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## Fiscal Balance Forecast of Cambodia 2007-2011

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# **Fiscal Balance Forecast of Cambodia 2007-2011**

## **Abstract**

In this paper, we attempt to forecast the fiscal balance of Cambodia in years 2007-2011, based on the revenue and expenditure data since the political stabilization which started in 1993. Major tool for the analysis is OLS, and the huge deficit is forecasted. To cover the deficit, Cambodian government should issue government bond, which is not an easy task considering the development stage of her bond markets. A few policy recommendations on its development will be given.

JEL codes : H20, H50, H62, H63

Key Words : Tax Revenue, Fiscal Expenditure, Budget Deficit, Revenue Elasticity

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**KDI School of Public Policy and Management**

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## **I. Introduction**

As in all other transition economies, Cambodia suffered from the lack of the well-functioning fiscal system, particularly in the area of taxation. Taxation, which is one of the most important tool of the economic policy, is essential for a developing country like Cambodia to achieve fast growth. Because it was retarded, Cambodia inevitably has had the problem of the chronic deficit.

Cambodian government has been trying to raise tax revenue effectively and succeeded in doing so "somewhat". There have been two major tax reforms since 1993 and the "modern" tax system has been established. As a result, the tax burden ration has increased to higher than 10% level recently from 4-6% in mid 90's. On the expenditure side, much is done so that it is praised as to be supportive of macroeconomic stability.

Even with these, there remains much to be desired in the public finance of Cambodia. Tax system and administration should be improved further. Expenditure must be streamlined and rationalized. By doing that, Cambodia hoes to come out from the trap of the chronic fiscal deficit.

It is not our purpose in this paper, however, to discuss the fiscal deficit problem of Cambodia. The main objective of this paper is to forecast fiscal balance of Cambodia during 2007-2011. Major tools of the analysis is the ordinary least square which is a standard tool for this kind of analysis. Main limitations in doing this is the shortage of time series data. It is because the reliable data of Cambodia is available only after 1993 when the political turmoil was ceased.

Because of such limitations, we also tried some other methods. Based on all of these different scenarios, it is estimated here that the huge fiscal deficit is inevitable if the current trends of the expenditure continues and no tax reform is carried out. It would be so even with the help of the extra revenue out of sales of the oil.

Rest of the paper will be organized as follows: In the next section, a brief summary of the recent tax reform will be presented. In section III, the forecast of total revenue and fiscal balance will be done. In section IV, some policy

suggestions will be given on issuing government bonds to resolve the problem of the fiscal deficit, which is followed by the brief conclusion in the final section.

## II. Brief Summary of the Recent Fiscal Reforms in Cambodia

Since 1993 when the Khmer Rouge regime was expelled, reforms have been carried out in many areas of the economy. Fiscal sector has not been the exception. In 1992-3 and in 1998, there were two major tax reforms. As a matter of fact, a modern taxation did not exist till the early '90s as was the case in most other transition economies. Presumably due to this, total government revenue captured only 4-6% of GDP during 1990-93. However, thanks to two tax reforms mentioned above, tax burden ratio increased to higher than 10% level.

In fact, fiscal reform is said to have been the “cornerstone” of Cambodia’s macroeconomic program since the restoration of political and economic stability (IMF, [Lopez-Mejia and Hageman, 2006](#)). Major reforms carried out in these periods could be summarized as follows:

In 1992-3, the following has been done:

- (1) Introduction of a consumption tax on imports
- (2) A higher ad valorem duty rate on petroleum products
- As a result, total revenue increased to the level of 9.5% of GDP in 1994

In 1998-9, reform measures were as follows:

- New taxes were introduced : Wage tax, 20% excise tax on gasoline
- A higher duty on petroleum products, an increase in the turnover tax
- New Law on Taxation (LOT) was enacted in 1997
- Improvement in tax administration : Establishment of a Large Enterprise Bureau
- In 1999, single 10% VAT replaced the turnover tax and consumption tax on imports

- Efforts to enhance tax (and customs) administration was also made. For this, Technical Cooperation Action Program (TCAP) was introduced.

As mentioned, total revenue was increased to 10.2% of GDP in 1999, 11.2% in 2002, due to tax reforms (except in 1997-8, when total tax revenue stagnated because of the political instability). At the same time, the collection of tax arrears increased: \$1.5 M in 2001, \$5.8M in 2002, \$18.7M in 2003. This was indeed a remarkable achievement.

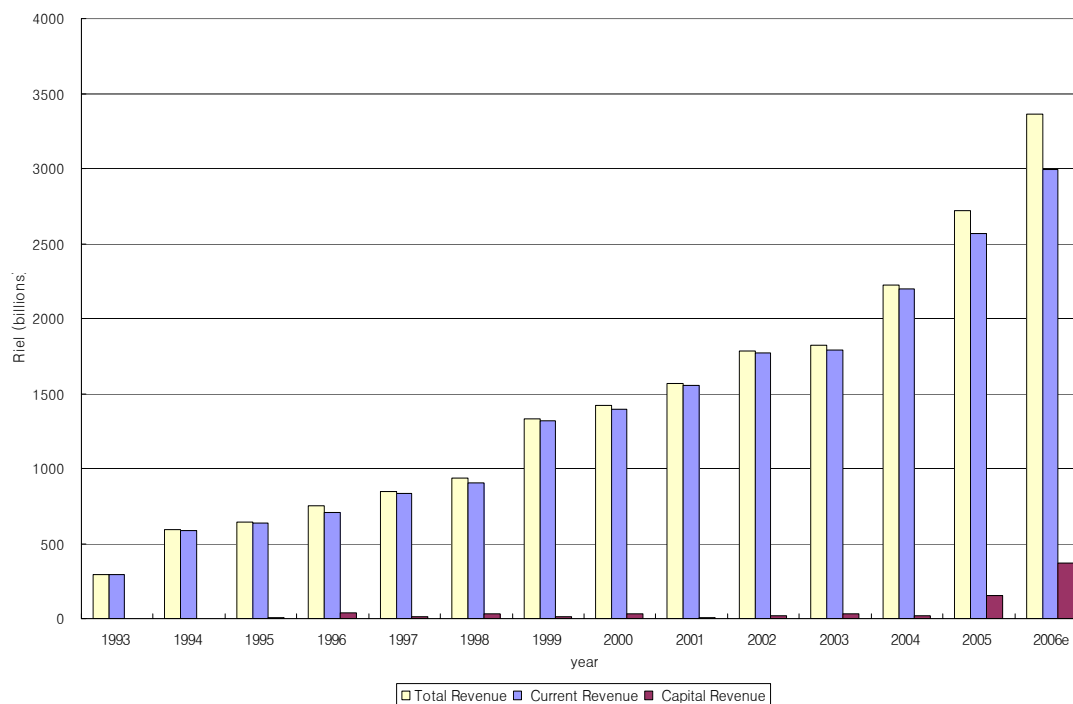
In the table below, trend of tax revenue is given. It clearly shows that there was a big increase in overall tax revenue.

