ALEXANDER H. SARRIS*

Post-GATT Agricultural Trade Liberalization and
Growth in Developing Countries: The Case of The Philippines

INTRODUCTION

The agricultural trade policies of developing countries have not been much of an issue in international debates because the prevailing view is that most of them tax their agricultural sectors. Nevertheless, it is not clear what type of agricultural trade policy should be followed in the course of development. The purpose of this paper is to investigate the trade policy issue in the context of overall trade policy in a post-GATT economic environment, for countries that are characterized by a dual economic structure, a large agricultural sector and a large degree of poverty among the population. The arguments will be made for the case of the Philippines, an economy that fulfils the above criteria, and also a country that is currently attempting to increase its economic growth to match the pattern of other Southeast Asian newly industrializing economies. After looking at the country background, the paper describes an appropriate methodology, presents some empirical results and draws conclusions.

AGRICULTURE, TRADE POLICY AND THE PHILIPPINE ECONOMY

During the last few years, growth performance in the Philippines has lagged behind that of its most dynamic neighbours. One of the reasons suggested for the poor performance is the degree of protection afforded to the domestic economy. On the basis of this, senior policy officials have been calling for unilateral trade liberalization of the Philippine economy. The aim is to achieve a uniform tariff for all sectors by 2003 at a low 5 per cent rate.

The Philippine economy has been heavily protected in the past. The average effective rate of protection (ERP) of all sectors in 1988 was estimated at 33.1 per cent, which was lower than the 49.8 per cent of 1983 (Tan, 1994). The pattern of agricultural protection has been similar to that of the overall economy, with an average ERP on importables of 45.1 per cent and on exportables of –6.7 per cent,

but with an overall ERP substantially lower than that of the overall economy at 3.7 per cent. In the 1990s, substantial trade liberalization took place. Balisacan *et al.* (1992) estimated that the weighted average book tariff rate on agricultural products by 1996, as a result of liberalization measures, would be 28.6 per cent compared with 16.6 per cent for non-agricultural products, down from 33.2 and 23.9 per cent, respectively, in 1991. Agricultural importables have been regulated by very strict quotas that have resulted in domestic prices that exceed the border prices by amounts much larger than the book rates of tariff (David, 1994; deDios, 1994; Sarris, 1994; 1995a). This implies that agriculture has in fact been protected at a higher level than non-agriculture.

Agriculture (including forestry and fisheries) constitutes 22.5 per cent of Philippine gross domestic product (GDP) on the basis of 1992 figures, and accounts for about 45 per cent of total employment and 20 per cent of export earnings. It is characterized by a dual production structure. Duality is also a characteristic of the non-agricultural sector. Poverty is considerable in the Philippines as a whole, and particularly in the agricultural sector.

Agricultural imports are considerable, accounting for about 15 per cent of total domestic demand for agricultural products. However, imports of so-called 'sensitive' products (such as rice, corn, sugar, all meats, live animals, potatoes and coffee) have been very small, and are heavily controlled by quotas. Importation of these sensitive agricultural products beyond the quotas is a big political issue and often requires approval by the Senate.

The major non-economic argument that applies to agricultural trade policy and protection is that of food security. In the Philippines, that has meant self-sufficiency to the fullest extent possible in rice and corn. A major issue that is very important from a macrodevelopment perspective, is how increases in the prices of agricultural products influence the general cost of food in the economy, and subsequently the cost of labour. Policies that increase the price of food drive the cost of living, and hence wages, upwards, with the result that the competitiveness of labour-intensive export-oriented sectors is adversely affected. Protection also leads to overvaluation of the exchange rate and also penalizes the export sectors.

METHODOLOGY

The methodology uses a computable general equilibrium model (CGE). While there have been some which have been built for the Philippine economy, such as those of Clarete (1989), Habito (1986) and the APEX model (Clarete and Warr, 1992), they remain largely 'neoclassical', without representing many of the relevant structural and institutional features of the Philippine economy. The structure of the current model is presented in detail in Sarris (1995b). It is based on a reduced and adapted version of the 1990 social accounting matrix (SAM) of the Philippines that has been constructed by the National Central Statistical Office (NCSO). In the model the economy in the aggregate consists of three producing sectors, namely formal agriculture, formal non-agriculture and the unincorporated (informal or small-scale) sector. The two formal sectors produce a composite product that, in turn, is allocated between domestic

supply and exports. The informal sector also produces a composite product that is allocated between a domestic agricultural and a domestic non-agricultural product. These two products are identical to the domestic products produced by the formal sectors.

