TOWARDS A MORE DIRECT ESTIMATE OF PERSONAL CONSUMPTION EXPENDITURES (PCE) AND ITS COMPONENTS

By

Filologo Pante, Jr.*

A researcher planning to undertake a time series analysis of onsumer demand for a specific group or groups of commodities at a irly disaggregated level will soon discover that the available time eries estimates of personal consumption expenditures (PCE) in the hilippines are hardly adequate for such analysis. This paper hopes o derive a set of time series estimates of PCE and its components hich will be useful in demand analysis.

Section 1 discusses the official PCE estimates, highlighting eir weaknesses and inadequacy for empirical time series demand udies. Section 2 outlines the methods used in estimating PCE and s components in this study. In Section 3, the estimated PCE series presented and compared with the official estimates and other vailable estimates. Section 4 assesses the reliability of the estimates erived in this study while Section 5 suggests further efforts to nprove estimates of PCE and its components.

The Official PCE Series

Time series data on personal consumption expenditures (PCE) an be obtained from the national income accounts compiled and ublished annually by the Statistics Office of the National Economic nd Development Authority (NEDA), formerly the Office of Statisical Coordination and Standards (OSCAS) of the then National conomic Council. However, these estimates seem to constitute one f the most significant sources of error in the accounts, so that up o now, the "statistical discrepancy" appearing in the national inome accounts has been attributed solely to the estimates of PCE. hus, said statistical discrepancy appears as a balancing item on the

*Assistant Director-General, National Economic and Development Autho-ty (NEDA). This paper is based on the author's Ph.D. thesis (1977). The uthor would like to acknowledge the assistance of Cecilia Paulino, Rosario uzman and Annabelle Aguilar in the compilation and construction of the CE estimates. Thanks are also due to Director Pablo Samson and the rest of e NEDA's National Income Accounts Staff for their cooperation while the udy was conducted.

penditure side of the accounts, or specifically, on the personal come and outlay account.[1]

While the methodology used in estimating PCE had a number of anges since 1965, the relative reliability of PCE estimates has nained suspect. Prior to 1965, total PCE was derived residually om the income originating side of the national income accounts. ing this estimate as a control total, PCE was computed by deduct- from GNP the sum of government consumption expenditures, oss domestic capital formation and "net foreign investment" nports minus exports of goods and services).

In 1965, PCE has been estimated directly and independent- of the income side of the accounts. The estimates for 1960 to 64 were likewise revised. This made available a comparable series the period 1960 to date. The general procedure is to establish nchmark estimates of personal consumption expenditures on od, shelter and beverages for 1961, 1965 and 1971. The sum of se items for benchmark years is then blown up to get the total E, using proportions obtained from the Family Income and Ex- nditure Surveys (FIES). For non-benchmark years, income and penditure elasticities derived from the FIES are used as estimators.

Clearly, the available consumption series is hardly suitable for nsumer demand analysis, despite post-1965 improvements. First, e data are still very highly aggregated. Consistent and continuous imates are available only for total food, shelter, beverages and scellaneous expenditures. Second, the last item, estimated resi- ally, accounts for about 40 per cent. Hence, only a little more an half of PCE is estimted directly. Moreover, for non-benchmark ars, it appears that the estimates are not really independent of the come side of the accounts. It is also felt that the use of income elas- ities derived from the FIES deprives the series of much of its analy- al and empirical significance. For instance, one may be interested comparing elasticities derived from budget and time series data.

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[1] Errors can also arise on account of the estimates of the other items on e expenditure side, i.e., government consumption expenditures, gross domes- capital formation, and exports of goods and services, as well as on account the estimates of items on the income side. In a number of countries, e statistical discrepancy is split between the income and expenditure sides of e accounts.

If the methods used to prepare the estimates are unknown it might surprisingly result in identical computed elasticities for the two sets of data. More significantly, since the elasticities themselves are subject to investigation, the reliability of magnitudes derived from them is questionable. Depending on the formulation used to compute elasticities, more than one elasticity estimate can be obtained.

This study attempts to overcome the above difficulties by deriving independent and direct estimates of PCE and its components for the period 1949 to 1974.[2] The estimation procedures used are summarized below.

2. Estimation of PCE and Its Components

a. *PCE Under the National Income Accounting Framework*

Personal consumption expenditures represent the value of final expenditures of households and non-profit institutions on goods and services, including expenditures on durable consumer goods, but excluding purchases of land and buildings.[3] The latter dichotomy in the treatment of consumer durables needs to be clarified here. Household consumption expenditures should refer to purchases of commodities entirely used up or worn out during the accounting period. Perishables immediately fall under this category. Because durables yield services beyond the accounting period, it has been argued that the category of products usually classified as consumer durables, e.g., automobiles, household appliances, furniture and fixtures, etc., should be reclassified as capital formation. And for these products, consumption should be measured as the flow of services yielded by the existing stock (Juster 1964).

The traditional approach is to classify personal expenditures on residential construction as investment, and consider expenditures on all other durables as consumption. Despite objections on theoretical grounds, this approach has remained popular for a couple of reasons. First, the traditional approach provides a simple method of classifying and estimating categories under PCE and domestic capital formation. If this were not the case, it would be necessary to have an

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[2] Only data up to 1974 were available for this study.

