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Caesar B. Cororaton

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Caesar B. Cororaton September 2000

Abstract

The Philippines undergoes a tariff reform program. After more than a decade of implementation, significant achievements have been attained in terms of changes in the tariff structure. For example, quantitative restrictions on important commodities have been tariffied. The tariff structure has been simplified from a multi-layered one into a structure with fewer tariff rates. Furthermore, tariff rates have been substantially reduced. The objective of the paper is to analyze the effects of the tariff reform program using a computable general equilibrium model calibrated using Philippine data. The primary focus is on the change in the tariff structure and its impact on efficiency, resource movements, income distribution, and welfare.

Philippine Tariff Reforms: A CGE Analysis¹

Caesar B. Cororaton² September 2000

The trade reform program in the Philippines is pursued quite aggressively starting from the second half of the 1980s to the present. So far the program has not been completed, thus it will continue to be implemented for quite sometime. However, for more than a decade of continuous implementation, substantial accomplishments have already been attained. For example, quantitative restrictions on important commodities have been tariffied. The tariff structure has been simplified from a multi-layered one into a structure with fewer tariff rates. Furthermore, tariff rates have been substantially reduced. The reforms have been pursued either unilaterally or under various multilateral agreements (such as the WTO) and regional arrangements (like the AFTA and CEPT).³

The objective of the paper is to analyze the effects of the trade program using a computable general equilibrium model calibrated using Philippine data. The primary focus is on the change in the tariff structure and its impact on efficiency, resource movements, income distribution, and welfare.

Tariff Reforms in the Philippines

<u>Before 1990s</u>. A number of trade programs were implemented before the 1990s, but the major one started in the early 1980s. The program had three major components: the 1981-1985 Tariff Reform Program (TRP);

¹Benefited from the discussion with Bernard Decaluwe. The revised CGE model used in the analysis also benefited from the interaction with Véronique Robichaud. However, errors and gaps in the analysis are the sole responsibility of the author.

²Research Fellow, Philippine Institute for Development Studies. Research assistance was provided by Janet Cuenca.

³WTO is World Trade Organization, AFTA is ASEAN Free Trade Area, and CEPT is Common Effective Preferential Tariff.

the Import Liberalization Program (ILP); and the complimentary realignment of the indirect taxes. In TRP, there was a narrowing of the tariff rate structure from a range of 100 - 0 percent to 50 - 10 percent. During the period 1983-1985 sales taxes on imports and locally produced goods were equalized. Also, the mark-up applied on the value of imports (for sales tax valuation) was reduced and eventually eliminated.

However, because of the balance of payments crisis during the mid-1980s the import liberalization program got derailed. In fact, during the crisis some of the items that were deregulated earlier were re-regulated.

When the Aquino government took over in 1986, the trade reform program of the early 1980s was resumed, resulting in the reduction of the number of regulated items from 1,802 in 1985 to 609 in 1988. Furthermore, export taxes on all products except logs were abolished.

<u>Within 1990s</u>. Table (1) summarizes the trade reform program during the 1990s. The government launched a major reform program in 1991 with the issuance of the Executive Order (EO) 470 (also called the TRP-II, an extension of the previous trade reform program). Under this program, tariff rates were realigned over a five-year period. The realignment involved the narrowing of the tariff rate range through a series of reduction of the number of commodity lines with high tariffs, and an increase in the commodity lines with low tariffs. In particular, the program was aimed at clustering the commodities with tariffs within the 10 - 30 tariff rate range by 1995. Despite the programmed narrowing of the tariff range, about 10 percent of the total number of commodity lines were still subjected to 0 - 5 percent tariff and 50 percent tariff rates by the end of the program in 1995.

"Tariffication" of QRs started in 1992 with the implementation of EO 8. There were 153 commodities whose QRs were converted into tariff equivalent rates. Also, under the same EO, tariff rates on 48 commodities were further re-aligned. EO 8 raised the tariff rates applicable to the relevant commodities by 100 percent of their pre-EO 8 levels. In effect, the tariff rates imposed were higher than the tariff equivalent rates in a number of cases, especially during the initial years of the conversion. However, EO 8 has a built-in program for a five-year phase-down of the "tariffied" rates.

Under the import liberalization program, de-regulation continued on 286 items. At the end of 1992, only 164 commodities were covered under the QRs. However, the implementation of the Memorandum Order (MO) 95 in 1993 reversed the de-regulation process. In fact, QRs were re-imposed on 93 items, bringing up the number of regulated items under the QR to 257. This re-regulation came largely as the result of the Magna Carta for Small Farmers in 1991.

Major reforms were implemented under the TRP-III. The program embodied in the following EOs: (i) EO 189 implemented in January 1, 1994 which provided reduced tariff rates on capital equipment and machinery; (ii) EO 204 in September 30, 1994 which mandated tariff reduction in textiles, garments, and chemical inputs; (iii) EO 264 in July 22, 1995 which reduced tariffs on 4,142 harmonized lines in the manufacturing sector; and (iv) EO 288 in January 1, 1996 which reduced tariffs on "non-sensitive" components of the agricultural sector. The restructuring of tariff under these EOs refers to a reduction in the number of tariff tiers and the maximum tariff rates. In particular, the program was aimed at establishing a four-tier tariff schedule: 3 percent for raw materials and capital equipment which are not available locally; 10 percent for raw materials and capital equipment that are available from local sources; 20 percent for intermediate goods; and 30 percent for finished goods.

Another major tariff program which is in the pipeline and is likely to be implemented starting 2004 is the uniform tariff rate. At the moment, debate is still going on at what rate will the tariff be set uniformly across sectors. Suggestion of five percent rate is being contemplated and debated.

Impact of the Tariff Change. In a recent paper of Manasan and Querubin (1997), they analyzed the impact of the different trade and tariff

reform programs in the 1990s on the structure of tariff. In particular, they computed the implicit tariff rates and effective rates of protection (EPRs) for 169 commodities based on domestic and border prices. The study found that as a result of the trade program significant achievements were attained in the area of tariff simplification. Overtime, the program restructured the tariff system from a five-level rate schedule to a three-level rate schedule. Moreover, most of the commodities cluster around the 3-20 percent range.

Furthermore, based on the results, they observed gains in the form of reduction in the average nominal and implicit tariff rates, as well as in the EPRs over the period 1990-2000. Overall, the average nominal tariff rate decreased from 33.3 percent in 1990 to 19.5 percent in 2000. Likewise, the average implicit rate based on price comparison declined from 28.6 percent in 1990 to 16.8 percent in 2000. In addition, the overall EPR based on price comparison dropped from 29.4 percent in 1990 to 18.0 in 2000.

It was also observed that the decline in the EPRs is pronounced in the manufacturing group than in the primary group, particularly in the agriculture sub-group. This implies a switch-over in relative protection in agriculture and manufacturing sectors. Relative protection is observed to increase from 1995 to 2000, in sharp contrast to the previous decades when the agricultural sector was penalized heavily relative to the manufacturing sector. During the period 1990-1994, the manufacturing group enjoyed relatively higher protection than agriculture. There is a major switch during the period 1995-2000 in favor of agriculture.