The key structural difference between the formal and informal sectors is in the labour employment and remuneration practices. The formal sector firms employ labour that is paid a wage which is influenced by the minimum wage policies of the government, and hence by the cost of living. The informal sector firms, on the other hand, employ the remaining labour at wages that are lower on average than formal sector wages, but that are also kept flexible, so as to balance the domestic labour market. This is a key structural feature of the Philippine economy that has not featured in previous CGE models.

Both the agricultural and the non-agricultural products are assumed to be imperfect substitutes with imports in the Armington fashion. Income in the economy is allocated to three classes of households (poor, middle-income and rich), to formal and unincorporated firms and to the government. The rest of the world is assumed exogenous. The formal sector firms obtain income from production in the two formal sectors (agriculture and non-agriculture), while the unincorporated firms obtain income from production of the unincorporated sector. Households obtain income both from wage employment in the three sectors, and from the distribution of profits from the two types of firms, as well as transfers. Households, after paying taxes to the government, utilize their income for private consumption, transfers to other households and savings. They are assumed to consume two products, food and non-food, according to a linear expenditure system. The non-food product is the composite non-agricultural product mentioned above. Food, however, is a combination of the composite agricultural product and the composite non-agricultural product. Private investment is savings-determined, while public investment is exogenously set as a policy variable.

The four balancing markets in the economy are the markets for the domestic agricultural and non-agricultural goods, the market for domestic labour and the market for foreign exchange. The model also incorporates the possibility of endogenous import quota rent generation, which accrues to rich households. The model assumes that the capital stock in the three producing sectors is fixed, and only labour can move between the sectors. Hence it can be considered a short-run model. The type of question that can be analysed with such an assumption concerns the different outcomes of the economy, given its current structure, if trade policy was different *in the base period*.

EMPIRICAL RESULTS

We first investigate the 'tariffication' of quotas. In that context 'equivalence' means application of a tariff providing the same level of protection as the original nomination tariff, together with the quotas. The equivalent tariff rate on the basis of equivalent protection is equal to $(1 + t)(1 + z) - 1$, where t is the base rate of tariff, and z is the unit quota rent. With the base figures, this gives a rate of equivalent tariff of 80.5 per cent.

Scenario 1 in Table 1 indicates the impact of tariffication of agricultural imports. The major effect is to transfer to the government rents that previously accrued directly as income to rich households. This has the effect of lowering the total income and savings of rich households and increasing the total revenue and current savings of the government. Rich households decrease their consumption as well as their savings. The increase in government savings, however, is larger than the decrease in rich households' savings. This is because quota rents accrue as income to rich households, and only a fraction of the income of the rich is saved, while tariff revenue accrues directly to the government, and in the absence of variations in government real spending it all goes towards augmenting government savings. The increase in total economy-wide savings is reflected in larger amounts of overall business investments of 1.56 per cent, which is a sizeable amount.

Scenario 2 in Table 1 exhibits the effect of a unilateral reduction of the tariffs on the agricultural and non-agricultural products to 5 per cent (after the tariffication of agricultural quotas). To understand the final impacts, it is instructive first to understand the immediate changes that occur if the tariffs on both products are reduced. Consider the immediate effect of a tariff reduction for both sectors to 5 per cent. The first effect will be a substantial reduction in the domestic prices of importables, and an attendant decline in the prices that domestic purchasers pay for the composite good that is available domestically. Given that producer prices initially stay unchanged, the reduction in the prices of composites results in an initial increase in the effective prices of value added, as the composites are purchased for intermediate consumption. The decreases in the prices of the composites also lead to a decrease in the price of the two domestic consumer goods, and hence via the wage adjustment equation to a decline in the wage of the formal sectors. Hence, at the initially unaltered producer prices, the tendency of all sectors will be to increase production and demand more labour. This will lead to increases in incomes of all institutions (except the government), even for rich households who lose the rents. Total demand for the domestically available composites thus increases considerably.

However, this increased demand results largely in an increased initial demand for the imported goods and a relative stagnation of the demand of the domestically produced good, because the elasticities of substitution between domestic and imported goods are assumed for both products larger than one. This results initially in excess supplies for the domestically produced goods, but in excess demands for labour. It also results in initial excess demands for foreign exchange, as the initial increased supply of exportable products resulting from the improved production incentives is counterbalanced by the large increase in the demand for imports that results from the tariff decline.