<Table 1> Trend of Tax Revenues (Billion Riels)

	<b>Direct Taxes</b>	<b>Profit Tax</b>	<b>Indirect Taxes</b>	<b>VAT</b>
<b>1993</b>	8.0	8.0	51.6	32.0
<b>1994</b>	8.6	7.7	75.1	46.9
<b>1995</b>	20.9	18.6	103.8	60.1
<b>1996</b>	26.5	18.5	163.7	70.4
<b>1997</b>	46.1	35.0	204.0	75.2
<b>1998</b>	59.0	42.1	244.1	90.1
<b>1999</b>	82.7	65.4	446.6	330.1
<b>2000</b>	135.6	115.1	514.2	385.7
<b>2001</b>	140.5	112.8	580.5	412.0
<b>2002</b>	131.8	102.8	671.7	449.4
<b>2003</b>	158.4	117.9	674.5	449.4
<b>2004</b>	157.9	117.3	906.2	590.6
<b>2005</b>	222.4	172.0	1116.1	719.1
<b>2006e</b>	303.0	190.0	1290.0	810.0

In <Figure 1>, trend of total revenue is shown. It also shows that there was a big increase in total revenue recently.

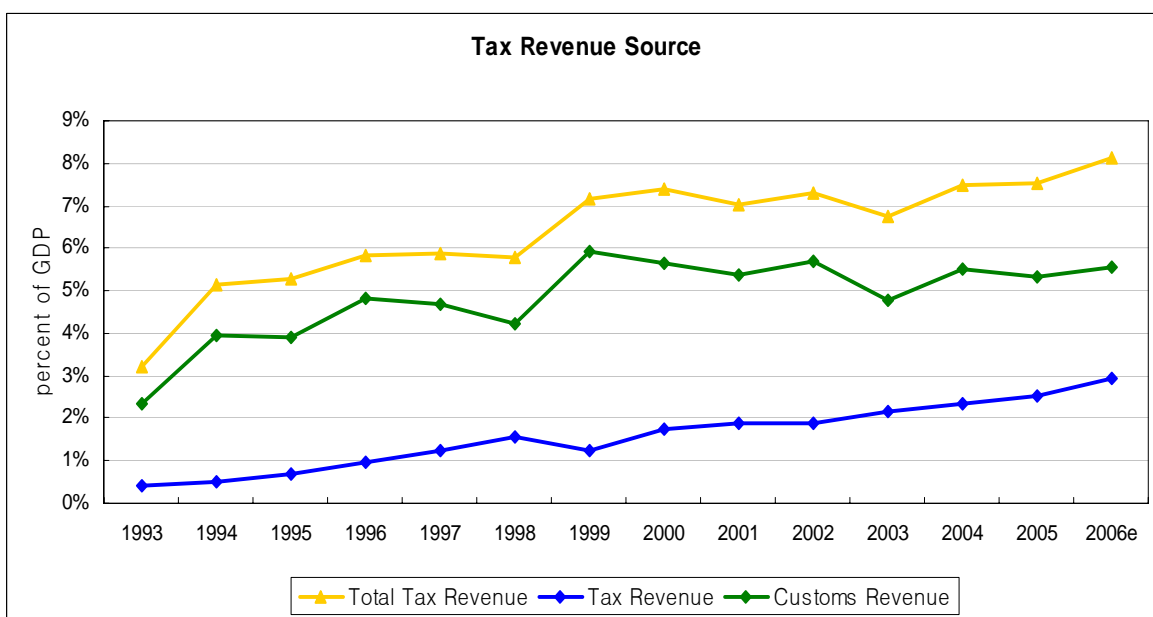
< Figure 1> Trend of Total Revenue



Overall, it can be said that much progress has been made in the revenue part. Yet, there leaves much to be desired due to following reasons.

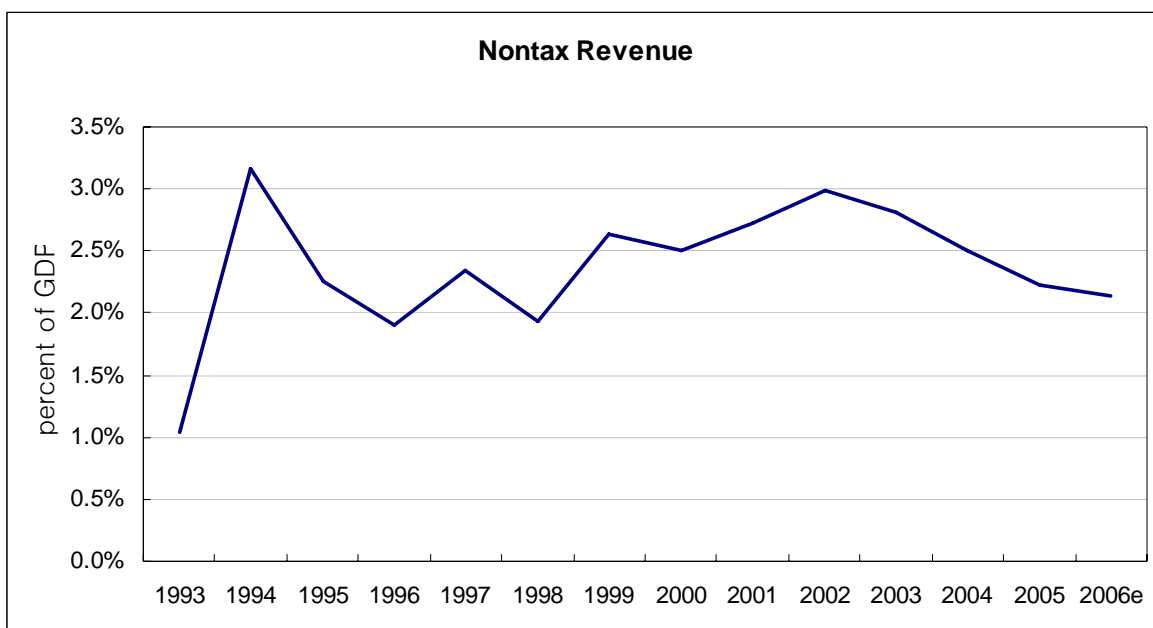
First, broadening tax base is necessary. It is particularly so for domestic taxes. As can be seen in <Figure 2>, the share of the customs and duties is very (too) high. This is actually phenomenon that could be usually found in developing countries in the early stage of the development. Thus, there will be a natural reversal of the shares of two parts. But, active efforts by the government in broadening domestic tax base are necessary.