Figure 1 depicts the implicit tariff rate change of major sectors during the 1990s. Increasing implicit tariff rates are seen in some of the sectors during the early 1990s. This is largely due to the effects of the "tariffication" of quantitative restrictions. However, from the mid-1990s to the turn of the century all of the sectors depict a declining trend. Food manufacturing has the highest implicit tariff, while mining has the lowest.

Model Structure

The simulation was conducted using the Philippine Computable General Equilibrium Model (PCGEM). PCGEM is a non-linear model. It has 34 production sectors, 3 factor inputs (labor, variable capital, and capital), and households grouped decile. Labor and variable capital are endogenous, while capital is fixed.

Armington assumption is imposed in the imports functions, while a CET specification is used in the exports equations. Consumer utility functions are specified as Cobb-Douglas. PCGEM is a neoclassical CGE model wherein prices adjust to clear the markets. Furthermore, it is a full equilibrium model.

The model is closed with a fixed current account balance. The exchange rate is the numeriare, while the weighted value added price is endogenous. This implies that the weighted value added price level adjusts to clear the foreign account balance. Furthermore, government consumption is fixed. With government revenue being endogenous, government budget balance is endogenous as well. Also, all savings are plowed back into the system in the form of investments.

PCGEM is a medium-sized CGE model of the Philippine economy. It is a square model with 2,272 equations in 2,272 variables⁴. Furthermore, it has 354 exogenous variables and 2,262 parameters. The model is static, and is calibrated using the 1990 social accounting matrix and 1990 sectoral tariff revenue. It is coded in a software called General Algebraic Modeling System (GAMS).

PCGEM has 6 major blocks. In this section, only major equations in each block are discussed, just to highlight the economic relationships in the model.

⁴For a detailed discussion of the model see CB Cororaton, 2000. "Philippine Computable General Equilibrium Model"

Imports. Standard in CGE specification is the product differentiation between locally produced and imported goods. This differentiation results in imperfect substitutability between imports and domestic goods, and usually, a CES function is used. This is commonly referred to as the Armington assumption that can be written as

(1) $x(it) = ac(it)*[delta(it)*imp(it)^{(-rho_m(it))} + {1- delta(it)}*xxd(it)^{-rho_m(it)}]^{[-1/rho_m(it)]}$

x(it), is the composite good, imp(it) imports, xxd(it) domestic production available for domestic consumption; ac(it) and delta(it) are constants, sigma_m(it) is the elasticity of substitution which is given by sigma_m(it) = $1/[1+rho_m(it)]$. The sectoral index is given by <u>it</u>. Consumers will choose between imported and domestic goods depending on their relative price. Minimizing the cost of obtaining a "unit of utility"

(2) p(it)*x(it) = pd(it)*xxd(it) + pm(it)*imp(it)

subject to (1) yields the demand for imports function

(3) $imp(it) = xxd(it)*([pd(it)/pm(it)]*[delta(it)/{1-delta(it)}])^{sigma_m(it)}$

where p(it), pd(it), pm(it) are prices of x(it), xxd(it), and imp(it).

Furthermore the local price of imports is given by

(4) pm(it) = pwm(it) *er* [1 + tm(it)]

where pwm(it) is the world price of imports, er is the exchange rate, tm(it) sectoral tariff rate. From (3) one can observe that as the elasticity substitution gets larger, the sensitivity of imports to the relative price rises.

<u>Exports</u>. Similarly, the quality of domestically consumed and exported commodities may be quite different. This product differentiation may

be captured through the use of a constant elasticity of transformation (CET) function between domestically consumed and exported goods. That is,

(5) xd(it)= at(it)*[theta(it)*exp(it)^{kappa_e(it)} + {1-theta(it)}*xxd(it)^{kappa_e(it)}]^[1/kappa_e(it)] where xd(it) is total domestic production, exp(it) exports; at(it) and theta(it), are constants; tau_e(it) is the elasticity of transformation which is given by 1/[1- kappa_e(it)].

Maximizing revenue

(6) px(it)*xd(it) = p1(it)*xxd(it) + pe(it)*exp(it)

for a given output, (5), gives the export supply function which is

(7) $exp(it) = xxd(it)*{pe(it)/p1(it)* [1 - theta(it)]/theta(it)}^{(tau_e(it))}$

where pe, the export price is given by

(8) pe(it) = pwe(it) * er/[1 + te(it)]

and the domestic price is

(9) pd(i) = p1(i)*[1 + itxrdom(i)]

where te(it) is the export tax, and itxrdom(it) indirect tax.

Supply and Factor Block

Value Added and factors. Sectoral value added is specified as Cobb-Douglas function of 3 factor inputs: labor, variable capital and capital. With perfect competition and profit maximization, the price of each factor is equal to the value of its marginal product. From this condition, equations for the demand for factor inputs are derived.

Demand Block

Total demand has 5 components, namely: (a) intermediate demand is derived Leontief fixed-coefficient assumption; (b) consumption demand of institutions (except the government) which is derived using Cobb-Douglas specification; (c) investment demand (whose total is equal to total savings); (d) government consumption which is fixed; and (e) change in stocks which is also fixed.

Price Block

Equations (2), (4), (6), (8) and (9) are part of the price block. Value added price is also introduced into the model, being derived as the difference between the value of output and intermediate inputs. Furthermore, weighted value added price, PINDEX, (or the GDP deflator) is added and is determined endogenously. Lastly, prices of capital goods are assumed to be equal to the composite price in equation (2) above.

Income Block

Income of the institutions, except the government sector, is derived from factor incomes; secondary incomes (mostly dividends and interest incomes); and grants, aids and transfers (from the government and the rest of the world). Income of the government comes from tariff revenue, indirect tax revenue, direct tax revenue, and grants and transfers from the rest of the world.

Equilibrium Conditions and Model Closure

The equilibrium conditions have 4 major parts:

1. The current account balance, or foreign savings, is fixed. The exchange rate, er, is the numeriare. The weighted value added price, or the PINDEX, adjusts to clear the trade account. In other words, instead of a

clearing exchange rate, it is the real exchange rate defined as er/PINDEX that clears the foreign trade sector.

2. Total savings is equal to total investment, i.e., savings are placed back in the system in the form of investments.

3. Total sectoral demand for labor is equal to the total supply of labor. Similarly, the total sectoral demand for variable capital is equal to the total supply. Also, the model imposes zero profit condition.

4. Sectoral supply is equal to sectoral demand for commodities. Walras law is applied to the general government service sector.

