment and Control Groups



Pseudo-Panel Estimation

•The main problem in this research is the lack of true panel data. Hence, a pseudo-panel will be created estimated by using age cohorts, based on the method suggested by Deaton (1985).

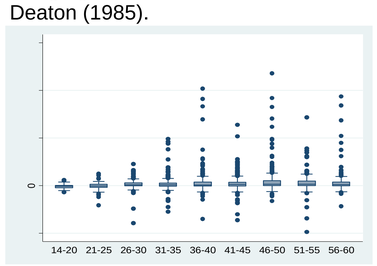


Figure illustrates average household monthly savings across head's age cohorts for households with *uninsured household members* in 2001.

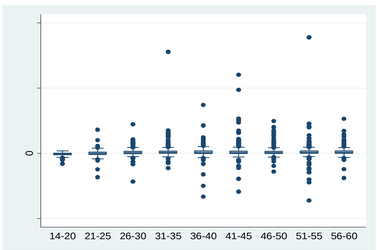


Figure illustrates average household monthly savings across head's age cohorts for households in which *members are covered by the UC Scheme* in 2004.

Summary and Discussion

• Based on the theoretical model, household's precautionary savings are expected to be smaller as a result of the UC implementation.

• A pseudo-panel estimation will be used to determine the change in household saving as a result of the change in health insurance status.

•The analysis can provide a policy implication on how the government health care policy alters household consumption behavior and whether it re-allocates economic resources through the provision of public health services.

Main References

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