# CONSUMPTION IMPORTS AND CONSUMER PRICE CONTROLS IN THE PHILIPPINES: AN ANALYSIS OF IMPORT DEMAND *

BY

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During 1953 to 1963, as in present days, two classes of imports of consumption goods into Philippines should be distinguished: (1) those consumption goods that were subject to governmental price stabilization policies; and (2) those that were the object of active import replacement policies.

This paper deals with the demand for consumption goods of the first type and reviews the institutional setting in which demand took place. This leads naturally to the evaluation of the economic impact of the activities of the major governmental agency that managed the consumption imports. Between the early 1950's and 1959, tight foreign exchange controls were the tools of economic policy designed to promote industrial development. Beginning 1960, a decontrol program calling for a gradual dismantling of the exchange controls was implemented. These were finally removed by 1962. The period 1960 to 1963 is considered one of "decontrol" in this study.[1]

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[1] Ibid., ch. one.

## *INSTITUTIONAL BACKGROUND: THE NAMARCO AND CONSUMPTION GOODS AFFECTED BY PRICE CONTROLS*

The consumption goods subjected to direct governmental price regulation in the Philippines were in the category of "prime" consumer necessities. They were regulated through the price control activities of the government marketing agencies, especially by the National Marketing Corporation, henceforth to be referred to as the NAMARCO. This agency was created in 1955. It succeeded the Price Stabilization Corporation (PRISCO), which in turn replaced another price stabilization agency in 1950.[2] Its major procurement operations ceased in 1966, when the newly elected president, Ferdinand Marcos, decided that its operations, although well intended, had a defeating effect on Philippine economic development.

Government price control policies concerning consumer goods have been linked with the retail trade nationalization law since 1955. This law sought to transfer the retail business to Filipino nationals and to keep it away from aliens (largely Chinese). The NAMARCO imported consumer commodities directly. These imports were in turn disposed of through retail outlets. Since one of the NAMARCO's essential roles was to stabilize prices, its current operations were performed almost consistently with losses. During the period of controls, it bought foreign exchange at the official rate and disposed of these goods at cost, meaning at the relatively cheap peso reconversion rates. With the decontrol program, the NAMARCO, together with the Rice and Corn Administration (RCA), which was engaged in the field of price control for the staple food—rice, was instrumental in keeping in check the rise of consumer prices.

Using Philippine import statistics compiled by the Central Bank, we analyzed the consumer goods that were affected by price control policies [together with their Standard International Trade Classification (SITC) of commodities code]. These imports were:

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[2] See F. H. Golay, *The Philippines: Public Policy and Economic Development* (Cornell University Press, 1961), ch. sixteen, for a lucid account of consumer price control policies.

| | |
|---|---|
| Meat preparation | (SITC 01) |
| Meat: in airtight containers | (SITC 013) |
| Dairy products, eggs and honey | (SITC 02) |
| Milk and cream | (SITC 022) |
| Miscellaneous dairy products | (SITC 029) |
| Cereal preparations (oatmeal, etc.) | (SITC 04) |
| Fruits and vegetables | (SITC 05) |
| Fruit preparations | (SITC 053) |
| Vegetable preparations | (SITC 055) |

We were not able to segregate commodity SITC 03, which refers to fish products. This commodity was one important category of imports, as Filipinos have acquired a taste for fish products, especially for sardines, during the postwar period.

The Filipino diet is essentially made of rice and fish. But based on the list of prime commodity imports of the NAMARCO and its predecessors and on the activities of the RCA, the Filipino diet was "rice, corned beef, evaporated milk, and sardines". Meat in airtight containers (013) was heavily weighted by corned beef from Latin America and dairy products (02), by canned milk imported from Europe. Sardines came largely from the United States and South Africa. Later on, mackerel from Japan and the United States joined the product list. Cereal preparations included oatmeal products.

These imports of consumer commodities had a high seasonal component. With the coming of December, most of these products arrived as if in a happy crescendo, accompanied by a rise of imports of fresh and canned fruits, vegetables and all sorts of Christmas goodies.

To more than 80% of Filipinos, rice is a staple commodity. Rice has occupied a position of high priority in the consumer price controls instituted by the Philippine government. The cereals item alone carries a weight of 15% for Manila in the *Central Bank Consumer Price Index,* and up to 24% in other regions. State trading and price stabilization agencies in rice and corn [the Rice and Corn Administration (RCA) and its predecessor, the National Rice and Corn Administration

or NARIC] have been engaged in importing rice. The NAMARCO had also imported and distributed rice. It made a large importation of rice—₱55 million (at the official exchange rate, US $27.5 million)—in the presidential election year of 1961, which according to its report for the fiscal year 1961-1962 was "to stave off the rice crises which occurred during the month of June to October." It may be added that the months mentioned constituted the peak of the election campaign. This study excluded rice imports because of the somewhat erratic changes in these imports, which, aside from being dependent on domestic economic conditions, were highly related to politics.

The activities of the NAMARCO are probably best explained by the declaration of policy in its enabling act (Republic Act 1345), which states that the NAMARCO was

> ... created for the purpose of engaging in the activities of procurement, buying and distributing merchantable goods to Filipino retailers and businessmen not for the purpose of making profit but to render an essential public service ....

## TABLE 1
### NAMARCO IMPORT PROCUREMENTS[a]

| | (1) Corned beef US $1000 | (2) Canned fish US $1000 | (3) Milk products US $1000 | (4) =(1)+(2)+(3) Total | (5) total Namarco imports (Million US $) | (6) =(4)÷(5) In % |
|---|---|---|---|---|---|---|
| 1955-56 | 0.2 | 689 | 1,693 | 2,382 | 6 | 33 |
| 1956-57 | 1,259 | 1,778 | 9,479 | 12,516 | 31 | 39 |
| 1957-58 | 1,140 | 3,941 | 8,626 | 13,707 | 20 | 70 |
| 1958-59 | 1,324 | 4,849 | 4,826 | 10,999 | 15 | 73 |
| 1959-60 | 3,597 | 3,438 | 10,494 | 17,527 | 22 | 77 |
| 1960-61 | 4,870 | 3,065 | 12,311 | 20,246 | 30 | 67 |
| 1961-62 | 3,500[b] | 5,000[b] | 12,500[b] | 21,000[b] | c | - |
| 1962-63 | 2,200[b] | 6,100[b] | 10,400[b] | 18,700[b] | c | - |
| 1963-64 | 4,120 | 9,601 | 13,927 | 27,648 | 27 | 100 |
| 1964-65 | 4,357 | 4,779 | 5,502 | 14,638 | 19 | 79 |

[a] Reconstructed from the NAMARCO annual reports.

