Financing Universal Health-care Coverage

Worawan Chandoevwit*

I. INTRODUCTION

Social security has become an issue of serious public concern now that Thailand has climbed higher on the development ladder and its population is attaining higher levels of education. Health-care services comprise one of the major forms of social security agreed by the public as a priority. After Thailand's major reform of the health-care system in 2001, it is obvious that both the public and the government are paying more attention to the country's health-care system.

Thailand has developed three main public health-care schemes, the first of which covers government officials and dependents (Civil Servants Medical Benefit Scheme, or CSMBS) and state enterprise employees and dependents. The CSMBS provides subsidized health-care coverage and is considered by the public as a generous attractive fringe benefit for government officials. The scheme is financed from government budget through the Comptroller-General's Office. Health-care coverage for state enterprise employees is not inferior to that offered under CSMBS. Each state enterprise has its own package of health-care benefits.

The second health-care scheme, the Social Security Scheme, covers private employees in the non-agriculture sector. To receive health-care benefits and other benefits, private employees and their employers must first pay contributions into the scheme. This health-care scheme is subsidized by the government through its contributions to the Social Security Fund.

The third scheme is the 30-Baht Health-care Scheme, which covers residents of Thailand not covered by the first two schemes. The name "30 Baht" is derived from the user fee of 30 baht (about 75 US cents) per visit, for a wide range of outpatient or inpatient hospital care. This scheme is now four years old.

Government expenditures on these three health-care schemes in 2003 totaled 68.3 billion baht,[1] which represents approximately 6 percent of total government spending. The 30-Baht Health-care Scheme accounts for 59 percent of the expenditures on the three health-care schemes. Even with such very high expenditures on the 30-Baht scheme, many stakeholders have raised the issue of inadequate budget allocation to the program needed to achieve the standard quality of health care. Many hospitals insist that they have gone into debt because of the program and, if prosperous enough, some of them would use their own savings to keep the hospitals running effectively. Many doctors and health-care professionals complain about their workload, which has increased because the 30-Baht Health-care Scheme increases health-care utilization. The arguments pro and con concerning the program have been around for four years; however, there is consensus among the stakeholders that the program is underfunded.

The purpose of this study is to project the expenditures on the 30-Baht Health-care Scheme to analyze how much more budget the government should allocate to the program and to provide recommendation on possible sources of funding.

II. PROJECTED HEALTH-CARE EXPENDITURES

In 2005, the size of the population covered by the scheme for government officials and state enterprise employees is approximately 6 million (Table 1). The number of eligible private employees is approximately 8.8 million, which is lower than the number that had been projected for the time when the Social Security Act would enter into full force. According to the Social Security Act, all non-agriculture private enterprises must register with the Social Security Office and enroll their employees with the Social Security Fund in order for them to be covered by various types of benefit, including health-care benefits. If the Act is fully complied with, the number of eligible private employees covered by the Social Security health-care scheme should be 11 million in 2005. Private employees who are not covered by the Social Security health-care scheme are legally eligible to

* *Dr. Worawan is Senior Research Specialist, Human Resources and Social Development Program, TDRI and Lecturer at the Faculty of Management Science, Khon Kaen University. Comments may be e-mailed to the following addresses: wchandoe@yahoo.com or worawan@tdri.or.th.* *This article is part of the research project entitled "Extra Funding for Universal Healthcare Coverage" funded by the Health Systems Research Institute.*

Table 1 Number of Eligible Persons under Three Health-care Schemes (millions)

	2005	2006
1. Population[1]	64.765	65.233
Scheme for government and state enterprise employees plus dependents		
2. Government officials plus dependents[2]	5.433	5.433
3. State enterprise employees plus dependents[2]	0.649	0.649
Scheme for private employees (Social Security Scheme)		
4. Private employees in non-agriculture sector	10.988	11.274
5. 20 percent of the private employees excluded from Social Security Scheme	2.198	2.255
6. Eligible private employees: (4)-(5)	8.790	9.019
30-Baht Scheme		
7. Eligible population: (1)-(2)-(3)-(6)	49.892	50.133

Note: The size of the population covered by the scheme for government and state enterprise employees is assumed to be constant, as the government has frozen these two types of worker. The figures could be smaller in the future in line with privatization and government downsizing policies.

