

**Problem Set 1 ANSWERS**

**Question 1.**

As you go about your normal activities one day, record all the public services you use and benefit from. Compile this inventory and then rank how rivalrous they are on a scale of 1-5 (5 being non-rivalrous) and how excludable these services are on a scale of 1-5 (5 being non-excludable). Explain your reasoning for your ranking and the factors it depends upon.

Think hard and creatively – you should have at least 10 items on the list. (10 points)

Please use the following format:

| # | Service | Rivalrousness | reasoning | Excludability | reasoning |
|---|---------|---------------|-----------|---------------|-----------|
| 1 |         |               |           |               |           |
| 2 |         |               |           |               |           |
| 3 |         |               |           |               |           |

**ANSWER**

**There should have been many answers to this question. The aim was to sensitize you to the public goods we consume which you may be surprised by when you count them – I could think of about 15 public services. Hopefully, you had a healthy discussion about rivalrous and excludable goods which may vary with how the good is structured across time and space. Students often confuse the notion of economic excludability and goods that are used to exclude groups so make sure the distinction is clear to you.**

**QUESTION 2.**

1) Looking at the figures for Thailand in the GFS Yearbook, and assuming data coverage was comparable for the three years, what can you say about the revenue streams of the central government versus local governments. (3 points)

**In the face of huge cash deficits, the government needs to increase its revenue streams.**

**Tax revenues for the central government steadily increased over the three year period whereas local government revenues overall went down and then up. But, what is important to notice is that how the different sources of revenue streams changed and differed from one another. While local governments grant revenue was drastically cut, they have some autonomy over other revenue streams. During the three year period, Property tax revenue for central government decreased significantly whereas local governments increased their property tax revenue streams. Both increased their tax revenues on goods and services. For the central government, this increase came primarily in the form of excise taxes rather than VAT taxes.**

**Local government grant revenues doubled between 2000 and 2001 which accounts for the large increase in overall revenue. For the central government another major source of revenue increase came through the sale of government goods and services, especially in 2001.**

2) Thailand experienced some of the worst of the 1998 Asian Currency crisis. Discuss their fiscal situation in light of this fact and the changes in government expenditure patterns. (4 points)

What the Asian currency crisis implied for Thailand's government is a major fiscal crisis. We see that at the end of 1999, Thailand had a cash deficit of -193,475 million baht. The government needed to take major steps to manage this deficit. In Table 3, Line 331, we see that they financed this largely through incurring domestic debt, still leaving them with a negative stock of cash. In the ensuing years, they restructured its finances by decreasing its domestic liabilities and selling off its fixed assets (Line 311).

In order to manage this deficit and debt, Thailand altered its fiscal expenditure patterns. In 2000, we see that Thailand had a turnaround in its net cash inflow, largely by decreasing its expenditures by nearly one-third (Table 2). This came in the form of cuts in expenditures on capital expenses and drastically cutting its outlays in "economic affairs".

However, some expenditures were used as a fiscal policy to stimulate demand. We see that they maintained or increased other expenditures such as "uses of goods and services", "general public services", and subsidies (Table 2 and 5).

3) Calculate and discuss at least 6 indicators of fiscal health that were discussed in class for Thailand's. (note: this does not mean reciting numbers off of the tables. And remember, trends in indicators are as important to examine as well as level numbers). (6 points)

Some indicators could have been calculated in a variety of ways but students should be clear about the calculation employed and exhibit a healthy discussion of various factors over time. That is, you must show indicator trends over the years rather than one static number. Furthermore, you must show ratios rather than simple line items.

#### 1) Non-interest expenditures/GDP:

If you used central government expenditure figures:

1999:  $(936,374 - 44,730) / 4,632,100 = 19.25\%$

2000:  $625,634 / 4,904,700 = 12.76\%$

2001:  $777,725 / 5,100,700 = 15.25\%$

We see that the government has decreased its expenditures levels, net of interest payments in response to the fiscal crisis. While it is prudent to be fiscally conservative in a major deficit period, they are also not delivering the same level of public services as before. We need to see 2) below to see which service might have been affected.

#### 2) provision of public service:

Thailand cut back on economic affairs expenditures over the years, including transport. They did increase social protection expenditures.

Housing and recreation expenditures took a dip after the crisis but increased again.

#### 3) Percentage revenue from locally raised revenue –

In the reading we saw that the international median for urban governments is 70%. Thailand's local government figures are somewhat below that median. In 2000, we see that the figure approached the median but this is because overall revenue decreased more than locally raised revenue increased.

1999:  $(107,015-45,720)/107,015 = 57.28\%$   
 2000:  $(101,113-31,082)/101,113 = 69.26\%$ , but level overall decreased  
 2001:  $(148,139-63175)/148,139 = 57.35\%$

**4) Buoyancy of revenue:**

population growth:

1999-2000: 1.74% =  $(61.67-60.61)/60.61$   
 2000-2001: 2.01%

per capita GDP: 1999: 76,425 baht  
 2000: 79,531 baht  
 2001: 81,709 baht

per capita GDP growth 1999-2000: 4.06%  
 2000-2001: 2.74%

Thailand has tax buoyancy potential since populations and incomes are rising although income growth did slow down with the currency crisis.

5) Tax revenues/GDP: 1999:  $624,996/4,632,100 = 13.49\%$   
 2000:  $668,718/4,904,700 = 13.63\%$   
 2001:  $712,920/5,100,700 = 13.98\%$

Similarly, we see that tax revenues have been rising over the years which was an important part of their handling the deficit.

**6) Deficit/GDP**

1999 -9%  
 2000 -1.8%  
 2001 -2.19% =  $112,081/5,100,700$

Thailand was able to curb their deficit.

7) Debt/GDP ratios: 1999:  $958,242/4,632,100 = 20.69\%$   
 2000:  $1,113,565/4,904,700 = 22.7\%$   
 2001:  $1,528,540/5,100,700 = 29.97\%$

However, they have been increasing their debt burden. How sustainable this is depends on the interest rate of the debt, inflation rates, and tax revenue growth.