[3] This definition conforms closely with that suggested by the United Nations in *A System of National Accounts and Supporting Tables, Studies in Methods,* Series F, No. 2 (1960). See also *A System of National Accounts,* Series F, No. 2, Rev. 3 (1968), more popularly known as the "new SNA".

a of "behavioral rental rates" for each type of durable good to mate the services derived. This will obviously burden the national ome accountant with more computations and assumptions. Se- ıd, consumer motivations in purchasing or constructing a house observed to be more akin to factors affecting the decision invest, while the motivations to acquire other durables are similar those influencing the decision to purchase non-durable consumer ›ds (Stone 1953-54). For practical reasons and the above justifi- ions, the standard definition of PCE is the one adopted in this dy.

b. *Estimation Methods*[4]

For estimation purposes, PCE is broken down into the follow- components:

1. Food
   a. Cereals and Cereal Products
   b. Meat
   c. Eggs
   d. Fish and Other Marine Products
   e. Vegetables
   f. Fruits
   g. Milk and Dairy Products
   h. Fats and Oils
   i. Sugar and Syrup
   j. Other Foods
2. Beverages
3. Tobacco
4. Clothing and Footwear
5. Housing

[4] For a more detailed discussion of the methods and sources used, please Appendix I of the author's thesis. These methods are roughly similar to those lained in the *Manual on the Philippine System of National Accounts: Frame- k, Sources and Methods,* NEDA (1978), pp. 75-79. The NEDA National ›me Accounts Staff, however, indicates that these have not yet been applied ıctual national income accounting work. The presently available official se- , therefore, has been derived essentially along the lines described in Section this paper.

a. Owner-occupied Dwellings
b. Rented Dwellings

6. Fuel, Light and Water

7. Household Durables

a. Furniture and Fixtures
b. Household Electrical Appliances
c. Motor Vehicles
d. Other Household Durables

8. Other Goods and Services

The consumption of beverages includes expenditures on alcoolic and non-alcoholic drinks. Tobacco consumption consists of ersonal expenditures on cigars, cigarettes and other tobacco proucts. Housing or shelter includes all gross rent paid by tenants s well as imputed gross rent on owner-occupied dwellings and dwelngs supplied free. Furniture and fixtures consist of purchases of ıbles, beds, chairs, cabinets, shades, blinds, rugs, carpets, etc. Houseold electrical appliances are made up mainly of radio and television ets, stoves and ranges, toasters, electric irons, refrigerators, washing ıachines, room air conditioners, etc. Other durable goods include ıotorcycles and bicycles, watches, sewing machines, typewriters, tc. Other goods and services refer principally to educational expenes, medical care, personal care, transportation and communications, nd recreation.

Items 1 to 7 account for about 85 per cent of total PCE. Hence, ıore direct methods are used to estimate them than item 8. Gerally, the estimation procedure involves the use of the "commodity low approach" and the "retail valuation method". In the commodity ow approach, domestic production at producers' prices is adjusted or imports and exports, for uses other than final consumption, for hanges in inventories and for tax and trade markups. The retail aluation method, on the other hand, entails the multiplication of stimated quantities purchased by consumers by appropriate average etail prices. The choice of technique is dictated largely by the tatistical data available.

The commodity flow approach is used to estimate expendiıres on beverages, tobacco, clothing and footwear, furniture and ixtures and household durables. In the case of food, both the ommodity flow and retail valuation methods are used. Personal

lays for shelter or housing services are estimated from population, sing and rent statistics, while miscellaneous expenditures and enditures for fuel, light and water are derived principally from FIES for 1961, 1965 and 1971.[5]

Constant price estimates are derived in two ways, depending on ether the retail valuation method or the commodity flow roach is used. In the former, the constant price series is obtained simply multiplying the quantity series by the corresponding prices 967. In the latter, the constant price series is derived by deflating current price estimates by the appropriate price indices. Total E at constant prices is the sum of the constant price estimates of h PCE component. By dividing the current-price PCE by the cons-t-price PCE, the implicit price index for consumption is obtained.

The principal sources of data are the Food Balance Sheets pared by the NEDA Statistics Office; production data published the Bureau of Agricultural Economics, Department of Agricul-e; price data compilations of the Central Bank; the Philippine tistical Survey of Households Family Income and Expenditure veys 1961, 1965 and 1971; population and housing cen-es, 1948, 1960 and 1970; demographic surveys of the Natio- Census and Statistics Office (NCSO); the Economic Census of 51; Annual Surveys of Manufacturers; NCSO Foreign Trade tistics; CB indices of production and record of sales of domestic ducers; Land Transportation Commission files; tax statistics and er pertinent suveys and documents.

The Estimated Consumption Series

a. *Total PCE*

Table 1 presents the estimates of total PCE at current prices for period 1949 to 1974. The corresponding growth rates are likewise icated. Table 2 compares the estimates with the official figures, oley's (1963) estimates, and the total household expenditure ures reported in the FIES. The estimates are consistently lower

[5] The 1956 survey is believed to be unreliable, so it is not used. Expen-ures on most items in the 1956 FIES seems to be understated. This is particu-y true of food consumption. When the 1956 FIES was used to get an idea of share of miscellaneous expenditures in total PCE, the result was an implausi-low percentage of food intake and an abnormally high share of miscellaneous enditures.

than the official PCE figures, suggesting that there might have been a tendency in the official accounts to overstate consumption expenditures. This tendency seems to be confirmed by the sign of the statistical discrepancy in the national income accounts. During the period covered by this study, said discrepancy has been reported negative in 21 out of 26 cases.[6] If this observation is correct, it confirms Hooley's findings that the official PCE accounts tend to overstate consumption and understate savings. Two reasons may explain the overstatement, namely: (1) the use of elasticities to obtain expenditure on major commodity groups; and (2) the indirect estimation of more than one-third of PCE.