[b] Visually reconstructed from chart on p. 8-a of the *Eighth Annual Report, 1962-1963*. No other data available.

[c] Incomplete data.

In table 1, importations made by the NAMARCO of corned beef, canned fish products and milk products are shown. The total value of these importations were then compared to total import procurements by the agency, and, as the last column shows, the greater bulk of the NAMARCO imports consisted of these three major commodities. Since 1957/58, these commodities accounted for at least 70% of total import procurements of the agency. These procurements were in *c.* and *f.* values, i.e., they included transport costs. During the period of controls, the prices of most goods crept slowly upwards, especially after 1955.[3] The food component of the Manila consumer price index in 1960 was sixteen points higher compared to the 1955 base. For the Philippines, the consumer price index began in 1957. In 1960, the food component of the consumer price index of the Philippines was 108 (1957 = 100). Thus, since 1957, food prices had an average yearly rate of increase of 1.7% for the Philippines and 2.7% for Manila.

Since Philippine development strategy during the 1950's was by and large concerned with industrial import substitution, agricultural expansion took a secondary role. Although food crop production was rising faster than commercial crop agriculture,[4] the expansion of agricultural output was far from impressive. With the industrial sector rising much faster on the whole, the demand for "wage-goods", which were not being provided by the domestic agricultural sector, created a pressure on consumer goods, especially food. The NAMARCO's importation of the basic nonrice food "essentials", the activities by other state agencies at the level of rice control and foreign exchange policies all worked together to prevent these price increases from making their force more fully felt.

With the implementation of the decontrol program, importations of consumer staples became a primary consideration for the NAMARCO. A greater amount of subsidization took place over an eighteen-month

[3] See the Central Bank, *Statistical Bulletin*, any issue after 1960, part VII: prices.

[4] Agricultural productivity in food crop agriculture did not rise prior to decontrol. Output expansion was largely the result of agricultural land use expansion. On this point, see the charts in M. Treadgold and R. W. Hooley, "Decontrol and the Redirection of Income Flows: A Second Look," *Philippine Economic Journal,* Vol. VI (Second Semester, 1967).

period from July 1962 to December 1963. The NAMARCO concentrated only on three basic items: canned meat, milk and fish. (Incidentally, November 1963 was the period for a national election for 1/3 of the Senate membership.) The object was to head off the anticipated changes in the cost of imported commodities due to exchange rate adjustment through decontrol and, therefore, to sell these imports at lower than cost. After noting an estimated net loss of ₱40 million from this consumer subsidy program, the NAMARCO claimed in its *Ninth Annual Report, 1963/64:*

> The success of this Program may be gauged from the fact that prices of subsidized commodities have been maintained at practically the decontrol level while prices of the nonsubsidized commodities has risen way above the predecontrol levels.

On the basis of the price statistics given in that report for different brands of NAMARCO products, we computed the average (unweighted) subsidies for different commodities. These are shown in table 2. The rates of subsidy per commodity item was computed as a percentage (1) of reported commercial price and (2) of the NAMARCO price. These subsidy rates are shown in the last two columns. For every tin of evaporated milk that a consumer purchased, the consumer subsidy ranged from 37 to 41% of the commercial price; for corned beef this was from 14 to 18%; and for sardines (15 oz. size) from 20 to 34%. The average subsidy as a percentage of the commercial price weighted by the size of the imports from these average prices turned out to be from 26 to 34%, which represents a sizable magnitude. When we used the NAMARCO selling price for these commodities as the base for the computation of the subsidy, the implied subsidies were much higher—up to 70% for evaporated milk and 52% for sardines.

## *INCIDENCE OF CONSUMER PRICE SUBSIDIES*

It is important to pose the question, even if only in passing, as to who benefited from the NAMARCO subsidies. Most of the goods were urban-type consumer goods, and they represented the goods that enter the consumption basket of families with at least an income of ₱120/month. But the proportional distribution of purchases would have been

# TABLE 2

## AVERAGE PRICES AND IMPLIED CONSUMER SUBSIDIES FOR NAMARCO IMPORTS

| | NAMARCO Price ($P_N$) | Commercial Price | | PER CENT SUBSIDY RATE | | | |
|---|---|---|---|---|---|---|---|
| | | | | Based on Commercial Price | | Based on NAMARCO Price | |
| | | Lower Range ($P_L$) | Upper Range ($P_U$) | $\frac{(P_L-P_N)\times 100}{P_L}$ | $\frac{(P_U-P_N)\times 100}{P_U}$ | $\frac{(P_L-P_N)\times 100}{P_N}$ | $\frac{(P_U-P_N)\times 100}{P_N}$ |
| Evaporated milk | ₱0.43 | ₱0.68 | ₱0.93 | 36.76 | 41.10 | 58.14 | 69.77 |
| Condensed milk | 0.61 | 0.80 | 0.85 | 23.75 | 28.24 | 31.15 | 39.34 |
| Powdered full cream | 2.19 | 2.55 | 2.95 | 14.12 | 25.76 | 16.44 | 34.70 |
| Powdered - dietetic | 3.55 | 3.90 | 4.30 | 8.97 | 17.44 | 9.86 | 21.13 |
| Corned beef | 1.25 | 1.45 | 1.52 | 13.79 | 17.76 | 16.00 | 21.60 |
| Sardines (15 oz.) | 0.56 | 0.70 | 0.85 | 20.00 | 34.12 | 25.00 | 61.78 |

Source: NAMARCO, *Ninth Annual Report, 1963-1964*, p. 5.

heavily weighted in favor of the middle-income families (perhaps with incomes of ₱250/month *at least*) who could afford to include canned milk, corned beef and canned fish in the family diet. Although such commodities were maintained at relatively stable, and at very low, prices, the bulk of the population could purchase them only when they were in a "fiesta mood". The traditional poor man's diet continued to be rice and domestic fish.

