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Assessing Alternative Schemes for Financing Tariff Reform

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Tariff revenue is a major source of government income. In the Philippines, tariffs, as collected by the Bureau of Customs (BOC), had contributed a large share to the government coffers. Beginning in the 1990s, however, as a result of the government's aggressive tariff reduction program, revenues coming from this source have been declining. As shown in Table 1, the increases in government revenue between 1994 and 1997 when the government experienced budget surpluses (revenue surpassing expenditure) were entirely due to the improvement in collection from the Bureau of Internal Revenue (BIR). Revenues coming from the BOC, mainly in the form of tariff duties, started to decline in 1994 due to decreasing tariff rates (Figure 1).

Table 1 also shows that after 1997, it was not only the BOC collections that deteriorated (from 3.7 percent of GNP in 1997 to 2.7 percent in 2000) but also the government budget balance. From a budget surplus of 0.1 percent of the gross national product (GNP) in 1997, it shifted to a deficit of –1.8 percent in the following year and further deteriorated to an alarming position of almost –4 percent of GNP in 2000. While expenditures during these years were within historical range, revenues were way below the usual trend. And like the BOC revenues, BIR collections also dropped, from 12.4 percent of GNP in 1997 to 10.1 percent in 2000.

The tariff reduction program and its impact

The primary objective of any program on tariff reduction is to promote efficiency in production.[1] However, in the process, a reduction in government revenue is to be expected, the amount of which can sometimes be quite significant. During periods of rising budget deficits, such reductions put a heavy burden on the government's revenue generation program.

The current Philippine program on tariff reform, which was intensified in the 1990s, has not yet been

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[1]*In a number of simulation experiments, the effects of the tariff reduction program were observed to have generated not only production efficiency, but also higher overall welfare and improved income distribution.*

Table 1. National government cash operations
(percent of gross national product)

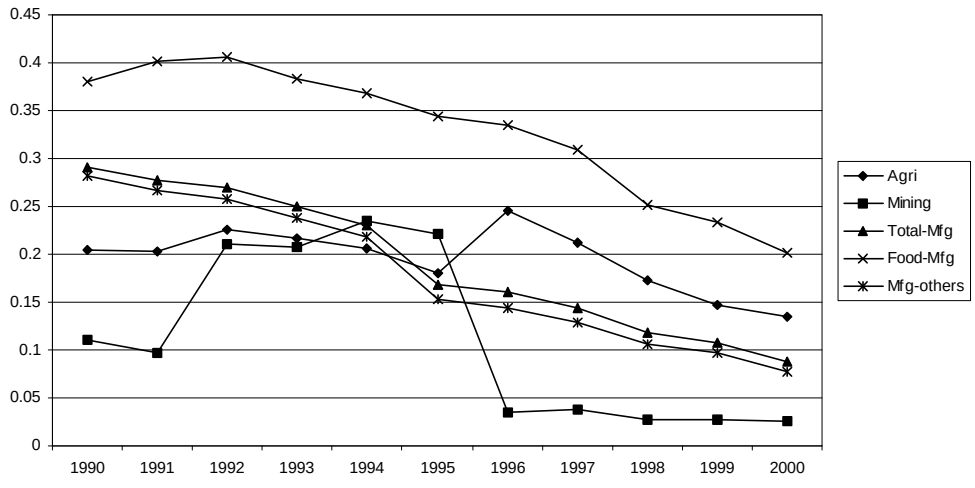
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Revenues	16.9	17.6	17.7	17.3	19.4	18.4	18.2	18.7	16.4	15.3	14.5
Tax revenues	14.2	14.5	15.2	15.2	15.6	15.9	16.3	16.3	14.8	13.8	12.9
Bureau of Internal Revenue (BIR)	9.7	9.3	9.7	9.7	10.8	10.7	11.5	12.4	12.0	10.9	10.1
Bureau of Customs (BOC)	4.3	5.1	5.3	5.4	4.7	5.0	4.6	3.7	2.7	2.8	2.7
Other Offices	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nontax revenues	2.5	2.8	2.3	1.9	3.7	2.6	1.9	2.4	1.6	1.5	1.5
Grants	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Expenditures	20.4	19.7	18.8	18.7	18.4	17.9	17.9	18.6	18.2	18.8	18.4
Deficit	-3.5	-2.1	-1.2	-1.5	0.9	0.6	0.3	0.1	-1.8	-3.6	-3.9

Sources: Bangko Sentral ng Pilipinas
Bureau of Treasury: Statistical Data Analysis Division - Research Service

completed. A number of components are still either being implemented or will be implemented in the near future. For sure, then, a further decline in customs collection is to be expected. Given this, the implication is that unless BIR collections improve, the decline will put more pressure on government balance.

How can the pressure be eased? Is there an alternative scheme that can make up for the decline in the BOC revenue?

Figure 1. Weighted average nominal tariff



In response to these questions, this author ran a series of policy simulations using a computable general equilibrium model[2] of the Philippines to see the impact of alternative schemes of financing tariff reduction.[3] The results and implications are summarized in this *Notes*.