To balance these excess demands requires decreases in the producer prices of the two domestically produced goods, increases in the unincorporated wages and a devaluation. Of these tendencies, the price of the non-agricultural good cannot change as it is the *numéraire*. In its place there is a shift of the production of the formal non-agricultural sector towards exports, and this leads to a decline in the supply of the non-agricultural domestically produced product. The unincorporated sector also decreases its overall supply because the

TABLE 1 *Results of various liberalization scenarios*

	Base values (million 1990 pesos)	Scenario 1	Scenario 2 Unilateral uncompensated trade liberalization	Scenario 3	Scenario 4	Scenario 5 Quota tariffication or unilateral trade liberalization compensated by domestic tax increases	Scenario 6	Scenario 7	Scenario 8
		Tariffication of quotas	All tariffs at 5%	Agr. tariff 30% Non-agr. tariff at 5%	Tariffication of quotas	All tariffs at 5%	Agr. tariff 30% Non-agr. tariff at 5%	All tariffs at 10%	All tariffs at 0%
Real GDP at fc	986 385	−0.01	7.68	6.45	0.00	7.68	6.43	5.83	9.72
Production									
Form. agriculture	95 845	0.06	4.25	7.25	0.03	4.25	7.35	1.31	7.48
Form. non-agric.	1 317 261	−0.01	8.26	6.70	−0.01	8.26	6.68	6.45	10.23
Unincorporated	619 657	0.00	−3.47	−2.96	0.00	−3.47	−2.95	−2.58	−4.46
Prices*									
Formal wage	4	0.01	−0.87	−0.44	0.00	−0.87	−0.43	−0.84	−0.91
Uninc. wage	1	0.02	2.26	2.96	0.01	2.26	2.99	1.13	3.53
Exchange rate	1	0.00	15.48	14.25	0.00	15.48	14.25	11.19	20.15
Agricultural good	1	0.05	−1.95	0.88	0.03	−1.95	0.96	−2.82	−0.99
CPI	1	0.01	−1.09	−0.55	0.00	−1.09	−0.54	−1.05	−1.14
Real private investment total	208 943	1.56	−13.35	−12.60	−0.04	4.19	3.56	3.30	5.11
Rich households	78 474	−0.95	11.13	10.02	−0.26	3.63	3.07	2.81	4.48
Formal enterpr. agric.	4 103	3.23	−25.62	−19.21	0.17	8.10	14.00	2.88	13.71
Formal enterpr. non-agric	69 486	3.02	−15.64	−15.87	0.06	22.59	18.33	17.86	27.62
Uninc. enterprises	56 880	3.10	−43.44	−39.33	0.10	−17.80	−14.56	−13.79	−22.12
Household welfare**									
Poor	1	−0.14	5.99	5.34	0.05	3.91	3.43	2.99	4.88
Middle	1	−0.10	9.91	8.58	0.25	6.22	5.18	4.89	7.67
Rich	1	−0.95	11.82	10.05	−0.26	4.27	3.10	3.56	5.00

Government								
Current revenue	144 669	3.34	−36.50	−33.99	0.00	−0.27	−0.51	−0.07	−0.47
Current expenditure	108 843	0.00	−0.27	−0.51	0.00	−0.27	−0.51	−0.07	−0.47
Current savings	35 826	13.48	−146.57	−135.72	0.00	−0.27	−0.51	−0.07	−0.47
Exports in for. currency (total)	294 466	−0.01	11.66	10.02	−0.01	11.66	10.00	8.81	14.76
Agricultural products	16 523	0.05	7.06	9.45	0.03	7.06	9.54	3.56	10.90
Non-agricultural products	277 943	−0.01	11.94	10.05	−0.01	11.93	10.03	9.12	14.99
Imports in for. currency (total)	358 548	−0.01	9.58	8.23	0.00	9.58	8.22	7.23	12.12
Agricultural products	12 191	0.12	109.01	50.39	0.07	109.02	50.69	100.99	117.97
Non-agricultural products	346 357	−0.01	6.08	6.74	−0.01	6.08	6.72	3.93	8.40
Uniform tax multiplier (per cent)					−6.89	66.87	62.68	45.54	89.77

Notes: All figures are percentage deviations from the base values that are shown in the first column.
*Base year prices and unincorporated sector wages are normalized to one, while formal sector wages are four times those in the casual market.
**Household welfare is measured by money metric utility that is normalized to one in the base year.

Source: Computed from model simulations.

increase in the wage of the unincorporated labour cuts into its cost. Hence the supply of the non-agricultural good from that producing source also declines. The decrease in the price of the domestically produced agricultural product leads to a further overall decline in the prices of the two domestically available composites, albeit that the devaluation cuts into that. Overall, the consumer price index (CPI) declines and this leads to a decline in formal sector wages. Household welfare increases for all classes, mainly because of the decline in the prices of consumables. Real GDP increases considerably following unilateral and uniform trade liberalization, by 7.68 per cent compared to the base case. However, this does not result in increased private investment. The reason is that there is a very large loss of domestic savings that occurs because of the reduction in government revenue from the decreased tariffs. This decline of savings, of course, tends to boost current expenditures and consumption, but is detrimental for the medium run as it affects growth adversely.