It may be noted that the estimates here for 1953 to 1960 are fairly close to Hooley's. Except for 1956 and 1959 when the two sets of estimates differed by 7.5 per cent, in no case do the two estimates differ from each other by more than 4 per cent. Moreover, Hooley's estimates are similarly all below the official figures. On the other hand, totals derived from the FIES appear to be understated. Granting that the coverage in the national income accounts is different from that in the FIES,[7] the large discrepancies between the FIES figures and all other estimates still make one uncomfortable about the FIES totals.

In terms of growth rates for the whole period 1949-74, the estimates in this study result in almost similar rates as those reported by Hooley and the official accounts, as can be seen in Table 3. Evidently, however, the growth rates for varying sub-periods differ. Nevertheless, except for the FIES growth rate for 1956-61, the rates seem to conform with one another directionally and to a somewhat lesser extent, absolute-value wise. The FIES 1956-61 growth rates are consistently greater than all PCE rates, supporting the observation that most of the PCE components in the 1956 survey are understated.

b. *PCE Components*

Table 4 shows total PCE at current prices for 1949-74 broken down into the following major components: food, beverages,

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[6] The positive cases are only for 1949, 1962, 1969, 1970 and 1971.

[7] This is in view of the inclusion of non-profit institutions in the national income accounts framework.

.cco, shelter, fuel, light and water, household durables, clothing footwear and other goods and services. The percentage distribu- of these items is likewise shown. Table 5 presents the same rmation at constant 1967 prices.

Considering the constant price series, food expectedly accounts the largest share in PCE. Its average share throughout the period 6.9 per cent. In the order of importance, food is followed by :r goods and services (14.3 per cent), shelter (9.8 per cent), cloth- and footwear (6.7 per cent), beverages (3.2 per cent), household ıbles (3.2 per cent), tobacco (3.0 per cent) and fuel, light and wa- (2.8 per cent).

From 56.2 per cent in 1949, food consumption increased to 2 per cent in 1956. This gradually declined thereafter until in '4, the percentage stood at only 53.7 per cent. On the other hand, er goods and services continuously increased after 1962, so that 1974, they accounted for 19.4 per cent of PCE. An increase of percentage points over its average share of 12.0 per cent in the iod 1951 to 1960 is evident.

In the case of shelter, a decline in percentage contribution :ing the period under consideration was registered. Its share drop- l from an average of 11.2 per cent in the 1950s to 8.4 per cent the 1960s and the first half of the 1970s. This supports the general servation that the increase in the number of dwelling units has not .tched the country's expanding requirements for housing.

Regarding clothing and footwear, a general upward trend is ticeable from 1949 to 1960. Their share averaged 7.4 per cent ring this period. After 1960, their average contribution dropped ghtly to 6.2 per cent. Beverage consumption before 1965 accounted r an average of 2.8 per cent of PCE; after 1965, this increased to 3 per cent.

While durable purchases fluctuated widely during the study riod, a general upward trend from the 1950s to the 1960s and st half of the 1970s can be noted. Their share averaged 2.6 per nt in the former period, compared to 3.8 per cent in the latter.)bacco consumption displayed one of the most notable regulari- :s, ranging between 1.9 and 3.0 per cent in the 1950s and 3.1 and 7 per cent in the 1960s and first half of the 1970s. An exception this is 1972 when the share posted reached 4.2 per cent. Fuel, ght and water also showed regularity in consumption. In the 1950s,

its share fluctuated from 2.4 to 2.8 per cent; and slightly in the 1960s and 1970s, from 2.9 to 3.7 per cent. A squeeze on this item is noticeable in 1973 and 1974, presumably because of the difficulties brought about by the energy crisis.

These trends generally parallel those in South Korea and Taiwan. The most notable similarities are on food consumption and expenditures on other goods and services. In all cases, food consumption registered declines while other goods and services posted marked increases. However, in the Philippines the decline in food consumption in total PCE is not as substantial as those in South Korea and Taiwan. In South Korea, food consumption dropped from 58.9 per cent in 1957 to only 45.4 per cent in 1973, the largest decline being registered between 1965 and 1971 (56.3 to 47.0 per cent). In Taiwan, the corresponding share declined from 56.6 per cent in 1953 to 48.0 per cent in 1965, the largest drop being posted between 1961 and 1965 (52.8 to 48.0 per cent).[8]

On the other hand, the contribution of expenditures on other goods and services has risen more sharply in South Korea and Taiwan than in the Philippines. In Taiwan, the share of this item had reached 21.0 per cent by 1965. The comparable figures for South Korea and the Philippines were 20.4 and 17.8 per cent in 1971, respectively. These trends are consistent with the growth experience of South Korea, Taiwan and the Philippines. In South Korea and Taiwan, real per capita GNP grew at annual compound rates of 13.5 and 8.5 per cent, respectively, during the period 1961 to 1971. In contrast, per capita GNP in the Philippines grew by only 2.7 per cent during the same period. In 1974, real per capita GNP in Taiwan was $498.03; South Korea, $326.26 and the Philippines, $253.62.[9]