The model uses parameters presented in Table 1. These parameters are the coefficients in the Cobb-Douglas value added equations, the Armingtom and the CET elasticities. A sensitivity analysis was conducted on how the simulation results are affected when trade the parameters are changed. The results, which are discussed in the reference paper, indicate that the effects are small when trade parameters are changed between –20 percent and +20 percent. However, the effect on welfare indicators are relatively significant: poorer households respond favorably to higher export elasticities and lower Armington parameters, while richer households are worse off under low elasticities for both exports and imports.

Simulation

Sectoral Nominal Tariff. Nominal changes in tariff rates were simulated using PCGEM. Changes in nominal tariff of the sectors are shown in series of charts in Figure 2. Nominal tariff rate on palay and corn was flat from 1990 to 1995. There was a spike in the 1996, and this was largely due to the effect of the tariffication of QRs. From 1996 to 2000, nominal tariff rate moved along a declining trend. For fruits and vegetables the nominal tariff rates was also flat in the first half of the 1990s. It started to decline 1995. There are some swings in the nominal tariff rates for livestock and poultry, but the general trend is declining. For fishing, tariff rates increased in 1992, but declined thereafter. The movement of tariff for other agriculture is similar to palay and corn: generally flat in the first half of the 1990s, a spike in 1996, and a declining trend thereafter. Tariff rates for forestry dropped during the period.

The tariff rate for mining increased to a higher level in 1992 to 1995, but dropped to a low level beginning 1996. For rice and corn milling, the rate was flat over the period 1990 to 1995. There was an increase in 1996, but declined slowly thereafter. For milled sugar, an increase was observed in 1992 and 1996. However, the rates slowly declined since 1996. Similar trend was observed for meat manufacturing. For fish manufacturing a spike was observed in 1992, but continued to decline since then. For the rest of the industries, a continuous decline in the tariff rate during the 1990s was observed, except for petroleum refining when tariff rate increased significantly in 1992. The increase was largely due to the import tax imposed during the period as a way of raising revenue in the crisis years of the early 1990s.

Simulation Inputs. One can observe that for all industries, a declining trend was seen towards the year 2000. For simulation purposes, the tariff rate change from the peak point to the low rate in 2000 was computed for all industries. For example, in the case of palay and corn, the change in the nominal tariff rate from the peak in 1996 and the low in 2000 was calculated using simple growth formula and inputed into PCGEM. Similar method was applied to the rest of the industries.

<u>Simulation Results</u>. Two sets of simulations were conducted: (a) separate industry tariff change (i.e., the change in the tariff rate for each industry was simulated <u>one at a time</u>); and (b) combined industry tariff change (i.e., changes in the tariff rate for all industries were simulated <u>at the same time</u>).

(a) Separate industry tariff change. The results are presented in Table 2. The results on production (xd) and price (px) are for the industry in question, while results for PINDEX, GDP, Gini coefficients and welfare indicators are economy-wide effects.

The changes in the nominal tariff are all negative. The biggest dropped is observed in mining industry (-87.63%), while the smallest in palay and corn (-8.96%). The impact on the industry output and price varies. The impact on the production of electrical equipment, garments and leather, textile manufacturing, other food manufacturing, beverage and tobacco, and fruits and vegetables are positive. The biggest positive output effect is observed in electrical equipment, while the smallest is in fruits and vegetables. The rest of the industries show negative output effects. In terms of GDP⁵, only 11 industries show negative results. 14 industries show positive GDP effects. The results on the trade balance are not significant. The change in the Gini coefficient is small, but there are 10 cases where the income distribution effect is favorable. In terms of welfare effects (equivalent variations) the decline in tariff leads to an increase in welfare. This is expected since a reduction in tariff means a reduction in price distortion, which eventually leads to a contraction of the "Harberger" triangle. However, across household groups, the welfare effects vary. For example, in the case of palay and corn, and coconut and sugar, the decline in tariff in these sectors leads to an improvement in the overall welfare but a reduction in the poorer decile. In the rest of the sectors, the welfare change in the poorer decile is positive, but lower than those in the upper decile.

(b) Combined industry tariff changes. The simulation results of inputting into the model all industry tariff rate changes at the same time are shown in Tables 3 to 9. The macroeconomic results are presented in Table 3. In terms of GDP, it increases by 0.268 percent relative to the base value. The real exchange rate, defined as the ratio of the nominal exchange rate and the PINDEX, appreciates. Government budget balance deteriorates. This is largely attributed to the decline in revenue from tariff. The average wage rate declines, while the average return to variable capital improves.

⁵Since the supply of factors is fixed, changes in GDP may be considered changes in efficiency.

In terms of income distribution, the results are favorable. The Gini coefficient improves from the base value of 0.43992 to 0.4380 in the simulated result. The first decile benefits the most in terms of income change. The tenth decile experiences a decline in income.

In terms of welfare effects, both the compensating variations and the equivalent variations show negative values, indicating a reduction in the overall welfare. However, households in poorer decile show welfare improvement, while those in the higher decile deterioration.

Table 6 reports the results on output of the different industries. In terms of major sectors, agriculture, food manufacturing, and utilities improve, while mining, other manufacturing, construction, and services deteriorate. In terms of individual industry results, milled sugar and palay and corn are the ones with the highest output effect. Garments and textile manufacturing have the biggest output drop. The sectoral price effects are reported in Table 7. The highest increase in prices is seen in garments and textile industries.

The supply of all factors is fixed during the simulation exercise. Thus, the change in the factor demand indicates movement of resources across industries. The movement of labor and variable capital is the same. It shows a movement of resources to food manufacturing from other manufacturing. To a lesser extent, there is also a resource movement to agriculture.

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TABLES AND FIGURES

Table 1

LIST OF EXECUTIVE ORDERS AND LEGISLATION AMENDING THE TARIFF CODE⁶

Executive Order No. 470 (August 24, 1991)

- increases number of commodity line with high tariffs
- reduces number of commodity line with low tariffs

Executive Order No. 478 (September 24, 1991)

 imposes special duties of P0.95 per liter of P151.05 per barrel on imported crude oil falling under Hdg. No. 27.09 and P1.00 per liter on imported oil products.

Executive Order No. 1 (June 30, 1992)

- reduces rates of import duty on electric generating sets to 0% until June 30, 1995.
- intended to provide partial remedy to the energy crisis.

Executive Order No. 2 (July 1, 1992)

- extends the affectivity of the zero rate of duty on cement and cement clinker up to June 30, 1995 (under e.o. No. 470, these articles will be subjected to rates of duty of 20% and 10%, respectively, beginning July 1, 1992)
- intended to stop possible shortage of localy supply if zero duty will be lifted

Executive Order No. 5 (July 14, 1992)

 shortens the operation of the zero rate of import duty on cement and cement clinker from June 30, 1995 (as provided in E.O. No. 2) to June 30, 1993.