In effect, therefore, the NAMARCO subsidies represented income transfers to the middle-income classes and, perhaps even more so, in terms of *absolute* quantities of purchases of the subsidized goods, to the rich. The poor, although they may have bought some of these goods, could not buy them in the same quantities as the richer classes of society. In short, they could not purchase these goods in proportionally large enough quantities because their budget constraints were very tight.[5]

In some sense, the pinch was also felt by the industrial entrepreneurial class. This group would have profited from import substitution and from growth in demand for these imported goods had the NAMARCO policy been different. Undoubtedly the policy had adverse effects on the development of the competing food import substituting industries. One of the major complaicnts of the food manufacturing industries against the NAMARCO was that the latter, through its procurement policies, subsidized foreign industry by reselling imported items at unrealistically very low prices (even at a loss). This was not an empty charge. The price policies certainly discouraged the expansion of the domestic food processing industries. We will have more to say on this towards the end of this paper.

## *VARIABLES OF IMPORT DEMAND AND ESTIMATING EQUATIONS*[6]

A behavior equation determining the demand for imports should

[5] For an analysis of Philippine income distribution, see G. P. Sicat, "Philippine Income Distribution: Facts for Economic and Social Policy," DP 69-13 (25 July 1969), IEDR, University of the Philippines.

[6] For an extended treatment, see Sicat, *Import Demand and Import Substitution in the Philippines, 1953-1963,* ch. two; for the explanation of the sources of data, ch. three.

contain the effects of prices, of the level of income, and of the stocks of foreign exchange. There are two prices relevant for any commodity imported; namely, internal prices for the home-produced goods and external prices for these goods. Some measures of these two prices should a priori be important determinants of the importation of any commodity. The country's income level is a determinant of imports—the higher the income, the higher the imports, unless the commodity is in the process of substitution by domestic import replacing industries. Foreign exchange stocks may also enter the import demand picture in an obvious way. The larger the stock, the more easy it would be to import a commodity. In a sense, however, the foreign exchange stock may reflect the severity or laxity of measures which are associated directly with foreign exchange policy.

For any commodity of import $i$, the general behavior equation used in describing import demand in this study is given briefly as follows:

$$(1)\quad M_{it} = f(P_{hit},\ P_{mit},\ F_t,\ Y_t \text{ or } X_t\ Z_{Dumt}\ u_{it})$$

where

$M_{it}$ = index of imports of commodity $i$ at *c.i.f.*

$P_{hit}$ = domestic price index of commodity $i$

$P_{mit}$ = general wholesale price index of imported commodity $i$: this is not a direct measure of foreign prices for the imports since these are price indexes obtained within the country

$F_t$ = an index of the level of foreign exchange reserves

$Y_t$ = an index of the income (GNP) level in the economy

$X_t$ = an index of the level of export earnings (the last two variables are tried out alternatively as import determinations)

$Z_{Dumt}$ = a dummy variable separating the period of (1953 to 1959) from the period when they began to get relaxed (1960 to 1963). For purposes of separation

$Z_{Dumt}$ { = 0 if the year is from 1953 to 1959
{ = 1 if the year is from 1960 to 1963

$u_{it}$ = stochastic random variable for $i$

$t$ = time in years

An alternative model is one in which all the major variables are deflated by home prices. Removing all $i$ subscripts from here on, this is given by

$$(2) \qquad M_t/P_{ht} = G(1, P_{mt}/P_{ht}, F_t/P_{ht}, Y_t/P_{ht} \text{ or } X_t/P_{ht}, Z_{Dumt}, u_t).$$

For simplicity, the deflated model can be written as:

$$(2a) \quad M^*_t = (P^*_{mt}, Z^*_{Ft}, Y^*_t, X^*_t, Z_{Dumt}, u_t),$$

where the (*) means the deflated ratio.

The two alternative specifications above are estimated with usual linear regression techniques. The estimating equation for the undeflated model is given by

$$(3) \quad M_t = \alpha_0 + \alpha_1 P_{ht} + \alpha_2 P_{mt} + \alpha_3 F_t + \alpha_4 Y_t + \alpha_5 Z_{Dumt} + u_t$$

where $ai (i = 0, 1, \ldots, 5)$ are the parameters to be estimated. Equation (3) is a simple linear (*SL*) regression. The logarithmic (*Ln*) form of the equation above is also interesting and will be estimated as follows:

$$(4) \quad \text{Ln } M_t = \alpha'_0 + \alpha'_1 \text{ Ln } P_{ht} + \alpha'_2 \text{ Ln } P_{mt} + \alpha'_3 F_t + \alpha'_4 \text{ Ln } Y_t + \alpha'_5 Z_{Dumt} + u'_t$$

where $ai'$ $(i = 0, 1, \ldots, 5)$ are the parameters to be estimated.

$$(5) \quad M^*_t = \beta_0 + \beta_1 P^*_{mt} + \beta_2 F^*_t + \beta_3 Y^*_t + \beta_4 Z_{Dmut} + u_t$$

The deflated model likewise is estimated by the following simple linear (*SL*) regression:

for the untransformed data; and

$$(6)\quad \text{Ln } M_t^* = \beta_0' + \beta_1' \text{ Ln } P_{mt}^* + \beta_2' \text{ Ln } F_t^* + \beta_3' \text{ Ln } Y_t^* + \beta_4' Z_{Dumt} + u_t'$$

for the transformed logarithmic data. In equations (3) to (6), regression involving measures of exports ($X_t$ or $X_t^*$) has been used to substitute for ($Y_t$ or $Y_t^*$).

*REGRESSION RESULTS*

The previous pages give the institutional background for the import demand regressions which are reported in this section. Although we have emphasized the effects of NAMARCO activities on the imports, it is not accurate to say that NAMARCO imports dominated the imports of commodities we have mentioned. Therefore, we have more general imported demand equations, which have of course been influenced heavily—on a *marginal basis*—by NAMARCO operations.

We are able to isolate only two of the major NAMARCO imports in relation to their specific three-digit SITC equivalents. Based on table 1, we made some rough calculations[7] of the proportions of corned beef and milk product imports to their respective three-digit SITC commodity groups. We report the results in table 3.