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[8] Data for South Korea and Taiwan were obtained from the *UN Yearbook of National Accounts.* Unfortunately, statistics reported for Taiwan are only up to 1965, so comparisons for the more recent period could not be made. A report on the 1971 family income and expenditure survey in Taiwan is available, but this is not comparable with national income figures. The basis of comparison here is time series at constant prices. In any case, any drastic change did not seem to occur in the share of food consumption between 1965 and 1971 in Taiwan. The Taiwan FIES shows that food consumption in 1971 accounted for 48.7 per cent of total family expenditures. Time series data show that the share of food in PCE was 48.0 per cent in 1965.

[9] Real per capita GNP growth rates for South Korea were computed from data reported in *National Income in Korea 1975.* For Taiwan, the source of data is *Taiwan Statistical Data Book* 1973 and 1975.

A Note on the Reliability of the Estimates

Ascertaining the reliability of the estimates would be relatively if the estimation procedures adopted were direct and straight-ard, and the estimates were based exclusively and directly upon prehensive statistical data. The problem is that more than one ap-ch are used for all PCE components. In some instances, estimates an individual item are based on a combination of two or more niques. For most components, data from more than one source used and the combinations vary from item to item. Further-e, the relative degree of accuracy of a single series may vary n year to year. Thus, it is impossible to obtain consistent inform-n from which margins of error can be computed by any dard statistical procedure. But it is nevertheless helpful to ate the possible sources of error and provide an idea of the rela-reliability of the components making up the total. It is also ortant to point out specific areas needing further examination.

In general, the year to year changes are more reliable than the ual totals, despite the attempt here to check on the levels by blishing bench mark estimates. Since the estimation procedure each item is essentially maintained yearly, the bias is assumed to owards only one direction, although the random elements con-ed in the estimates may tend to offset the bias. Regarding levels, is directly estimated are expected to have smaller margins of r than those derived indirectly. Estimates of expenditures on er goods and services, obtained residually, for example, fall under latter. Moreover, the margins of error of estimates for years n bench mark information is available are less than those with er incomplete data or those which have to be derived by inter-ition or extrapolation. Finally, estimates derived from censuses arefully designed sample surveys will have higher degrees of ac-acy than those based on administrative reports. The latter usually not only biased but also incomplete. Nonetheless, even the for-type of sources, in particular, production statistics, have been nd inadequate in many instances. The limitations of the basic a must then be emphasized.

Generally, higher levels of accuracy can be attached to PCE mates for 1956, 1961, 1965 and 1971. The reason is that bench k data are available for these years. Moreover, particularly in estimation of food consumption, the aggregate is broken down nore detail for bench mark years than for non-bench mark years. o, since the markup or allocation ratios used are based on bench

ark information, bench mark year levels should be more reliable an non-bench mark year levels.

The reliability of the series derived by the commodity flow pproach can be further assessed by looking at the sources of data sed. Import and export statistics are relatively more accurate and mprehensive than any other set of statistics. Some problem is inoduced by smuggling, especially in the case of textile imports, or ithholding of export receipts as the case may be, but no adjustents are made to account for these.[10] Aside from textile and erhaps tobacco imports, smuggling is not substantial enough to nsiderably affect the estimates.

Domestic production of beverages, tobacco, clothing and footear, furniture and fixtures, household durables, milk and dairy roducts and miscellaneous foods are obtained mainly from the CS Annual Survey of Manufactures (ASM) and the CB records of le of domestic producers of specific products. BCS ASM figures e checked for undercoverage by comparing reported employment vels with those provided by the economic censuses and labor rce surveys. Adjustments are accordingly made if undercoverage in SM data is found. The BCS ASM are available from 1956-up, while B data from 1953-up. Production estimates for years prior to 1953 e extrapolated on the basis of indirect data.

Therefore, the degree of accuracy of estimates of these items enerally decreases as one goes further away from 1953 backwards.

Suggestions To Further Improve the Estimates

Many things can be done to improve the accuracy and usefulss of the estimates. First, the remaining 15 per cent of PCE classi-

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[10] Hooley corrected the undervaluation of textile imports due to nuggling by looking at the official U.S. and Japanese reports of textile exports the Philippines. On this basis, a coefficient of understatement was determined r the CB data for each year covered in the study. The coefficients varied from .3 in 1955 to 2.2 in 1959.

From the national income accounting viewpoint, a correction for one legal transaction requires a correction for all illegal transactions. Otherwise, ias will be introduced when the individual items in the accounts are comined. Besides the grave difficulties involved due to the absence of adequate tatistics, it is possible that such transactions cancel out when considered togeher. Thus, the common procedure in national income accounts work is to ssume the absence of illegal transactions.

d as "other goods and services" and estimated globally can still be ıaggregated, so that the share of all items estimated directly can be ısed to 90 or even 95 per cent. The specific items which are promiıg in this respect are expenses for education, medical care, and ınsportation and communications.

