National Accounts and Household Survey Estimates of Household Expenditures: Why Do They Differ and Why Should We Be Concerned?

Jose Ramon G. Albert et al.

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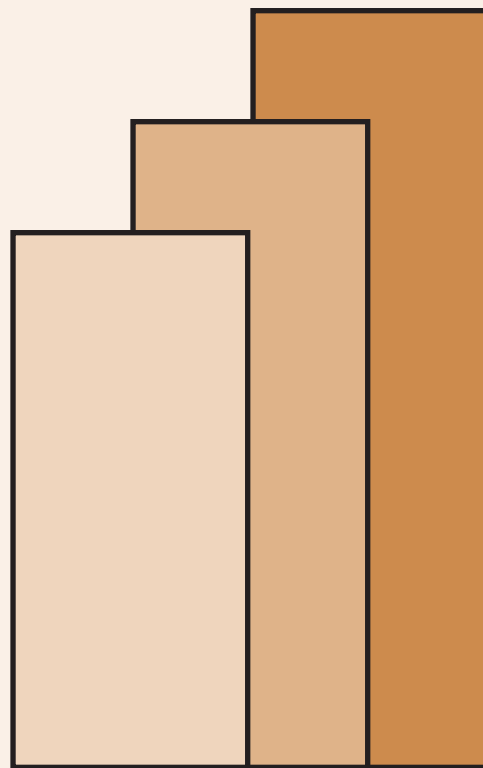by
Jose Ramon G. Albert, Ronina D. Asis and Jana Flor V. Vizmanos[1]

ABSTRACT

Estimates of household expenditures directly obtained from the Family Income and Expenditure Survey (FIES), and household final consumption expenditures from national accounts have discrepancies, with their divergence generally growing across time. Such discrepancies have consequences to policy: poverty can be overestimated and income inequality can be underestimated if survey-based estimates are biased downward. There is no assurance that national accounts estimates, which also have measurement errors (just like survey-based estimates), are more accurate. In this paper, we consider how estimates are derived from both surveys and national accounts, and other related measurement issues such as the undercoverage of wealthy households as well as the underestimation of their expenditures. The study recommends that an acceptable protocol be used for triangulating estimates of national accounts and survey-based estimates of household expenditure. Further, it also encourages the conduct of other data collection protocols, including special surveys for tracking and monitoring income and expenditure patterns of the missing wealthy, splitting the FIES into a family income survey, and household expenditure survey, as well asking field enumerators of the Philippine Statistics Authority to directly observe electricity meter readings of households targeted for interview that will help researchers model adequately the expenditures (or incomes) of all households.

Key Words: household expenditure, household final consumption expenditure, sample surveys, national accounts, missing wealthy

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[1] Authors are senior research fellow, senior research specialist, and research assistant at Philippine Institute for Development Studies (PIDS). Views expressed are those of the authors and do not necessarily reflect those at the PIDS.

1. Introduction

Estimates of average household expenditures in the country may be sourced either from the Family Income Expenditure Survey (FIES) or from the national accounts. The FIES is a triennial survey conducted by the Philippine Statistics Authority (PSA), which also compiles the national accounts. The typical estimate is the HFCE estimate from national accounts as it is more timely, being released every quarter (rather than survey estimates which are triennial). Household (HH) expenditure estimates from sample surveys and national accounts, however, differ not only in a specific point in time, but also across time with the divergence generally growing.

The accuracy of estimates of household expenditures has consequences to policy. If survey-based estimates are biased downward compared to the true average HH consumption expenditure, then it is very likely for poverty in a country to be systematically over-estimated, with much needed resources for poverty reduction going to those who do not need these resources. Meanwhile, underreporting from wealthy HHs in surveys as well as their nonparticipation of affluent HHs also underestimates income inequality, which has consequences for efforts in tax reform. There is no assurance that national accounts estimates are more accurate than survey-based estimates, as both are subject to measurement issues. In this paper, we examine conceptual and operational issues in detail regarding survey-based and national accounts-based estimates of HH expenditure. We also present evidence on the under-coverage of wealthy HHs and underestimation of expenditure of rich HHs in the Philippines, that can help explain the divergence in estimates of expenditure in national accounts and surveys. Suggestions are given for addressing the divergence to ensure accuracy in estimates of average HH expenditure.

2. National Accounts and Sample Surveys

The economic performance of countries is often examined with national accounts data, chiefly, the growth and trends in the Gross Domestic Product (GDP). The GDP, which is compiled through production, income or expenditure approaches, represents the value of all goods and services produced within the domestic territory for a specific period. As a measure of income, the GDP is related with goods and services which go to consumption, to investments, including those that go to exports less the country's imports. Similarly, the Gross National Income (GNI), formerly called as the Gross National Product (GNP), is another measure of income. The GNI refers to income derived from production of goods and services, with this production involving those produced in the country (i.e. the GDP) as well those produced outside the country (accounting for income coming from abroad by residents). The GDP and GNI give us helpful information on whether the total economic output of goods and services is growing or shrinking in the country, and thus help gauge the general health of the economy. In broad terms, an increase in GDP or GNI is interpreted as a sign that the economy is doing well.

While the GDP and GNI are useful measures of income in a country, economic growth as measured by the GDP/GNI does not always translate to a better life for everyone, especially as such growth in income is not necessarily uniformly spread in a society. The GDP and GNI provides no information on how income is distributed across HHs, and thus national accounts data, even per capita GDP or per capita GNI, are unsuitable for the analysis of welfare and inequality.

Across many developing countries, poverty conditions are usually described using HH data on a monetary welfare indicator (typically based on either income or expenditure) collected from sample surveys, together with a minimum level of the welfare indicator (called a poverty line) deemed adequate to achieve a basic standard of living (See Haughton and Khandker, 2009; Deaton and Zaidi, 2002). One of the typical measures of poverty conditions is poverty incidence, i.e., the proportion in poverty, which may be derived for both HHs or the entire population. The poverty incidence is a simple measure for assessing overall progress in reducing poverty. Further, measures of inequality are obtained on the distribution of a monetary welfare indicator either based on income or expenditure. Often, the Gini index[2] is used to measure income inequality.

In the Philippines, HHs are deemed by the PSA as poor if their per capita income falls below the official poverty threshold. If a HH is poor, then all members of the HH are poor. The PSA releases official poverty statistics based on income data sourced from the FIES, as well as poverty lines (estimated separately with the cost of basic needs approach which uses benchmarks on the cost of minimum basic food and non-food requirements for a reasonable welfare level). The poverty incidence for the entire population (also called the headcount poverty rate) is typically higher than the proportion of HHs that are poor since the poor have higher family sizes than the non-poor.

The FIES has been conducted every three years by the PSA to describe the income and expenditure patterns in the country. Furthermore, the FIES serves as a benchmark for the consumer price index (aside from being the source of income data for the generation of poverty incidence). Since 1998, the PSA has also conducted the Annual Poverty Indicator Survey (APIS) on non-FIES years (when budgets allow its conduct), but with a six-month reference period. The APIS has been collecting non-monetary poverty indicators, as well as income and expenditure data, with the latter using shorter schedules. For the 2011 APIS, the PSA made use of a modified version of the income schedule of the FIES, thus enabling the PSA to yield poverty statistics for the first semester of 2011. However, Albert, Dumagan and Martinez (2015) point out that poverty data from APIS are not comparable with those of first semester FIES, partly because questionnaires are not fully comparable. Even if the income schedules were fully comparable, the FIES has a detailed expenditure schedule, while APIS has a short expenditure short as well as modules on non-monetary indicators of poverty.

In the Philippines, GDP grew by about 40-45% during 2000-2012 (translating to about 3% GDP growth rate per annum, with annual growth rate even more robust in recent times to 6.3% per annum in the period 2010-2014). Yet, official poverty incidence was roughly constant at around 26 to 28 percent from 2000 to 2012 (Figure 1). Aside from releasing poverty incidence, the PSA also released subsistence poverty rates, the proportion of Filipinos with incomes less than food poverty thresholds, which may be thought of as the proportion in extreme poverty. Subsistence

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[2] The Gini coefficient measures the extent to which income distribution deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of income against the cumulative number of persons, starting with the poorest individual. The Gini index measures the area between the Lorenz curve and a hypothetical line of perfect equality, expressed as a percentage of the maximum area under the line. The Gini ranges from zero (which reflects complete equality, i.e., all persons have the same income) to one (which indicates complete inequality, where one person has all the income while all others have none). While a larger Gini coefficient signifies more inequality, the interpretation of the Gini is more straightforward when the figures are compared across time and space.

(or extreme) poverty rates similarly also remained roughly unchanged in the period 2003 to 2012, which include the periods of robust economic growth.

Figure 1. Trends in poverty headcount rate in the Philippines using (a) national poverty lines; (b) subsistence poverty lines, and (c) international poverty lines: 1991-2012.
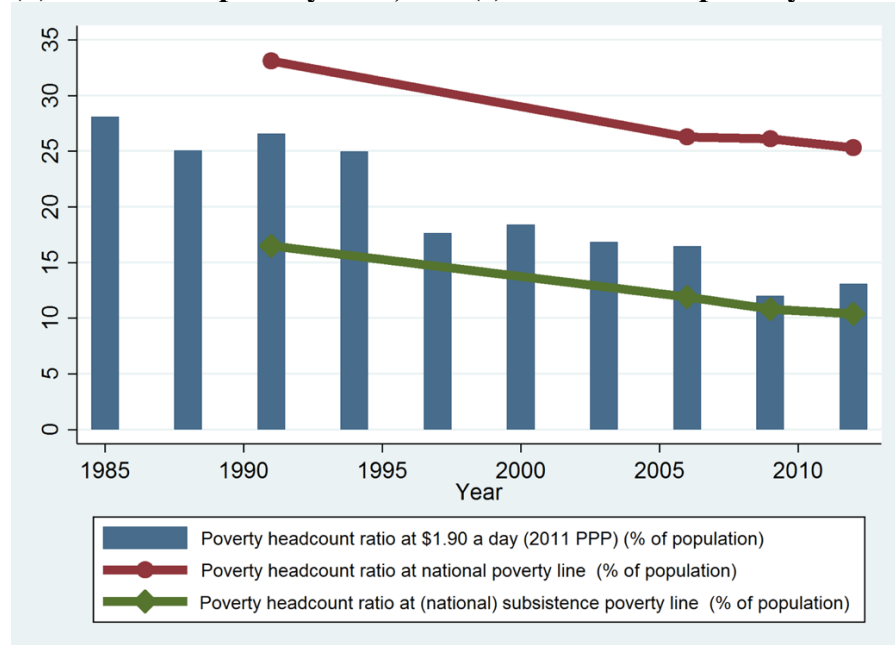
Sources: Philippine Statistics Authority and World Bank

The literature on growth and poverty has always suggested the importance of growth for poverty reduction. According to Kraay (2004), in the short and medium term, growth in average incomes explains 70 percent of the variation in poverty reduction, while the remainder is explained by changes in the distribution, and the differences in the growth elasticity of poverty (GEP)[3]. Ravallion (2013) further suggests that a 1% increase in incomes reduce poverty by 2.5%, on average globally, but by 0.6% in the most unequal countries, and by as much as 4.3% in the most equal ones.