TABLE 3

NAMARCO IMPORTS AS PERCENTAGE OF TOTAL THREE-DIGIT SITC IMPORTS, YEARS WHEN DATA ARE AVAILABLE

| | SITC 013 *Meat in Airtight Containers* | SITC 022 *Milk and Cream In Airtight Containers* |
|---|---|---|
| 1956 | - | 20.3 |
| 1957 | 8.9 | 16.4 |
| 1958 | 7.5 | 12.4 |
| 1959 | 27.2 | 22.0 |
| 1960 | 47.6 | 33.4 |

[7] The NAMARCO imports were reported by fiscal (not calendar) year. We took two-year moving averages of these data by fiscal year. The average corresponding to a specific calendar year was then recorded as the NAMARCO imports for that calendar year.

At least in the case of canned meat and milk product imports, we find that NAMARCO imports took up a *not insignificant* proportion of the imports. However, we remember that, together with the canned fish products, these two imports made up the bulk of the NAMARCO's import activities. If that were the case, it is apparent that the other imports were probably not as heavily weighted in relative terms by NAMARCO imports.[8]

Thus, NAMARCO imports probably distorted more seriously the import demand for canned meat and milk products more than any other import group. This is useful information to us in the following sections.

Table 4 contains the "best fit" results of import demand regressions that were selected from many other results. In the last column, we report the value of the multiple correlation coefficient and the Durbin-Watson ($DW$) statistic, which is used to test autocorrelation of residuals. Based on the $DW$ statistics, most of the residuals indicate absence of autocorrelations.

The regressions of import demand in the category of goods treated in this paper are characterized generally by poor fit. Based on the statistical criterion of high multiple correlation, some of the regression would be acceptable. Thus, in at least some import demand regressions, five out of nine import groups had multiple correlation coefficients of at least 0.85. Of these, we can perhaps say that meat and meat preparations, miscellaneous dairy products, cereals and cereal preparations and vegetable preparations have relatively interesting regression fits.

The other regressions are poor fits. Meat in airtight containers (013), although considered with poor fit ($R$=0.7), has some coefficients that are significant, especially for the logarithmic undeflated regression model equation (2); milk and cream (022) has a higher multiple $R$, but the coefficient estimates (aside from the constant term) are apparently significant only for the foreign exchange stock and the dummy variables.

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[8] See infra, pp. 22 to 24, especially table 9, for a further elaboration on the magnitude of NAMARCO imports.

# TABLE 4

## IMPORT DEMAND REGRESSION FOR IMPORTS AFFECTED BY CONSUMER PRICE CONTROLS

| SITC | Commodity | Constant | $P_{ht}$ | $P_{mt}$ | $F_{1t}$ | $F_{2t}$ | $X_t$ | $Y_t$ | $Z_{dumt}$ | |
|---|---|---|---|---|---|---|---|---|---|---|
| *01* | *Meat and meat preparation* | | | | | | | | | |
| (1) | Undeflated SL | 1081.80 | 3.23 | 1.71 | | −2.19[a] | | −2.53 | −1435.46[a] | $R$ =0.85 |
| | | (5003.72) | (6.37) | (2.94) | | (0.80) | | (3.12) | (843.71) | $DW$=2.74 |
| (2) | Undeflated Ln | 40.21[a] | −6.24[a] | −3.16 | −0.49[a] | | | 5.11[a] | −0.87 | $R$ =0.82 |
| | ) | (27.71) | (4.52) | (3.25) | (0.27) | | | (2.35) | (0.68) | $DW$=2.52 |
| *013* | *Meat: in airtight containers* | | | | | | | | | |
| (2) | Undeflated Ln | 60.65[a] | −7.83[a] | −4.23[a] | −0.41[a] | | | 4.74[a] | | $R$ =0.71 |
| | | (26.02) | (4.86) | (2.90) | (0.29) | | | (2.52) | | $DW$=2.58 |
| (3) | Deflated SL | 3708.76[a] | | 1.01 | | −1.52[a] | | −2.05 | −756.76[a] | $R$ =0.74 |
| | | (2781.03) | | (2.67) | | (0.76) | | (2.74) | (657.60) | $DW$=2.76 |
| *02* | *Dairy products, eggs and honey* | | | | | | | | | |
| (2) | Undeflated Ln | 35.65[a] | −3.55 | −3.48[a] | −0.25[a] | | | 3.17[a] | | $R$ =0.64 |
| | | (19.85) | (3.71) | (2.21) | (0.22) | | | (1.92) | | $DW$=1.99 |
| (3) | Deflated SL | 3889.12[a] | | 0.38 | | −1.32[a] | | −1.74 | −579.46[a] | $R$ =0.80 |
| | | (1993.21) | | (1.91) | | (0.55) | | (1.96) | (471.31) | $DW$=2.65 |
| *022* | *Milk and cream: in airtight containers* | | | | | | | | | |
| (3) | Deflated SL | 4390.44[a] | | 0.21 | | −1.45[a] | | −1.89 | −521.65[a] | $R$ =0.82 |
| | | (2003.27) | | (1.92) | | (0.55) | | (1.97) | (473.69) | $DW$=2.37 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 029 | *Miscellaneous dairy products, in airtight containers, n.e.s.* | | | | | | | | | |
| (1) | Undeflated SL | 11308.17[a] | −14.48[a] | 1.07 | | | 3.18[a] | 3.44[a] | −1134.70[a] | $R$ =0.95 |
| | | (2303.13) | (2.93) | (1.35) | | | (1.11) | (1.43) | (388.35) | $DW$=3.07 |
| (2) | Undeflated Ln | 74.04[a] | −13.87[a] | 1.74 | | −0.32 | | 2.70[a] | −0.84[a] | $R$ =0.91 |
| | | (20.89) | (3.68) | (2.43) | | (0.38) | | (2.21) | (0.54) | $DW$=3.19 |
| (3) | Deflated SL | −4527.81[a] | | 2.96[a] | 0.60[a] | | | 1.77 | −1877.10[a] | $R$ =0.80 |
| | | (2048.37) | | (2.42) | (0.52) | | | (1.81) | (612.65) | $DW$=2.69 |
| 04 | *Cereals and Cereal Preparations* | | | | | | | | | |
| (1) | Undeflated SL | 913.35 | 5.40[a] | −2.56[a] | | −1.76[a] | | −0.71 | | $R$ =0.82 |
| | | (3826.92) | (5.14) | (2.03) | | (0.65) | | (2.51) | | $DW$=1.78 |
| (2) | Undeflated Ln | 24.29[a] | −0.15 | −3.71[a] | | −0.78[a] | | 2.15[a] | | $R$ =0.85 |
| | | (16.07) | (3.21) | (1.78) | | (0.34) | | (1.93) | | $DW$=2.06 |
| (3) | Deflated SL | 6502.71[a] | | −2.39[a] | | −1.78[a] | | −1.07 | | $R$ =0.82 |
| | | (1695.20) | | (1.97) | | (0.62) | | (2.19) | | $DW$=1.66 |
| (4) | Deflated Ln | 18.94[a] | | −2.46[a] | | −0.74[a] | | 1.47 | −0.55[a] | $R$ =0.84 |
| | | (12.59) | | (2.16) | | (0.35) | | (1.92) | (0.43) | $DW$=2.19 |
| 05 | *Fruits and Vegetables* | | | | | | | | | |
| (2) | Undeflated Ln | −22.35[a] | 4.78[a] | 1.31 | 0.04 | | | −1.91[a] | −0.75[a] | $R$ =0.77 |
| | | (21.47) | (3.50) | (2.52) | (0.21) | | | (1.82) | (0.53) | $DW$=3.27 |
| (4) | Deflated Ln | 20.92[a] | | −2.02[a] | | | | | | $R$ =0.66 |
| | | (5.40) | | (0.76) | | | | | | $DW$=2.13 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *053* | *Fruit preserved and fruit preparations, in airtight containers* | | | | | | | | |
| (4) | Deflated Ln | 15.70[a] | | 1.39 | | −0.33 | −2.34[a] | −0.77[a] | $R$ =0.85 |
| | | (12.98) | | (2.23) | | (0.36) | (1.98) | (0.44) | $DW$=2.44 |
| *055* | *Vegetable preserved and vegetable preparations, in airtight containers* | | | | | | | | |
| (1) | Undeflated SL | −10158.78[a] | 13.22[a] | 4.54[a] | 0.61 | | −7.22[a] | −837.80 | $R$ =0.85 |
| | | (6009.34) | (6.48) | (3.14) | (0.73) | | (2.66) | (911.38) | $DW$=3.31 |
| (2) | Undeflated Ln | −61.70[a] | 12.14[a] | 5.93[a] | | 0.14 | −8.35[a] | −1.31[a] | $R$ =0.89 |
| | | (35.05) | (6.17) | (4.07) | | (0.64) | (3.70) | (0.90) | $DW$=2.99 |
| (4) | Deflated Ln | 38.05[a] | | −4.50[a] | | | | | $R$ =0.63 |
| | | (12.98) | | (1.84) | | | | | $DW$=1.47 |