Executive Order No. 8 (Annex A, August 30, 1992; Annex B November 1, 1992)

- provided for interim increased tariff protection in lieu of import restrictions
- items covered include livestock, meat, fish, crustaceans, mollusks, sausages and other prepared meat, cane or beet sugar, maize, cereal grains, air or vacuum pumps, fans, aircon, refrigerators/freezers, centrifuges, washing machines, sewing machines, electric accumulators, thermionic/cold cathode, public transport type passenger motor vehicle and parts.
- import restrictions lifted on November 1, 1992.

Memorandum Order No. 60 (November 5, 1992)

held in abeyance until February 28, 1993 the implementation of E.O. No. 8 with respect to maize

Executive Order No. 43 (December 29, 1992)

 modified the rate of import duty on certain imported articles to implement the 1991 and 1992 Phil program submitted to the Third ASEAN summit providing a minimum level of 25% margin of preference.

Executive Order No. 61 (July 1, 1993)

- modified the nomenclature and tariff rates on certain agricultural products; animals fresh chilled or frozen, corn and feedwheat
- in line with R.A. No. 7607 (The Magna Carta of Small Farmers)

⁶ Manasan and Querubin (1997) "Assessment of Tariff Reform in the 1990s" PIDS Discussion Paper Series No. 97-10

Table 1 LIST OF EXECUTIVE ORDERS AND LEGISLATION AMENDING THE TARIFF CODE

Executive Order No. 94 (July 1, 1993)

- reduced the import duty on cement to 5% and cemnt clinker to 3% until June 30, 1994 (per E.O. No. 5, the zero duty on these items will only be effective until June 30, 1993 and therefore the rates of 20% on cement and 10% on cement clincker under E.O. No. 470 will be applied thereafter)
- implemented due to uncertainty in the power supply and therefore possible shortage in the local supply of cement

Executive Order No. 106 (July 16, 1993)

 lifted the suspension of the application of the tariff concessions granted by the Philippines in refractory bricks under the AFTA

Executive Order No. 115 (July 27, 1993)

 increased the special duty of P1.90 per kiter or P302.10 per barrel on imported crude oil and oil products under Hdg. No. 27.09 and P2.00 per liter on imported oil products falling under Hdg. No. 27.10 and 27.11

Executive Order No. 116 (July 29, 1993)

• amended E.O. No. 94 to conform with nomenclature

Executive Order No. 119 (July 29, 1993)

 lifted the suspension of the application of the tariff concessions granted by the Philippines on refractory bricks under the AFTA, amending E.O. 106 to reflect technical modifications

Executive Order No. 145 (December 9, 1993)

modified rates of duty on certain imported articles under the CEPT-AFTA

Executive Order No. 146 (December 27, 1993)

 amended E.O. 43 and modified the margin of preference and the applicable ASEAN preferential tariffs

Executive Order No. 147 (December 27, 1993)

 modified the rate of import duty on certain imported articles to implement the agreement on the global system of trade preference among developing countries

Executive Order No. 148 (January 30, 1993)

modified the rate of duty on certain imported articles

Executive Order No. 153 (January 25, 1994)

 modified the rate of duty on certain imported articles to implement the minimum 90% margin of prefence included in the NESTLE ASEAN Industiral Joint Ventures

Table 1 LIST OF EXECUTIVE ORDERS AND LEGISLATION AMENDING THE TARIFF CODE

Executive Order No. 160 (March 23, 1994)

 reduced the special duties on crude oil products from p1.90 to P0.95 under Hdg. No. 27.09 and from p2.00 to P1.00 on imported oil products falling under Hdg. No. 27.10 and 27.11

Executive Order No. 172 (April 24, 1994)

• increased the minimum tariff rate from 0% to 3%

Executive Order No. 189 (August 21, 1994)

 modifies the nomenclature and rates of duty on capital equipment from 10%-20% to 3%-10% (Note: major changes)

Executive Order No. 204 (November 16, 1994)

 modifies the nomenclature and rates of duty on textile and chemical input thereto (Note: major changes)

Executive Order No. 227 (April 8, 1995)

reduced the import duty on Portland cement (3%), cement clinker 93%), and Pozzolan Cement (10%); this suspends the implementation of the 20% and 10% under E.O. 470

Executive Order No. 264 (August 28, 1995)

 modified the nomenclature and rates of duty on manufacturing industries in line with the Tariff Reform Program; involves 4142 HS lines (Note: major changes)

Executive Order No. 287 (January 1, 1996)

 modified the rate of duty on cetain imported articles to implement the 1996 Philippine schedule of tariff reductions under the new frame of the accelerated CEPT scheme for the AFTA

Executive Order No. 288 (January 16, 1995)

 modified the nomenclature and rates of import duty on certain imported articles, i.e., non-sensitive agricultural products; (Note: major changes)

Executive Order No. 313 (May 3, 1996)

- modified the nomenclature and rates of import duty on certain imported articles, i.e., sensitive agricultural products;
- implements tariffication after import restrictions were lifted under R.A. 8178
- IRR only issued on July 1 and effective July 10, 1996
- Note: major changes

Executive Order No. 328 (May 3, 1996)

modified the nomenclature and rates import duty on imported wheat for food

Executive Order No. 365 (April 16, 1996)

modified the rates of duty on crude oil (from 10% to 3%) and refined petroleum product from 20% to 7%).