Table 1 shows that GEP had been 0.32 percent or less between 2006 and 2012 but had grown to 0.99 percent from 2012 to 2015. These GEP figures are considered low compared to the global average performance estimated by Ravallion (2013). The rather low GEP in the Philippines between 2006 and 2015 means that despite the country's remarkable economic growth during this period, poverty has not been considerably reduced. The seeming puzzle on why poverty has not reduced in the Philippines despite rather remarkable economic growth in recent years may be explained by at least three reasons: (a) the incidence of growth has not been pro-poor (i.e., high levels of income inequalities have made economic growth largely benefit the high income classes, thus minimizing the effects of growth on reducing poverty); (b) the updating of official poverty lines (at the provincial urban/rural levels) by the PSA has overstated the cost of living in the country; (c) there has been divergence in national accounts-based and survey-based growth in per

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[3] Refers to the percentage reduction in poverty rates associated with a percentage change in mean (per capita) income.

capita income and expenditure. The second reason may not be a major source of explanation given that overall trends in poverty do not differ substantially when using the World Bank's estimates of (consumption) poverty that involve an international poverty line of $1.9 per person per day in 2011 purchasing power parity (PPP)[4] prices. The first and third reasons are not necessarily mutually exclusive, as wealthy HHs are likely to be under-covered in sample surveys such as the FIES, and for those who participate in these surveys, their reported expenditures and incomes are also likely to be under-estimated, (and consequently, survey averages of expenditure and income will underestimate their corresponding population averages).

Table 1. Poverty Elasticity Estimates for 2006-2009, 2009-2012 and 2012-2015

	2003	2006	2009	2012	2015
Official poverty headcount		26.56	26.27	25.23	21.6
Per capita GDP (constant PHP)	48,954	54,226	58,199	65,337	74,833
		2003-2006	**2006-2009**	**2009-2012**	**2012-2015**
Total Percent change					
in official poverty headcount			-1.1	-4.0	-14.4
in per capita GDP		10.8	7.3	12.3	14.5
Growth elasticity of poverty (in percent)			-0.15	-0.32	-0.99

Note: Authors' calculations based on National Accounts and Official Poverty Estimates

Using FIES data, Albert and Raymundo (2015) suggest that income inequality in the Philippines has been rather high and largely unchanging in the period 2006 to 2012, with the Gini index estimated ranging between 0.44 and 0.46. Furthermore, the poorest 20% Filipinos own only between 6% to 7% of the country's total income while in a perfectly equal society, the poorest 20%, the next 20% all the way to the richest 20% Filipinos, should own 20% of total national income. Moreover, the Palma ratio was estimated at 3.0 in this period, which means that the top ten percent of (per capita) income distribution have an accumulated income of three times the accumulated income of those at the bottom 40 percent of the income distribution. These measures of income inequality, however, are underestimated when incomes of the wealthy are underestimated and if affluent households do not participate in sample surveys.

Estimates of per capita expenditure (or income) from FIES are quite different and, in fact, much lower than the corresponding averages from the national accounts (see Table 2). In 1991, per capita expenditure in the FIES was about two thirds (68.8%) that of HFCE. By 2015, the FIES estimate of per capita expenditure was less than half (47.7%) that of the corresponding national accounts figure. From 1991 to 2015, per capita income measured in the FIES is, on average, larger by 21.2% than the estimated per capita expenditure, but is nearly always less than HFCE per capita, and much less than GDP per capita. During the same period, FIES (per capita) income has been,

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[4] To obtain "purchasing power parity" (PPP), the "nominal" exchange rate (e.g., the market rate) between currencies is adjusted by the difference in prices between the countries whose currencies are being converted, one to the other. The result, for example, is that a given amount of Philippine pesos can buy the same basket of goods when used directly or when converted to US dollars using the price-adjusted or PPP dollar/peso exchange rate.

on average, about two thirds (69.6%) that of HFCE (per capita), and almost half (51.5%) that of GDP (per capita).

Table 2. Monetary welfare indicators in the Philippines (in current PHP): 1991-2015

Indicator	Data Source	1991	1994	1997	2000	2003	2006	2009	2012	2015
Annual per capita income	FIES	12,364	15,730	24,073	28,356	30,706	35,836	43,538	49,585	57,419
Annual per capita expenditure	FIES	9,862	12,798	19,455	23,220	25,682	30,535	37,070	40,661	46,187
Per capita GDP	National Accounts	19,522	24,586	32,899	46,090	55,233	71,783	87,357	109,199	131,171
Per capita GNI	National Accounts	19,623	25,217	34,276	54,021	67,654	90,234	115,942	130,324	158,667
Per capita HFCE	National Accounts	14,334	18,280	23,888	33,277	41,067	53,547	65,233	81,013	96,747

Source: Philippine Statistics Authority (PSA)

The growth rates in nominal average income and expenditure from the FIES are also substantially much lower than those sourced from the national accounts (see Figure 2). Per capita income and per capita expenditure from the FIES increased by about 300% between 1991 and 2012 in nominal terms, while nominal GDP and HFCE from the national accounts increased by 460% between 1991 and 2012. Thus, there is substantial and increasing divergence in nominal growth rates of average income and average expenditure.

Figure 2. Trends in Nominal Per Capita Income and Expenditure in the Philippines: 1991-2015.

Source: Philippine Statistics Authority (PSA)

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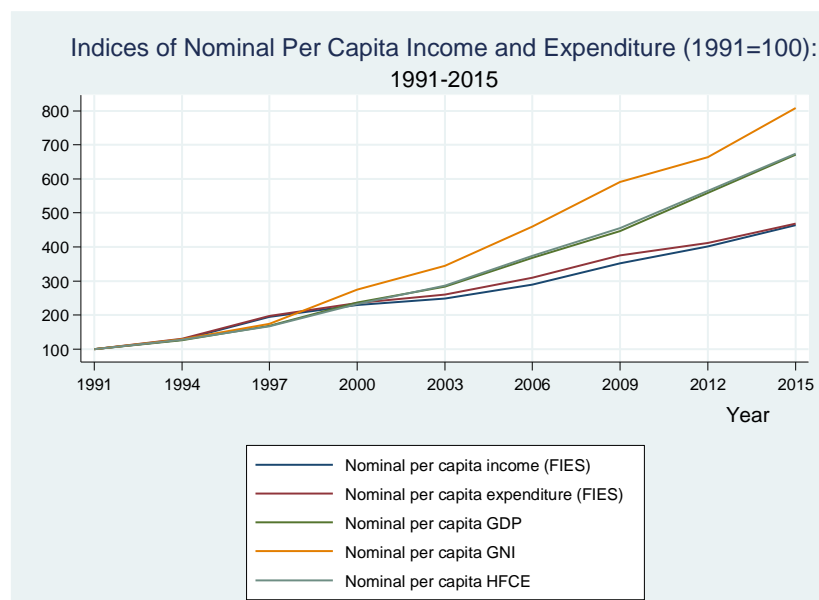
Differential growth in national accounts deflators and the consumer price index, however, does not appear to be a factor for explaining these discrepancies, which leads anyone to suspect that this divergence may be systematically because of the "missing wealthy" in FIES, i.e., the lack of coverage of wealthy households in surveys. Furthermore, people tend to forget their actual income or expenditures. While more questions in a survey may help people jog their memory, having an extremely lengthy questionnaire can be counterproductive since there are many opportunity costs for survey participation to respondents especially from affluent households (aside from people possibly providing less quality information). While post stratified survey weights may be used to adjust survey non-response, but here, the missing data (i.e. income and expenditures of affluent households) is not missing at random (see Rubin, 1976). Instead, affluent households may be systematically not participating in the FIES, with no proxy information obtained on incomes of non-respondents. On the other hand, national accounts compilation involves tedious validation of production and import data, but involves various adjustments (as will be elaborated upon in subsequent sections), which does not necessarily make national accounts better.

Discrepancies in national accounts-based and HH survey-based estimates of HH expenditure are, however, not unique to the Philippines. In India, the Committee on Private Final Consumption Expenditure of the Central Statistics Office (2015) has revealed that the discrepancy in Indian estimates has increased from 5 percent in 1972–1973 to 45 percent in 2011–2012 (also see Karshenas 2003; Minhas 1988; Sundaram and Tendulkar 2003; and Deaton and Kozel 2005).

Differences in estimates can be observed across many countries not only in a single point in time, but also across time, with these discrepancies often growing. In most countries, survey-based estimates of HH expenditure are lower than the HFCE. Ravallion (2003b) found that for 77% of 88 developing countries, the ratio of survey-based to national accounts-based estimates averaged at 0.826, but the ratio ranged between 0.2 and 2.4. Another study by Deaton (2005), which compared data from 127 countries, found the average ratio at 0.860 (or 0.779 when weighted by population).

For the period 2004 to 2015, survey-based estimates of household expenditure in ASEAN member states is about three fourths that of national accounts-based estimates with the ratio of survey-based to national accounts-based estimates averaging 0.756 in early years and 0.734 in late years (Table 2). In ASEAN, only Viet Nam has larger survey-based estimates.

Table 2. Average Household Expenditure from Surveys and National Accounts in ASEAN member states: 2004-2015.

