

EFFECTIVE PROTECTION RATES
AND INTERNAL INDIRECT TAXES
IN THE PHILIPPINE SETTING

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1. Introduction

The government is currently contemplating a program of "realignment of indirect taxes". The main thrust of the realignment will be to remove the protective effects arising from the indirect tax system and leave the "protecting" function to the tariff structure. The program is part of the government's standing commitment to General Agreement on Tariffs and Trade (GATT) as well as part of the structural reform concomitant to the World Bank's Structural Adjustment Loan (SALII) to the Philippines.

The objective of this study is to examine the importance of indirect taxes in the measurement of effective protection rates under various schemes and, consequently, to provide some guidelines on which the government can base its actions regarding the so-called "realignment" issue.

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Section 2 describes the operation of the existing internal indirect tax system and expounds on the protective nature of the same. Section 3 presents a theoretical framework in which the protective effect of indirect taxes are separated from that of tariffs. Section 4 discusses the data used and the methodology adopted in the empirical estimation. Section 5 presents the results and its analysis. Finally, Section 6 concludes the paper by way of a summary and provides some policy recommendations as well.

2. The Protective Nature of Internal Indirect Taxes in the Philippines.

For our purposes, we consider four types of indirect taxes: the specific tax, the local sales tax, the advance sales tax, and the compensating tax. The specific tax is a tax equal to a specified amount per x units produced and applies to selected articles notably tobacco, petroleum and alcoholic products. The rest are taxes levied on an ad valorem basis. The local sales tax applies to domestically produced goods. The advance sales tax applies to imported goods that will be subjected to further processing and/or those which will be resold. The compensating tax applies to imported goods for personal use and which does not form part of another good for sale. Among others, it applies on imported capital equipment.

The protective effect of the Philippine indirect tax system is due to one or a combination of some of the following features of the system:

- (1) different tax rates for imported and domestically produced goods;
- (2) timing of the tax payments for imported and domestically produced goods;

- (3) the valuation of the tax base of imported and domestically produced good;
- (4) the mark up that applies to the tax base of imported goods; and
- (5) the extent to which tax credits can be availed of.

Other things being equal, a higher tax rate on imported goods relative to that imposed on the domestically produced equivalent has the same protective effect as a tariff on the same good. According to the National Internal Revenue Code (NIRC), imported versions of automobiles, certain semi-essential articles like pens and ballpens, chairs, sofas, beds, show cases, book cases, watches, clocks, electric fans and exhaust fans, electric, gas, and oil stoves and ranges, ponographs and tape recorders, televisions, refrigerators and freezers, agricultural products, processed meat, milk, fish, wheat flour, manufactured medicines, soap and detergents, writing pads, notebooks, etc. are subject to higher sales tax than their locally produced counterparts.

The local sales tax is payable within 20 days after the end of each quarter while the advance sales tax and the compensating tax (i.e., the sales tax on imported goods) are payable upon release from customs custody.

The specific tax on domestic products is payable upon the removal of the product from its place of production while specific tax on imported articles is payable before the release of said articles from the customs warehouse. Thus, we observe that the timing of the payments of the sales tax induces additional cost (specifically interest cost) to be borne by the importer/traders and eventually by the user/consumers of imported goods. In the case of the local sales tax, payments become due after the goods have been sold and presumably after the same have been paid for (price plus tax). For imported goods, the advance sales or compensating tax should be paid before the goods are sold. Lowe (1982), assuming interest rate is 20% and tax rate is 20% estimated this additional cost to be approximately 1 per cent of landed cost.

The local sales tax is based on gross selling price, while that of the advance sales tax is the tariff inclusive landed cost (i.e., home consumption value (HCV) plus 16 per cent of HCV plus postage commission and other charges except freight and insurance plus a mark-up and that of compensating tax is the tariff inclusive landed cost only. The mark-up which is based on the tariff inclusive landed cost is 25 per cent, 50 per cent and 100 per cent, respectively, for ordinary/essential article, semi-essential and non-essentials.^{1/}

^{1/}As of March 16, 1983, the mark-up has been made uniform at 25 per cent.