[a] Coefficient exceeds its standard error.

One of the general impressions apparent from the discussion of the previous section is that government policy definitely affected the price variables that we have used as determinants of our import demand equations. Since the food imports of the NAMARCO were designed specifically to hold prices, prices could not reflect themselves as determinants for food imports. Nevertheless the regression results are useful in showing the movements of food imports relative to the price pertaining to the commodity groups in question.

We shall interpret the regression results by examining the coefficients for each one of the determining variables in what follows. But before this is done, it is essential to set out the method of presentation that will be common to the analysis of the regression results for the rest of this study.

*Average Coefficients of Import Regressions.* In view of the large number of results, we have chosen to catalogue the regression coefficients in a manner that will facilitate an easier interpretation. All the regression coefficients that were larger than their respective standard error estimates were selected from the best fit regressions from among many rounds of computations having different regression specifications. A simple average of these selected coefficients was made. The numbers of coefficients included in this average are reported in parentheses beside the coefficients. The average is made for coefficient estimates for the same import group. The results may be rechecked with the detailed regression coefficients which are reported for each of the imports within the paper. In some cases, there would be an average regression coefficient which is derived from a larger set of regressions than those reported in the tables of import demand regressions in this study. Perhaps one (or more) import demand regression is not reported in view of relatively much poorer regression fit. But although the equation is no longer reported, any variable with a relatively good coefficient estimate is included in the computation of the average coefficient.

Some coefficients may have displayed differing signs depending on the regression equation used. In this case, we still took the simple average and marked this average by a notation that some "sign reversal" for

the specific regression coefficient had taken place. We have specified the import equations so that we would get the same coefficient signs, but sign reversals, when observed, will be helpful in making the interested reader go back to the original import regressions.

We note that there are two major specifications of the import equations, in terms of the specific data observations regressed. The first uses undeflated indexes of imports, prices, foreign exchange supplies, income, etc. and the second deflates all these major variables in terms of the index of prices of home-produced goods ($P_{ht}$). However, there are two types of regressions for each set of data observation: one uses the data as observed and the other, after having these data transformed into logarithms. Thus, there is a maximum of only two possible coefficients from which the average coefficients are computed. These two coefficients come from the regressions of undeflated data. The regressions of import demand involving variables deflated by home prices did not include direct estimates of the $P_{ht}$ coefficient in these regressions. However, the coefficients of the other variables—$P_{mt}$, $Y_t$, and $Z_{dumt}$—have a maximum of four coefficient estimates for every coefficient estimate averaged, because the undeflated and deflated versions, in terms of their simple linear and logarithmic versions, include direct estimates of the coefficient of these variables.

## *PRICE COEFFICIENTS OF IMPORT DEMAND*

Table 5 presents the average coefficients of import demand of the price of home-produced goods and the price of imported goods. The price variables, as expected, did not show any convincing pattern. They are relatively large.

The price of home-produced commodities ($P_{ht}$) had negative coefficients for three commodity groups and positive in three others. It failed to give any reasonable fit for three other groups. It is interesting that meat in airtight containers (013) and other dairy products had large, negative average coefficients. Thus, for this group of commodities it would appear that—other things remaining the same—a decrease in home prices was followed by an increase of imports. This rather unreasonable

outcome is evidently the result of the dominating influence of the consumer imports, which were tied up to the NAMARCO program of consumer price stabilization.