ASEAN Member States	Earliest Years			Latest Years		
	Survey-based Average Household Expenditure	HFCE per cap		Survey-based Average Household Expenditure	HFCE per cap	
Cambodia	1679.00	1690.73	(2008)	1956.40	1992.54	(2012)
Indonesia	1759.30	4333.06	(2011)	1945.45	4885.35	(2014)
Lao PDR	1401.60		(2007)	1565.85		(2012)
Philippines	2343.30	3562.14	(2006)	2522.15	4196.78	(2012)

Thailand	4544.25	6637.85	(2008)	5391.05	7438.32	(2013)
Vietnam	2777.65	2672.95	(2010)	3007.60	3120.95	(2014)

Source: World Bank

Two opposing schools of thought have developed about 'reconciling' national accounts and HH survey data estimates of HH expenditure. Representing one school is Karshenas (2003) and Bhalla (2002) who both favor national accounts-based estimates, with the latter suggesting that HFCE be used to adjust HH survey estimates of HH expenditures (which used to be the practice in India prior to 1993). In contrast, Ravallion (2003a), argues that although HH surveys may underestimate consumption due to the underreporting or non-responses of high-income HHs, but the results of HH surveys produce a "relatively more accurate measure of poverty" (than national accounts). See also Sundaram and Tendulkar (2003). Deaton (2003) takes the middle ground and argues that national accounts are not designed to measure the individual welfare, but rather to track money (and not people). Like Ravallion, Deaton (2003) considers HH surveys as producing more accurate direct measures of the living standards of the poor, but he suggests that if the two data sources disagree (and we have no reason to favor one over the other), then we should combine them to make a better estimate.

3. Comparing household expenditure estimates and trends

This section presents an in-depth analysis of estimates of HH expenditure from national accounts and FIES. HH expenditure is what members of a HH, whether individually or collectively as a HH, spend on goods and services to satisfy their needs and wants. This section firstly compares HFCE and FIES-based estimates of HH expenditure, particularly on conceptual issues, i.e., definition, scope, coverage, statistical unit, as well as estimation methodology. Detailed empirical comparisons are also made regarding components of HFCE and FIES-based estimates of expenditure. Finally, various factors affecting the discrepancy between HFCE and survey-based estimates of HH expenditure are discussed.

3.1. Measurement of household expenditure

a) National accounts concept and estimation
In the Philippines, the production and expenditure approaches are used in estimating GDP. The expenditure items of GDP under the expenditure approach include HFCE, Gross Domestic Capital Formation (GDCF), General Government Consumption Expenditure (GGCE) and Exports less Imports. Among expenditure items, HFCE has the highest share of GDP. As per the 2008 SNA, HFCE (formerly called private consumption) consists of expenditures of HHs incurred by resident HHs on individual consumption goods and services. These pertain to both final expenditures and actual expenditures for acquiring consumption of goods and services. HFCE includes only those expenditures for the direct satisfaction of human needs and wants. Trends in HFCE typically reflect changes in wages and other non-wage incomes, as well as changes in employment and in savings.

HFCE may take place in the domestic territory or abroad and it consists of expenditures, including imputed expenditure of goods and services, including those that are sold at prices that are not economically significant. In the Philippine System of National Accounts

(PSNA), HFCE covers both individual HHs (HHs), and non-profit institutions serving HHs (NPISH), representing institutional HHs. The structure of NPISH and institutional HHs is assumed to be the same as that of the individual HHs.

For individual HHs, their expenditures include all goods and services bought for final consumption by HHs; all goods produced for own final consumption including those goods produced by HH enterprise and retained for final consumption (such as crops, livestock products, firewood and other non-market or subsistence outputs); domestic services produced for own final consumption by employing paid domestic staff such as servants, cooks, child nurses, gardeners and drivers; services of owner-occupied dwellings; all goods and services acquired by HHs in barter transactions for final consumption; all goods and services received by HHs as payment in kind from producers; expenditures incurred in "do-it-yourself" decoration, maintenance of own dwellings and maintenance and routine repairs of personal goods; payment to government units to obtain various kinds of licenses, permits, certificates, passports, etc.; and explicit and imputed service charge on HH uses of financial intermediation services provided by banks, insurance companies and pension funds, etc. Note, however, that when activities such as cooking meals, scrubbing floors or taking care of children are undertaken by the HH's own members, these activities fall outside the production boundary and are considered outside the scope of HFCE.

For the NPISH, these consists of expenditures on market goods and services that are supplied without transformation and free of charge to HHs.

With several adjustments to source data, estimation of HFCE follows the commodity flow approach within a supply and use table framework. The commodity flow method estimates the share of the final consumption made by the HHs and private non-profit institutions from the total supply of commodities available from domestic production and importation. The 2008 SNA recommends that estimates of HFCE utilize the Classification of Individual Consumption according to Purpose (COICOP) to account for the various expenditures of the HHs.

HFCE includes purchase of goods and services; goods produced for own final consumption; goods and services acquired in barter transactions; financial intermediation services indirectly measured (FISIM); insurance and pension fund services; services of owner-occupied dwellings; and goods and services received as income in kind. Following COICOP, HFCE may be broken down into 12 major expenditure items:

Major components of HFCE	Details
A. Food and non-alcoholic beverage	Food
	Non-alcoholic beverages
B. Alcoholic Beverages and Tobacco	Alcoholic beverages
	Tobacco
C. Clothing and Footwear	Clothing
	Footwear
D. Housing, Water, Electricity, Gas and Other Fuels	Actual rentals for housing
	Imputed rentals for housing
	Maintenance and repair of the dwelling

	Water supply and miscellaneous services relating to the dwelling
	Electricity, gas and other fuels
E. Household Furnishings, Household Equipment and Routine Household Maintenance	Furniture and furnishings, carpets and other floor coverings
	Household textiles
	Household appliances
	Glassware, tableware and household utensils
	Tools and equipment for house and garden
	Goods and services for routine household maintenance
F. Health	Medical products, appliances and equipment
	Outpatient services
	Hospital services
G. Transport	Purchase of vehicles
	Operation of personal transport equipment
	Transport services
H. Communication	Postal services
	Telephone and telefax equipment
	Telephone and telefax services
I. Recreation and Culture	Audio-visual, photographic and information processing equipment
	Other major durables for recreation and culture
	Other recreational items and equipment, gardens and pets
	Recreational and cultural services
	Newspapers, books and stationery
	Package holidays
J. Education	Pre-primary and primary education
	Secondary education
	Post-secondary non-tertiary education
	Tertiary education
	Education not definable by level
K. Restaurants and Hotels	Catering services
	Accommodation services
L. Miscellaneous Goods and Services	Personal care
	Personal effects not elsewhere classified (n.e.c.)
	Social protection
	Insurance
	Financial services n.e.c
	Other services n.e.c.

Annex Tables A-1 and A-2 provides annual data in the Philippines released by the PSA from 1998-2015 for these 12 major expenditure items of HFCE in both current and constant 2000 prices. For the period prior to 2008, the PSA only released data on nine major expenditures items for HFCE, *viz.*: food; beverage; tobacco; clothing and footwear; fuel, light and water; HH furnishings; HH operations; transportation and communications; and miscellaneous services, and constant prices used 1985 as the base year. Annex Tables A-3 and A-4 provides current and constant price data for these nine expenditure items from 1991 to 2007.

To distinguish related categories in major expenditure items of HFCE, we clarify some terms and related variables. Following the classification of the Food Balance Sheet, food

comprises cereals and products, roots and tubers, sugar and syrups, pulse and nuts, vegetables, fruits, meat products, milk products, eggs, fish and other marine products, fats and oils and miscellaneous. Coffee, tea and cocoa are classified under miscellaneous, but these are classified as Beverages in the COICOP. HH furnishings include furniture and fixtures, HH equipment and appliances mainly for HH purposes. HH operations cover goods and services for routine HH maintenance. Goods for routine HH maintenance are largely non-durable HH goods such as cleaning and maintenance products, paper products, cleaning articles and other non-durable HH articles such as matches, candles, nails, hangers, among others. Services for routine HH maintenance consist of housing services and domestic service. Housing services consist of housing rent (actual and imputed[5]) as well as minor repair and maintenance incurred to maintain the dwelling in good working order (but assuming these repairs and maintenance will not change the dwelling performance, capacity or expected life service). Domestic services cover activities such as washing, preparing meals, caring for children, the sick or aged carried out by paid domestic staff for the members of the HH. Transportation expenditures cover purchase of vehicles, operation of personal transport and transport services. Communication expenses include postal services, telephone and telefax equipment and telephone, telegraph and telefax services. Miscellaneous expenditure pertains to outlays related to health, leisure, entertainment and culture, education, personal care and effects and other services.

The volume/value of each commodity group available for HFCE is estimated to be the total supply adjusted for non-personal consumption such as exports, losses and wastage's, intermediate consumption (seeds, animal feeds, supplies and materials required for production), capital formation and consumption requirements for general government operations.

Since the data required for the commodity flow method are not available on a regular basis, updated estimates of HFCE are computed using indicators from relevant agencies. In the Philippines, the results of the triennial FIES that supplies information on income and expenditure patterns in the country are utilized to validate the structure or the percentage shares of the expenditure categories of HFCE for years when FIES is conducted, but not to estimate the levels of these expenditure items. For 1998-2015, the price data used are the monthly Consumer Price Index (CPI) by region. Benchmark parameters on the ratio of HH consumption to total output from the 2000 Input-Output (I-O) Table are used on a detailed component of HFCE estimates.
- For the 2000 benchmark year, the HFCE adopted as initial estimate the 2000 I-O estimates of HFCE, with each HFCE I-O code/description classified according to COICOP. The initial estimates were then adjusted to reconcile them with data from other sectors through iteration of the supply and use table.
- For non-benchmark years (1998-1999, 2001-2015), the 2000 benchmark estimate of HFCE by sub-component was extrapolated using production data to serve as a trend indicator of the gross output of the related industry sector. For instance, HFCE-Communication was extrapolated using the trend of the gross output of

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[5] Actual rent is the amount paid by tenants or subtenants occupying unfurnished or furnished premises as their main residence; while imputed rent is the amount that should be paid on the market by the owner occupier for the same size, quality and type of accommodation.

Communication under Transport, Storage and Communication. Other data used as indicator for extrapolation includes revenue data provided by key establishments coming from regular reports of companies e.g. fast foods, TV companies, etc.

b) Survey-based concept and estimation

In the Philippines, HH expenditures, as captured in the FIES, refer to expenses or disbursements for both food and non-food made by the HH purely for personal consumption during the reference year (see Ericta and Fabian, 2009). These exclude all expenses in relation to farm or business operations, investments ventures, purchase of real property and other disbursements which do not involve personal consumption. Gifts, support, assistance or relief goods and services received by the HH from friends, relatives, *etc.*, are also considered HH expenditures. The value consumed from net share of crops, fruits and vegetables produced or livestock raised by other HHs, from family sustenance activities and from entrepreneurial activities are also included as part of HH expenditures.