The present valuation practice would have no protective effect if the importer-middlemen and the factory gate were comparable stages in the distribution process and if the legal mark-ups represent an accurate estimate of the importer-middlemen's profit margin. The assumption here is that most buyers (final as well as intermediate consumers) do not import directly but instead get their import requirements through middlemen while the same buyers purchase domestically manufactured goods directly from factories. Thus, this would justify the addition of the mark-up in the tax base since if there were no mark-up the advance sales tax would be a smaller percentage of the value of the imported product paid to the importer than tax rate applying to gross value of the locally produced good as well as value of the product at the port (landed cost).

At this point, it is not at all clear that the importer-middlemen and the factory are in fact, the competing sources of supply. One could as easily argue that most buyers do not purchase their goods directly from the factory but rather indirectly through traders. If this is true then the mark-up provision does not appear to be justified. Nevertheless, if the first scheme discussed above holds, Lowe 1982 suggests that while the 25 per cent and the 50 per cent mark-up may reasonably represent "variation equivalence" factors with no or little protective effect, the 100 per cent mark-up overstates the importer-middlemen's

profit margin. This implies that the 100 per cent mark-up may have considerable protective effect.

Again, if the first scheme holds, then the compensating tax which does not include the mark-up in its base, will result in a lower tax rate (ratio of tax to tax base) than the local sales tax. However, recall that the compensating tax would advance the timing of the payments resulting in additional costs.

For inputs into locally manufactured goods subject to sales tax, percentage specific and mining taxes paid on said inputs may be credited against the sales tax liability. Goods subject to specific taxes may not avail of the tax credit provision on taxes on inputs. In cases where tax credit for taxes on inputs is possible/available, the protective effect (small) would result from the additional cost arising from the time lag between purchase of input and the availment of tax credits and the advance payments of the advance sales tax. In cases where no tax credit provision applies, the protective effect results from the differential rate as well as valuation basis plus cost due to early payment.

3. Theoretical Framework

In this section, a theoretical framework and methodology that may be used to quantify the protective effect of indirect taxes is presented. The usual partial equilibrium assumptions of protection theory as laid out in the works of Corden (), Balassa (1971) and others, are made, namely: (1) infinitely elastic foreign supplies of importables; (2) infinitely elastic foreign demand for the country's exports; (3) zero elasticity of substitution among inputs; (4) constant returns to scale in production; (5) zero transportation costs; and (6) pure competition.

In contrast to the nominal protection rate which measures in relative terms the excess of the domestic price of a product over its border price, the effective protection rate (EPR) is defined as the percentage excess of domestic value added over free trade value added of a given activity resulting from the imposition of tariffs and other protective measures. Using the input-output relationship that would prevail under free trade conditions and assuming that protection arises from tariffs alone, the following may be derived:

$$EPR_j = \frac{(1 + t_j) - \sum_i a_{ij} (1 + t_i)}{1 - \sum_i a_{ij}} - 1 \quad (1)$$

or more simply,

$$EPR_j = \frac{t_j - \sum_i a_{ij} t_i}{1 - \sum_i a_{ij}} \quad (2)$$

where: j refers to the output,

i refers to the typical input,

a_{ij} is the free-trade value of input i used to produce a unit value of output j ; and

t is the tariff rate on commodity i .

Under a system of tariffs and sales taxes where the sales tax rate on imported good i is sm_i and the sales tax rate on domestic good i is sd_i , the effective protection rate for commodity j is:

$$EPR_j = \frac{\frac{(1+t_j)(1+sm_j)}{(1+sd_j)} - \sum_i a_{ij} \frac{(1+t_i)(1+sm_i)}{(1+sd_i)}}{1 - \sum_i a_{ij}} - 1 \quad (3)$$

If the sales tax rate on imported good k and that on domestically produced good i is uniform, i.e. if

$sm_k = sd_k = s_k$, then (3) reduces to:

$$EPR_j = \frac{(1+t_j) - \sum_i a_{ij} (1+t_i)(1+s_i)}{1 - \sum_i a_{ij}} - 1. \quad (4)$$

The difference between (3) and (1) measures the degree of protection arising from the sales tax while the difference between (3) and (4) reflects the additional protection arising from the discriminatory provisions of the sales tax system, i.e. the protection due to the differential sales tax rates that apply on imported and on domestically produced goods.