Sources: Calculated by TDRI.
[1] NESDB (2003).
[2] NSO (2003).

get health-care benefits under the 30-Baht Health-care Scheme. In 2005, approximately 50 million people are eligible for health-care benefits under the 30-Baht Health-care Scheme; however, in the previous year, only 47 million were eligible (NHSO 2004). We could conjecture that approximately 3 million Thais, either voluntarily or involuntarily, are missing from the public health-care system.

The introduction of the 30-Baht Health-care Scheme in 2001 produced a new mechanism for financing universal public health care. The autonomous National Health Security Office (NHSO) was founded to be a health-care purchaser, while the Ministry of Public Health and hospitals were to be providers. The government allocates budgets to NHSO based on the population registered under the 30-Baht Health-care Scheme and capitation costs.[2] The size of the registered population was approximately 45 million in 2002, when the 30-Baht Health-care Scheme covered the country completely.

Even though many studies point out that approximately 3 million people are missing from the public health-care system, searching for this population is not on the agenda for public debate. This is probably because the public believes that the missing poor could be added-in when they are admitted to their neighborhood hospitals. A hotter debate concerning the 30-Baht Health-care Scheme among government health-care providers, as well as purchasers and academics, is the negotiation of capitation costs.

The capitation cost has to be negotiated because no one knows the actual cost of hospital care. NHSO claims that capitation costs were 1,447, 1,600 and 1,674 baht during the three-year period from 2002 to 2004. However, the government decided to allocate 1,202 baht in fiscal years 2002/03 and 2003/04 and 1,380 baht in fiscal year 2004/05. Using the actual health-care utilization rate, NHSO shows that additional funding of 27 billion baht should have been allocated to the 30-Baht Health-care Scheme to meet the actual costs (NHSO 2004).[3]

A projection done by Viroj (2005) shows that the capitation cost of the 30-Baht Health-care Scheme should be 2,000 baht in fiscal year 2005/06, which is much higher than the allocated capitation cost in 2004/05. However, this cost would ensure the standard quality of health care using the actual health-care utilization rate in 2004 as a benchmark. When this cost is indexed by the average growth rate of a typical government official's salary (6%), it will grow to 2,129 baht in 2006 (Table 2). Using the eligible population (50 million) under the universal 30-Baht Health-care Scheme and the administrative cost (for NHSO) of 3 percent of the capitation cost, the expenditures for the 30-Baht Health-care Scheme are expected to be 109.5 billion baht in 2006. In 2004, the actual budget allocated to the 30-Baht Health-care Scheme was 67.4 billion baht. If this actual budget grows by 6 percent annually, it would reach 75.7 billion baht (Table 2). In cases where the budget allocation principle has not changed, it is expected that the budget allocation for the 30-Baht Health-care Scheme will reach 75.7 billion baht in 2006. In cases where the capitation cost is 2,120 baht, the 30-Baht Health-care Scheme needs extra funding of 33.8 billion baht.

Table 2 Projected Expenditures for 30-Baht Health-care Scheme

	2005	2006	2009
1. Number of eligible persons (millions)	49.892	50.133	52.352
2. Capitation cost[1]	2,000	2,120	2,525
3. Projected cost: (1)×(2)×administrative cost of 3%	102,779	109,469	136,152
4. Projected government budget for 30-Baht scheme [2]	71,421	75,706	90,167
5. Extra funding for 30-Baht scheme (3)-(4)	31,358	33,763	45,985

Notes: [1] Capitation cost is calculated by Viroj NaRanong (2005) using the health-care utilization rate from Ministry of Public Health administrative data. It is assumed that the cost grows by 6 percent per year which is approximately the growth rate of a typical government official's salary promised by the Prime Minister in 2004.

[2] Based on the amount of 67,378 baht in 2004 multiplied by the growth of a typical government official's salary.

Source: Worawan (2005).