Scenario 3 in Table 1 presents the results of an experiment in which the tariff on the non-agricultural product is reduced to 5 per cent, but the tariff of the agricultural product is reduced to only 30 per cent. There are, of course, no quotas on agricultural imports. It can be seen that the changes are almost all of the same sign as in the previous column, except that the price of the domestically produced agricultural good increases in this case, compared with a decline in the earlier case. The magnitudes of the key variables, such as real GDP, investment and welfare of households are somewhat smaller than those of the first column, suggesting that more rather than less agricultural trade liberalization is beneficial to the economy, as well as to all households.

The major problem with the previous analysis is that, although there is a short-term increase in real GDP and household welfare that results from the trade liberalization, both uniform and non-uniform, there is a large decline in domestic private investment, which is detrimental to growth. It was seen that the fall in investment was the result of the large reductions in public revenue and hence savings. A reasonable way to counterbalance this loss of savings and investment would be to increase domestic taxation.

Scenarios 4, 5 and 6 in Table 1 exhibit the results of the quota tariffication as well as the two trade liberalization experiments discussed under scenarios 1, 2 and 3, but where the government has changed all domestic direct tax rates (namely the direct tax rates on households and enterprises) in a uniform way so as to keep public savings constant in real terms. The change in the uniform tax rate is exhibited at the bottom of Table 1. As the bulk of domestic current taxation falls on rich and middle-income households and on formal enterprises, changing taxation in a uniform way essentially changes the taxation of the middle and rich households, as well as that of formal enterprises.

Comparing scenario 4 with scenario 1, it can be seen that tariffication of the quota with equivalent levels of protection could be combined with a lowering of the average tax rate of 6.89 per cent to leave public savings unchanged in real terms. This policy would leave most of the important magnitudes in the economy almost totally unchanged. Comparing scenario 5 with scenario 2, it can be seen that the former implies an increase of the average direct tax rate of

66.87 per cent. The major magnitudes (such as real GDP, production and prices) stay unchanged. However, what changes significantly is the variation in real private investment, which from a decrease of 13.35 per cent in scenario 2 increases by 4.19 per cent in scenario 5. Moving down the line, it is clear that this gain in investment is made at the expense of household welfare, which increases by much smaller amounts than in the earlier case. Notable in particular is the very small change in the welfare of the rich, compared with a large gain of 11.82 per cent under the no taxation trade liberalization scenario. Nevertheless, it is also significant that the reversal of the investment impact is not made at the welfare cost of any household class.

Turning to scenario 6, and comparing it with scenario 3, it can be seen that, under the taxation scenario, the impacts on the main variables are similar to those of scenario 3, with a large positive change in investment compared with a large negative change under the no taxation scenario. Again the welfare of households changes by smaller amounts compared with the no taxation case, and in fact here the welfare of the rich is seen to decline. Overall it appears that the case of uniform tariff reduction, namely similar tariff reductions for both agriculture and non-agriculture, outperforms the case of differential tariff reduction in several key magnitudes, notably in real GDP and household welfare. The growth does not appear to be affected much under either scenario as the real investment change under the two cases is quite similar.

From the above it is not clear whether other uniform rates perform better. Scenario 7 in Table 1 simulates the case where the uniform tariff rate is 10 per cent, while scenario 8 simulates the case where the uniform tariff rate is zero at completely free trade. In both cases, there are compensating tax increases in the sense outlined above. The results indicate that, the lower the uniform rate of tariff, the higher the increase in real GDP, and the higher the level of real private investment. The cost is a higher overall direct tax rate, something that entails considerable political difficulties. It therefore appears that lower uniform tariff rates, when coupled with increased taxation, are more beneficial to the economy.

SUMMARY AND CONCLUSIONS

The main findings and generalizations from the above analysis are the following. First, it has been shown that tariffication of existing quotas boosts national savings and investment. The policy of unilateral trade liberalization seems an appropriate one for the Philippines from a growth perspective, but only if it is combined with higher levels of domestic effective taxation. Otherwise, although GDP will rise in the short run, domestic savings and investment will decline, with adverse consequences on medium and long-term growth. Also there does not appear to be any reason for a differential treatment of agriculture.

Among the various trade policies examined, the ones that seem to have the best outcome in terms of the welfare of the poor are those involving the least amount of protection. This runs counter to some of the current thinking in Philippine government circles, namely that agricultural protection is needed to

safeguard the welfare of the poor. It seems that, as a large segment of the poor are net food buyers, their welfare is increased by lower rather than high food prices, and by policies that enhance investments and employment creation. Such policies appear to be those with low levels of protection.

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