Under a value added tax system that operates up to the manufacturer's level (like that which is currently being enforced in the Philippines) where sales and specific taxes actually paid on intermediate inputs used are allowed as tax credits against sales tax due on the end product, EPR estimation should take account of said tax credit on inputs. Without the tax credit provision, and under the usual assumptions, the following relationship hold:

$$Pd_i = (1+t_i)(1+sm_i) Pb_i \quad (5)$$

where, Pb_i is the border price of good i ,

Pd_i is the domestic price of good i inclusive of the domestic sales tax.

If tax credits for taxes paid on both domestic and imported purchases are allowed and if said credit is obtained immediately and costlessly, then the net domestic price of intermediate products to the intermediate user should just equal the price of importing a similar good net of the tax credit i.e.,

$$\frac{Pd_i}{1+sd_i} = (1+t_i)Pb_i \quad \frac{1/}{.} \quad (6)$$

^{1/}Note that the gross price of the imported input is $Pb_i(1+t_i)(1+sm_i)$ and the tax credit on imported inputs is $sm_i(1+t_i)Pb_i$. Thus, the price net of the tax credit, i.e. the price to the intermediate user, is:

$$(1+t_i)(1+sm_i)Pb_i - sm_i(1+t_i)Pb_i = (1+t_i)Pb_i = \frac{Pd_i}{1+sd_i}$$

Similarly, the gross price of the domestic input is $Pd_i = Pb_i(1+t_i)(1+sd_i)$ while the tax credit on domestic inputs is $sd_i \frac{Pd_i}{1+sd_i}$. Hence, the price of the domestic input net of the tax credit is

$$Pd_i - sd_i \frac{Pd_i}{1+sd_i} = \frac{Pd_i}{1+sd_i} = (1+t_i)Pb_i$$

Accounting for the tax credit for inputs as provided in the value added system, the effective protection formula for final goods is modified as follows:

$$EPR_j = \frac{\frac{(1+t_j)(1+sm_j)}{(1+sd_j)} - \sum_i a_{ij} (1+t_1)}{1 - \sum_i a_{ij}} - 1 \quad (7a)$$

On the other hand, the effective protection rate of intermediate goods is reduced to:

$$EPR_j = \frac{(1+t_j) - \sum_i a_{ij} (1+t_1)}{1 - \sum_i a_{ij}} - 1 \quad (7b)$$

If it is now assumed that a uniform value added tax system exists, i.e. a scheme where $sm_j = sd_j$ and credits for taxes on inputs are allowed, then the effective protection rate for both intermediate and final goods may be represented by equation (7b) above.

Equations (1) and (7b) are identical. This implies that a uniform value added tax system has no protective effect on both intermediate and final goods under the full tax credit system where tax credit is obtained immediately and costlessly. Furthermore, a non-uniform value added tax system has no protective effect in the case of intermediate goods.

Equations (7a) and (7b) above abstract from the additional capital holding costs arising from the advanced payment of the sales tax on imported inputs. It was pointed out earlier that the sales tax liability for domestically produced goods is incurred twenty days after the end of the quarter in which the sale has taken place (sales receipts usually occur within this period also) while sales taxes on imported inputs must be paid before their release from Customs. This practice has resulted in an increase in working capital requirements. Taking the interest costs of this additional working capital into consideration the effective protection rate formula for final goods becomes:

$$EPR_j = \frac{\frac{(1+t_j)(1+sm_j)}{(1+sd_j)} - \sum_i a_{ij} (1+t_i) [1+r(sm_i)]}{1 - \sum_i a_{ij}} - 1 \quad (8a)$$

where r is the relevant interest rate needed to take account of the timing difference, e.g. if the annual market interest rate is 20 per cent and the maximum timing difference is 3 months, then r should be 5 per cent.^{1/} On the other hand, the effective protection rate of intermediate goods is given by the following:

$$EPR_j = \frac{(1+t_j)[1+r(sm_j)] - \sum_i a_{ij} (1+t_i) [1+r(sm_i)]}{1 - \sum_i a_{ij}} - 1 \quad (8b)$$

Now, if a uniform value added tax system is assumed, then (8a) is revised as follows:

$$EPR_j = \frac{(1+t_j) - \sum_i a_{ij} (1+t_i) (1+r sm_i)}{1 - \sum_i a_{ij}} - 1 \quad (9)$$

However, (8b) remains unchanged.