The accuracy of estimates obtained by the retail valuation ethod depends on the accuracy of the quantity and price series ıed. The latter could be singled out as the weaker of the two. The ırious consumption series can be immensely improved by commenırately improving existing price statistics. Constant price estimates ın also be improved in this manner. This will require, among others, ıe collection of price information in the rural areas. Presently, price formation are collected only in a number of urban centers.

In the case of household durables, the estimates can be imroved by using more up-to-date markups for retail and wholesale argins and ratios for allocating certain durable goods between PCE ıd capital formation. The improvement of estimates of housing xpenditures, on the other hand, necessitates further research on the ıntal structure by type of dwelling, e.g., by type of construction ıd ownership, and location of dwellings, e.g., urban, or rural. he latter has been attempted here. But, since the rental ıtes used are derived from the FIES, the rates may be understated. he same may be the case with the estimates of expenditures on ıel, light and water, since the main source is also the FIES. It is elieved that the use of supplementary data can help improve the ıtimates of these PCE components.

Other improvements can be incorporated in the estimates. he above, however, are the ones where efforts can be subantially improved. Being the first attempt to construct a ıries such as the one presented here, it has not been possible to ıcorporate all of the desired improvements. Notwithstanding the ıemaining weaknesses of the data, however, it is believed that the ıries estimated here satisfy the requirements of demand analysis.[11]

[11] In fact, the results of fitting the estimated series to alternative forms of demand functions have been very encouraging. See Chapters 4 and 5 of the author's thesis for a discussion of the empirical tests.

TABLE 1

Estimates of Total Personal Consumption Expenditures, 1949-74, (In Million Pesos)

Year	At Current Prices	Growth Rate[a]	At Constant 1967 Prices	Growth Rate[a]
1949	4,651		7,543	
1950	4,620	(0.7)	7,504	(0.5)
1951	5,513	19.3	8,406	12.0
1952	5,732	4.0	9,275	10.3
1953	5,895	2.8	9,953	7.3
1954	6,066	2.9	10,530	5.8
1955	6,554	8.0	11,462	8.8
1956	6,691	2.1	11,288	(1.5)
1957	7,303	9.1	12,025	6.5
1958	7,926	8.5	12,603	4.8
1959	7,781	(1.8)	12,596	(0.06)
1960	8,786	12.9	13,314	5.7
1961	9,207	4.8	13,661	2.6
1962	9,773	6.4	13,961	2.2
1963	12,702	29.7	16,212	16.1
1964	14,971	17.9	17,206	6.1
1965	16,344	9.2	18,172	5.6
1966	18,404	12.6	19,500	7.3
1967	21,322	15.9	21,322	9.3
1968	22,722	6.6	22,282	4.5
1969	23,654	4.1	22,881	2.7
1970	26,679	12.8	22,494	(1.7)
1971	33,498	25.6	23,484	4.4
1972	37,777	12.8	24,392	3.9
1973	45,166	19.6	26,247	7.6
1974	65,368	44.7	27,226	3.7

[a]Numbers in parenthesis indicate negative growth rates.

TABLE 2

Comparison of PCE Estimates with Official Accounts and Other Estimates (In Million Pesos at Current Prices)

'ear	Estimates	NEDA Accounts[a/]	Hooley's Estimates[b/]	PSSH FIES[c/]
949	4,651	4,990		
950	4,620	5,384		
951	5,513	6,332		
952	5,732	6,914		
953	5,895	6,914	6,118	
954	6,066	7,440	6,369	
955	6,554	7,879	6,787	
956	6,691	8,438	7,206	5,087
957	7,303	9,012	7,493	
958	7,926	9,607	8,115	
959	7,781	9,809	8,365	
960	8,786	10,702	8,938	
961	9,207	11,761		7,934
962	9,773	12,819		
963	12,702	14,716		
964	14,971	16,452		
965	16,344	17,949		14,748
966	18,404	19,726		
967	21,322	21,797		
968	22,722	23,875		
969	23,654	25,884		
970	26,679	29,552		
971	33,498	35,565		28,430
972	37,777	39,922		
973	45,166	48,241		
974	65,368	67,202		

a/"The National Income Accounts, CY 1946-1975." *Philippine National come Series*, No. 5, NEDA, 1978.

b/Richard Hooley, Saving in the Philippines, 1951-1960, Institute of onomic Development and Research, University of the Philippines, 1963.

c/Family Income and Expenditure Surveys, 1956, 1961, 1965 and 1971, he *Philippine Statistical Survey of Households Bulletin.*

TABLE 3

Comparative Compound Growth Rates: PCE Estimates, NEDA Accounts, Hooley's Estimates and FIES

1. Current Prices
(Per Cent)

Period	PCE Estimates	NEDA Accounts[a]	Hooley's Estimates[b]	PSSH FIES[c]
1949-1974	11.0	11.0		
1953-1960	5.7	6.4	5.6	
1956-1961	6.6	5.7		9.3
1961-1965	15.4	11.2		16.8
1965-1971	12.7	12.1		11.6

2. Constant Prices
(Per Cent)

Period	PCE Estimates	NEDA Accounts[a]	Hooley's Estimates[b]	PSSH FIES[c]
1949-1974	5.2	5.3		
1953-1960	4.2	5.1	4.1	
1956-1961	3.8	3.0		8.8
1961-1965	7.4	5.2		8.5
1965-1971	4.4	4.1		3.3

[a] "The National Income Accounts, CY 1946-1975." *Philippine National Income Series*, No. 5, NEDA, 1978.