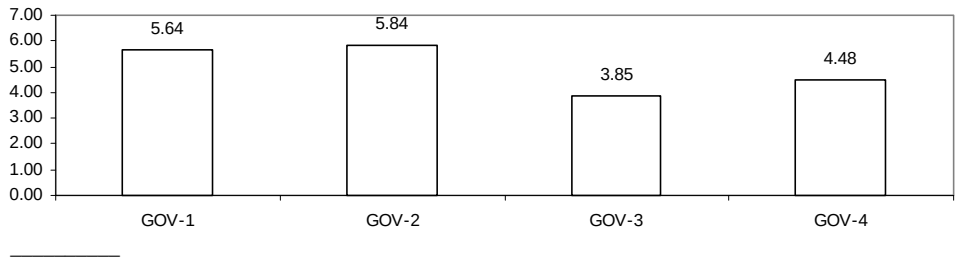
Financing schemes considered

A number of financing schemes were considered and analyzed for the purpose on hand. They included the following: (1) additional income tax (referred here as GOV-1 scenario); (2) value added tax (GOV-2); (3) additional indirect output tax (GOV-3); and (4) consumption tax

[2]*The model is called Philippine Computable General Equilibrium Model (PCGEM). For detailed discussion of the model, see Cororaton, C.B. 2000. Philippine Computable General Equilibrium Model.* PIDS Discussion Paper Series No. 2000-23.

[3]*For a detailed discussion of the simulation, see Cororaton 2001. Welfare and distribution effects of Philippine tariff reforms: a CGE analysis. Manuscript.*

Figure 2. Impact of financing scenarios in terms of change in welfare[a] (P billion)



[a]The welfare indicator used is equivalent variation (EV) which is a money-metric indicator that shows the old equilibrium incomes and prices and computes the change needed to achieve new equilibrium utilities.

(GOV-4). All these tax scenarios are accompanied by tariff reduction.

The idea behind the experiments is to increase local taxes, one at a time, in order to generate enough government revenue to offset the revenue losses arising from the decline in tariff rates shown in Figure 1. Two criteria were used in comparing the results, namely: a) impact on the overall welfare, and b) distribution to various household groups.

The impact of the schemes in terms of welfare change is shown in Figure 2 whereas that in terms of distribution to various household groups is outlined in Figure 3. The results of welfare change are expressed in billion pesos in 1990 values since the model was calibrated in 1990. One should note that these welfare changes are due to tariff reduction net of additional taxes to keep the budget balance of the national government unchanged.

The results

One interesting result is that all scenarios yield positive net welfare gains. The specific tax scenario (GOV-2 or the scenario involving tariff reduction and value added tax), however, generates the biggest net welfare gain of P5.84 billion in 1990 values. On the other hand, the lowest net welfare gain is under GOV-3 (tariff reduction and additional indirect output tax).

As to the effects across households which are shown in Figure 3, the vertical axis indicates the ratio of net welfare gain in terms of disposable income of various households while the horizontal axis represents the household groups in decile. If we look at scenario GOV-3, we note that it does not only yield the lowest net welfare gain but it is also highly regressive. The burden of paying the tariff reduction program falls on the lower income brackets. Worse, the first decile, the poorest of the poor, suffers from a net welfare loss.

It is interesting to note that while GOV-2 (tariff reduction and value added tax) generates the highest overall net welfare gain among the alternative financing schemes, in terms of distribution, it is regressive like the GOV-3 scenario. Again, the burden of financing the tariff reduction falls on the lower income groups. However, under this scenario, nobody suffers from a net welfare loss, unlike in GOV-3.

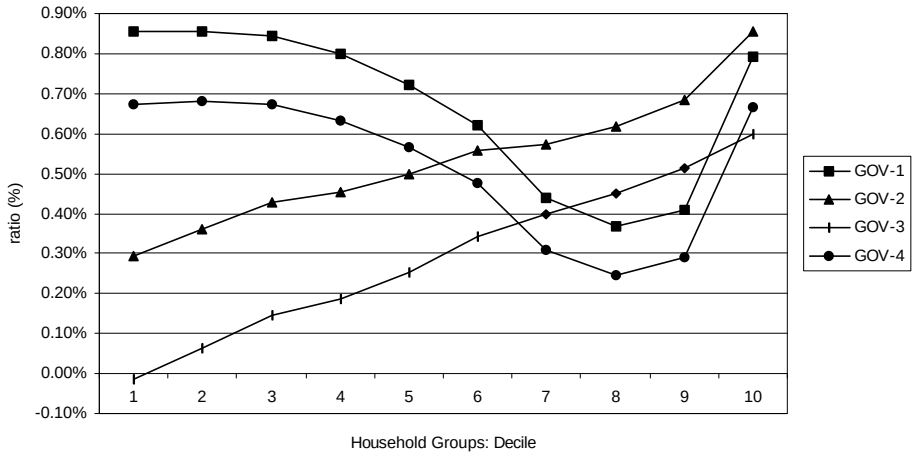
The scenario under GOV-1 (tariff reduction and income tax), meanwhile, generates a net welfare gain of P5.64 billion in 1990 values, slightly below the gain generated under GOV-2. In terms of distribution, it is the most progressive, with the lowest income group benefiting the most.

Finally, the last scenario under GOV-4 (tariff reduction and consumption tax) also generates a progressive set of results. It is, however, inferior to GOV-1 in terms of both the overall net welfare gain and the net gain among various household groups.

Conclusion

Based on the results of the exercises, one may say that the tariff reduction program is welfare-improving. However, as already mentioned, the program also involves a substantial decline in government revenues, thereby severely affecting government balances. This being the case, there must be a financing scheme that would help offset the losses. The exercises done in our study indicate that the best scheme to address this concern is through income taxation (GOV-1).

Figure 3. Impact of financing scenarios in terms of distribution effect[a]



[a]Measured as the ratio of equivalent variation / disposable income which means the improvement in household welfare in money terms relative to their respective income.

Given the present income tax generation in the Philippines, though, which is burdened by tax evasion and other related problems, income tax rates may not have to increase to generate enough funds. What may do the trick in generating more than enough funds to finance the welfare-improving tariff reduction program is proper tax administration in income taxation.

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