- Food expenditure includes the food consumed at home and regularly consumed outside the home by the HH members. Food consumed at home includes the following expenditure subgroups: (1) cereal and cereal preparation; (2) roots and tubers; (3) fruits and vegetables; (4) meat and meat preparation; (5) dairy products and eggs; (6) fish and other marine products.
- Non-food expenditure, include such items such as (a) total HH expenditure for fuel, light and water, (b) value of all non-durable furnishings[6] (c) and the value of durable furniture and equipment[7] (d) taxes[8] paid; (e) and other disbursements [9] during the

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[6] Examples of non-durable furnishings are utensils and accessories (dinnerware, silverware, kitchen utensils, etc.) for family use, that are acquired within the reference period including those bought/received by the family for use during special occasions. Homemade non-durables are also included as part of non-durable expenditures, the cost of which pertains to the cost of materials and the cost of labor.

[7] This includes all durable furnishings or equipment such as pieces of furniture, garden tools, appliances, cars, etc. acquired on a cash basis during the reference period and intended for family use during the ordinary days or during special occasions. Those durable furniture and equipment purchased on installment basis during the reference period are also included here. The reported total value of durable furnishings is the total installments paid plus initial down payment made on the item during the reference period. Durable furniture made at home for family use are also reported in this part, hence, the value included is the value of the materials used and the cost of labor paid. The value of labor rendered by any household member free of charge is not included.

[8] The following forms of taxes are included: (1) Income tax, i.e. the tax levied on the income of a working person in pursuit of his/her occupation; (2) Real estate tax, i.e., the tax imposed on real property of the family, e.g. house and lot for family use, in proportion to its value; this includes real estate tax levied on real property of the family used for personal purposes; taxes paid for properties used solely for business are excluded. (3) Car registration, toll fees and driver's license, i.e., includes registration fees for motor vehicles used for private transport of the family, toll fees, etc. ; (4) Other direct taxes, i.e., taxes which are demanded from a taxpayer, who shoulders the burden of the tax; or tax which the taxpayer cannot shift to another; examples are inheritance tax, alien certificate of registration (ACR), donor's tax, customs duties paid for personal effects bought from abroad, amusement tax and taxes paid as a customer.

[9] This refers to non-family expenditures which may give an indication of savings on the part of the family. These include purchase or amortization of real property, payments of cash loan (principal), installments of appliances bought before reference period, loans granted to persons outside the household, amount deposited in banks or investments and major repair or construction of a house.

reference period.

- Certain items of income are considered expenditures or vice versa to balance both sides of the family account and in order that the cash position of the family is not disturbed. These expenditure items are those goods and services which are received as gifts, assistance, allowances from other HH or institutions and those own-produced goods and services which were consumed by the family during the reference period. These include the value of imputed rent of owned-occupied dwelling unit; own-produced goods and services; as well as, goods and services received by the family, which are consumed or used.

Average expenditures, like other survey-based statistics, are weighted means where the survey-weights are obtained from the survey design adjusted to incorporate non-responses. If, however, those from affluent households are systematically undercovered, then nonresponse adjustments will do very little to remove biases. Further underreporting biases on expenditure and income data are likely to be encountered from affluent households that participate in the FIES.

When the triennial FIES is conducted, sample HHs are visited twice (July of a calendar year to obtain first semester information; and January of the succeeding year to obtain the second semester information). The two visits are meant to control for seasonality of income and spending patterns. First semester income poverty rates from the FIES tend to be higher than full year poverty rates (e.g., for 2009 the first semester poverty rate is 28.6% while the full year estimate is 26.5%) because some parts of income, particularly, remittances and bonuses tend to be received in the second half of the year.

The FIES could actually be referred to as the Family Income and Household Expenditure Survey as it yields estimates of family income and of HH expenditure (and not family expenditure). In the case of total HH spending, it is challenging to remove the expenditure of non-family members (such as HH helpers), unlike the case of HH income, where income of family member and non-family members may be distinguished.

As was earlier pointed out, the PSA also conducts another sample survey of HHs, called the APIS, during non-FIES years subject to the availability of funds (see Ericta and Luis, 2009). The main difference between the FIES and the APIS is that the FIES has detailed questionnaire items on both income and expenditures while before 2013, APIS had a summarized version of income and expenditure items. Starting 2013, the APIS adopted the income module of the FIES, but with some modifications in the section containing the list of wage and salary workers in the family. The use of the FIES income module was meant to generate first semester income poverty figures that could be compared to first semester income data in the FIES (to obtain more timely and meaningful poverty data). However, technical issues prevent comparison of the FIES first semester income data to APIS income data (see Albert, Dumagan and Martinez, 2015). Although the 2013 APIS schedule had more questions on income (than it used to) with its 19 pages of questions, the 2012 FIES income module used 24 pages of questions. Furthermore, even if the APIS 2013 made use of the entire 24-page income module of FIES 2012, this would still not make income poverty data from the APIS and FIES comparable since the 2012 FIES also asks HHs

detailed information on their expenditures (before income questions are asked) using a total of 78 pages of questions (taking an average interview time of 5 hours). The APIS 2013 questionnaire, on the other hand, had 6 pages of questions on expenditure, aside from 19 pages of income questions, and several pages of other questions, which, over all, took 3 hours to accomplish. Consequently, official poverty statistics as well as income and expenditure data in the first semester of 2013 sourced from the APIS 2013 are incomparable to those based on the FIES 2012 for the first semester of 2012.   Further, there are questions on the accuracy of income and expenditure data given the length of the FIES questionnaire, and the resulting interview time to complete the questionnaire.

c) Overall comparison of concepts and estimation

In summary, both the FIES and national accounts define HH expenditures as those incurred purely for personal consumption. However, HFCE includes only those acquired through direct purchase, as well as imputed expenditure through barter transactions, payment or income in kind, produced on own account as well as those received as other current transfers in kind. On the other hand, the expenditure concept in FIES includes even gifts, support, assistance and relief goods and services provided to others; in addition, expenditure in the FIES also includes taxes paid and other expenditures. There is, however, nothing wrong with having a wider range of expenditure items in the FIES than what is included in HFCE, and including these in the FIES expenditure concept as these items are of interest to some users and they can be excluded from HFCE estimates.

According to the 2008 SNA, taxes and gifts, and contribution to others are classified as transfers and not as final consumption expenditures. Taxes are transfers by the HHs to the government while gifts and contributions are transfers by the HH to another HH, or to NPISH. Other expenditures under the FIES include life insurance and retirement premiums, interest payment to loans for HH expenses, losses due to fire and theft, legal fees, professional fees, welfare and civic association fees, membership fees, periodic monthly or yearly dues, insurance premiums, social security premiums and healthcare contributions. These different types of expenditures are classified in the SNA as transfers, property expense, acquisition of financial asset, other volume changes and final consumption expenditures.

Prior to 2008, the HFCE was disaggregated only into nine major expenditure groups, but starting 2008, the expenditure groups now total twelve. The PSA has backtracked estimation of the 12 expenditure groups up to 1998. Data prior to 1998 relates to nine groups. On the other hand, household expenditure in FIES is composed of 19 expenditure items. Specifically, HH furnishings of HFCE is further divided in the FIES as non-durable furnishings and durable furniture and equipment. HH operations of HFCE is equivalent to the FIES HH operations, rent/rental of value of occupied dwelling unit and house maintenance and minor repairs. Miscellaneous expenditures in the HFCE matches the totality of expenditures in medical care, education, personal care and effects, recreation and special occasions in the FIES.

HFCE includes both individual and institutional HHs while FIES covers only individual HHs. Results of the 2000 Census of Population and Housing results show that the individual HH population is 99.7 percent of the total population. Hence, 0.3 percent represents the institutional HHs. As of 2009, NPISH have been estimated to contribute 0.6% to the GDP, with the contribution rising by about 10 percent per year in the period 2000 to 2009 (Virola *et al*., 2010).

Both individual HHs and NPISHs are explicitly covered by HFCE with the use of the commodity flow approach. Although only individual HHs are covered by the FIES, the final consumption expenditure of the NPISH and of government are implicitly included through the gifts and assistance received by HHs from these different institutional sectors. This would only be part of NPISH and Government final consumption expenditure (FCE), not their FCE on collective goods and services. On the other hand, FIES covers only individual HHs. Since the HFCE is residually computed through the commodity flow approach, the share of the NPISH in the HFCE cannot be independently estimated. However, based on results of the 1990 Social Accounting Matrix (SAM), PSA staff estimated that around 0.35 % of the total HFCE is final consumption of the NPISH. This rather insignificant share will need to be further examined in the wake of evidence of a growth of non-profit institutions in the Philippines.

Clearly, national accounts-based and FIES-based estimates of HH consumption expenditure are not fully comparable given differences in definition, coverage and methodology. However, neither survey-based nor national accounts-based estimates can be considered as giving a more accurate measure of HH expenditure, since both estimates suffer from measurement error.

Albert and Raymundo (2015) point out that wealthy HHs are likely not going to participate in the FIES especially given the length of the survey questionnaire (which had 70, 78 and 82 pages, respectively in the 2000, 2012, and 2015 FIES) which, on average, takes about 5 hours to accomplish (for each of the two household visits where semestral data on income and expenditure of HHs are collected). Aside from undercoverage of affluent HHs, there are also issues of under reporting in HH survey data, especially on services and out-of-pocket expenses by individual family members. The latter though could be accounted for in a supply-use-table (SUT) balancing process.

Furthermore, there is also a challenge of recalling accurate income and spending by sample HHs in the Philippine FIES. While it is generally believed that more questions will jog people's memories, but too many questions will also likely yield inaccurate reporting by respondents. There are also issues regarding accuracy of estimates of specific item-wise expenditures from the FIES. For example, some HHs report consumption of zero amount of rice, the country's staple food.

On the other hand, the compilation of HFCE also requires a combination of different data sources and methods. Simple aggregates of total HH expenditure from the FIES cannot be directly used for national accounts estimates of HFCE even after verification of the quality of such data. It is necessary to adjust FIES data on expenditures into corresponding estimates for national accounts purposes. These adjustments are accomplished mainly through a commodity flow approach (within a supply and use framework) that consider differences in definitions and concepts, adjustments for direct sales and purchases for business purposes, adjustments for purchases by residents abroad and non-residents residing in the domestic territory, as well as adjustments for unobserved HH activities.