| Table 2: Elasticities Used in PCGEM | | | | | | | | | |
|--|-------|------------------|-------|-----------|-------|--|--|--|--|
| | Р | roduct | ion | Armington | CET | | | | |
| Sectors | alpha | alpha beta gamma | | sigma_m | tau_e | | | | |
| 1 Palay & Corn | 0.051 | 0.935 | 0.014 | 3.70 | 0.30 | | | | |
| 2 Fruits & Vegetables | 0.178 | 0.751 | 0.071 | 0.85 | 1.50 | | | | |
| 3Coconut & Sugar | 0.377 | 0.214 | 0.409 | 1.30 | 2.00 | | | | |
| 4Livestock & poultry | 0.140 | 0.811 | 0.049 | 1.40 | 0.30 | | | | |
| 5 Fishing | 0.117 | 0.676 | 0.207 | 1.10 | 1.50 | | | | |
| 6Other Agriculture | 0.373 | 0.308 | 0.320 | 0.90 | 0.30 | | | | |
| 7 Forestry | 0.212 | 0.087 | 0.701 | 0.80 | 0.30 | | | | |
| 8Mining | 0.407 | 0.069 | 0.524 | 1.10 | 1.50 | | | | |
| 9Rice & Corn milling | 0.115 | 0.266 | 0.619 | 3.70 | 0.30 | | | | |
| 10Milled Sugar | 0.218 | 0.000 | 0.782 | 4.10 | 0.80 | | | | |
| 11 Meat Manufacturing | 0.209 | 0.181 | 0.610 | 1.50 | 0.80 | | | | |
| 12 Fish Manufacturing | 0.153 | 0.458 | 0.389 | 1.10 | 2.00 | | | | |
| 13Beverage & Tobacco | 0.190 | 0.053 | 0.757 | 0.30 | 1.50 | | | | |
| 14 Other Food Manufacturing | 0.189 | 0.184 | 0.627 | 0.20 | 0.70 | | | | |
| 15 Textile Manufacturing | 0.484 | 0.229 | 0.286 | 0.70 | 0.70 | | | | |
| 16Garments & Leather | 0.319 | 0.438 | 0.243 | 0.20 | 2.50 | | | | |
| 17Wood Manufacturing | 0.254 | 0.344 | 0.402 | 0.50 | 1.50 | | | | |
| 18 Paper & Paper products | 0.326 | 0.191 | 0.483 | 0.60 | 0.90 | | | | |
| 19 Chemicals Manufacturing | 0.247 | 0.079 | 0.674 | 0.60 | 1.30 | | | | |
| 20 Petroleum Refining | 0.081 | 0.000 | 0.919 | 0.60 | 0.30 | | | | |
| 21 Non-Metal Manufacturing | 0.308 | 0.247 | 0.446 | 0.60 | 1.50 | | | | |
| 22Metal Manufacturing | 0.346 | 0.189 | 0.465 | 1.80 | 1.50 | | | | |
| 23Electrical Equipment Manufacturing | 0.552 | 0.000 | 0.448 | 1.80 | 3.00 | | | | |
| 24 Transport & other machinery manufacturing | 0.528 | 0.000 | 0.472 | 2.00 | 1.30 | | | | |
| 25 Other Manufacturing | 0.183 | 0.268 | 0.549 | 1.10 | 0.60 | | | | |
| 26Construction | 0.536 | 0.108 | 0.356 | 0.20 | 0.30 | | | | |
| 27 Electricity gas and water | 0.228 | 0.000 | 0.772 | 0.20 | 0.30 | | | | |
| 28 Financial Sector | 0.357 | 0.018 | 0.625 | 0.20 | 0.30 | | | | |
| 29Private Education | 0.619 | 0.209 | 0.172 | 0.20 | 0.30 | | | | |
| 30Private Health | 0.253 | 0.616 | 0.132 | 0.20 | 0.30 | | | | |
| 31 Public Education | 0.974 | 0.000 | 0.026 | | | | | | |
| 32Public Health | 0.951 | 0.000 | 0.049 | | | | | | |
| 33General Government | 0.960 | 0.000 | 0.040 | | | | | | |
| 34Other Services | 0.164 | 0.498 | 0.338 | 0.20 | 0.30 | | | | |

Table 3: Impact of Nominal Tariff Change: Results of Single Sector Simulations*

| | | | | | | | Gini | | | | | | | | | | | |
|---|---------------|---------|---------|---------|---------|-------|---------|--------|--------|--------|--------|------------|-------------|-------------|--------|--------|--------|----------|
| | Nonimal | | | | | | Base = | | | | | Welfare (E | quivalent V | /ariations) | | | | |
| Sector | Tariff change | xd | рх | GDP | PINDEX | BOT | 0.43992 | HH1 | HH2 | HH3 | HH4 | HH5 | HH6 | HH7 | HH8 | HH9 | HH10 | Total |
| Palay and Corn | -8.96% | -0.138% | -0.030% | -0.014% | -0.010% | 0.00 | 0.43996 | (2.07) | (2.79) | (3.23) | (3.62) | (2.50) | (0.57) | 2.50 | 7.54 | 13.59 | 35.55 | 44.41 |
| Fruits and Vegetables | -70.10% | 0.000% | -0.040% | -0.033% | -0.030% | -0.10 | 0.43991 | 10.03 | 16.25 | 19.32 | 22.80 | 25.58 | 28.88 | 32.01 | 38.61 | 48.12 | 100.11 | 341.70 |
| Coconut & Sugar | -69.94% | -0.781% | -0.480% | 0.008% | 0.010% | 0.00 | 0.44000 | (2.82) | (4.83) | (4.53) | (4.08) | (0.35) | 3.19 | 10.23 | 17.69 | 33.13 | 85.50 | 133.13 |
| Livestock & Poultry | -68.08% | -0.381% | -0.080% | -0.048% | -0.050% | -0.10 | 0.44003 | 0.09 | 0.84 | 2.46 | 4.17 | 8.94 | 15.99 | 26.49 | 42.68 | 66.25 | 160.28 | 328.20 |
| Fishing | -83.02% | -0.067% | -0.040% | -0.025% | -0.030% | 0.00 | 0.43994 | 4.50 | 6.84 | 8.37 | 10.39 | 12.23 | 14.74 | 17.72 | 22.80 | 30.64 | 66.83 | 195.07 |
| Other Agriculture | -54.97% | -0.345% | -0.180% | -0.007% | -0.010% | 0.00 | 0.43994 | 3.00 | 4.92 | 5.91 | 7.68 | 9.75 | 11.77 | 14.21 | 18.48 | 26.68 | 64.93 | 167.33 |
| Forestry | -83.14% | -0.126% | -0.290% | -0.005% | 0.000% | 0.00 | 0.43993 | 0.47 | 0.64 | 0.75 | 1.01 | 1.35 | 2.05 | 3.06 | 4.78 | 7.48 | 19.12 | 40.72 |
| Mining | -87.63% | -0.281% | -0.210% | 0.045% | 0.050% | 0.00 | 0.43991 | 5.45 | 9.00 | 11.29 | 13.57 | 14.52 | 15.10 | 15.70 | 17.93 | 26.12 | 81.21 | 209.90 |
| Rice & Corn Milling | -17.16% | -0.049% | -0.040% | -0.014% | -0.010% | 0.00 | 0.43994 | 0.38 | 0.64 | 0.86 | 1.13 | 1.47 | 2.29 | 3.64 | 5.71 | 8.55 | 17.63 | 42.31 |
| Milled Sugar | -14.61% | -0.322% | -0.390% | 0.007% | 0.010% | 0.00 | 0.43993 | 1.03 | 1.71 | 2.36 | 3.04 | 3.96 | 5.36 | 6.70 | 8.20 | 11.68 | 23.82 | 67.86 |
| Meat Manufacturing | -78.98% | -0.125% | -0.120% | -0.051% | -0.050% | -0.10 | 0.43994 | 6.94 | 11.77 | 14.07 | 16.83 | 20.17 | 23.88 | 28.75 | 37.52 | 49.36 | 102.04 | 311.32 |
| Fish Manufacturing | -78.14% | -0.064% | -0.060% | -0.010% | -0.010% | 0.00 | 0.43992 | 2.62 | 4.27 | 5.15 | 6.20 | 7.01 | 8.10 | 9.19 | 11.50 | 14.48 | 29.20 | 97.73 |
| Beverage & Tobacco | -75.18% | 1.090% | 1.900% | 0.048% | 0.050% | -0.10 | 0.43988 | 32.26 | 58.28 | 74.22 | 90.87 | 105.35 | 120.74 | 135.05 | 161.95 | 207.51 | 438.90 | 1,425.12 |
| Other Food Manufacturing | -65.63% | 0.473% | 0.260% | 0.032% | 0.030% | -0.10 | 0.43981 | 39.29 | 63.40 | 75.44 | 89.48 | 96.99 | 105.31 | 109.47 | 123.93 | 155.20 | 351.79 | 1,210.30 |
| Textile manufacturing | -75.34% | 2.507% | -0.970% | 0.819% | 0.820% | 1.00 | 0.44000 | 13.35 | 26.97 | 40.72 | 54.82 | 69.86 | 90.19 | 103.38 | 115.76 | 190.05 | 582.47 | 1,287.58 |
| Garments & Leather | -61.98% | 2.814% | 0.060% | 0.167% | 0.170% | 0.10 | 0.43992 | 25.24 | 48.45 | 65.01 | 82.70 | 97.66 | 119.10 | 138.49 | 169.65 | 236.55 | 589.44 | 1,572.29 |
| Wood Manufacturing | -70.38% | -0.003% | -0.110% | 0.001% | 0.000% | 0.00 | 0.43992 | 2.25 | 3.74 | 5.15 | 6.09 | 6.90 | 8.66 | 10.31 | 14.33 | 21.92 | 67.75 | 147.10 |
| Paper & Paper Products | -76.16% | -0.286% | -0.800% | 0.018% | 0.020% | 0.00 | 0.43991 | 4.31 | 7.26 | 9.75 | 11.72 | 13.10 | 15.48 | 17.54 | 21.68 | 31.78 | 93.09 | 225.71 |
| Chemical Manufcturing | -73.97% | -0.346% | -0.690% | 0.115% | 0.110% | 0.00 | 0.43983 | 23.84 | 39.16 | 48.43 | 58.04 | 63.54 | 71.59 | 74.35 | 84.59 | 115.56 | 314.76 | 893.85 |
| Petroleum Refining | -77.03% | -1.978% | -4.630% | 0.413% | 0.410% | 0.50 | 0.43971 | 66.60 | 108.91 | 135.37 | 165.21 | 183.66 | 217.19 | 227.63 | 260.59 | 360.48 | 992.58 | 2,718.22 |
| Non-metal manufacturing | -69.00% | -0.376% | -0.260% | 0.011% | 0.010% | 0.00 | 0.43991 | 6.28 | 10.26 | 13.84 | 16.01 | 18.44 | 22.81 | 26.07 | 34.68 | 51.89 | 158.30 | 358.58 |
| Metal Manufacturing | -70.00% | -1.528% | -1.080% | 0.144% | 0.140% | 0.10 | 0.43990 | 11.64 | 19.27 | 24.50 | 29.72 | 34.12 | 38.74 | 43.76 | 52.33 | 77.87 | 225.09 | 557.05 |
| Electrical Equipment Manufacturing | -84.11% | 3.775% | -0.460% | 0.133% | 0.130% | 0.10 | 0.43992 | 13.87 | 23.24 | 32.58 | 38.29 | 45.92 | 56.31 | 68.10 | 90.58 | 142.59 | 433.77 | 945.24 |
| Transport & Other Machinery Manufacturing | -65.90% | -1.792% | -0.820% | -0.192% | -0.190% | -0.40 | 0.43988 | 8.64 | 13.16 | 14.60 | 15.12 | 13.12 | 11.38 | 4.47 | 7.08 | 6.03 | 91.35 | 184.96 |
| Other Manufacturing | -80.09% | -0.912% | -0.360% | -0.002% | 0.000% | -0.10 | 0.43992 | 10.73 | 18.72 | 25.08 | 30.75 | 35.90 | 44.47 | 51.30 | 66.29 | 96.53 | 266.31 | 646.09 |
| Construction | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Electricity, Gas and Water | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Financial Sector | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Private Education | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Private Health | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Public Education | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Public Health | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| General Government | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Services | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