^{1/} If capital holding cost is not ignored then the net domestic price of intermediate goods should just equal the price of importing a similar good inclusive of the capital costs but net of the tax credit, i.e.,

$$\frac{Pd_i}{1+sd_i} = (1+t_i) [1+r(sm_i)]$$

Note that the gross price of the imported input with capital costs into account is $Pb_i (1+t_i) [1+sm_i (1+r)]$ and the tax credit is $sm_i (1+t_i) Pb_i$. This yields a price net of the tax credit equal to:

$$(1+t_i) [1+sm_i (1+r)] Pb_i - sm_i (1+t_i) Pb_i = (1+t_i) [1+r(sm_i)] Pb_i = \frac{Pd_i}{1+sd_i}$$

The analysis shows that (1) in general, the value added system has no protective effect if it treats imports and locally produced goods uniformly and if one abstracts from capital holding costs, (2) in the case of intermediate goods, a non-uniform value added tax system has no protective effect regardless of the inclusion or non-inclusion of capital holding costs, (3) in the case of final goods, a non-uniform value tax scheme could have some protective effect regardless of the inclusion or non-inclusion of capital holding costs.^{1/}

In summary, to evaluate the protective effect of the discriminatory elements of the indirect tax system one may proceed in three stages, namely: (1) estimate EPRs taking into account both tariffs and domestic indirect taxes with all its discriminatory elements; (2) estimate EPRs taking into account both tariffs and domestic indirect taxes under the assumption that $sm_i = sd_i$ for all i 's; and (3) take the difference between said estimates.

^{1/}It is possible that the effect of $r(sm_i)$ could just offset the effect of $sm_i \neq sd_i$.

4. Methodology and Data

The EPR estimates in this study are based on the 237 x 237 input-output tables for 1974 from the National Census and Statistics Office (NCSO), the tariff rates for 1985 as contained in the Tariff and Customs Code of 1982 and the sales tax rates and specific taxes as of mid-1983 as provided in the National Internal Revenue Code of 1981 and other relevant executive orders and legislations promulgated between 1981 and 1983. The 1974 I-0 tables yield domestic value coefficients which were converted to free trade value coefficients by using the implicit tariff estimates for 1974 computed by Medalla and Power (1979). In general, two alternative values of the advance sales tax rate on imports were used. The first one excludes the mark-up provision which is equal to 25 per cent of the tariff inclusive landed cost of the product while the second includes the said mark-up. In the latter the implicit assumption is that the mark-up provides additional protection.

Four different EPR estimates were made and compared. One, EPR is computed on the basis of equations (8a) and (8b) for final and intermediate goods, respectively (call this, EPR_1). This estimate takes into account both the existing tax credit system now in force (i.e. a non-uniform value added system), and the additional capital holding costs arising from advance payments of sales tax

on imports assuming an interest rate of 20 percent. Two, EPR is computed based on equations (7a) and (7b) (call this EPR_2). This estimate considers the existing tax credit system but assumes that the tax credit is obtained immediately and costlessly in all cases. Three, EPR is computed using equation (7b) for both final and intermediate goods (call this EPR_3). This estimate assumes a uniform value added system, i.e. $sm_i = sd_j$, and no additional capital costs. Four, EPR as defined in equation 3 is computed. This estimate assumes a hypothetical situation where the 1985 tariff rates and the 1983 internal tax rate are operative but where no tax credit is allowed for taxes on inputs. In all cases, non-tradable inputs were treated as part of value added of the industry using them. Ideally, non-tradable inputs should be decomposed into value added, cost tradable inputs and cost of non-tradable inputs. Tan (1979) compared the results from these two alternative procedures and found that the deviations are "slight". In view of this, the former approach which is computationally simpler was adopted.