Data reconciliation are at the core of national accounts compilation. For HFCE estimation, FIES results are not used for estimation of every single item of expenditure, but rather selectively, based on their quality, as well as the availability of alternative data sources. Sample surveys such as FIES are expected to underestimate expenditures on certain items, such as "sin" items (i.e., alcohol and tobacco), and some personal services. For these reasons, in addition to making use of survey data, the estimation of HFCE draws on retail trade data and other statistics. For years when FIES is not

conducted, trends on data on retail revenue or sales from establishments using the 5-digit level (almost very specific commodities or goods, e.g. food, wearing apparel, medicines or pharmaceuticals, groceries) are used together with benchmark data for the estimation. For services, the "trend indicator" is revenue of establishments. No single data source is considered entirely adequate in national accounts compilation.

Non-observed activities, e.g., illegal activities, may also give rise to imbalances in basic data as well as resulting estimates, and conversely, data imbalances may provide evidence of non-observed activities such as smuggling. HFCE will tend to capture informal, subsistence elements of HH consumption rather imperfectly though. Since the estimates of HFCE are being derived by the commodity flow approach, they ultimately depend heavily on accuracy of ratios applied on the production estimates for netting out amounts used for further production (say in inter-industry consumption) as well as the accuracy of benchmark data. Formulas for netting out of intermediate products from value added will often not keep pace with a growing economy's increased intermediation, which can yield an upward bias for HFCE. If the FIES is well conducted, it should generate quality information on HH production for-own-use. Further, there would be information on purchases from informal markets with point of purchase data collected in the FIES.

Further, HFCE bundles individual HHs with NPISHs. Services provided by NPISHs are assumed to be like that of individual HHs. The extent of contribution of NPISHs to HFCE needs to be examined.

Finally, it should also be noted that HFCE is one of the major components of GDP, on the expenditure side, that is used by national accountants in the PSA to control the statistical discrepancy, i.e., the residual of the GDP estimates between the production and the expenditure approaches. For the annual revised/rebased national accounts starting 1998 onwards, statistical discrepancies in the Philippine System of National Accounts have been maintained at zero while for the quarterly GDP, the statistical discrepancy is maintained at one percent or less. In many developing countries, HFCE is not even calculated directly (due to the lack of appropriate data sources), but rather derived as a residual after calculating the other GDP components. In consequence, for HFCE estimation, FIES is adjusted using commodity flow then further adjusted again to control statistical discrepancies, which can be a major source of discrepancies between FIES-based and national accounts-based estimates of household expenditure.

3.2. Estimates of major expenditure items in household expenditure

In undertaking an examination of estimates of HFCE and the survey-based estimate of expenditures for major expenditure items, we considered adjusting FIES estimates at current prices to account for definition discrepancies between FIES and national accounts[10]. Further, we also estimate the adjusted FIES expenditure at constant prices[11] to examine the robustness of empirical comparisons.

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[10] This involve (1) removal of expenditure items which are not considered as final expenditures using SNA concept. These are taxes, gifts and donations to others and other expenditures. Although other expenditures contain PCE transactions such as the service charges and miscellaneous fees, it is totally subtracted in the meantime that the variable cannot be further disaggregated. (2) reclassification of non-alcoholic beverage from 'Food' to 'Beverages'; and (3) e regrouping of specific items to be comparable to the major HFCE items.

In 1991 and 2006, total family expenditure in FIES (at current prices) was 68 percent and 61 percent of HFCE of HFCE, respectively. When household expenditures in FIES are adjusted to remove spending that are not final consumption expenditure as per the SNA, the adjusted FIES (AFIES) household expenditure (at current prices) in 1991 and 2006 was estimated to be only 67 percent and 60 percent of HFCE, respectively. At constant prices, the AFIES was 63 percent and 56 percent that of HFCE in 1991 and 2006, respectively.

The levels for 9 expenditure items of HFCE varied significantly for 1991 and 2006 with the corresponding estimates from AFIES (Table 4). The percentages of AFIES expenditure relative to HFCE levels at current 1991 prices items ranged from 38.1 percent (for tobacco expenditures) to 91.4 percent (for fuel, light and water), while in 2006 prices, they ranged from 35.7 (tobacco expenditures) to 125.5 percent (HH furnishings). In 1991, all the AFIES expenditure items except for HH operations were less than the corresponding HFCE estimates. AFIES expenditures on tobacco was about two fifths the estimated tobacco expenditure in the national accounts, while fuel, light and water represented the least difference with adjusted FIES at 91 percent of HFCE.

Table 4. Household expenditure estimates in the HFCE and Adjusted FIES at current prices, by expenditure group, 1991 and 2006.

Expenditure Group	HFCE		AFIES	
	1991	**2006**	**1991**	**2006**
1. Food	483,872	1,892,241	293,871	1,025,228
2. Beverages	21,145	71,114	14,597	52,137
3. Tobacco	27,431	66,678	10,462	23,779
4. Clothing and footwear	33,488	88,376	23,178	61,605
5. Fuel, light and water	38,880	207,906	35,523	195,619
6. Household furnishings	24,536	59,026	15,475	74,081
7. Household operations	96,279	424,719	83,853	340,618
8. Transportation/comm.	48,969	468,933	33,476	209,499
9. Miscellaneous	141,784	950,509	68,578	365,145
TOTAL	916,384	4,229,502	579,014	2,347,711

Sources: PSA and Authors' computations on FIES microdata

In 2006, all expenditure items (other than HH furnishings) had lower AFIES expenditures than the corresponding HFCE estimates, with tobacco at 36 percent, transportation and communications at 45%, miscellaneous at 38%, food at 54%, clothing and footwear at 70%, beverages at 73%, HH operations at 94%, fuel, light and water at 94%. For both 1991 and 2006, the AFIES estimates of fuel, light and water as well as those of HH operations were within 10 percentage points those of the estimates based on the HFCE.

For both 1991 and 2006, the AFIES percentage shares of food, beverages, tobacco, clothing and footwear, and miscellaneous items were less than the HFCE shares all the AFIES expenditure items except for HH operations were less than the corresponding HFCE estimates. Household furnishings

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[11] This involves (1) rebasing of the 2000 CPI by commodity item to get CPI = 1985 to be consistent with HFCE at constant prices; and (2) deflating FIES at current prices by the rebased CPI = 1985.

as well as transportation and communication had a percentage share in AFIES that was practically the same as in the HFCE in 1991. However, in 2006, household furnishings had a larger percentage share in the AFIES in 2006, while the percentage share of transportation and communication to total household expenditure was larger in the HFCE than that of the AFIES. Over three percentage point differences can also be observed in the percentage shares for AFIES and HFCE for household operations and miscellaneous.

At constant prices (see Table 5), nearly all the expenditure groups had smaller AFIES estimates compared to HFCE estimates for both 1991 and 2006. The only exception was HH furnishing, which had lower AFIES estimates compared to the corresponding HFCE estimates in 2006. As in current price data, the discrepancy between AFIES and HFCE appeared to be highest for tobacco and miscellaneous items at constant prices, while the least discrepancy at constant prices appeared to be for fuel, light and water. As for data for current prices, over three percentage point differences can also be observed in the percentage shares for AFIES and HFCE for household operations and miscellaneous when using constant price data.

Table 5. Household expenditure estimates in the HFCE and Adjusted FIES at constant prices, by expenditure group, 1991 and 2006.

Expenditure Group	HFCE		AFIES	
	1991	**2006**	**1991**	**2006**
1. Food	294,332	536,522	178,757	290,691
2. Beverages	12,734	20,124	8,791	14,754
3. Tobacco	16,071	19,946	6,130	7,113
4. Clothing and footwear	21,590	30,432	14,943	21,214
5. Fuel, light and water	22,341	38,267	20,412	36,006
6. Household furnishings	15,938	25,610	10,052	32,143
7. Household operations	55,266	85,482	48,133	68,556
8. Transportation/comm.	27,297	90,642	18,661	40,495
9. Miscellaneous	78,219	152,701	37,833	58,661
Total	**543,788**	**999,728**	**343,591**	**554,929**

Sources: PSA and Authors' computations on FIES microdata

Table 6 provides HFCE and AFIES current price estimates in 2009 and 2012 for 12 expenditure groups based on the COICOP. In 2009 and 2012, total family expenditure in the FIES was 54.0 percent and 52.6 percent of HFCE, respectively, while the AFIES expenditure was 51.5 percent and 50.7 percent of HFCE, respectively.

When we examine the levels of the expenditure estimates in HFCE as against the adjusted FIES estimates, we find that levels for 12 major expenditure items of HFCE varied for 2009 and 2012 with corresponding estimates from AFIES. The percentages of AFIES expenditure (in relation to HFCE) at current 2009 prices items ranged from 0.9 percent to 103.3 percent, while in 2012 current prices, they ranged from 2.6 percent to 91.8 percent. In 2012, all the AFIES expenditure were less than the corresponding HFCE estimates, while for 2009 all expenditure items except that for housing, water, electricity, gas and other fuels had lower AFIES expenditure estimates compared to HFCE. Expenditures on alcoholic beverages and tobacco from AFIES was about three fifths those based from the national accounts, while expenditures on restaurants and hotels only

represented less than 3 percent of HFCE. In 2012, the least discrepancy for AFIES estimates appeared to be for clothing and footwear, as well as for housing, water, electricity, gas, and other fuels at about 90 percent level of estimates in the national accounts.

Table 6. Household expenditure estimates in the HFCE and Adjusted FIES at current prices, by expenditure group, 2009 and 2012.

Expenditure Group	HFCE		AFIES	
	2009	**2012**	**2009**	**2012**
1. Food and Non-alcoholic beverages	2,543,994	3,343,427	1,380,329	1,767,620
2. Alcoholic beverages, Tobacco	83,773	100,930	48,772	61,297
3. Clothing and Footwear	89,495	108,492	71,481	99,604
4. Housing, water, electricity, gas and other fuels	712,292	965,753	735,749	852,806
5. Furnishings, household equipment and routine household maintenance	257,752	310,249	92,739	114,091
6. Health	141,114	199,821	92,471	150,733
7. Transport	663,622	837,569	181,638	309,687
8. Communication	216,702	247,946	68,149	111,963
9. Recreation and culture	112,962	142,851	13,093	56,583
10. Education	239,144	302,772	137,753	169,022
11. Restaurants and hotels	219,280	291,460	2,062	7,614
12. Miscellaneous goods and services	713,296	986,611	264,475	272,403
Total	**5,993,427**	**7,837,881**	**3,088,713**	**3,973,424**

Sources: PSA and Author's computations on FIES microdata

For both 2009 and 2012 current price data, the AFIES percentage shares of transport, communication, restaurants and hotels, as well as miscellaneous goods and services were less than the HFCE shares while the AFIES percentage share of housing, water, electricity, gas and other fuels were more than the HFCE share. In current prices, the discrepancy between AFIES across 2009 and 2012 was highest for housing, water, electricity, gas and other fuels (-2.4 percentage point), transport (1.9 percentage point) and miscellaneous (1.7 percentage points), while minimal deviation was recorded for alcoholic beverages and tobacco. On the other hand, between 2009 and 2012, less than one percentage point deviation was observed in the percentage shares for all expenditure groups at current prices. The variation between HFCE at current prices for the two years was highest for miscellaneous goods and services (0.7 percentage points), while there was little difference recorded for recreation and culture and for restaurants and hotel.