The prices of imported goods ($P_{mt}$) had, with two exceptions, negative coefficients. But it should be pointed out that these average coefficients were derived from relatively few regression fits. In general, the import price coefficients did not yield very interesting results. Meat and meat preparations (01) did not respond in any significant direction to import price movements. In the three-digit imports of meat in containers (013), the import price coefficients showed a negative response, which essentially means that imports moved in the opposite direction of import price movements, other things being equal.

But all these regularities should be viewed with qualifications, because of the interrelations of observed prices with import volume, especially in view of the consumer price control policies enforced by government price stabilization agencies.

## TABLE 5

### HOME AND IMPORT PRICE COEFFICIENTS OF IMPORT DEMAND EQUATIONS

| SITC | Commodity Groups | Pht | Pmt |
|---|---|---|---|
| | *CONSUMPTION GOODS* | | |
| 01 | Meat and meat preparation | –6.24 (1) | - |
| 013 | Meat: in airtight containers | –3.74[b] (2) | –4.23 (1) |
| 02 | Dairy products, eggs and honey | - - | –3.48 (1) |
| 022 | Milk and cream: in airtight containers | - | - |
| 029 | Miscellaneous dairy products, in airtight containers, n.e.s. | –14.18 (2) | 4.46 (2) |
| 04 | Cereals and cereal preparations | 5.40 (1) | –2.78 (4) |
| 05 | Fruits and vegetables | 4.85 (2) | –1.70 (2) |
| 053 | Fruits preserved and fruit preparations, in airtight containers | - | –1.57 (2) |
| 055 | Vegetable preserved and vegetable preparations, in airtight containers | 12.68 (2) | 0.80[b] (4) |

[a] Numbers in parentheses indicate the total number of coefficients that are averaged.
[b] Sign reversal observed.

*COEFFICIENTS OF FOREIGN EXCHANGE STOCKS*

$F_{1t}$ is a linked index of the foreign exchange level in which the base is the maximum level of foreign exchange in the last two previous years. $F_{2t}$ is a fixed base index with 1955=1000, as in the case of all the other economic variables used in this study. The simple fixed base index of foreign exchange stock had a downward trend from the level of the early years $F_{1t}$, on the contrary, was falling more rapidly until after decontrol when the foreign exchange stocks suddenly climbed as a short-run reaction to the balance of payments adjustments caused by the devaluation.

Table 6 shows the average coefficients of the foreign exchange stock variables in the import demand regressions. The foreign exchange stock variables are mostly uniformly negative. In view of the trend of foreign exchange supplies for the Philippines, these coefficients imply that imports of the commodities under investigation were being made, inspite of falling foreign exchange stocks. Some of the results may be worth repeating. For meat preparations (which included corned beef imports), the average coefficient is —0.42 for $F_{1t}$ and —2.2 for $F_{2t}$. Similar coefficients for meat in cans are obtained for $F_{1t}$, although the results for dairy products are generally lower in absolute values,—0.25 for $F_{1t}$ and —1.3 for $F_{2t}$. It is interesting, however, that in the case of dairy products (029) a positive $F_{1t}$ coefficient is found.

As we will see later, the same finding is observed for other imports.

*INCOME COEFFICIENTS*

Table 7 summarizes the average income coefficients derived. These coefficients range in values from 4.7 for meat in airtight containers to 1.9 for milk. But fruits and vegetables all have negative coefficients, with vegetable preparations having an unusually low coefficient of—7.8.

The above results mean that the response of the particular imports to income movements was, as expected, in the positive. Yet we discover that these coefficients are based on only a few coefficient estimates, as revealed by the numbers in parentheses. In the case of vegetables, there appears to be a drastic fall in imports even as income was rising. This is not unreasonable. The imports of fruits and vegetables were replaced by

# TABLE 6

## FOREIGN EXCHANGE SUPPLIES COEFFICIENTS OF IMPORT DEMAND

| SITC | Commodity Groups | $F_{1t}$ | $F_{2t}$ |
|---|---|---|---|
| | *CONSUMPTION GOODS* | | |
| 01 | Meat and meat preparations | −0.42 (2) | −2.16 (2) |
| 013 | Meat: in airtight containers | −0.41 (1) | −1.52 (1) |
| 02 | Dairy products, eggs and honey | −0.25 (1) | −1.31 (2) |
| 022 | Milk and cream: in airtight containers | - | −0.99 (2) |
| 029 | Miscellaneous dairy products, in airtight containers, n.e.s. | −0.60 (1) | - |
| 04 | Cereals and cereal preparations | - | −1.26 (4) |
| 05 | Fruits and vegetables | - | - |
| 053 | Fruits preserved and fruit preparations, in airtight containers | - | −0.33 (1) |
| 055 | Vegetable preserved and vegetable preparations, in airtight containers | - | - |

[a] Numbers in parentheses indicate the total number of coefficients that are averaged.

# TABLE 7

## INCOME COEFFICIENT OF IMPORT DEMAND EQUATIONS

| SITC | Commodity Groups | $X_t$ | $Y_t$ |
|---|---|---|---|
| | *CONSUMPTION GOODS* | | |
| 01 | Meat and meat preparations | - | 4.25 (2) |
| 013 | Meat: in airtight containers | - | 4.74 (1) |
| 02 | Dairy products, eggs and honey | - | 3.17 (1) |
| 022 | Milk and cream: in airtight containers | - | 1.90 (1) |
| 029 | Miscellaneous dairy products, in airtight containers, n.e.s. | 3.18 (1) | 3.06 (2) |
| 04 | Cereals and cereal preparations | - | 2.15 (1) |
| 05 | Fruits and vegetables | - | −1.91 (1) |
| 053 | Fruits preserved and fruit preparations, in airtight containers | - | −2.34 (1) |
| 055 | Vegetable preserved and vegetable preparations, in airtight containers | - | −7.78 (2) |

[a] Numbers in parentheses indicate the total number of coefficients that are averaged.