III. POSSIBLE SOURCES OF FUND

A possible source of extra funding for the 30-Baht Health-care Scheme is from tax revenues.[4] Direct taxes such as personal income tax might be a good candidate for raising tax revenues. However, the government has a clear policy not to increase the marginal tax rate. One might say that an effort to expand the tax base might help. Since 2001, the Revenue Department has tried hard to improve revenue collection. It was able to increase Personal Income Tax Returns by 13 percent in 2004 compared with 1998. However, revenue collection from personal income taxes increased by less than 20 billion baht during the same period. More serious effort is required to increase revenues from personal income taxes by 33.8 billion baht.

Other sources of tax revenues are the Value Added Tax (VAT) and the excise tax on some commodities. After the 1997 financial crisis, the VAT was reduced from 10 to 7 percent. In 2003, VAT accounted for almost 30 percent of tax revenues (Table 3). An increase in the VAT to 10 percent could raise a large sum of revenues for the government. Increases in the excise taxes on tobacco products and alcoholic beverages were proposed by many groups seriously concerned about health. They proposed that an additional excise tax be levied on tobacco products and alcoholic beverages, private consumption of which increases health-care costs, in order to finance universal health-care coverage. Revenue collected from these taxes was approximately 100 billion baht in 2003.

In this study, we calculate the extra revenue raised if the VAT and the excise tax rates on tobacco products, alcoholic beverages or fuels are increased. The excise tax on fuels is proposed to increase because Thailand levies a low rate compared with many countries concerned about public health and the efficient use of resources (e.g., Canada and the United Kingdom). It is assumed that in 2005 the VAT rate would increase to 10 percent, or that the excise tax rates on alcoholic beverages, tobacco products or fuels would increase by 40, 70 and 30 percent respectively. The excise tax rate increase is an approximation of the revenue increment sufficient to cover the extra funds required for the 30-Baht Health-care Scheme.

Table 3 Selected Tax Revenues (millions of Baht)

	Jan.-Dec. 2002	Jan.-Dec. 2003	Jan.-Oct. 2004
Total tax revenue	896,706	1,059,847	998,243
Personal income tax	110,149	122,222	116,674
Corporate income tax	163,861	216,037	240,383
Value added tax	235,140	273,621	270,081
Excise tax from:			
- Fuels	68,715	75,508	65,241
- Tobacco	32,753	33,091	31,419
- Liquor	24,886	24,910	20,496
- Beer	29,808	39,817	33,807
- Non-alcoholic beverages	7,901	8,844	7,830

Source: Ministry of Finance.

A tax rate increase on a particular commodity changes the relative prices of that commodity. As a result, it changes the relative consumption of the household. In this study, consumption and price data from the National Income Account in the period 1980-2002 were used to calculate price elasticities. The price elasticities on alcoholic beverages and tobacco products were found to be close to 1 (-0.89 and -0.80 respectively) but the price elasticity on fuel consumption was inelastic (-0.20). This finding is far from that of the study by Isara (2003). Using micro data, Isara found that price elasticities for alcoholic beverages and tobacco consumption were -0.54 and -0.39 respectively. Moreover, Isara's study found that approximately 46 percent of cigarette packages collected on the street in many provinces around Thailand were contraband cigarettes. One possible reason for the different result from that of Isara stems from the fact that Isara's consumption data included the consumption of contraband cigarettes. Galbraith and Kaiserman (1997) showed that the price elasticity of taxed cigarette consumption (-1.01) is higher than that of taxed plus untaxed cigarette consumption. Thus, a tax on cigarettes may not be an effective tool to reduce smoking or to raise tax revenue. Higher tax rates reduce taxed cigarette consumption and increase contraband cigarette consumption.

The effect of the tax rate changes on tax revenues was simulated using the Computable General Equilibrium Model developed by TDRI. The results are shown in Tables 4 and 5. An increase of the VAT rate to 10 percent in 2005 would increase revenues from indirect taxes by 20 percent in 2005. The VAT and business tax revenues would increase by 158 billion baht in 2006.