Constant price data (see Table 7) also have similar trends as current price data. All the expenditure groups had smaller AFIES estimates than the corresponding HFCE estimates in 2012 at constant 2000 prices. For 2009, only housing, water, electricity, gas and other fuels had lower AFIES expenditure estimates at constant 2000 prices, compared to HFCE. Expenditures on alcoholic beverages and tobacco from AFIES at constant 2000 prices was about three fifths of the HFCE-based estimates, while expenditures on restaurants and hotels from AFIES at constant 2000 prices were less than 3 percent those of the corresponding estimates from HFCE. In 2012, the least

discrepancy for AFIES-based estimates at constant 2000 prices with HFCE-based estimates was for clothing and footwear, as well as for housing, water, electricity, gas, and other fuels with AFIES-estimates at about 90 percent level of estimates in the national accounts.

Table 7. Household expenditure estimates in the HFCE and Adjusted FIES at constant prices, by expenditure group, 2009 and 2012.

Expenditure Group	HFCE		AFIES	
	2009	**2012**	**2009**	**2012**
1. Food and Non-alcoholic beverages	1,603,504	1,859,770	870,035	983,233
2. Alcoholic beverages, Tobacco	59,693	63,316	34,753	38,453
3. Clothing and Footwear	67,459	74,655	53,880	68,539
4. Housing, water, electricity, gas and other fuels	433,341	485,943	447,612	429,111
5. Furnishings, household equipment and routine household maintenance	215,512	245,219	77,541	90,177
6. Health	80,647	102,988	52,847	77,688
7. Transport	319,811	364,667	87,535	134,834
8. Communication	208,970	236,043	65,718	106,589
9. Recreation and culture	86,055	102,399	9,974	40,560
10. Education	124,498	138,018	71,714	77,049
11. Restaurants and hotels	151,116	183,659	1,421	4,798
12. Miscellaneous goods and services	467,303	585,844	173,266	161,751
Total	**3,817,908**	**4,442,523**	**1,967,559**	**2,252,143**

Sources: PSA and Author's computations on FIES microdata

For transport, communication, restaurants and hotels, as well as miscellaneous goods and services, the share of AFIES estimates to total expenditures at constant 2000 prices were less than the corresponding HFCE shares, while the AFIES percentage share of housing, water, electricity, gas and other fuels were more than the HFCE share at constant 2000 prices. The discrepancy between AFIES estimates at constant 2000 prices for 2009 and 2012 was highest for housing, water, electricity, gas and other fuels, miscellaneous, and transport, while least deviation was observed for alcoholic beverages and tobacco, and restaurants and hotels. For HFCE estimates at constant 2000 price, less than once percentage point deviation was observed for all expenditure groups between 2009 and 2012.

4. Factors accounting for differences in estimates and for growing differences in time

As was pointed out in the previous section, differences in the concepts and methodologies for estimation of household expenditure in FIES and national accounts can be noted, but such differences do not fully account for the discrepancies in estimates and the growing discrepancies across time. If FIES underestimates HH expenditure and the national accounts is more accurate, then, inequality in the Philippines (which is already quite high) is even much wider than inequality statistics (such as the Gini and Palma ratio) suggest, with monetary poverty possibly falling more quickly than is suggested by trends in official poverty rates. If, however, FIES show a more

accurate picture of HH expenditure, then there is much less economic growth in the Philippines than has been suggested by the official national accounts statistics. The middle ground (of an underestimation of the reduction in poverty and a widening of income inequality, as well as an overestimation of economic growth in the Philippines) can, however, offer some explanations for the widening gap in survey-based estimates of HH expenditure, and national accounts-based HFCE.

Cooperation and compliance of wealthy HHs, especially in urban areas, will likely push down FIES estimates of household expenditure downward, especially given the rising opportunity costs of answering a long survey instrument. But is there evidence of the extent of the missing wealthy? To answer this question, we profile the barangays (i.e. villages) of HHs in the Philippines that refused to participate in the FIES (Table 8). based on results of the Barangay Schedule (Form 5) of the 2010 census of population and housing (CPH), conducted by the PSA.

Table 8. Profile of Barangays of FIES sample households and refusals, 2009 and 2012.

Barangay Characteristics	Proportion of Barangays				
	2010 CPH	2009 FIES		2012 FIES	
	all barangays (N=42010)	barangays of sampled households (N=3038)	barangays of refusals (N=285)	barangays of sampled households (N=3114)	barangays of refusals (N=204)
Part of the town/city proper	28.3	37.4	49.5	37.5	56.4
With street pattern (that is, networks of streets of at least three streets or roads)	52.8	69.1	85.3	69.8	86.8
With access to National Highway	81.4	88.5	95.1	88.7	95.1
With town/city hall or provincial capitol	6.2	9.5	10.2	9.9	10.8
With church, chapel or mosque where religious service is held at least once a month	86.3	91.8	91.9	92.1	93.1
With public plaza or park for recreation	35.1	43.5	47.7	44.3	51.5
With cemetery	23.3	28.8	24.9	29.6	22.5
With market place or building where trading activities are carried out at least once a week	17.6	33.8	43.2	33.4	51
With elementary school	76.5	84.8	84.2	85.9	82.4
With high school	22.7	41.5	57.9	43.3	60.8
With college/university	5.2	14.2	28.4	14.1	31.4
With public library	6.4	11.5	16.8	11.5	19.1
With hospital	4.8	12.2	18.6	12	23
With puericulture center or barangay health center/station	67.9	81.2	84.9	82.3	88.2
With landline telephone system or calling station	24.1	43.9	80	43.2	80.4
With cellular phone signal	90.2	93	96.8	93.7	96.6
With post office or postal service	11.9	20.5	40.4	20.6	45.1
With community waterworks system	62	73.4	83.9	72.8	83.8
With seaport in operation	4.6	6	7	5.9	5.9
With fire station or public fire-protection service	5.1	14.5	28.1	14.3	30.4

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With public-street sweeper	27.4	42.1	64.2	42	71.6
With more half of the population aged 10 and over constituting farmers, farm laborers, fishermen, loggers, and forest product gatherers	62.1	50.8	21.4	51.2	21.6

Source: Authors' calculations from Form 5 of 2010 CPH, list of barangays of FIES respondents and list of barangays of FIES refusals

Notes: (a) there were 204 barangays with sampled households who refused at least once during the two visits for the 2012 FIES; (b) there are barangays with sampled HHs in 2012 FIES that do not have recorded barangay characteristics during 2010 CPH (as they were not yet formed in 2012).

In Table 8, barangays of refusals are compared with the barangays of responding sample FIES HHs and with all barangays (as of 2010). Here, we find very clear evidence that refusals in the FIES are coming from HHs that reside in barangays that appear to be more affluent (whose population is less dependent on agriculture, and with access to various amenities and services such as street patterns, street sweepers and fire stations) than sample HHs that participated fully in the FIES, or all HHs (that participated in the 2010 CPH).   That is, very wealthy HHs are under-represented in sample surveys. Pacificador (2009) notes that the 2003 FIES estimates of population (79,145,433) is about 4.3 percent lower the population projections, and that survey estimates of total HHs (16,557,682) are 4.2 percent lower than an alternative estimate (17,246,846)., and there may be around 4% under-coverage of individual HHs.   Under-coverage of HHs in the FIES and other sample surveys is thus likely among wealthy HHs whose opportunity costs in survey participation are high. Their expenditures and incomes have likely grown faster than those of the average HH.

Even among wealthy HHs that participated in the FIES, there is evidence of greater under-reporting of incomes and spending by very rich HHs. For the period 2003 to 2015, both GDP per capita and HFE per capita doubled in the Philippines, and yet across the entire income distribution, reported incomes and expenditures in the FIES were much less (Table 9).

Table 9. Average Per Capita Income and Average Per Capita Expenditure of Filipinos (in current PHP) as reported in FIES: 2003-2015

Per Capita Income Decile	Average Per Capita Income*					Average Per Capita Expenditure *				
	2003	2006	2009	2012	2015	2003	2006	2009	2012	2015
First Decile	6,045	7,400	9,375	11,033	12,687	6,605	8,118	10,241	11,707	12,017
Second Decile	9,507	11,284	13,921	16,676	18,543	9,641	11,479	14,188	16,449	16,879
Third Decile	12,443	14,615	17,562	21,322	23,213	12,248	14,461	17,337	20,185	20,748
Fourth Decile	15,675	18,261	21,597	26,567	28,278	14,947	17,633	20,811	24,745	24,893
Fifth Decile	19,558	22,796	26,411	32,908	34,448	18,159	21,571	24,968	29,707	29,833
Sixth Decile	24,513	28,521	32,659	40,714	42,014	22,136	26,340	30,213	35,830	36,015
Seventh Decile	31,283	36,562	41,408	51,351	52,069	27,605	32,767	37,325	44,021	43,931
Eighth Decile	40,996	48,260	54,571	67,593	66,896	35,051	42,068	47,362	55,913	55,322
Ninth Decile	58,127	69,475	78,984	97,148	93,299	47,971	57,512	65,876	76,841	74,322
Tenth Decile	132,604	151,510	176,922	209,616	202,771	93,721	110,528	130,105	146,887	147,936
Total	30,706	35,836	43,538	49,585	57,419	25,682	30,535	37,070	40,661	46,187

Note:									
GDP Per Capita*	55,233	71,783	87,357	109,199	131,171				
HFCE Per Capita*						41,067	53,547	65,233	81,013	96,747

* = Current PHP
Source: Authors' computations on FIES microdata

The poorest decile of per capita income distribution reported an increase of per capita incomes and expenditures by 110% and 82%, respectively while the richest decile reported increases of incomes and expenditures by 53% and 58%, respectively. If national accounts are to be believed, and in a country where income inequality has persisted for decades, a bigger share of benefits of economic growth would go to the wealthy, which results of the FIES suggests otherwise.