[b] Richard Hooley, *Saving in the Philippines, 1951-1960*, Institute of Economic Development and Research, University of the Philippines, 1963.

[c] Family Income and Expenditures Surveys, 1956, 1961, 1965 and 1971, *The Philippine Statistical Survey of Households Bulletin*.

(In Million Pesos)

		1949	1950	1951	1952	1953	1954	1955
A.	Food	2,613.6	2,488.6	3,068.8	3,167.5	3,181.3	3,242.5	3,503.8
B.	Beverages	128.0	133.7	169.8	190.0	180.8	184.1	188.9
C.	Tobacco	63.6	87.3	141.4	163.1	212.5	235.4	253.6
D.	Shelter	493.5	502.9	509.8	494.7	499.8	511.5	519.2
E.	Clothing and Footwear	329.6	365.5	405.3	449.5	498.5	521.4	535.0
F.	Fuel, Light and Water	194.4	202.5	211.2	220.1	229.2	239.0	248.9
G.	Household Durables	78.8	97.7	123.1	128.2	150.8	164.0	274.8
H.	Miscellaneous Expenditures	749.9	741.6	884.0	919.0	942.0	967.9	1,029.8
I.	TOTAL	4,651.4	4,619.8	5,513.4	5,732.1	5,895.0	6,065.8	6,554.0

Percentage Distribution[a/]

		1949	1950	1951	1952	1953	1954	1955
A.	Food	56.2	53.9	55.7	55.3	54.0	53.4	53.5
B.	Beverages	2.8	2.9	3.1	3.3	3.1	3.0	2.9
C.	Tobacco	1.4	1.9	2.6	2.9	3.6	3.9	3.9
D.	Shelter	10.6	10.9	9.2	8.6	8.5	8.4	7.9
E.	Clothing and Footwear	7.1	7.9	7.4	7.8	8.4	8.6	8.2
F.	Fuel, Light and Water	4.2	4.4	3.8	3.8	3.9	3.9	3.8
G.	Household Durables	1.7	2.1	2.2	2.2	2.6	2.7	4.2
H.	Miscellaneous Expenditures	16.1	16.1	16.0	16.0	16.0	16.0	15.7

a/ Totals may not add up to 100 due to rounding.

TABLE 4 (cont'd.)

	1956	1957	1958	1959	1960	1961	1962	1963	1964
A.	3,696.0	3,986.4	4,416.7	4,152.9	4,587.3	5,105.6	5,189.1	6,668.0	8,084.7
B.	204.3	222.5	242.9	268.1	288.9	305.6	357.5	435.7	537.8
C.	273.2	321.0	349.6	323.1	395.5	367.0	418.0	469.0	520.1
D.	532.8	548.3	571.9	596.0	645.3	675.9	837.2	1,050.6	1,212.0
E.	465.5	571.9	579.5	633.6	866.4	612.0	664.8	1,034.0	954.5
F.	259.4	270.3	281.4	293.2	305.1	317.7	367.6	420.0	475.6
G.	194.7	221.3	20.0	284.3	306.7	374.8	379.7	588.3	755.5
H.	1,065.4	1,161.4	1,263.7	1,229.4	1,390.6	1,448.5	1,559.3	2,035.0	2,430.9
I.	6,691.3	7,303.1	7,925.6	7,780.6	8,785.8	9,207.1	9,773.2	12,701.5	14,971.1

Percentage Distribution[a/]

	1956	1957	1958	1959	1960	1961	1962	1963	1964
A.	55.2	54.6	55.7	53.4	52.2	55.4	53.0	52.5	54.0
B.	3.0	3.1	3.1	3.4	3.3	3.3	3.7	3.4	3.6
C.	4.1	4.4	4.4	4.2	4.5	4.0	4.3	3.7	3.5
D.	8.0	7.5	7.2	7.7	7.3	7.3	8.6	8.3	8.1
E.	7.0	7.8	7.3	8.1	9.9	6.7	6.8	8.2	6.4
F.	3.9	3.7	3.6	3.8	3.5	3.5	3.8	3.3	3.2
G.	2.9	3.0	2.8	3.6	3.5	4.1	3.9	4.6	5.0
H.	15.9	15.9	15.9	15.8	15.8	15.7	15.9	16.0	16.2

[a/]Totals may not add up to 100 due to rounding.

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
A.	8,905.4	10,013.0	11,339.8	12,214.5	12,619.0	14,497.3	18,827.8	21,807.3	26.016.1	39,151.8
B.	567.5	665.3	696.4	828.4	921.4	1,099.8	1,325.1	1,195.6	1,640.2	2,283.2
C.	571.1	672.3	1,095.3	782.1	827.4	823.8	936.7	1,092.3	1,107.7	1,410.2
D.	1,413.9	1,534.2	1,663.8	1,869.6	1,949.9	2,272.3	2,580.6	2,746.8	2,949.9	3,199.3
E.	916.9	1,077.8	1,288.5	1,498.8	1,436.7	1,749.9	2,241.3	2,318.9	3,534.9	4,351.4
F.	533.7	606.4	682.7	763.3	848.2	937.1	1,029.4	1,068.7	1,175.2	1,290.5
G.	735.7	786.9	1,072.9	1,035.6	1,187.5	838.3	999.8	1,311.5	1,228.8	3,019.8
H.	2,700.3	3,047.7	3,482.9	3,730.1	3,864.3	4,410.2	5,557.2	6,235.5	7,513.3	10,661.5
I.	16,344.5	18,403.6	21,322.3	22,722.4	23,654.4	26,678.7	33,497.9	37,776.6	45,166.1	65,367.7