* These are single sector simulation results using PCGEM. For example, in the case of Palay and Corn, PCGEM was

simulated with a nominal tariff change of -8.96% for the sector only. The results displayed in the table are the results for the the particular sector only.

where:

xd: production

px: price of xd

GDP: gross domestic product PINDEX: weighted value added price

BOT: balance of trade

Gini: Gini coefficient

HH1 - HH10 : decile 1 - decile 10

Table 4: Macroeconomic Analysis (Combined nominal tariff changes for all sectors)

| Base run | VS | All Industries - Nominal | |
|------------------------------------|----------|--------------------------|----------|
| | Base run | All Industries - Nominal | Change |
| Real GDP | 989,341 | 991,988 | 0.268% |
| Pindex | 1.00000 | 1.00230 | 0.230% |
| Real Exchange Rate | 1.00000 | 0.99770 | -0.230% |
| Balance of Trade | (59,650) | (59,650) | (0) |
| Exports | 298,933 | 288,211 | -3.587% |
| Imports | 358,583 | 347,861 | -2.990% |
| Budget Deficit | (7,564) | (8,358) | (793.60) |
| Total Expenditure | 233,252 | 232,280 | -0.417% |
| Consumption Expenditure* | 108,835 | 108,835 | 0.000% |
| Revenue | 225,688 | 223,923 | -0.782% |
| of which: | | | |
| Tariff | 25,532 | 8,508 | -66.678% |
| Direct Tax | 77,299 | 77,333 | 0.045% |
| Indirect Tax | 62,341 | 62,126 | -0.344% |
| Average Wage Rate | 1.00000 | 0.99780 | -0.220% |
| Average Return to Variable Capital | 1.00000 | 1.00840 | 0.840% |

*Exogenously fixed

| Base run vs All Industries - Nominal | | | | | | | |
|--------------------------------------|----------|--------------------------|----------|--|--|--|--|
| | Base run | All Industries - Nominal | % Change | | | | |
| hh1 | 18,171 | 18,362 | 1.0489 | | | | |
| hh2 | 30,481 | 30,772 | 0.9547 | | | | |
| hh3 | 38,720 | 39,050 | 0.8515 | | | | |
| hh4 | 47,844 | 48,226 | 0.7984 | | | | |
| hh5 | 56,516 | 56,895 | 0.6713 | | | | |
| hh6 | 69,164 | 69,513 | 0.5055 | | | | |
| hh7 | 83,314 | 83,592 | 0.3334 | | | | |
| hh8 | 106,159 | 106,349 | 0.1793 | | | | |
| hh9 | 145,824 | 145,927 | 0.0708 | | | | |
| hh10 | 330,962 | 330,958 | -0.0013 | | | | |

 Table 5: Income Analysis

 (Combined nominal tariff changes for all sectors)