< Figure 2> Trend of Tax Revenue: Domestic vs. Customs



Broadening tax base is also important considering the fact that the non tax revenue captures a large share in total revenue. It was as high as 3% of GDP and more than 30% of total revenue. Although that share has been reduced recently, it is still very high. It is certainly not normal.

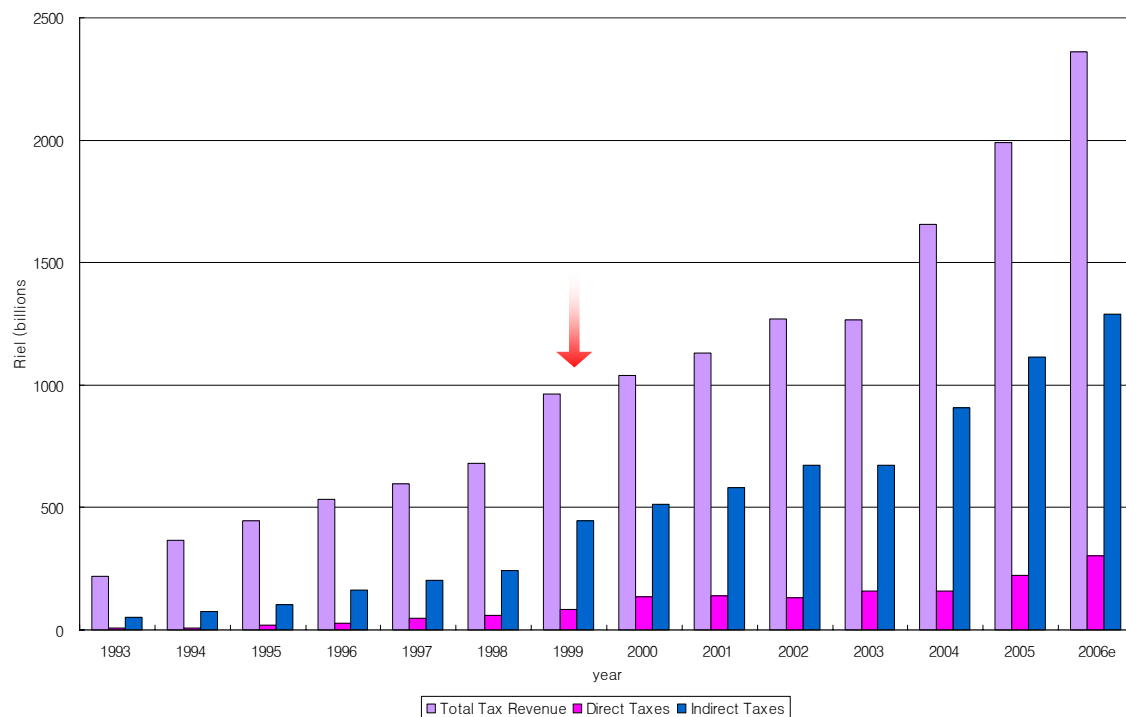
<Figure 3> Trend of Non-tax Revenue





Next, Cambodia heavily relies on indirect taxes. As can be seen in the following diagram, the share of indirect tax revenue is more than three times of that of direct taxes. This may not be good for the equity. As a matter of fact, there is no “optimal” direct-indirect tax ratio. Considering that, this unbalance seems to be too big. Thus, the balance should be restored

< Figure 4> Trend of Tax Revenue



Finally, it should also be pointed out that the improvement in tax administration is still needed, although much improvement has been made. Besides, it is said that there are too many tax incentives. This will not only cause the distortion in the resource allocation but also the international trade friction in the future. Thus, the reduction of tax incentives is necessary in Cambodia. In this regard, Korean case would be a good reference. Like many other developing countries (e.g., Taiwan) in the past, Korea used (abused) so many tax incentives. Being aware of the negative side effects of such measures, it abolished many of her tax incentives.

As was mentioned in the introduction, Lopez-Mejia & Hagemann argued that the public expenditure policy has been supportive of macroeconomic stability recently. It is an important achievement since one of the major purposes of the fiscal policy is macroeconomic stability.

Public expenditure management, however, leaves much to be desired. For example, bunching of expenditure toward the end of fiscal year is often found. In fact, to resolve such problems, PAP (Priority Action Program) was introduced in 2000.

In addition to that, there are many problems in expenditure side. To resolve such problems, PFMRP (Public Financial Management Reform Program) was recently launched. The long term objective of which is to transform the public financial management so that it is consistent with best international standard. Lopez-Mejia & Hagemann summarized major aspects of PFMRP as follows:

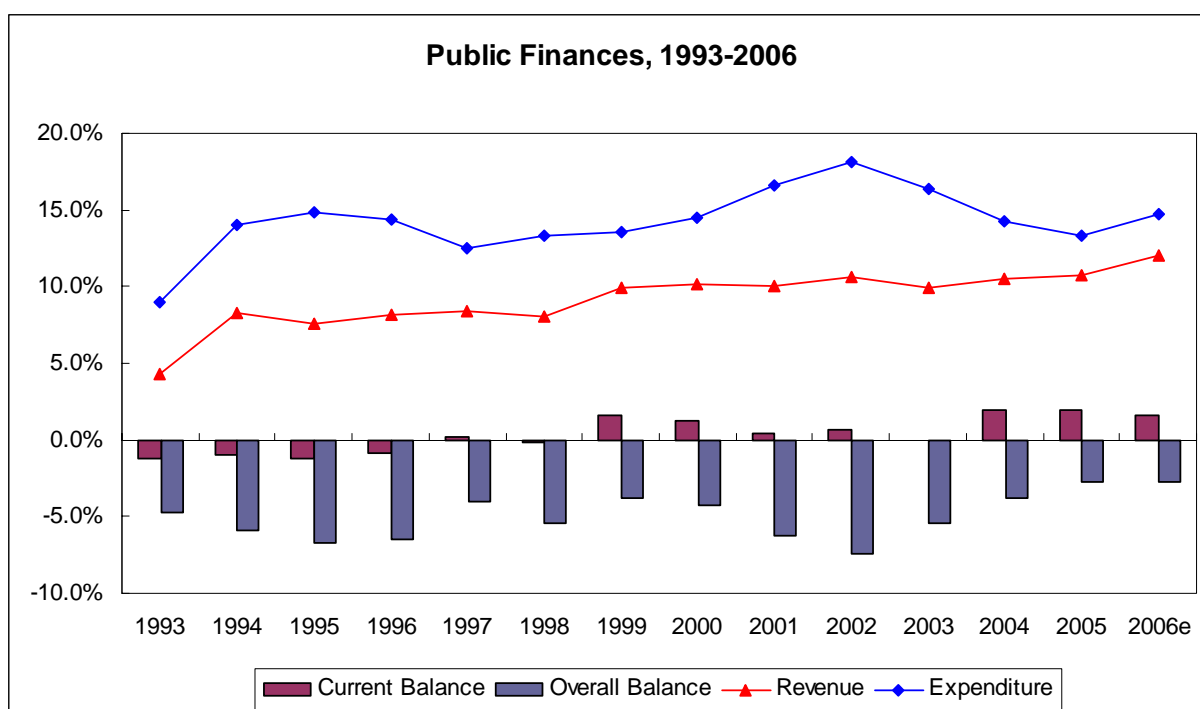
- Government ownership: The PFMRP in Cambodia combines the detailed reform strategies of each of the key agencies. Moreover, management of the reform process itself rests with the PFM Reform Committee within the MEF. The Committee, chaired by a senior official of the ministry comprises all the relevant agency heads, who in turn have full ownership of reforms at their agencies.
- Donor coordination: Coordination is critical to enhancing capacity building and avoiding duplication and /or conflicting advice to country officials; either of these slippages results in wasted resources and delays in achieving the needed reforms. To ensure better coordination, Cambodia's development partners involved in providing technical assistance in the public financial management area have formed a Development Partners Committee to ensure that providers of technical assistance work in a coordinated and harmonized manner.
- Incentives to civil servants: Against a backdrop of totally inadequate formal wages paid to public employees in Cambodia, most donor-financed projects are accompanied by salary supplements paid to select staff. In an environment of low public wages, insufficient motivation,