An increase of the excise tax raises less additional tax revenue than an increase in the VAT. If the excise tax on alcoholic beverages increases by 40 percent in 2005, the excise tax revenue increases by 15 percent. In 2006, the excise tax revenue after one year at the changed tax rate increases by 21 billion baht. This effect is small compared with a 30-percent fuel tax increase, as the fuel tax has a broader base than that on alcoholic beverages. In 2006, additional excise tax revenue would increase by 36.6 billion baht if the fuel tax rate is increased by 30 percent in 2005.

Table 4 Growth of Tax Revenues in 2005 When a Tax Rate Changes (percent)

	VAT increases from 7% to 10%	Excise tax increases		
		40% for alcoholic beverages	70% for tobacco products	30% for fuels
Indirect taxes	20.45	10.62	9.98	13.14
- VAT plus business tax	50.75	7.31	7.85	7.31
- Excise tax	6.88	15.20	13.28	20.65
- Import duty	4.74	5.14	5.67	4.83
Direct taxes	3.87	5.41	5.31	5.40
- Corporate income tax	3.74	5.30	4.41	5.36
- Personal income tax	4.15	5.66	7.19	5.49
Total tax revenues	**13.71**	**8.50**	**8.09**	**10.00**

Source: Worawan (2005).

Table 5 Projection of Tax Revenues in 2006 Following Changes in Tax Rates (millions of Baht)

	VAT increases from 7% to 10%	Excise tax increases		
		40% for alcoholic beverages	70% for tobacco products	30% for fuels
Indirect taxes	154,284	19,237	16,219	34,482
- VAT plus business tax	157,769	-1,467	477	-1,503
- Excise tax	-2,734	21,020	15,492	36,638
- Import duty	-751	-316	250	-653
Direct taxes	-8,209	-1,522	-1,807	-1,601
- Corporate income tax	-5,452	-994	-3,495	-824
- Personal income tax	-2,757	-528	1,687	-777
Total tax revenues	**146,075**	**17,715**	**14,412**	**32,881**

Note: Economic growth is 5.77 percent per year.

Source: Worawan (2005).

A 70-percent increase in the cigarette tax rate does not generate enough tax revenues to finance the extra fund requirement for the 30-Baht Health-care Scheme. In 2006, extra excise tax revenues would be 15.5 billion baht if the cigarette tax is increased by 70 percent in 2005.

IV. CONCLUSION

In 2006, approximately 50 million Thais will be eligible for coverage under the 30-Baht Health-care Scheme. If the capitation cost to maintain the standard quality of care is considered, the projected expenditure for the program will be 109.5 billion baht, or approximately 10 percent of the total tax revenue. This health-care cost can be reduced by encouraging the Social Security Office to enroll effectively all private employees in the Social Security health-care scheme. This would reduce the number of eligible people under the 30-Baht Health-care Scheme by approximately 2 million.

Without any expenditure reduction, more funding will need to be added to the 30-Baht Health-care Scheme. Many stakeholders, particularly health-care professionals, have suggested that the government raise the excise tax on alcoholic beverages and tobacco products, and earmark the resulting additional tax revenue for the 30-Baht Health-care Scheme.

This study has shown that the additional tax revenues raised by a 40 percent increase of the alcoholic beverages tax and a 70 percent increase of the tobacco tax would be 21 billion baht and 15.5 billion baht respectively in 2006. Thus, taxes on alcoholic beverages and tobacco products do not seem to be good tools to raise tax revenues and reduce private consumption of these commodities. The price elasticities of these two commodities are high and close to 1, whereas the price elasticity of fuel consumption is low. Raising the excise tax on fuel by 30 percent would increase the excise tax revenue by 36.6 billion baht in 2006. However, adjusting the commodity tax rates may require further evidence of the marginal cost of public funds of the commodity taxes. Raising the commodity tax with a comparatively high marginal cost of public funds is not recommended.