Gini Coefficient

(Combined nominal tariff changes for all sectors)

| Base run | All Industries - Nominal |
|----------|--------------------------|
| 0.43992 | 0.43830 |

| Base run | VS | All Industr | ries - Nomi | nal | | |
|----------|--------|-------------|-------------|---------|---------|---------|
| | Un | In | U0 | 10 | CV* | EV** |
| hh1 | 1,607 | 18,362 | 1,598 | 18,171 | 101.0 | 100.5 |
| hh2 | 2,328 | 30,772 | 2,317 | 30,481 | 148.6 | 147.9 |
| hh3 | 2,899 | 39,050 | 2,886 | 38,720 | 163.3 | 162.6 |
| hh4 | 3,393 | 48,226 | 3,380 | 47,844 | 179.4 | 178.7 |
| hh5 | 3,996 | 56,895 | 3,985 | 56,516 | 148.0 | 147.4 |
| hh6 | 4,811 | 69,513 | 4,805 | 69,164 | 81.9 | 81.6 |
| hh7 | 5,814 | 83,592 | 5,817 | 83,314 | (33.4) | (33.2) |
| hh8 | 7,384 | 106,349 | 7,397 | 106,159 | (182.3) | (181.7) |
| hh9 | 9,934 | 145,927 | 9,960 | 145,824 | (378.2) | (376.9) |
| hh10 | 20,149 | 330,958 | 20,204 | 330,962 | (903.4) | (900.9) |
| Total | 62,315 | 929,643 | 62,350 | 927,154 | (675.0) | (674.1) |

 Table 6: Welfare Analysis

 (Combined nominal tariff changes for all sectors)

* CV is compensating variations **EV is equivalent variations

Table 7: Sectoral Output: Major Sectors (Combined nominal tariff changes for all sectors)

| Base run | vs All Industrie | es - Nominal | |
|---------------------|------------------|--------------------------|----------|
| Sectors | Base Run | All Industries - Nominal | % Change |
| Agriculture | 306,352 | 309,331 | 0.972% |
| Mining | 24,330 | 24,282 | -0.198% |
| Manufacturing | 811,517 | 804,351 | -0.883% |
| Food Manufacturing | 348,532 | 354,305 | 1.656% |
| Other Manufacturing | 462,985 | 450,046 | -2.795% |
| Construction | 140,711 | 140,695 | -0.012% |
| Utilities | 44,061 | 44,089 | 0.062% |
| Services | 703,086 | 701,953 | -0.161% |

Sectoral Output (Combined nominal tariff changes for all sectors)

| Base run | vs All Industrie | es - Nominal | |
|---|------------------|--------------------------|----------|
| Sectors | Base Run | All Industries - Nominal | % Change |
| Palay and Corn | 66,889 | 70,345 | 5.168% |
| Fruits and Vegetables | 59,112 | 58,963 | -0.251% |
| Coconut & Sugar | 20,326 | 20,305 | -0.105% |
| Livestock & Poultry | 70,737 | 70,431 | -0.432% |
| Fishing | 50,509 | 50,643 | 0.265% |
| Other Agriculture | 25,931 | 25,787 | -0.556% |
| Forestry | 12,848 | 12,856 | 0.062% |
| Mining | 24,330 | 24,282 | -0.198% |
| Rice & Corn Milling | 89,213 | 94,522 | 5.951% |
| Milled Sugar | 22,853 | 22,860 | 0.029% |
| Meat Manufacturing | 88,640 | 88,732 | 0.104% |
| Fish Manufacturing | 15,870 | 15,886 | 0.102% |
| Beverage & Tobacco | 26,775 | 27,087 | 1.163% |
| Other Food Manufacturing | 105,181 | 105,219 | 0.036% |
| Textile manufacturing | 35,028 | 32,474 | -7.292% |
| Garments & Leather | 52,838 | 42,475 | -19.613% |
| Wood Manufacturing | 25,755 | 25,806 | 0.198% |
| Paper & Paper Products | 19,398 | 19,305 | -0.483% |
| Chemical Manufcturing | 55,067 | 55,123 | 0.101% |
| Petroleum Refining | 61,764 | 60,824 | -1.522% |
| Non-metal manufacturing | 39,903 | 39,979 | 0.191% |
| Metal Manufacturing | 49,431 | 50,504 | 2.171% |
| Electrical Equipment Manufacturing | 46,734 | 47,040 | 0.655% |
| Transport & Other Machinery Manufacturing | 35,010 | 35,078 | 0.195% |
| Other Manufacturing | 42,058 | 41,440 | -1.469% |
| Construction | 140,711 | 140,695 | -0.012% |
| Electricity, Gas and Water | 44,061 | 44,089 | 0.062% |
| Financial Sector | 50,377 | 50,190 | -0.371% |
| Private Education | 16,626 | 16,701 | 0.449% |
| Private Health | 18,806 | 18,795 | -0.058% |
| Public Education | 28,147 | 28,149 | 0.007% |
| Public Health | 7,637 | 7,639 | 0.025% |
| General Government | 73,738 | 74,112 | 0.507% |
| Other Services | 507,755 | 506,367 | -0.273% |

Table 8: Sectoral Price

(Combined nominal tariff changes for all sectors)

| Base run | vs All Industries | - Nominal | |
|---|-------------------|--------------------------|----------|
| Sectors | Base Run | All Industries - Nominal | % Change |
| Palay and Corn | 1.000000 | 1.00630 | 0.630% |
| Fruits and Vegetables | 1.000000 | 1.00440 | 0.440% |
| Coconut & Sugar | 1.000000 | 0.99950 | -0.050% |
| Livestock & Poultry | 1.000000 | 1.00330 | 0.330% |
| Fishing | 1.000000 | 0.99920 | -0.080% |
| Other Agriculture | 1.000000 | 0.99720 | -0.280% |
| Forestry | 1.000000 | 0.99490 | -0.510% |
| Mining | 1.000000 | 0.99380 | -0.620% |
| Rice & Corn Milling | 1.000000 | 1.03010 | 3.010% |
| Milled Sugar | 1.000000 | 0.99600 | -0.400% |
| Meat Manufacturing | 1.000000 | 1.00020 | 0.020% |
| Fish Manufacturing | 1.000000 | 1.00140 | 0.140% |
| Beverage & Tobacco | 1.000000 | 1.01660 | 1.660% |
| Other Food Manufacturing | 1.000000 | 1.00640 | 0.640% |
| Textile manufacturing | 1.000000 | 1.02790 | 2.790% |
| Garments & Leather | 1.000000 | 1.02470 | 2.470% |
| Wood Manufacturing | 1.000000 | 0.99750 | -0.250% |
| Paper & Paper Products | 1.000000 | 0.99110 | -0.890% |
| Chemical Manufcturing | 1.000000 | 0.99680 | -0.320% |
| Petroleum Refining | 1.000000 | 0.95770 | -4.230% |
| Non-metal manufacturing | 1.000000 | 0.99590 | -0.410% |
| Metal Manufacturing | 1.000000 | 1.00480 | 0.480% |
| Electrical Equipment Manufacturing | 1.000000 | 0.99950 | -0.050% |
| Transport & Other Machinery Manufacturing | 1.000000 | 0.99760 | -0.240% |
| Other Manufacturing | 1.000000 | 1.00060 | 0.060% |
| Construction | 1.000000 | 0.99810 | -0.190% |
| Electricity, Gas and Water | 1.000000 | 0.98420 | -1.580% |
| Financial Sector | 1.000000 | 0.99200 | -0.800% |
| Private Education | 1.000000 | 0.99790 | -0.210% |
| Private Health | 1.000000 | 1.00260 | 0.260% |
| Public Education | 1.000000 | 0.99710 | -0.290% |
| Public Health | 1.000000 | 0.99610 | -0.390% |
| General Government | 1.000000 | 0.99530 | -0.470% |
| Other Services | 1.000000 | 0.99940 | -0.060% |