and moonlighting, this is often the only way to get the job done. However, a number of features of the salary supplementation systems used in Cambodia by development partners are widely seen as counterproductive and need to be addressed: they are not merit-or performance-based, they are subject to abuse and misuse, their levels and modes of disbursement vary widely across government agencies, and they retard progress toward a proper civil service pay reform.

All these ultimately are boiled down to the enhancement of efficiency and effectiveness in public expenditure so that the unnecessary fiscal deficit could be avoided. It, however, will not solve the deficit problem in the near future.

Indeed, the most important problem in the public finance of Cambodia must be the chronic budget deficit (see <Figure 5>). Although it has decreased recently, it is still big. Moreover, it seems to remain so in the future as well.

<Figure 5> Trend of Fiscal Balance



Problems caused by big deficit is well-known. Inflation, crowding-out effects, increase in burden of the future generations and so on are all negative side

effects of the fiscal deficit. All of these will decrease the growth potential of the economy. Besides, these problems become more serious interest payment could be another cause of additional deficit if the deficit becomes too big. In other words, a nation may fall into the trap of the vicious cycle that new debt for the interest payment is necessary.

It is not our purpose here to discuss the fiscal deficit of Cambodia, per se. One bright prospect about the fiscal balance is that the revenue from sale of oil is expected from 2009. Even with that, the fiscal deficit is inevitable as can be seen in the next section. Somehow, it should be pointed out that it is very important for Cambodian government to put every effort to reduce it. For that, both the increase in tax revenue and streamlining of the public expenditure, (its reduction might be preferable, but which is highly unlikely in Cambodia) should be done.

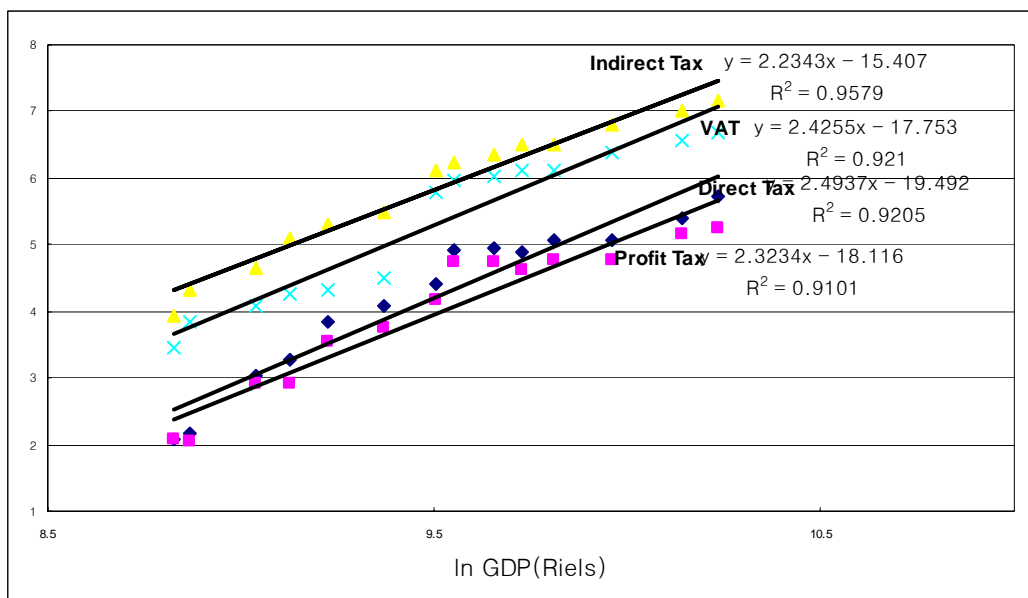
### **III. Fiscal Revenue Forecast**

In this section, the forecast on fiscal revenue will be done starting from the revenue forecast. Major limitation in this analysis is that the lack of the data. Besides, little information on tax reforms is available. Because of these, it is hard to carry out a good empirical analysis, particularly on individual taxes.

With these limitations, regression analyses is conducted. Following conventions in this kind of analysis, major taxes (profit tax, VAT and sum of direct taxes, sum of indirect taxes) are regressed on the GDP. This is based on the assumption that GDP is the only important explanatory variable which affects the change in each tax revenue. Although this is rather a weak rationale theoretically, it is practically meaningful.

Results are given in <Table 2>, <Figure 6>. We took the logs on all of dependent variables and the independent variable so that coefficients represent elasticity (buoyancy). As can be seen, fit is not so good even if R is fairly high. This is due to the fact that the result of the tax reform is not properly reflected in the regression.

<Figure 6> Regression results: Selected Taxes



As shown in this figure, there are jumps in revenues of VAT and sum of indirect taxes in 1999, while for profit tax and sum of direct taxes in 2000. Thus, we introduce dummy variables to resolve these problems (see <Table 2>). Somehow, elasticities bigger than 2 are hard to accept.

<Table 2> Regression results: Selected Taxes

### Regression Analysis Result

	Direct Taxes	Profit Tax	Indirect Taxes	VAT
<b>Intercept</b>	-18.11	-15.18	-11.76	-7.93
t value	- 4.86 (p=0.00)	- 4.23(p=0.00)	- 5.68 (p=0.00)	- 6.93 (p=0.00)
<b>Slope</b>	2.34	2.00	1.82	1.32
t value	5.74 (p=0.00)	5.08 (p=0.00)	8.00 (p=0.00)	10.51 (p=0.00)
<b>D1 (98/99)</b>	-	-	0.42	1.13
t value	-	-	2.11 (p=0.06)	10.27 (p=0.00)
<b>D2 (99/00)</b>	0.16	0.34	-	-

t value	0.45 (p=0.66)	0.98 (p=0.35)	-	-
<b>R<sup>2</sup></b>	0.922	0.917	0.970	0.993
<b>Adjusted R<sup>2</sup></b>	0.908	0.902	0.965	0.991

Based on these results, and the projection of GDP by Cambodian government, we forecasted the direct and indirect tax revenues as a reference to be compared with the projections by Cambodian government. Our projection is shown in <Table 4>, while that of Cambodian government is in <Table 3>. These tables show big differences in two forecasts. This is as expected, due to limitations mentioned above.