# TABLE 8

## EFFECTS OF DECONTROL ON IMPORTS

| SITC | Commodity Groups | Regression Model | |
|---|---|---|---|
| | | SL | Ln |
| | *CONSUMPTION GOODS* | | |
| 01 | Meat and meat preparations | less | less |
| 013 | Meat: in airtight containers | less | less |
| 02 | Dairy products, eggs and honey | less | less |
| 022 | Milk and cream: in airtight containers | less | less |
| 029 | Miscellaneous dairy products, in airtight containers, n.e.s. | less | less |
| 04 | Cereals and cereal preparations | no effect | less |
| 05 | Fruits and vegetables | less | less |
| 053 | Fruits preserved and fruit preparations, in airtight containers | no effect | less |
| 055 | Vegetable preserved and vegetable preparations, in airtight containers | no effect | less |

domestic supplies, and, thus, there has been an apparent successful import substitution at least in these groups of imports.

### *EFFECTS OF DECONTROL*

Table 8 reveals the effects of decontrol, as shown by the results of the coefficients of the dummy variable. The average coefficients are all negative in terms of the logarithmic or simple linear regressions: and the quantities of the importations of certain commodities were affected somewhat adversely by the removal of controls and the subsequent depreciation of the peso.

The period of decontrol led to less importations of the commodities, if we hold the effects of all other variables constant. Despite the huge importations effected by the NAMARCO to prevent a sudden domestic price spiral on food imports, the increase in the cost of foreign exchange brought about by decontrol had the effect of stemming back the tide of more food imports.

The above results summarize the regression of import demand for consumption goods that were affected by the consumer price stabilization policies of the government. In the remaining part of this paper, we will deal with some other activities of the NAMARCO, which should at least be mentioned because these activities relate to import demand.

## *OTHER ACTIVITIES OF THE NAMARCO*

Early in its history, the NAMARCO engaged not only in the trading of prime consumer commodities but also in "producer goods imports". It procured items that ranged from hardware goods to finished textiles. The NAMARCO was established to help Filipinos gain an ascendency in the retail business over foreigners, mostly Chinese. This policy was originally designed to help Filipino retail dealers, including the *sari-sari* store, which is a small-scale, general merchandise retail store found either in the neighborhood corner or in the public market. The prime consumer food imports made by the NAMARCO were destined for resale in this type of store.

To help other Filipino retailers who were engaged in selling dry and hard goods obtain imported merchandise that were difficult to procure privately in view of the foreign exchange control mechanism, the NAMARCO imported a variety of other goods. These operations of the NAMARCO reached their climax towards the end of the period of control.

An overall view of the NAMARCO import procurement activities in relation to total imports may be gleaned from table 9. Unfortunately, the NAMARCO annual reports from which much of this research was based varied in quality. We were able to present only the relative magnitudes of the agency's procurements for the years 1957 to 1959. The commodities were classified in accordance with "essentiality" as defined by the foreign exchange control authority—the Central Bank. The major importations of NAMARCO—canned foods—were in the category of "decontrolled" items, or those items that could be brought in without the intricate permit system inherent in the import and foreign exchange

# TABLE 9

## NAMARCO IMPORTS AND TOTAL PHILIPPINE IMPORTS

### A. NAMARCO IMPORTS AS PERCENTAGE OF IMPORTS, BY CATEGORIES

| Category | 1957 | 1958 | 1959 |
|---|---|---|---|
| Essential producer | 1.46 | 1.13 | 0.28 |
| Decontrolled items | 23.56 | 9.47 | 29.22 |
| Semiessential producer | 0.36 | 1.46 | 0.34 |
| Unclassified items | 0.46 | - | - |
| Nonessential producer | 2.65 | 2.76 | 2.43 |
| Essential consumer | 11.33 | 0.52 | - |
| Nonessential consumer | 29.96 | 0.08 | 7.53 |
| Semiessential consumer | 2.97 | 20.27 | 56.95 |
| TOTAL | 5.63 | 2.40 | 3.96 |

### B. PERCENTAGE DISTRIBUTION/YEAR, 1957-1959

| Category | 1957 | | 1958 | | 1959 | |
|---|---|---|---|---|---|---|
| | Phil. | NAMARCO | Phil. | NAMARCO | Phil. | NAMARCO |
| Essential producer | 51.68 | 13.36 | 52.66 | 24.89 | 61.04 | 4.37 |
| Decontrolled items | 14.01 | 58.66 | 15.14 | 60.02 | 11.23 | 82.95 |
| Semiessential producer | 12.01 | 0.84 | 11.80 | 7.16 | 11.91 | 1.03 |
| Unclassified items | 10.36 | 0.85 | 9.50 | - | 7.86 | - |
| Nonessential producer | 3.69 | 1.74 | 3.98 | 4.59 | 4.13 | 2.53 |
| Essential consumer | 3.34 | 6.71 | 5.29 | 1.15 | 1.99 | - |
| Nonessential consumer | 3.28 | 17.49 | 1.37 | 0.05 | 1.39 | 2.65 |
| Semiessential consumer | 0.66 | 0.35 | 0.26 | 2.14 | 0.45 | 6.47 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Calculated from: NAMARCO, *Fifth Annual Report,* 1959-1960, p. 20.

controls. In 1957 (the year of most liberalized imports), the decontrolled imports took up 59% of the agency's import procurements, and in 1959, 83%. Thus, viewed in this light, the procurement activities of the NAMARCO not related to its consumer price control functions were insignificant.

NAMARCO imports as a percentage of total Philippine imports and as a percentage of the totals for the respective import categories are very small. This can be seen from part A of table 9. The agency's imports as a percentage of total Philippine imports were only 5.63 and 3.96% in 1957 and 1959, respectively. Even the decontrolled imports, which constituted the bulk of NAMARCO activities, were only 3% of the country's total imports. The NAMARCO's imports for every official import category of the exchange authorities were not significant when viewed in terms of the total imports for each of these categories. In cases where NAMARCO imports represented a high proportion of the import categories (e.g., semiessential consumer imports in 1957), a recheck with part B of the table shows that the categories of imports constituted only a very small part of the total Philippine imports during the year.

The NAMARCO imported other goods, but an examination of these showed that they were so small and sporadic as to be able to create even marginal impact.[9] The NAMARCO's place, when viewed in terms of total economic activity, is largely in the area of consumer price controls for prime imported foodstuffs, and in encouraging small Filipino retailers to succeed in thier takeover of the retail trade from the Chinese.