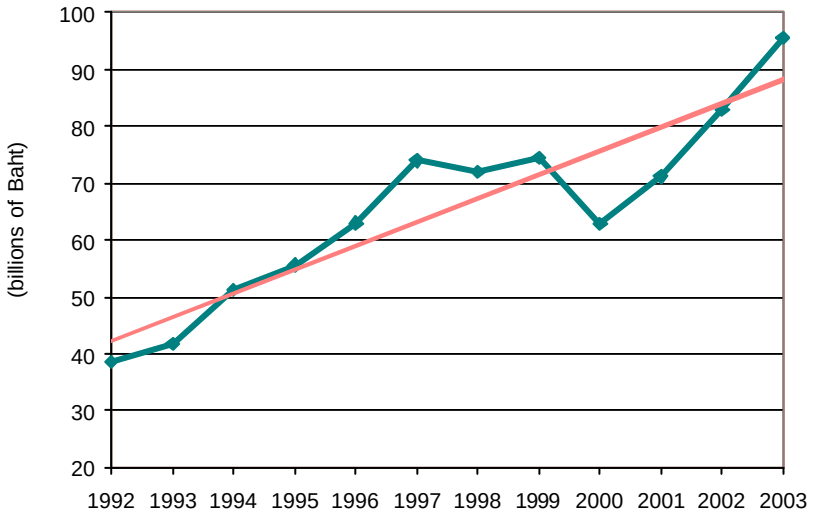
Figure 1 shows that revenues from taxes on alcoholic beverages and tobacco products fluctuate around the trend line. In the period 1997-1999, the tax revenues collected from these two commodities were high. They dropped in 2000 for many reasons, one of which was the overproduction of liquor in 1999 to avoid any possible difficulties posed by the expiring of liquor licenses. The graph confirms that earmarking tax revenues from the sale of alcoholic beverages and tobacco products could put the 30-Baht Health-care Scheme in an unstable position. It also raises the question: "Should our health-care services hinge on the edge of economic growth or on the consumption and production behavior of economic agents?"

ENDNOTES

1 Total government expenditure for the health-care sector was 74 billion baht (Bank of Thailand).

2 Including inpatient, outpatient, emergency, high-cost and rehabilitation care, health-care promotion and prevention, hospital replacement investment and special fund for remote areas.

Figure 1 Revenues from Excise Taxes on Alcoholic Beverages and Tobacco Products



Source: Data from the Excise Department.

[3] This does not mean that NHSO is 27 billion baht in debt. The underfunded budget was distributed unevenly among hospitals across the country. However, NHSO, who receives capitation budget from the government, can save itself with excess funding as some proportion of the budget allocation for capitation fee is deducted by the NHSO for various types of expenditure (e.g., health care promotion and prevention, hospital replacement investment, high-cost care, etc.).

[4] This possibility can be applied to other types of social services.

REFERENCES

Dahlby, Bev, et al. 2000. "A Cost-Benefit Analysis of the Thailand Taxpayer Survey." *International Tax and Public Finance* 7, no. 1 (February): 63-82.

Galbraith, J.W., M. Kaiserman. 1997. "Taxation, Smuggling and Demand for Cigarettes in Canada: Evidence for Time-Series Data." *Journal of Health Economics* 16, no. 3 (June): 287-301.

Isara Sarntisart. 2003. An Economic Analysis of Cigarette Taxation. A discussion paper on Health, Nutrition and Population, Tobacco Free Initiative. World Health Organization. (in Thai)

National Economic and Social Development Board (NESDB). 2003. *Population Projection 2000-2025*. Bangkok: NESDB. (in Thai)

National Health Security Office (NHSO). 2004. *Annual Report 2004: The Creation of Universal Healthcare Coverage*. Nonthaburi: NHSO. (in Thai)

National Statistical Office (NSO). 2003. Data tapes from Labour Force Survey and Survey of the Demand for Social Security.

Viroj NaRanong. 2005. "Financing Alternatives for Universal Healthcare Coverage." In *Extra Funding for Universal Healthcare Coverage*, Worawan Chandoevwit et al. Bangkok: Thailand Development Research Institute. (in Thai)

Worawan Chandoevwit. 2005. "Taxation Alternatives for Universal Healthcare Coverage." In *Extra Funding for Universal Healthcare Coverage*, Worawan Chandoevwit et al. Bangkok: Thailand Development Research Institute. (in Thai)