The difference between EPR_1 and EPR_2 indicates the degree of protection attributable to the capital holding costs. The difference between EPR_2 and EPR_3 reflects the amount of protection due to the non-uniform internal indirect tax rates applicable on imports and on locally produced goods. The difference between EPR_2 and EPR_4

measures the protection/disprotection arising from the adoption of the existing value added system. In general, for final products the following relationships hold:

- (1) $EPR_1 < EPR_2$, (2) $EPR_2 > EPR_3$ as long as $sm_j > sd_j$,
- (3) $EPR_2 < EPR_3$ as long as $sm_j < sd_j$, (4) $EPR_4 < EPR_2$; and
- (5) $EPR_4 < EPR_1$. For intermediate products, $EPR_2 = EPR_3$ but is not clear whether $EPR_1 \gtrsim EPR_2$ and whether $EPR_2 \gtrsim EPR_4$.

5. Analysis

Following Tan's (1970) classification, 30 of the 157 production sectors in the 1974 I-0 tables were considered nontradables and no EPR estimates were derived for them. EPR estimates were made for only 40 out of the remaining 127 sectors since the focus of the present paper is to evaluate the protective effect of internal indirect taxes rather than to analyze the structure of protection at a given point in time. Thus, the said 40 sectors included (1) all sectors which are subject to non-uniform sales tax rates (imports vis-a-vis locally manufactured goods) after abstracting from the mark-up provision, (2) all sectors which are subject to specific taxes, and (3) several sectors which are deemed not to be too greatly affected by discriminatory elements in the sales/specific tax system.

Table 1 presents four different EPR estimates for 40 selected sectors of the 1974 Philippine I-0 table (Refer to the previous section for the definitions of EPR_1 , EPR_2 , EPR_3 and EPR_4). These four alternative estimates are then compared to evaluate the protective effect of various discriminatory elements of the internal indirect tax system.

For final products, EPR_1 , is less than EPR_2 by less than 1 percentage point except for sector 109 (soap and other washing and cleansing compounds) where the difference is more than 1 but less than 2 percentage points.

For intermediate goods, EPR_1 is greater than EPR_2 by less than 1 percentage point except for sector 72 (textile mill products) where the difference is more than 1 but less than 2 percentage points. This indicates that the additional capital holding costs arising from the advanced payments of sales tax on imported inputs lowers (increases) the protection to final (intermediate) products by no more than 2 percentage points relative to the situation where the tax credit is obtained immediately and costlessly.

If one abstracts from the mark-up provision, the difference between EPR_2 and EPR_3 ranges from zero (for intermediate products and those whose $sm_j = sd_j$) to 36 percentage points and averages at 18 percentage points.^{1/} These figures reflect the protective effect of non-uniform sales tax rates on imports and domestically produced goods. If one considers the mark-up provision as discriminatory then another 4 to 15 percentage points is added to the protective effect of the non-uniform value added tax system. This difference averages at 8 percentage points.

^{1/} Sector 143 (motor vehicles) which registered a difference of as much as 327 percentage points is not included here since, in fact, due to the existence of quantitative restrictions on automobile imports, the assumptions made in the present study are not valid for this sector.

The difference between EPR_2 and EPR_4 which measures the protective effect of the shift from the single stage sales tax system to the value added tax system ranges from 1 to 36 percentage points with a mean of 12 percentage points for final products ($EPR_4 < EPR_2$). For intermediate products, the direction of the difference is variable but averages at 15 percentage points.

To summarize, we conclude the following: (1) the protective effect of the additional capital holding costs is slight, (2) ignoring capital costs, the existing internal indirect tax system has no protective effect in the case of intermediate goods, and goods which are subject to a uniform sales tax rates, (3) the protective effect of the value added tax system in cases where a good is subject to non-uniform rates is considerable, (4) the protective effect of the mark-up provision if, in fact, it is a source of discrimination, is not negligible although it is less than (3); and (4) the protective effect of the shift from a single stage sales tax to a value added tax system is not small.