Percentage Distribution[a/]

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
A.	54.5	54.4	53.2	53.8	53.4	54.4	56.2	57.7	57.7	59.9
B.	3.5	3.6	3.3	3.6	3.9	4.1	4.0	3.2	3.6	3.5
C.	3.5	3.7	5.2	3.4	3.5	3.1	2.8	2.9	2.5	2.2
D.	8.6	8.3	7.8	8.2	8.2	8.5	7.7	7.3	6.5	4.9
E.	5.6	5.9	6.0	6.6	6.1	6.6	6.7	6.1	7.8	6.7
F.	3.3	3.3	3.2	3.4	3.6	3.5	3.1	2.8	2.6	2.0
G.	4.5	4.3	5.0	4.6	5.0	3.3	3.0	3.5	2.7	4.6
H.	16.5	16.5	16.3	16.4	16.3	16.5	16.5	16.5	16.6	16.3

[a/]Totals may not add up to 100 due to rounding.

TABLE 5

Private Consumption Expenditure, By Item At Constant 1967 Prices
(In Million Pesos)

		1949	1950	1951	1952	1953	1954	1955
A.	Food	4,242.1	4,315.5	5,016.4	5,448.6	5,867.6	6,157.7	6,648.5
B.	Beverages	237.1	188.3	227.6	285.3	267.1	277.2	284.5
C.	Tobacco	94.1	101.4	158.8	198.6	259.9	292.0	314.3
D.	Shelter	1,023.0	1,052.9	1,083.7	1,113.3	1,145.9	1,179.4	1,211.8
E.	Clothing and Footwear	576.2	544.7	486.0	672.9	761.1	874.8	930.4
F.	Fuel, Light and Water	196.8	205.4	212.7	225.9	250.5	279.5	302.0
G.	Household Durables	139.7	147.0	167.5	179.1	223.4	256.1	474.8
H.	Miscellaneous Expenditures	1,034.3	948.3	1,053.6	1,151.6	1,177.5	1,212.9	1,295.3
I.	TOTAL	7,543.3	7,503.5	8,406.3	9,275.3	9,953.0	10,529.6	11,461.6

Percentage Distribution[a/]

		1949	1950	1951	1952	1953	1954	1955
A.	Food	56.2	57.5	59.7	58.7	59.0	58.5	48.0
B.	Beverages	3.1	2.5	2.7	3.1	2.7	2.6	2.5
C.	Tobacco	1.2	1.4	1.9	2.1	2.6	2.8	2.7
D.	Shelter	13.6	14.0	12.9	12.0	11.5	11.2	10.6
E.	Clothing and Footwear	7.6	7.2	5.8	7.2	7.6	8.3	8.1
F.	Fuel, Light and Water	2.6	2.7	2.5	2.4	2.5	2.6	2.6
G.	Household Durables	1.8	2.0	2.0	1.9	2.2	2.4	4.1
H.	Miscellaneous Expenditures	13.7	12.6	12.5	12.4	11.8	11.5	11.3

[a/] Total may not add up to 100 due to rounding.

	1956	1957	1958	1959	1960	1961	1962	1963	1964
A.	6,789.5	7,122.3	7,523.9	7,446.3	7,570.9	8,113.1	8,173.6	9,054.3	9,494.0
B.	269.8	295.2	308.5	330.1	357.9	378.6	414.3	501.4	556.2
C.	306.9	357.5	375.1	338.7	407.7	391.7	436.8	494.2	529.6
D.	1,247.2	1,283.6	1,318.8	1,357.4	1,394.4	1,429.6	1,468.2	1,505.3	1,543.4
E.	749.6	879.8	861.1	905.1	1,180.4	817.1	844.7	1,266.7	1,121.6
F.	321.8	332.1	341.1	349.5	363.7	371.1	419.2	466.7	505.9
G.	289.7	304.9	308.8	367.5	374.0	454.1	428.4	657.5	818.4
H.	1,313.7	1,449.9	1,565.9	1,501.1	1,665.4	1,706.1	1,776.0	2,266.1	2,636.6
I.	11,288.2	12,025.3	12,603.2	12,595.7	13,314.4	13,661.4	13,961.2	16,212.2	17,205.7

Percentage Distribution[a/]

	1956	1957	1958	1959	1960	1961	1962	1963	1964
A.	60.2	59.2	59.7	59.1	56.9	59.4	58.5	55.8	55.2
B.	2.4	2.4	2.4	2.6	2.7	2.8	3.0	3.1	3.2
C.	2.7	3.0	3.0	2.7	3.0	2.9	3.1	3.1	3.1
D.	11.1	10.7	10.5	10.8	10.5	10.5	10.5	9.3	9.0
E.	6.6	7.3	6.8	7.2	8.9	6.0	6.1	7.8	6.5
F.	2.8	2.8	2.7	2.8	2.7	2.7	3.0	2.9	2.9
G.	2.6	2.5	2.5	2.9	2.8	3.8	3.1	4.1	4.8
H.	11.6	12.1	12.4	11.9	12.5	12.4	12.7	13.9	15.3

a/ Totals may not add up to 100 due to rounding.