Table 9: Sectoral Labor Factor Analysis: Major Sectors

(Combined nominal tariff changes for all sectors)

| Base run vs All Industries - Nominal | | | | | | | |
|--------------------------------------|----------|--------------------------|----------|--|--|--|--|
| Sectors | Base Run | All Industries - Nominal | % Change | | | | |
| Agriculture | 37,676 | 37,978 | 0.800% | | | | |
| Mining | 6,533 | 6,516 | -0.263% | | | | |
| Manufacturing | 48,793 | 48,046 | -1.531% | | | | |
| Food Manufacturing | 20,331 | 20,996 | 3.271% | | | | |
| Other Manufacturing | 28,462 | 27,050 | -4.961% | | | | |
| Construction | 34,398 | 34,453 | 0.159% | | | | |
| Utilities | 4,998 | 5,012 | 0.272% | | | | |
| Services | 147,445 | 147,840 | 0.268% | | | | |

Sectoral Labor Factor Analysis (Combined nominal tariff changes for all sectors)

Base run vs All Industries - Nominal Sectors Base Run All Industries - Nominal % Change Palay and Corn 2.651 6.25% 2.817 Fruits and Vegetables 8,474 8,524 0.58% Coconut & Sugar 6,762 6,776 0.21% Livestock & Poultry 6,289 6,317 0.45% Fishing 4,716 4,774 1.24% Other Agriculture 6,940 6,917 -0.34% 1,844 Forestry 1,854 0.52% Mining 6,533 6,516 -0.26% Rice & Corn Milling 2,608 3,034 16.34% Milled Sugar 1,693 0.13% 1,691 Meat Manufacturing 4,620 4,655 0.76% Fish Manufacturing 987 997 0.96% 3,055 Beverage & Tobacco 2,909 5.02% Other Food Manufacturing 7,516 7,562 0.62% Textile manufacturing 2,765 2,492 -9.88% Garments & Leather 4,523 3,379 -25.30% Wood Manufacturing 2,377 2,399 0.94% Paper & Paper Products 1,608 1,599 -0.54% Chemical Manufcturing 3,725 3,746 0.57% Petroleum Refining 1,099 892 -18.83% Non-metal manufacturing 2,688 2,710 0.81% Metal Manufacturing 2,758 2,880 4.43% Electrical Equipment Manufacturing 3,906 3,952 1.19% Transport & Other Machinery Manufacturing 2,211 2,219 0.37% Other Manufacturing -2.63% 802 781 Construction 34,398 34,453 0.16% Electricity, Gas and Water 4,998 5,012 0.27% Financial Sector 12,773 12,653 -0.94% Private Education 6,243 6,294 0.81% Private Health 2,373 2,389 0.68% Public Education 23,434 23,436 0.01% Public Health 4,029 4,030 0.03% General Government 46,791 47,038 0.53% Other Services 51,802 52,000 0.38%

| Base run | vs All Industrie | es - Nominal | |
|---------------------|------------------|---------------|----------|
| Sectors | Base Run | dustries - No | % Change |
| Agriculture | 158,659 | 160,726 | 1.303% |
| Mining | 1,098 | 1,084 | -1.321% |
| Manufacturing | 38,779 | 37,888 | -2.297% |
| Food Manufacturing | 21,091 | 21,998 | 4.302% |
| Other Manufacturing | 17,688 | 15,890 | -10.166% |
| Construction | 6,914 | 6,852 | -0.898% |
| Utilities | - | - | |
| Services | 165,608 | 164,508 | -0.664% |

Table 10: Sectoral Variable Capital Factor Analysis: Major Sectors (Combined nominal tariff changes for all sectors)

Sectoral Variable Capital Factor Analysis (Combined nominal tariff changes for all sectors)

| Base run | VS | All Industri | es - Nominal | |
|---|----|--------------|---------------|----------|
| Sectors | | Base Run | dustries - No | % Change |
| Palay and Corn | | 48,722 | 51,250 | 5.19% |
| Fruits and Vegetables | | 35,788 | 35,619 | -0.47% |
| Coconut & Sugar | | 3,850 | 3,817 | -0.85% |
| Livestock & Poultry | | 36,579 | 36,356 | -0.61% |
| Fishing | | 27,243 | 27,292 | 0.18% |
| Other Agriculture | | 5,725 | 5,645 | -1.40% |
| Forestry | | 752 | 748 | -0.55% |
| Mining | | 1,098 | 1,084 | -1.32% |
| Rice & Corn Milling | | 6,035 | 6,957 | 15.28% |
| Milled Sugar | | - | - | |
| Meat Manufacturing | | 3,999 | 3,987 | -0.30% |
| Fish Manufacturing | | 2,957 | 2,954 | -0.10% |
| Beverage & Tobacco | | 811 | 843 | 3.96% |
| Other Food Manufacturing | | 7,289 | 7,257 | -0.44% |
| Textile manufacturing | | 1,308 | 1,165 | -10.94% |
| Garments & Leather | | 6,196 | 4,563 | -26.35% |
| Wood Manufacturing | | 3,213 | 3,209 | -0.12% |
| Paper & Paper Products | | 943 | 928 | -1.60% |
| Chemical Manufcturing | | 1,194 | 1,188 | -0.49% |
| Petroleum Refining | | - | - | |
| Non-metal manufacturing | | 2,156 | 2,151 | -0.24% |
| Metal Manufacturing | | 1,508 | 1,559 | 3.38% |
| Electrical Equipment Manufacturing | | - | - | |
| Transport & Other Machinery Manufacturing | | - | - | |
| Other Manufacturing | | 1,170 | 1,127 | -3.68% |
| Construction | | 6,914 | 6,852 | -0.90% |
| Electricity, Gas and Water | | - | - | |
| Financial Sector | | 646 | 633 | -2.00% |
| Private Education | | 2,111 | 2,106 | -0.25% |
| Private Health | | 5,779 | 5,757 | -0.38% |
| Public Education | | - | - | |
| Public Health | | - | - | |
| General Government | | - | - | |
| Other Services | | 157,072 | 156,012 | -0.67% |





Figure 2: Nominal Tariff Rates





