Table 1. Effective Protection Rates for Selected I-0 Sectors, 1985

Sector Description	Sector No.	EPR ₁	EPR ₂	EPR ₃	EPR ₄	t	sm'	sm''	sd
Citrus	004	.4629	.4635	.3333	.4505	.30	.10	.125	.01
		.4990	.4997		.4866				.01
Pineapple	005	-.0079	-.0068	-.0068	-.0296	0	.10	.125	.01
Coffee	011	.5400	.5324	.5324	.6679	.50	.10	.125	.01
					.7077				.01
Cacao	012	.3620	.3552	.3552	.4750	.34	.10		.01
Commercial Fishing, Ocean and Off-Shore	025				.5102	.50	.10	.125	.01
		.5475	.5401	.5401	.6695				.01
Slaughtering and Poultry Dressing	039				.7120	.49	.10	.125	.01
		.4977	.4902	.4902	.6229				.01
Meat Products, Canned	040				.6599	.11	.10	.125	.01
		.2053	.2094	.0689	.1287				.05
Meat Products, Uncanned	041				.1989	.15	.10	.125	.05
		-.2256	-.2137	.3575	-.4528				.05
Evaporated and Condensed Milk	042				-.3808	.04	.10	.125	.05
		-.1537	-.1417		-.0200				.05
Fish Canning	047				.0265	.07	.10	.125	.05
		.0738	.0787	-.0143	-.0849				.05
Other Fish and Seafoods Products	048					.25	.10	.125	.05
		.1203	.1253	-.0929	-.0483				.05
		.2552	.2575	.1802	.2118				.05
		.2939	.2962		.2505			.125	.05

Sector Description	Sector No.	EPR ₁	EPR ₂	EPR ₃	EPR ₄	t	sm'	sm''	sd
Distilled , Rectified and Blended Liquors	065	1.0706	1.0825	.7674	.8431	.50	.30	.30	.18
Wines	066	.4407	.4568	.3237	.1348	.31	.15	.15	.10
Brewery and Malt Products	067	.4407	.4465	.4666	.3301	.43	.09	.09	.10
Cigarettes	069	.3363	.3514	.6836	.0504	.50	.16	.16	.25
Cigars, Chewing and Smoking Tobacco	070	-.1030	-.0985	-.0985	-.1900	.03	.08	.08	.08
Textile Mill Products	072	.3712	.3476	.3476	.1591	.29	.25		.25
					.2915			.3125	.25
					.5202		.25		.10
					.6707			.3125	.10
					.1591		.10		.10
					.2193			.125	.10
Footwear, Except Rubber and Plastic	077	.3018	.3039	.3039	.2625	.30	.10		.10
		.3402	.3423		.3009			.125	.10
Ready-Made Clothing	079	.0083	.0119	.0119	-.0612	.08	.10		.10
		.0415	.0451		-.0280			.125	.10
Pulp, Paper and Paperboard Manufacturing	087	.1699	.1741	.1741	.0296	.17	.10		.10
		.2146	.2188		.0743			.125	.10
		.2635	.2677		.1232		.10		.05
		.3103	.3145		.1701			.125	.05
Paper Products	088	.8883	.8975	.8975	.7145	.48	.10		.10
		.9700	.9792		.7962			.125	.10
		1.0595	1.0687		.8857		.10		.05
		1.1451	1.1543		.9713			.125	.05