<Table 3> Projection of selected tax revenue: Cambodian MEF (Billion Riels)

	<b>Direct Taxes</b>	<b>Indirect Taxes</b>
<b>2007p</b>	367.0	1464.0
<b>2008p</b>	545.2	1610.4
<b>2009p</b>	674.3	1771.4
<b>2010p</b>	782.4	1948.6
<b>2011p</b>	904.8	2143.4

<Table 4> Projection of selected tax revenue (Billion Riels)

	<b>Direct Taxes</b>	<b>Indirect Taxes</b>
<b>2007p</b>	497.4	1821.1
<b>2008p</b>	610.1	2135.3
<b>2009p</b>	747.5	2501.5
<b>2010p</b>	917.0	2933.7
<b>2011p</b>	1125.2	3441.1

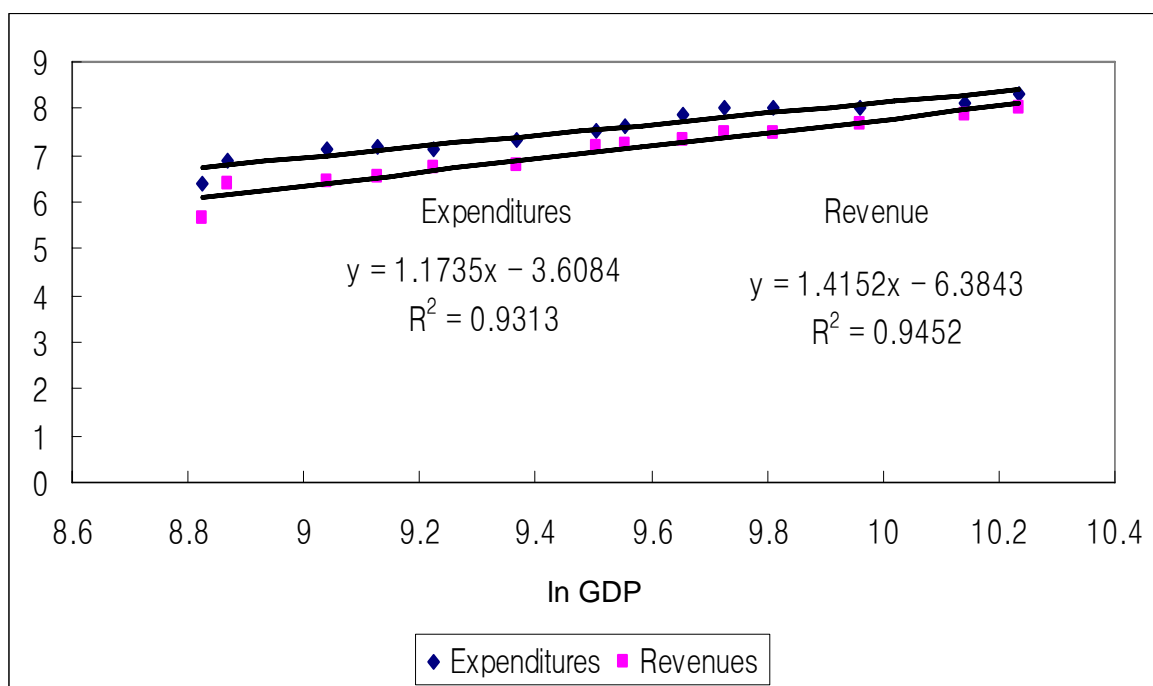
Because of such unsatisfactory results, we tried different regressions. Log of the current and total revenue is regressed on log of GDP, now. This approach is based more on the practicality than the theoretical robustness. Results on the current revenue are as shown in <Figure 7> and <Table 6>. Pay attention

to the revenue elasticity of GDP. It is around 1.4, which seems to be still big. Although this result is better than the previous ones, it is still unsatisfactory. It is again due to the abovementioned limitations.

<Table 5> Trends of expenditure and total revenue (Billion Riels)

	<b>Expenditure</b>	<b>% GDP</b>	<b>Current Revenue</b>	<b>% GDP</b>
<b>1993</b>	608.4	9.0%	290.1	4.3%
<b>1994</b>	997.7	14.1%	589.1	8.3%
<b>1995</b>	1247.9	14.8%	635.3	7.5%
<b>1996</b>	1319.7	14.4%	709.9	7.7%
<b>1997</b>	1263.3	12.5%	834.2	8.2%
<b>1998</b>	1557.1	13.3%	905.3	7.7%
<b>1999</b>	1823.7	13.6%	1316.1	9.8%
<b>2000</b>	2039.7	14.5%	1393.6	9.9%
<b>2001</b>	2586.6	16.6%	1554.7	10.0%
<b>2002</b>	3042.9	18.1%	1769.9	10.6%
<b>2003</b>	2994.5	16.4%	1790.0	9.8%
<b>2004</b>	3022.3	14.3%	2200.5	10.4%
<b>2005</b>	3389.3	13.4%	2567.6	10.1%
<b>2006e</b>	4116.0	14.8%	2996.0	10.7%

<Figure 7> Regression results of expenditure and current revenue



<Table 6> Regression Results of Expenditure and Current Revenue

	<b>Expenditures</b>	<b>Current Revenue</b>
<b>Intercept</b>	-3.61	-6.38
t value	-4.12 (p=0.00)	-6.82 (p=0.00)
<b>Slope</b>	1.17	1.42
t value	12.76 (p=0.00)	14.39 (p=0.00)
<b>R<sup>2</sup></b>	0.931	0.945
<b>Adjusted R<sup>2</sup></b>	0.926	0.940