## *IMPORT SUBSTITUTION IN FOOD MANUFACTURES*

While the emphasis of this paper has been on imports of manufactures that were subject to consumer price controls, the impression should not be left that these commodities were not the object of import substitution. The law attracting "new and necessary industries",[10] for example, had an obvious positive influence in the setting up of domestic food manufacturing activities. Figure 1 compares the food product lines and the total number of product lines that were given tax-exempt status by virtue of this law (Republic Act 901). The year-to-year exemptions given to specific product lines were cumulated. No adjustments were made for firms which were punished by suspension by the Department

[9] Ibid., ch. five.

[10] G. P. Sicat, "Industrial Policy and the Development of Philippine Manufacturing," IEDR Discussion Paper No. 65-1 (January 1965).

of Finance.[11] Thus, the figure as shown is meant to be suggestive of the impact of the law on food manufacturing industries, at least in terms of the number of enterprises engaged in the activity.

Of course, food manufacturing covered a much broader scope of activities than the import commodities which were subject to consumer price controls through the NAMARCO's activities. But there were a number of firms that were granted specific exemptions in areas that directly competed with the NAMARCO imports. These were firms engaged in packing and processing meat, fish and dairy. In addition, a number of food manufactures served as substitutes for the NAMARCO imports of food manufactures.

To what extent did NAMARCO's importation policies affect domestic import substitution in food manufactures? We can only sketch the answer.[12] The NAMARCO importations had a negative effect on domestic food manufactures, through the prevention of more active import replacements of the commodities high on the list of the state agency's procurement list— meat, fish and dairy—and through the substitution of imported goods for domestic food manufactures.

The food imports of the NAMARCO competed directly with the potential import substitution in these products. The expansion of these industries was prejudiced by the state agency's procurement bias in favor of imports. In fact, the consumer subsidies in the immediate post-decontrol period worked heavily against domestic food processors. But luckily, of course, the commodity imports did not cover a wider list other than those in meat, fish and dairy products processing. The NAMARCO's bias for food imports may be largely based on its orientation in objectives, which in essence conflicted directly with the overall policy of industrial import replacement encouraged by the government.

Import substitution has been described by this author as heavily "import dependent" in character.[13] An encouragement of this type of

[11] Ibid.

[12] We have partially made mention of this earlier in this paper. See supra p.

[13] See Sicat, op. cit., especially ch. six.

industrial import substitution in the 1950's shifted scarce economic resources away from agriculture and from more basic activities that have high linkage with manufacturing to final processing activities. More specifically, in terms of the food import substitution process, the development of livestock and poultry and of marine and other fishery resources took a secondary role to the attractive investments in final assembly operations like appliance and automobile assembly, chemicals and steel products. Therefore, throughout the 1950's the industries that would have fed the food-processing industries were not growing to the extent needed by the requirements of more progressive import substitution in food manufactures. And the economy was moving, perhaps unnecessarily, into relatively more capital-intensive manufacturing.

We do not have any evidence on cross-elasticities of demands for competing food manufacturers, e.g., between corned beef and sauges. Even if we assumed that these cross-elasticities were low—that is, inelastic—the imports on the whole were used to subsidize consumers, and served as a cushion against the rising prices felt at the domestic front. Thus, consider a case when the rise of prices at retail of NAMARCO imports was less than the price increase of substitute domestic food manufactures. Provided the cross-elasticities were different from zero (and we know they are negative), the aggregative effect of this difference in price increases was to shift consumer purchases away from domestic manufactures in favor of the NAMARCO imports. Now, the NAMARCO had been quite mindful of consumer brand preferences, as evidenced by the careful attention given to specific brands of consumer imports in its annual reports.[14] To the extent that the NAMARCO's imports (1) tended to reduce the market price pressures operating on substitute imports of food manufactures, and (2) promoted brand consciousness in favor of imported commodities, the domestic food manufactures were penalized by the NAMARCO.

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[14] See, for instance, the appendix tables and charts to the NAMARCO *Fifth Annual Report* (1959-1960), section "Importations of Prime Commodities by Brands," NAMARCO, *Fourth Annual Report,* 1958-1959), pp. 8-10.

On balance, therefore, the NAMARCO deterred the promotion of domestic import substitutes. A close look at the situation will also reveal that perhaps a bigger culprit abetted this policy. After 1965, when a reduction of the NAMARCO's subsidizing operations came into effect, a relatively impressive growth of food manufacturing industries was observed. Perhaps, this suggests that (1) if an equilibrium exchange rate in the 1950's were in operation, (2) if the NAMARCO's activities were limited to bringing to bear the effects of large-scale importation in the distribution of imported goods through Filipino retail outlets, and (3) if the NAMARCO simply engaged in commercial resale (like a private enterprise) at a very small profit rate rather than in resale at a loss, as it was prone to do, a higher growth of domestic food manufacturing designed for import replacements would have been achieved much earlier. This policy would also have avoided the redistributive bias in favor of the middle income and well-to-do income groups against the poorer segments of the population, which was the net effect of the NAMARCO's subsidy operations.

It is worth mentioning here that the termination of the activities of the NAMARCO in 1966 may be considered a significant turning point in favor of more economically national policies towards consumer subsidies.

## *SUMMARY AND CONCLUSION*

This paper was concerned only with imports of consumption goods that were affected by the activities in the area of consumer price stabilization of the Philippine government. This inevitably brought us to an analysis of the role played by the NAMARCO in the economy. We presented estimates of the extent of the price subsidies implied by the operations of this state agency in attempting to bring down prices.

Import demand regressions were reported for eight commodity groups that were affected by the NAMARCO operations. The price variables yielded relatively poor and unpredictable coefficients, which should not be surprising in view of the effects of price controls. The coefficients

of foreign exchange stocks were negative, which meant that some imports were rising even when the foreign exchange stocks were falling (as was the case for the Philippines). In many cases, the level of imports rose together with the increase in the level of incomes. Also, the decontrol program beginning in 1960 tended to depress import levels.

In relation to the industrial import substitution program, the activities of the NAMARCO acted as deterrents to import substitution activities in food manufactures. Finally, the NAMARCO's activities did not achieve the intended redistribution of income in favor of the poor. The NAMARCO operations tended to redistribute real income in favor of middle-income and richer classes and against the poorer-income classes.

For all the above conclusions, the cessation of NAMARCO operations (in 1966) was a wise policy decision.