As was mentioned earlier, FIES, like other sample surveys of HHs, has coverage biases on account of refusals. Further, the FIES excludes institutional HHs whose expenditures are included in the HFCE. While NPISH contribution to GDP is estimated at 0.6% as of 2009, it is likely that this contribution is growing in a growing economy.

Aside from coverage biases in the FIES, there are other measurement errors that may contribute to inaccuracies of FIES-based expenditure. The survey instrument has been getting longer over the years. The extent of provision of accurate information by HHs, especially in urban areas, may be less than HHs in rural areas, who have less opportunity costs for responding to a questionnaire that takes 5 hours to answer. The selection of the FIES respondent in the household may also further contribute to survey inaccuracies since field enumerators are given the leeway to judge who among members of the household present during fieldwork are most knowledgeable about the information being asked in a survey.   It is likely that some household members not present during the field work (especially among affluent household that participate in the FIES) may be able to provide more accurate information on household spending.

Further, HFCE involves items like FISIM and the rental value of owner occupier homes, which, in most cases are not consumed by lower income HHs.   In the FIES, as in the household income and expenditure surveys of many developing countries, HHs are asked the imputed rent for owner occupier homes, i.e. what they would rent their home for, but often, survey respondents are unable to value their dwellings. National accounts data thus tends to capture larger transactions than smaller ones, which is the reverse of what is captured in the FIES, where those with large transactions are least likely to participate. Income and expenditure distributions are truncated distributions, with the growth in the very wealthy HHs not fully accounted for in the FIES.

Clearly, a major culprit for the divergence between estimates can be traced to capturing expenditures of wealthy HHs (specific items that the wealthy may understate), as well the under-participation of the wealthy in surveys. Omission of expenditures of wealthy HHs in surveys (for restaurants and hotels, for instance) ultimately reveals a different spending pattern of goods and services from reality, distorting the ability of survey data to represent the national conditions. National accounts data, however, are not themselves necessarily more accurate as they do are also limited by the availability of basic data and indicators. Further, national accounts involve many "adjustments": HFCE is estimated and adjusted using commodity flow with control for

"distribution" based on FIES, and then further adjusted again to control "statistical discrepancy" between production and expenditure approaches to estimate GDP.

While neither survey-based nor household-based estimates of household expenditure can claim to be more accurate than the other given conceptual, methodological and operational issues, each of these estimates still have their respective uses. The challenge is to triangulate these estimates or to develop ways for the discrepancy to get reduced.

5. Conclusions and Ways Forward

Conceptual differences for estimating household expenditure can be noted in national accounts and surveys, but neither source can claim to be more accurate than the other. National accounts involve many adjustments that also contribute to the discrepancy of its estimate with FIES: HFCE is estimated and adjusted using commodity flow with control for "distribution" based on FIES, and then further adjusted again to control "statistical discrepancy" between production and expenditure approaches to estimate GDP. FIES and other similar sample surveys that track household expenditures underestimate expenditures of wealthy, and also undercover the wealthy. We show evidence of the missing wealthy in the FIES by way of noting that the villages where "refusals" reside are more affluent than villages of FIES respondents, and all villages throughout the country. Further, we note that national accounts data tends to capture larger transactions than smaller ones, which is the reverse of what is captured in the FIES (and similar household income and expenditure surveys conducted in developing countries), where those with large transactions are least likely to participate. We also provide evidence in this study regarding the underreporting of expenditures of the wealthy (for restaurants and hotels, for instance) that ultimately reveals a different consumption pattern of goods and services from reality, distorting the ability of survey data to represent the national conditions. Further, this suggests that measures of income inequality may be under-estimated, and the lack of accurate information may have serious implications in studies regarding tax reform that are meant to make the extremely wealthy pay a fairer share of taxes. Generalization of sample data in a survey to the entire household population without any adjustments for coverage biases results in surveys underestimating household expenditure, and overestimation of poverty incidence in the country. National accounts data, however, are not themselves necessarily more accurate as they are also limited by the availability of basic data and indicators.

Many survey protocols in the PSA, including the survey instrument and survey design, have remain unchanged for over a decade. The PSA has only begun to implement a new master sample design for the FIES and its other sample surveys. The extent of provision of accurate information by households, especially in urban areas, may be less than households in rural areas, who have less opportunity costs for responding to a questionnaire that takes 5 hours to answer. It may be helpful if the PSA asks its field enumerators to conduct meter reading during the two visits to targeted households for interview that can help analysts model the income or expenditure of households, especially of refusals.

It will also be important for the PSA to reexamine/re-design the questionnaire of the FIES: wealthy households (which will certainly increase in number in an economy that grows) will likely not participate in surveys that take 5 hours to accomplish. At the very least, it may help if the

FIES income schedule and the expenditure schedule are split to minimize the burden of participation in surveys.

While this issue of discrepancies in household expenditure estimates from surveys and national accounts is not unique to the Philippines, it is important for the PSA to find ways of ensuring that their data are fairly consistent, as data inaccuracies may lead to overestimation of poverty and underestimation of inequality, which has adverse consequences to evidenced base policy formulation.

References

Albert, J.R.G. , J. Dumagan, and A. Martinez, Jr. 2015. "Inequalities in Income, Labor, and Education: The Challenge of Inclusive Growth." PIDS Discussion Paper Series 2015-01

Albert, J.R.G. , and M. J. Raymundo. 2015. "Why Inequality Matters in Poverty Reduction and Why the Middle Class Needs Policy Attention." PIDS Discussion Paper Series 2015-55

Bhalla, S.S. 2002. *Imagine There is No Country: Poverty, Inequality and Growth, in the Era of Globalization*. Washington, DC: Institute for International Economics.

Central Statistics Office. 2015. Report of the Committee on Private Final Consumption Expenditure, Ministry of Statistics & Programme Implementation, Government of India.

Deaton, A and Kozel. V. 2005. "Data and Dogma: The Great Indian Poverty Debate." World Bank Research Observer 20(2): 177–199.

Deaton, A. and Zaidi, S. 2002. "Guidelines for Constructing Consumption Aggregates for Welfare Analysis." World Bank. Washington, DC.

Deaton A. 2003. "How to Monitor Poverty for the Millennium Development Goals", Journal of Human Development, Vol. 4, No. 3 (2003), pp 353-378

Deaton A. 2005. "Measuring Poverty in a Growing World or Measuring Growth in a Poor World". Review of Economics and Statistics. 87 (1): 1-19.

Ericta, C.N. E, and E. Fabian. 2009. "A Documentation of the Philippines Family Income and Expenditure Survey." PIDS Discussion Paper Series 2009-18.

Ericta, C.N. E, and J. Luis. 2009. "A Documentation of the Annual Poverty Indicators Survey." PIDS Discussion Paper Series 2009-20

Haughton, J., and Khandker, S. 2009. *Handbook on Poverty and Inequality*. Washington, DC: World Bank. © World Bank. Available from: https://openknowledge.worldbank.org/handle/10986/11985 License: CC BY 3.0 IGO.

Karshenas, M. 2003. "Global poverty: National accounts-based versus survey-based estimates", Employment Papers, Employment Sector, International Labour Office, Geneva

Kraay, A. 2004. "When Is Growth Pro-Poor? Cross-Country Evidence", Working Paper 04-47, International Monetary Fund.

Minhas B.S., Kansal S.M., Jagdish K., Joshi P.D. 1986. "On reliability of the available estimates of private consumption expenditure in India." The Journal of Income and Wealth 9(2)

Pacificador, A. Y. 2009. "Some Statistical Dimensions in the Generation of Philippine Poverty Statistics." PIDS Discussion Paper Series 2009-15

Ravallion, M. (2003a): "The Debate on Globalization, Poverty, and Inequality: Why Measurement Matters." Policy Research Working Paper 3038, The World Bank

Ravallion, M. (2003b). "Measuring Aggregate Welfare in Developing Countries: How Well do National Accounts and Surveys Agree?" *Review of Economics and Statistics* 85(3): 645–652.

Ravallion, M. (2013), "How Long Will It Take to Lift One Billion People Out of Poverty?" World Bank Research Observer 2013 28:2, 139-158.

Rubin, D. (1976). *Inference and missing data*. Biometrika, 63, 3, pp.581-92.

Sundaram K. and S. D. Tendulkar, S D. (2003). "NAS-NSS Estimates of Private Consumption for Poverty Estimation: A Further Comparative Examination." Economic and Political Weekly, Vol. 38, No. 4 (Jan. 25-31, 2003), pp. 376-384 Published by: Economic and Political Weekly Stable URL: http://www.jstor.org/stable/4413137

United Nations. 2008. *System of National Accounts*.

Table A-1. Household Final Consumption Expenditure in the Philippines, by 12 Major Expenditure Items (Current Prices): 2008-2015.