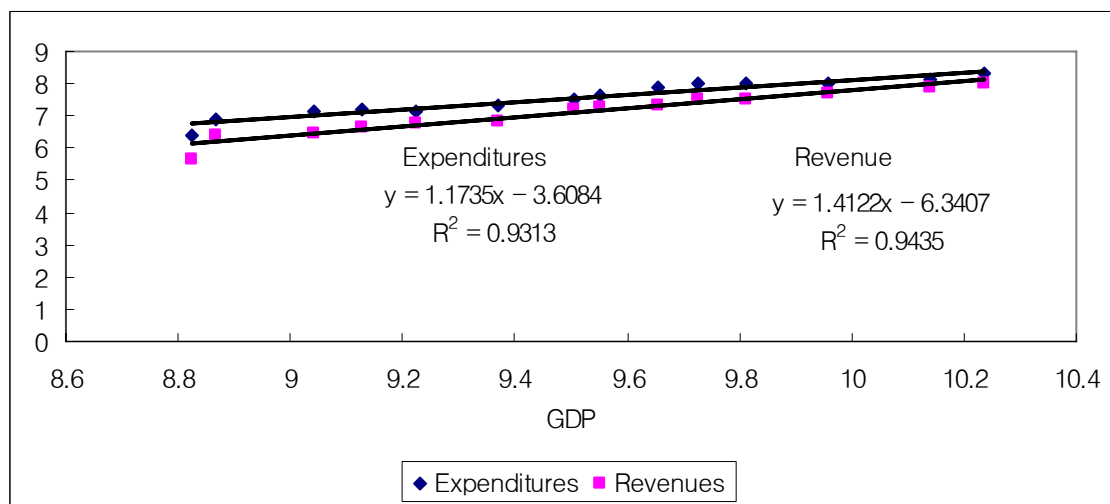
The reason why we use the current revenue as a dependent variable is that there was a big jump in the capital revenue in 2006 due to the sale of public enterprises. This is problematic. In the next regression, we resolve this problem by simply assuming that the capital revenue in 2006 is 30 billion riel to keep up with the trend. Result of the regression is given in <Table 7>. As can be seen in the table, the elasticity is 1.41, which is still high.

<Table 7> Regression Results of Total Revenue



	<b>Total Revenue</b>
<b>Intercept</b>	-6.34
t value	-6.67 (p=0.00)
<b>Slope</b>	1.41
t value	14.15 (p=0.00)
<b>R<sup>2</sup></b>	0.943
<b>Adjusted R<sup>2</sup></b>	0.939

<Figure 8> Regression results of expenditure and total revenue



So far, we have estimated “point elasticity” to forecast the revenue, whose results are unsatisfactory. Thus, we also estimated “arc elasticity”. As can be seen in the next table, these estimates vary widely as well. To resolve this problem, we take the arithmetic mean of recent five years, and take this as an estimate of the revenue elasticity. This approach is often used by practitioners although the theoretical base of which is very weak. The estimate of the elasticity is 1.19.

<Table 8> Arc Elasticity

	GDP	%Δ	Total Rev.	%Δ		
2001	15578.7		1563.7			
2002	16768.2	7.6%	1786.1	14.2%	ε1 =	1.86
2003	18250.1	8.8%	1821.4	2.0%	ε2 =	0.22
2004	21140.6	15.8%	2220.0	21.9%	ε3 =	1.38
2005	25350.1	19.9%	2597.6	17.0%	ε4 =	0.85
2006e	27891.3	10.0%	3026.0	16.5%	ε5 =	1.65

**ε = 1.19**

Based on that elasticity, forecast results are as follows. They are naturally less than previous ones.

<Table 9> Total revenue Forecast Based on Arc Elasticity

	GDP	%Δ	%Δ	Total Rev.
2006e	27891.3			3026.0
2007p	30505.2	9.4%	11.2%	3364.5
2008p	33286.5	9.1%	10.9%	3730.6
2009p	36303.1	9.1%	10.8%	4134.1
2010p	39616.1	9.1%	10.9%	4584.3
2011p	43235.5	9.1%	10.9%	5084.2

Next, to forecast the fiscal balance, the expenditure should be projected. We regress the expenditure on GDP. It should be pointed out that the regression of total expenditure on GDP may not be much meaningful as far as reality is concerned since expenditure is a reflection of the will of the government. It, however, could be a good reference point and results are given in <Table 8>, and <Table 9>.

Based on forecast of revenue and expenditure, the fiscal balance could be forecasted. In using this result, it should be remembered that the revenue from the sales of oil would become an important part of the government revenue. Since we have two different revenue forecasts, there can be two scenarios: One with the revenue forecast based on the point elasticity, the other

on the average of arc elasticity in recent years. Since the former gives the greater revenue forecast than the latter, we call it the “optimistic” forecast, while the other is called “realistic” scenario.

Also, for each scenario, there can be two forecasts of expenditure: One, forecast of the expenditure based on the regression, the other done by Cambodian government. Thus, there are four possible combinations : : Scenario 1-1 is a combination of revenue forecast based on point elasticity and the expenditure forecast by the regression while scenario 1-2 is the case of the former combined with the revenue forecast by the Cambodian government. Scenario 2-1 is a combination of the revenue forecast based on the arc elasticity and our revenue forecast while the scenario 2-2 is that of arc elasticity forecast combined with the Cambodian fore cast. These results are shown in <Tables 11-14> and <Figures 9-12>. They will be explained in turn.

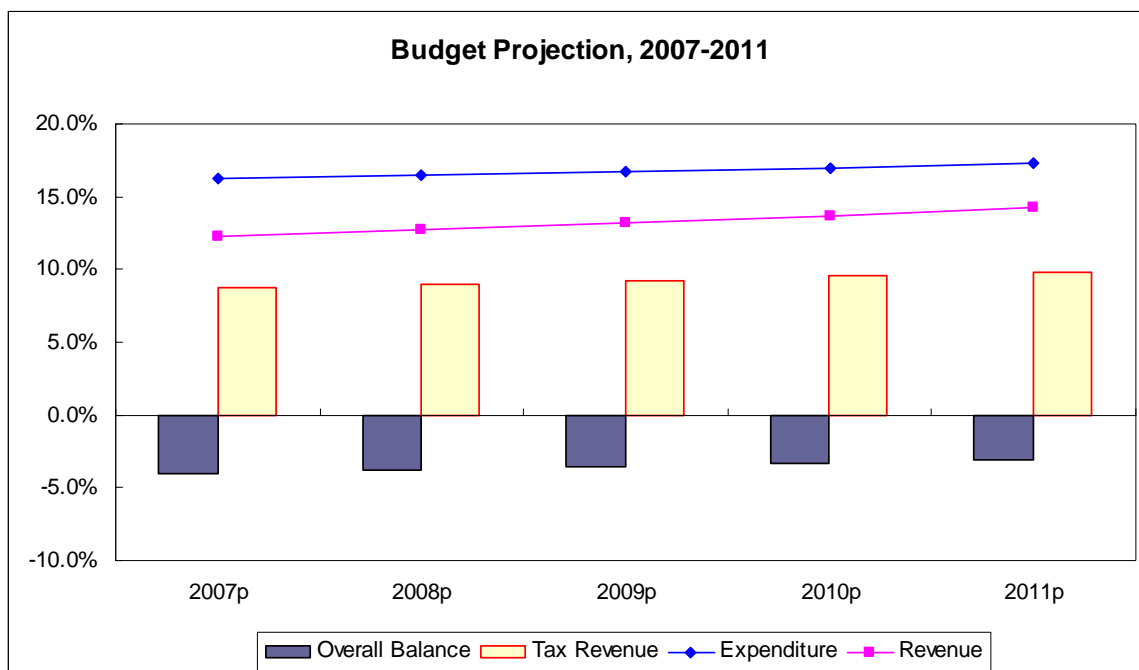
<Table 10> Projection by Cambodian MEF (Billion Riels)