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
A.	10,201.9	10,815.9	11,339.8	12,146.0	12,481.6	12,609.9	12,804.4	13,446.5	14,369.3	14,662.3
B.	568.6	670.0	696.5	813.7	879.2	923.4	1,026.9	909.2	1,157.5	1,373.8
C.	572.2	677.7	1,095.3	778.2	818.4	748.2	856.8	1,029.5	916.2	932.1
D.	1,582.5	1,622.5	1,663.8	1,705.9	1,746.3	1,782.4	1,821.5	1,853.2	1,886.4	1,917.7
E.	1,025.6	1,140.5	1,288.5	1,448.1	1,354.1	1,389.9	1,514.4	1,372.9	1,737.9	1,483.6
F.	553.1	610.1	682.7	767.2	842.3	760.1	697.9	707.3	702.9	427.5
G.	802.0	808.2	1,072.9	1,019.3	1,085.6	658.8	617.3	684.9	617.1	1,183.4
H.	2,866.6	3,155.0	3,482.9	3,604.0	3,673.3	3,620.9	4,145.6	4,888.1	4,850.8	5,285.8
I.	18,172.5	19,499.9	21,322.3	22,282.4	22,880.8	22,493.6	23,483.8	24,391.6	26,247.1	27,226.2

Percentage Distribution[a/]

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
A.	56.1	55.5	53.2	54.5	54.6	56.1	54.5	55.1	54.8	53.7
B.	3.1	3.4	3.3	3.6	3.8	4.1	4.4	3.7	4.4	5.1
C.	3.2	3.5	5.1	3.5	3.6	3.3	3.7	4.2	3.5	3.4
D.	8.7	8.3	7.8	7.7	7.6	7.9	7.8	7.6	7.2	7.0
E.	5.7	5.9	6.1	6.5	5.9	6.2	6.4	5.7	6.6	5.4
F.	3.0	3.1	3.2	3.4	3.7	3.4	3.0	2.9	2.6	1.6
G.	4.4	4.1	5.0	4.6	4.8	2.9	2.6	2.8	2.4	4.4
H.	15.8	16.2	16.3	16.2	16.0	16.1	17.6	18.0	18.5	19.4

[a/]Totals may not add up to 100 due to rounding.

SOURCES OF DATA

'eau of Agricultural Economics, *Crops and Livestock Statistics,* 1954 to 1974.

'eau of Internal Revenue, *Annual Reports,* 1949 to 1974.

ıtral Bank of the Philippines, *Record of Sales of Domestic Producers, 1953 to 1971.* (Mimeographed).

————, *Central Bank Statistical Bulletin,* 1949 to 1974.

————, Unpublished Price Data Compilations.

:ional Census and Statistics Office (formerly Bureau of Census and Statistics), *Annual Survey of Manufactures,* 1956 to 1974.

————, *Census of the Philippines: Population and Housing,* 1948, 1960 and 1970.

————, *Economic Census,* 1961, 1967 and 1972.

————, *Foreign Trade Statistics,* 1949 to 1975.

————, "Living Quarters in the Philippines," *Journal of Philippine 'tistics,* (July-September 1968).

————, "Demographic and Socioeconomic Data," *Philippine Statistical Survey of Household Bulletin,* 1956, 1959 and 1960.

————, Family Income and Expenditure Surveys, *Philippine Statistical Survey of Household Bulletin,* 1956, 1961, 1965 and 1971.

tional Census and Statistics Office, Labor Force Surveys, *Philippine Statistical Survey on Households Bulletin,* 1956 to 1974.

nd Transportation Commission, *Report of Private Cars and Jeeps' Registration,* 1960-1974. (Mimeographed).

ıtional Economic and Development Authority (formerly National Economic Council), *Food Balance Sheets,* 1953 to 1974.

————, *Survey of Importers of Durable Equipment,* 1967 and 1969, (Mimeographed).

REFERENCES

Darrah, L. and Dosayla, E. *Summary of Four Economic Surveys of Food Consumption*, NFAC-DANR (September). 1973

Hooley, R.W. *Saving in the Philippines, 1952-1960* (Quezon City: U.P. Institute of Economic Development and Research). 1963

Juster, F.J. *Household Capital Formation and Financing. 1897-1962.* (New York: NBER). 1964

NEDA, "National Income Accounts, 1946-1975," *Philippine National Income Series*, No. 5. 1978

OSCAS, *Sources and Methods of Estimation for the National Accounts in the Philippines and Supporting Tables*, NEC; Mimeo. 1971

Pante, Filologo Jr., Consumer Demand Functions, *An Empirical Evaluation of Alternative Functional Forms*, unpublished Ph.D. Thesis, U.P. School of Economics. 1977

Stone, J.R.N. *The Measurement of Consumer Expenditure and Behavior in the United Kingdom, 1920-1938* (Cambridge: Cambridge University Press). 1954

United Nations, *A System of National Accounts and Supporting Tables*, Statistical Office of the United Nations, ST/STAT/SER/, F/2/Rev. 2. 1964

United Nations, *A System of National Accounts*, Statistical Office of the United Nations, ST/STAT/SER, F/2/Rev. 3. 1968