	Current Prices (Million PHP)								
	1998	1999	2000	2001	2002	2003	2004	2005	2006
HFCE	2,139,824	2,360,275	2,585,276	2,863,459	3,102,445	3,381,616	3,814,889	4,259,131	4,677,986
1. Food and Non-alcoholic beverages	938,663	1,020,698	1,085,591	1,166,542	1,259,548	1,368,035	1,545,613	1,712,658	1,873,207
2. Alcoholic beverages, Tobacco	38,199	41,929	45,033	48,759	52,153	54,997	58,818	62,797	67,502
3. Clothing and Footwear	49,007	53,328	56,633	60,055	64,638	67,199	71,765	74,442	77,008
4. Housing, water, electricity, gas and other fuels	266,914	287,607	315,119	360,153	381,446	418,627	449,128	522,961	573,433
5. Furnishings, household equipment and routine household maintenance	129,470	141,542	154,283	173,717	183,477	191,373	214,457	223,180	243,188
6. Health	41,130	47,371	54,980	63,101	70,428	78,595	88,508	100,234	110,327
7. Transport	186,454	201,971	243,085	291,466	310,868	324,025	388,261	472,751	535,238
8. Communication	41,691	52,663	67,341	86,106	102,189	121,362	145,807	167,385	179,633
9. Recreation and culture	46,590	50,976	54,915	58,702	62,522	68,992	77,473	82,116	89,684
10. Education	64,699	76,461	88,545	100,840	113,493	125,586	143,340	157,569	174,363
11. Restaurants and hotels	80,335	91,863	99,665	108,846	119,347	125,375	141,732	152,495	168,557
12. Miscellaneous goods and services	256,671	293,866	320,086	345,170	382,336	437,451	489,987	530,545	585,846

	Current Prices (Million PHP)								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
HFCE	5,064,463	5,739,592	5,993,427	6,442,033	7,132,581	7,837,881	8,463,826	9,167,580	9,822,457
1. Food and Non-alcoholic beverages	2,019,980	2,390,556	2,543,994	2,709,757	3,053,347	3,343,427	3,602,777	3,870,513	4,139,099
2. Alcoholic beverages, Tobacco	71,634	79,052	83,773	87,778	91,770	100,930	110,059	126,588	137,400
3. Clothing and Footwear	80,308	87,259	89,495	94,861	100,886	108,492	116,635	127,205	127,987
4. Housing, water, electricity, gas and other fuels	657,993	704,698	712,292	805,487	879,328	965,753	1,062,100	1,164,092	1,184,581
5. Furnishings, household equipment and routine household maintenance	246,892	253,260	257,752	269,882	291,903	310,249	326,101	350,161	366,643
6. Health	119,600	130,937	141,114	157,089	173,444	199,821	222,833	247,182	266,493
7. Transport	570,660	620,107	663,622	715,749	770,433	837,569	894,369	988,200	1,098,869
8. Communication	203,881	213,962	216,702	220,220	225,358	247,946	264,863	275,249	298,846
9. Recreation and culture	101,430	108,763	112,962	123,048	129,605	142,851	154,391	165,846	183,742
10. Education	193,463	223,352	239,144	256,817	282,816	302,772	331,844	374,233	408,366
11. Restaurants and hotels	187,744	210,496	219,280	237,971	263,723	291,460	318,553	345,168	383,195
12. Miscellaneous goods and services	610,879	717,153	713,296	763,374	869,969	986,611	1,059,301	1,133,144	1,227,237

Source: Philippine Statistics Authority

Table A-2. Household Final Consumption Expenditure in the Philippines, by 12 Major Expenditure Items (Constant Prices): 1998-2015.

	Constant 2000 Prices (Million PHP)								
	1998	1999	2000	2001	2002	2003	2004	2005	2006
HFCE	2,362,391	2,457,554	2,585,276	2,690,875	2,828,340	2,983,740	3,161,890	3,301,789	3,439,876
1. Food and Non-alcoholic beverages	996,348	1,036,750	1,084,393	1,116,262	1,165,180	1,237,708	1,311,050	1,382,580	1,441,368
2. Alcoholic beverages, Tobacco	41,299	43,412	45,033	46,104	47,655	49,138	51,194	51,501	52,842
3. Clothing and Footwear	53,211	54,640	56,633	57,690	60,017	60,322	62,731	62,873	63,122
4. Housing, water, electricity, gas and other fuels	295,423	302,267	315,119	327,337	328,376	346,259	356,097	382,436	394,211
5. Furnishings, household equipment and routine household maintenance	135,998	143,697	154,283	167,681	173,419	177,033	195,139	199,090	213,323
6. Health	48,617	50,664	54,980	57,627	60,298	62,427	67,001	71,545	73,797
7. Transport	222,898	231,995	243,085	251,062	263,105	268,410	280,384	283,934	287,453
8. Communication	51,470	56,923	67,341	84,080	98,724	119,695	144,993	166,056	174,910
9. Recreation and culture	49,406	51,964	54,915	56,662	59,039	63,529	69,482	70,546	74,181
10. Education	84,907	87,184	88,545	90,847	93,718	95,721	100,589	103,732	108,705
11. Restaurants and hotels	87,414	94,485	99,665	103,368	109,871	112,192	121,763	124,435	129,673
12. Miscellaneous goods and services	295,400	303,574	321,284	332,156	368,938	391,306	401,467	403,061	426,292

	Constant 2000 Prices (Million PHP)								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
HFCE	3,598,443	3,730,861	3,817,908	3,945,827	4,166,410	4,442,523	4,692,438	4,952,191	5,264,137
1. Food and Non-alcoholic beverages	1,498,224	1,557,835	1,603,504	1,652,608	1,751,521	1,859,770	1,963,521	2,054,488	2,175,094
2. Alcoholic beverages, Tobacco	54,496	57,666	59,693	58,802	59,831	63,316	63,540	70,094	73,580
3. Clothing and Footwear	64,349	67,071	67,459	69,913	72,706	74,655	75,625	79,742	78,400
4. Housing, water, electricity, gas and other fuels	415,517	431,734	433,341	445,894	458,829	485,943	519,375	554,126	572,691
5. Furnishings, household equipment and routine household maintenance	213,944	214,991	215,512	223,598	238,248	245,219	249,442	261,555	268,884
6. Health	76,373	77,939	80,647	85,701	92,126	102,988	109,462	119,318	126,130
7. Transport	305,329	311,611	319,811	334,462	344,575	364,667	385,344	420,377	468,193
8. Communication	196,417	205,733	208,970	210,231	215,288	236,043	251,544	258,675	281,221
9. Recreation and culture	82,130	85,037	86,055	89,955	93,841	102,399	108,269	113,863	124,880
10. Education	112,675	121,058	124,498	127,579	134,854	138,018	144,937	156,655	164,053
11. Restaurants and hotels	142,365	145,962	151,116	159,311	171,414	183,659	195,181	208,068	229,156
12. Miscellaneous goods and services	436,624	454,224	467,303	487,775	533,178	585,844	626,197	655,230	701,855

Source: Philippine Statistics Authority

Table A-3. Household Final Consumption Expenditure in the Philippines, by 9 Major Expenditure Items (Current Prices): 1991-2007.

	Current Prices (Million PHP)								
	1991	1992	1993	19944	1995	1996	1997	1998	1999
HFCE	916,384	1,019,209	1,122,528	1,258,750	1,411,904	1,595,346	1,762,008	1,980,088	2,161,645
1. Food	483,872	535,848	587,098	662,903	746,972	843,443	899,948	992,055	1,065,373
2. Beverages	21,145	24,177	25,707	27,567	30,493	33,905	36,086	38,298	42,781
3.Tobacco	27,431	28,243	30,441	32,678	34,678	36,761	39,665	43,321	45,275
4. Clothing and footwear	33,488	37,524	40,987	44,222	46,978	49,789	52,897	56,987	61,956
5. Fuel, light and water	38,880	42,030	46,586	51,570	56,659	63,508	73,151	83,222	92,571
6. Household furnishings	24,536	26,709	28,696	30,589	32,600	34,498	36,490	39,338	42,535
7. Household operations	96,279	111,418	126,818	143,491	165,386	190,400	214,856	245,148	268,122
8. Transportation/ communications	48,969	50,430	51,817	54,697	57,585	63,839	75,754	88,194	96,978
9. Miscellaneous	141,784	162,830	184,378	211,033	240,553	279,203	333,161	393,525	446,054

	Current Prices (Million PHP)							
	2000	2001	2002	2003	2004	2005	2006	2007
HFCE	2,335,535	2,565,022	2,750,994	2,988,240	3,346,716	3,772,249	4,229,502	4,611,884
1. Food	1,114,096	1,189,815	1,252,645	1,344,365	1,506,667	1,689,578	1,892,241	2,077,723
2. Beverages	46,324	50,432	53,489	56,680	61,722	64,754	71,114	76,367
3.Tobacco	47,814	51,511	54,212	55,908	58,097	61,605	66,678	70,317
4. Clothing and footwear	65,364	69,393	73,121	77,276	82,888	85,302	88,376	94,950
5. Fuel, light and water	107,078	123,880	131,488	146,917	158,757	184,927	207,906	224,459
6. Household furnishings	45,524	48,286	51,393	54,734	57,360	58,872	59,026	58,849
7. Household operations	286,681	310,585	328,536	345,720	367,261	396,274	424,719	441,872
8. Transportation/ communications	123,034	156,141	180,346	212,940	277,309	373,410	468,933	517,215
9. Miscellaneous	499,620	564,979	625,764	693,700	776,655	857,527	950,509	1,050,132

Source: Philippine Statistics Authority

Table A-4. Household Final Consumption Expenditure in the Philippines, by 9 Major Expenditure Items (Constant Prices): 1991-2007.

	Constant 1985 Prices (Million PHP)								
	1991	1992	1993	1994	1995	1996	1997	1998	1999
HFCE	543788	561509	578589	600106	622985	651790	684,316	707,904	726,578
1. Food	294332	306221	317187	329618	341326	357041	374,276	385,779	395,150
2. Beverages	12734	12979	13042	13568	14248	14833	15,453	15,889	16,458
3.Tobacco	16071	16161	16117	16355	16660	16890	17,127	17,369	17,588
4. Clothing and footwear	21590	21913	22316	23095	23668	24280	24,865	25,383	25,994
5. Fuel, light and water	22341	22969	23747	24700	26192	27929	29,731	31,429	32,966
6. Household furnishings	15938	16095	16589	16970	17703	18462	19,275	20,010	20,808
7. Household operations	55266	56105	57986	60058	62086	64568	67,295	69,614	71,234
8. Transportation/ communications	27297	28178	29047	30271	31786	33735	36,428	38,471	39,809
9. Miscellaneous	78219	80888	82558	85471	89316	94052	99,866	103,960	106,571

	Constant 1985 Prices (Million PHP)							
	2000	2001	2002	2003	2004	2005	2006	2007
HFCE	752,066	779,011	810,785	853,598	903,814	947,506	999,728	1,058,176
1. Food	405,588	416,970	431,308	453,480	479,835	505,258	536,522	570,197
2. Beverages	17,049	17,551	18,080	18,765	19,644	19,469	20,124	20,877
3.Tobacco	17,896	18,182	18,491	18,699	19,160	19,131	19,946	20,574
4. Clothing and footwear	26,736	27,357	28,102	29,053	30,465	30,287	30,432	31,975
5. Fuel, light and water	34,630	35,953	36,157	37,957	39,004	38,476	38,267	40,013
6. Household furnishings	21,956	22,708	23,805	24,957	25,807	25,980	25,610	25,241
7. Household operations	72,894	74,835	76,605	78,741	81,049	83,350	85,482	87,321
8. Transportation/ communications	43,813	48,436	55,045	62,132	70,963	80,882	90,642	99,456
9. Miscellaneous	111,504	117,019	123,192	129,814	137,888	144,674	152,701	162,522

Source: Philippine Statistics Authority