	Expenditures	Current Revenue
<b>2007p</b>	5077.0	3494.0
<b>2008p</b>	5204.1	4095.4
<b>2009p</b>	5666.8	4634.2
<b>2010p</b>	6132.9	5164.3
<b>2011p</b>	6711.9	5753.5

<Table 11> Fiscal Balance Forecast (Scenario 1-1)

	<b>Total Revenue</b>	<b>% GDP</b>	<b>Expenditures</b>	<b>% GDP</b>	<b>Balance</b>	<b>% GDP</b>
<b>2007p</b>	3,795.8	12.4%	4,958.7	16.3%	<b>-1,162.9</b>	<b>-3.8%</b>
<b>2008p</b>	4,293.6	12.9%	5,493.3	16.5%	<b>-1,199.8</b>	<b>-3.6%</b>
<b>2009p</b>	4,853.2	13.4%	6,082.0	16.8%	<b>-1,228.9</b>	<b>-3.4%</b>
<b>2010p</b>	5,490.2	13.9%	6,738.4	17.0%	<b>-1,248.2</b>	<b>-3.2%</b>
<b>2011p</b>	6,211.7	14.4%	7,466.4	17.3%	<b>-1,254.7</b>	<b>-2.9%</b>

<Figure 9> Fiscal Balance Forecast (Scenario 1-1)



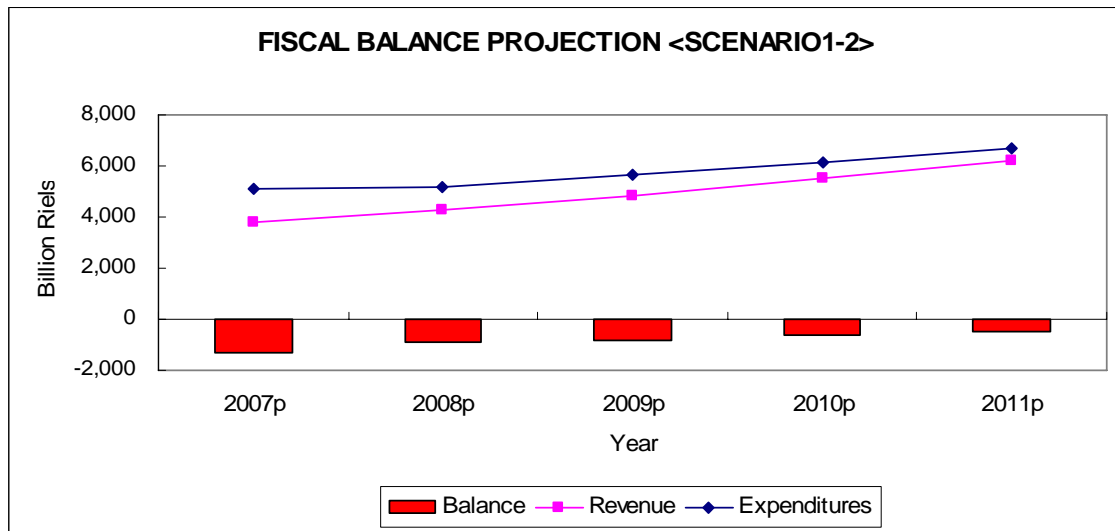
This scenario, as explained, is rather an optimistic one. Still, substantial deficit is expected, reaching around 3% in 2011. It is expected that oil revenue will be between 50-100 billion riels from 2009. Thus, that will not affect the size of the deficit much.

Next scenario is the most optimistic scenario. Even in this case, substantial deficit is expected, although the gap becomes narrowed.

< Table 12> Fiscal Balance Forecast (Scenario 1-2)

	<b>Total Revenue</b>	<b>% GDP</b>	<b>Expenditures</b>	<b>% GDP</b>	<b>Balance</b>	<b>% GDP</b>
<b>2007p</b>	3,795.8	12.4%	5077.0	16.6%	-1,281.2	-4.2%
<b>2008p</b>	4,293.6	12.9%	5204.1	15.6%	-910.6	-2.7%
<b>2009p</b>	4,853.2	13.4%	5666.8	15.6%	-813.6	-2.2%
<b>2010p</b>	5,490.2	13.9%	6132.9	15.5%	-642.7	-1.6%
<b>2011p</b>	6,211.7	14.4%	6711.9	15.5%	-500.2	-1.2%

<Figure 10> Fiscal Balance Forecast (Scenario 1-2)

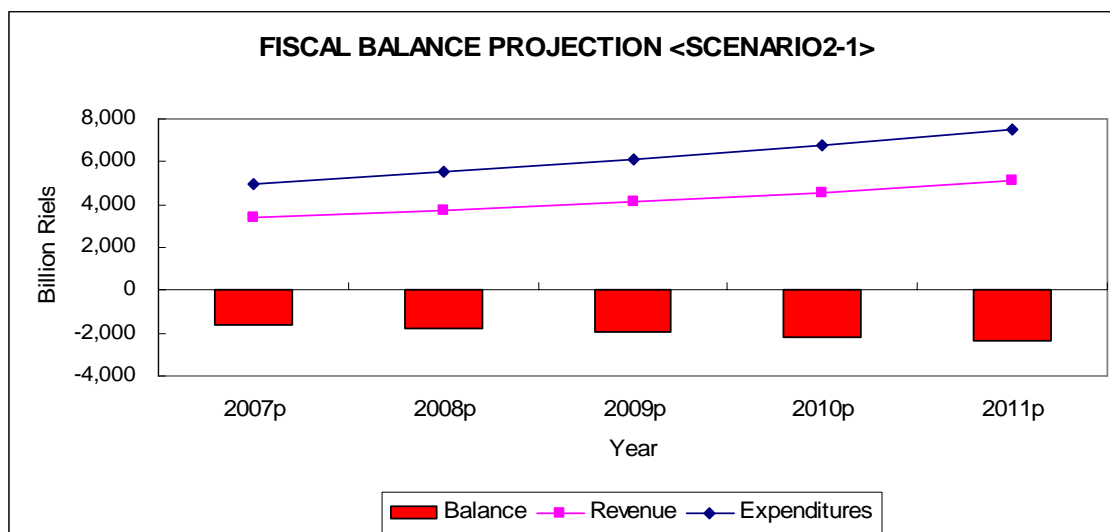


Now, we move to more realistic scenarios.