Sector Description	Sector No.	EPR ₁	EPR ₂	EPR ₃	EPR ₄	t	sm'	sm"	sd
Tanning and Leather Finishing	095	.1433	.1377	.1377	-.0649	.29	.10		.10
					.0066			.125	.10
Medicinal and Pharmaceutical Preparations	107	.2356	.2398	.1523	.1558	.17	.10		.05
		.2794	.2836		.1996			.125	.05
		.1480	.1523		.0682		.10		.10
		.1899	.1941		.1100			.125	.10
Cosmetic and Toilet Preparations	108	*	*	*	*	.50	.50	.625	.50
							.10	.125	.10
Soap and Other Washing and Cleansing Compounds	109	2.2171	2.2348	1.9297	1.8798	.49	.10		.05
		2.3697	2.3874		2.0324			.125	.05
		1.9119	1.9297		1.5747		.10		.10
		2.0576	2.0753		1.7203			.125	.10
Petroleum Refineries	112	.2818	.2819	.2819	.2790	.28	.15	.15	.15
Products of Petroleum, Coke and Coal	113	.1644	.1686	.1686	.0836	.19	.15	.15	.15
Agricultural Machinery and Equipment	129	.2293	.2321	.2321	.1802	.23	.10		.10
		.2697	.2725		.2206			.125	.10
Household Radio, TV Receiving Sets, Phonos	139	.9294	.9357	.6098	.8095	.50	.25		.10
		1.0653	1.0716		.9453			.3125	.10
		.6034	.6098		.4835		.25		.25
		.7230	.7293		.6030			.3125	.25
Refrigeration and Airconditioning Equipment	140	.6598	.6649	.6649	.5626	.50	.25		.25
		.7792	.7843		.6821			.3125	.25
		.9855	.9906		.8884		.25		.10
		1.1213	1.1264		1.0241			.3125	.10

Sector Description	Sector No.	EPR ₁	EPR ₂	EPR ₃	EPR ₄	t	sm'	sm''	sd
Other Household Electrical Appliances and Wares	141	.8776	.8854	.5258	.7283	.37	.25		.10
		1.0275	1.0353		.8782			.3125	.10
		.5179	.5258		.3686		.25		.25
		.6498	.6570		.5005			.3125	.25
Motor Vehicle, Manufactured or Assembled Engines	143	1.8206	1.8276	.3706	1.6869	.29	1.0		.15
		2.2492	2.2562		2.1155			1.25	.15
		2.4708	2.4778		2.3371		2.0		.45
		3.1506	3.1576		3.0169			2.5	.45
		3.5348	3.5418		3.4011		2.0		.15
		4.3918	4.3989		4.2582			2.5	.15
		.3636	.3706		.2299		.10		.10
.4084	.4154		.2747			.125	.10		
Motor Vehicle Engines, Bodies and Parts	144	.1059	.1006	.1006	.0265	.12	.10		.10
		.1081			.0675			.125	.10
		.1599			.0265		.70		.70
		.1757			.2121			.875	.70
Motorcycles and Bicycles and Parts	146	.6186	.6218	.6218	.5584	.50	.10		.10
		.6698	.6729		.6096			.125	.10
Jewelry, Silverware and Related Articles	148	.4496	.4526	.4526	.3926	.34	.50		.50
		.6196	.6226		.5626			.625	.50
Musical Instruments	149	.3904	.3918	.3918	.3641	.36	.50		.50
		.5235	.5249		.4973			.625	.50
		.3904	.3918		.3641		.25		.25
		.4703	.4717		.4440			.3125	.25
		.3904	.3918		.3641		.10		.10
.4267	.4281		.4004			.125	.10		
Photographic and Optical Goods	153	.1775	.1809	.1809	.1123	.19	.10		.10
		.2154	.2188		.1502			.125	.10

Sector Description	Sector No.	EPR ₁	EPR ₂	EPR ₃	EPR ₄	t	sm'	sm''	sd	
Sports, Equipment and Supplies	154	.3477	.3514	.3514	.2767	.32	.10	.125	.10	
		.3938	.3976						.3229	.10
Pen, Pencil, Office and Artist's Supplies	155	.3622	.3649	.3649	.3078	.33	.10	.175	.10	
		.4866	.4893						.4322	.10
		.3622	.3649						.3078	.25
		.4534	.4561						.3990	.3125
Toys, Dolls, Parlor Games Excluding Plastics, Rubber	156	.1480	.1510	.1510	.0903	.16	.50	.625	.50	
		.2714	.2744						.2137	.50
		.1480	.1510						.0903	.10
		.1816	.1847						.1239	.125

*means the sector has negative free trade value added.

EPR₁ is based on equation 8a and 8b.

EPR₂ is based on equation 7a and 7b.

EPR₃ is based on equation 7b.

EPR₄ is based on equation 3.

t is the tariff rate.

sm' is the sales tax rate on imports exclusive of the mark-up.

sm'' is the sales tax rate on imports inclusive of the mark-up.

sd is the sales tax rate on domestically produced goods.



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