**MEMORANDUM**

**May 24, 2004     From: Arthur MacEwan**

**To: Tom Hexner**

**Subject: *Estudios de los Impuestos al Consumo en Puerto Rico***

In March of this year, the Colegio de Contadores Publicos Autorizados de Puerto Rico published the report entitled *Estudios de los Impuestos al Consumo en Puerto Rico*. The report examines alternative tax programs for Puerto Rico, focusing on a comparison of a value added tax and a sales tax.

While there are many aspects of this comparison discussed in the report, one of the report’s central features is an attempt to determine the revenues that would be obtained, respectively, from each of these alternatives. Using a simulation model based on the 1992 input-output table for Puerto Rico, the report compares the revenues that would be obtained through the application of a sales tax and the application of a value added tax.

The results of this simulation-based comparison suggest the conclusion that for the same tax rate, the value added tax would yield a larger amount of tax revenue than the sales tax. *This conclusion, however, is not meaningful.* It is based on a particular set of assumptions about the way each of the taxes would be applied, and these assumptions are not appropriate.

For the economy as a whole, value added and final demand are (by definition) identical. Thus, a tax rate applied to final demand must yield the same total tax revenue as the same tax rate applied to value added. The tax revenue accounted for by each sector will be different in each of the tax programs, but the totals will be the same. When investment and exports are not taxed, as is the case in the simulations reported in *Estudios*, these overall equal results will not be affected.

The simulation results reported in *Estudios*, however, do not include a comparison of the overall application of the two different tax programs. Instead, each of the simulation results is based on the assumption that certain economic sectors are exempted from the application of the tax. The implications of this assumption can be illustrated through the following example:

Suppose that sector A is exempted from taxation, and suppose also that the sector delivers 50% of all consumption goods but that this sector accounts for only 5% of value added. Thus exempting this sector will reduce collections through the sales tax by 50% but reduce collections through the VA tax by only 5%. So if one compares the tax collections under the assumption that this sector is exempted, the result will be that a value added tax collects more than a sales tax of the same rate. (Of course, had a sector been exempted that accounted for a large amount of value added and small amount of final demand, the results would have been reversed – i.e., the sales tax would collect more than the value added tax.)

In the simulations of *Estudios*, the sectors exempted in the various simulations are ones which account for a smaller share of value added than of final demand, after the allowance has been made for the exclusion of investment and exports from taxation. Consider, for example, the first scenario examined through the simulations in Estudios. In this scenario, the following sectors are exempted from taxation: agriculture, new construction, transportation, financial services, and government. Exempting these sectors yields a reduction of 1992 consumption of almost $1.8 billion more than the reduction in 1992 value added. The result for is that a value added tax of 2.3% should yield about $41.4 million less than a 2.3% sales tax in 1992. This result is consistent with that reported in Tabla 5.2 of *Estudios*, where a difference of $53 million results from application of the 2.3% tax rate. The result in *Estudios* is somewhat larger that the figure obtained here because in *Estudios* the result has been adjusted to a 2002 level.

Thus the difference reported in *Estudios* between the collections resulting from a value added tax and those resulting from a sales tax are the consequence of assuming that those sectors that would be exempted from taxation under each tax program would be the same. This is, however, not appropriate. The implications of, and thus the rationale for, exempting a particular sector from taxation are different under a value added tax than under a sales tax. For example, suppose the government wants to encourage the production of network servers in Puerto Rico and thus decides to exempt this sector from taxation. Were the value added program in place, the costs of the sector would be reduced by the exemption, but, as this sector delivers nothing to consumption demand, it would be unaffected by the exemption were a sales tax in place. Or, as an alternative example, assume that the government wished to avoid the negative distributional impacts of taxation and thus decided to exempt food. Were the value added program in place, the reduction in food costs would be relatively small because in many food production sectors value added is relatively small as a percentage of total output; however, were the sales tax program in place, the reduction would be relatively large.

Policy choices regarding which economic sectors should be exempted from a tax cannot be made without consideration of the type of tax program that is in place. Therefore, to assume that the same sectors are exempted under the value added tax and under the sales tax, as has been done in *Estudios*, is an inappropriate procedure.