<Table 13> Fiscal Balance Forecast (Scenario 2-1)

	<b>Total Revenue</b>	<b>% GDP</b>	<b>Expenditures</b>	<b>% GDP</b>	<b>Balance</b>	<b>% GDP</b>
2007p	3,364.5	11.0%	4,958.7	16.3%	-1,594.2	-5.2%
2008p	3,730.6	11.2%	5,493.3	16.5%	-1,762.8	-5.3%
2009p	4,134.1	11.4%	6,082.0	16.8%	-1,948.0	-5.4%
2010p	4,584.3	11.6%	6,738.4	17.0%	-2,154.1	-5.4%
2011p	5,084.2	11.8%	7,466.4	17.3%	-2,382.3	-5.5%

<Figure 11> Fiscal Balance Forecast (Scenario 2-1)

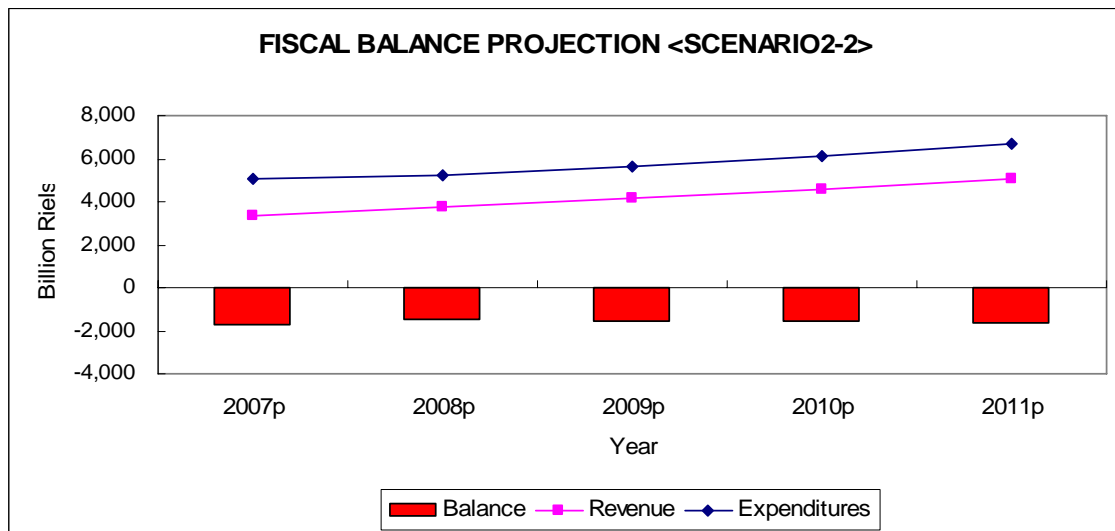


The following scenario must be the most realistic one. In this case, in 2011, the deficit will be around 4% of GDP.

<Table 14> Fiscal Balance Forecast (Scenario 2-2)

	<b>Total Revenue</b>	<b>% GDP</b>	<b>Expenditures</b>	<b>% GDP</b>	<b>Balance</b>	<b>% GDP</b>
<b>2007p</b>	3,364.5	11.0%	5077.0	16.6%	-1,712.5	-5.6%
<b>2008p</b>	3,730.6	11.2%	5204.1	15.6%	-1,473.6	-4.4%
<b>2009p</b>	4,134.1	11.4%	5666.8	15.6%	-1,532.7	-4.2%
<b>2010p</b>	4,584.3	11.6%	6132.9	15.5%	-1,548.6	-3.9%
<b>2011p</b>	5,084.2	11.8%	6711.9	15.5%	-1,627.7	-3.8%

<Figure 12> Fiscal Balance Forecast (Scenario 2-2)



In sum, the budget deficit is inevitable even if there will be revenue from sale of oil. Besides, it should be born in mind that the interest payments accruing debt (presumably from bond issues) were not included here. Even those expenditures causing deficit would not be enough for the country like Cambodia because there is much need for public expenditure in nearly every part of the economy. Therefore, it is important to contain all of these requests in the reasonable limit.

Then, how could Cambodian government resolve the deficit problem? There can be some measures such as borrowing from the central bank etc. Issuance of the bond must be the most realistic measure to do that. It is not easy, however, as can be seen in the next section.

#### **IV. A Few Remarks on Bond Issuance**

It should be pointed out here again that it is important to reduce deficit before considering government bond issuance. In other words, only after putting much effort in reducing (or eliminating) deficit, government should rely on issuing bonds. As a matter of fact, Cambodian government is trying hard to curb the fiscal deficit. PFMRP is one such example. But, much effort will not totally eliminate the budget deficit in the future as explained in the previous section.

Therefore, bond issuance is necessary and inevitable in Cambodia. To do it is not so simple, however. In a country like Cambodia, it is harder because the bond market is not well-developed. As a matter of fact, only recently bond market began to function properly in Korea. Before that, bonds issued by the government were virtually allotted to financial institutions instead of being traded in the market.

Such (enforced) allotment would be inevitable in Cambodia for a while. For the bond market to function well, intermediaries (dealers and brokers) should be trained and brought up.

It is also inevitable that the discount rates of government bonds should be high. In that case, the fiscal burden or pressure of the fiscal deficit will increase much. Possibility of issuing bonds to pay back interests cannot be excluded.

Another problem to be resolved in government bond issuance is dollarization. In Cambodia, it is said that about 90% of financial transaction is done with US dollar. It is not our purpose to discuss the problem of dollarization here. Somehow, Cambodian government is actively pursuing dedollarization policy recently. In that case, how much amount of government bond is issued in riel term becomes an important issue in this regard.

In sum, there are many issues to be resolved for the government bond issuance to be carried out effectively and smoothly. In this paper, we do not attempt to provide details of such resolutions. It is simply beyond the scope of the paper. Instead, we just want to emphasize the importance of such measures.

## **V. Conclusion**

In this paper, it is attempted to forecast the fiscal balance in Cambodia in 2007-2011. Due to the shortage of the data, it was hard to get good regression results. With such constraints, we have to consider several different cases and scenarios. Even with those limitations, it is concluded here that the fairly big deficit in coming five years is expected.

To resolve the problems caused by the deficit, it is important for Cambodian



government to put much effort in reducing such deficit, per se. Reforms both on the taxation and expenditure have been done. Much more effort, however, is necessary for this.

Even with these efforts, it is shown here that it is inevitable to have the big deficit in the near future. Under such circumstances, Cambodia cannot but rely on government bonds. The most important problem in doing so is that the bond market is not well developed. Therefore, it is also important for Cambodian government to put much effort in developing bond market at the same time.

Since we have certain limits of the analysis as mentioned, it is needed to develop forecast methods further. That would be the topic in the future research.

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