# Engel Curve Modeling: Analysis of the Consumption Pattern of the Poor Households in Metro Manila

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The National Capital Region (NCR), better known as the Metropolitan Manila Area or Metro Manila, is the country's premier region. Not only is Metro Manila the most progressive among the regions of the country, it is also the most densely populated. Metro Manila, which is composed of 17 highly urbanized cities that are geographically segmented into four contiguous districts, has traditionally been regarded as the country's center of commercial, political, educational, and economic activities. Not to mention its being the seat of the national leadership. Its generally affluent inhabitants, who according to the 2007 population census reached close to 11.6 million people (living in an area of 636 km<sup>2</sup> for a very high population density of 18,157 persons per square kilometer), are enjoying the highest purchasing power and standard of living among the different regions of the country.

However, despite the general affluence of Metro Manila inhabitants, like all regions of the country, it also has its share of the urban poor or those who barely meet the basic necessities of life. It is in Metro Manila that the contrast between the rich and the poor is exceptionally glaring. This study attempts to uncover the consumption pattern of the urban poor in Metro Manila through econometric modeling of the budget households allocate to the different consumption items necessary to meet living standards, in relation to their spending capability, household composition, location in the metropolis, and other demographic characteristics. The public use file of the 2009 Family Income and Expenditure Survey (FIES) for Metro Manila constitutes the database of the study, focusing on sample households belonging to the lowest 20% of the regional income distribution, which in this study is presumed to constitute the poor segment of the population.

#### Problem Statement/Policy Issue and Its Importance

The central issue in this study is the conduct of an in-depth descriptive and econometric analysis of the consumption pattern of Metro Manila urban poor across household composition, demographic, social, and locational categories of households, to provide policy makers with invaluable inputs in establishing poverty outline and other descriptive measures that may help local and national authorities in profiling the poor situated within these classifications for focused intervention targeting. An important valueadded characteristic of this research is the incorporation of the complex survey design features of the FIES to improve estimates of parameters and standard errors that will be used in the descriptive analysis and econometric modeling to be done. Explicitly, the main problem addressed in this research is, "How do the urban poor of Metro Manila allocate their meager resources to meet basic human requirements in light of their demographic and other attributes?"

#### **Theoretical and Operational Framework**

The most important microeconomic concept used in empirical modeling of household budgets is that of Engel curves. This concept was named after Ernst Engel, a 19th-century Prussian statistician who conducted one of the earliest studies of household expenditure patterns. In a series of budget studies, he theorized that food expenditures take a steadily declining share of income as income of the family becomes larger. He also posited that clothing and housing take a constant share of the income regardless of its size, while education, health, transportation, recreation, and saving take larger percentage allocation as income of the family increases (Engel, 1857). These empirical regularities came to be known in the literature as the classical Engel's Law, and the mathematical equation linking income (or spending) to the budget share of a good is called Engel curve of the good. In a family

budget, there are as many Engel curves as there are goods in the family's market basket.

Engel curves are a systematic way of summarizing and describing the development of household budgets as material resources increase (Deaton & Case, 1987). In the microeconomic theory of consumer behavior, an Engel curve pertains to the income or expenditure expansion path of demand for a particular consumer good under constant prices (Varian, 2005). In its most basic form, an Engel curve represents a mathematical relationship of the proportion of the budget allocated for a good (budget share) as a function of the household income (or by the total expenditure under the nonsatiety assumption of the theory).

It is however simplistic to assume that variation in budget allocation for the different consumption items is explained solely by variation in household income (or expenditure). The presence of children in the household will definitely affect budget allocation for certain items children are heavy users of (e.g., education, clothing, and footwear). Gender of the household head and so with the age and other demographic characteristics of the household may also impact the budget allocation process.

In this study, it is postulated that the data provided by the Metro Manila sample belonging to the first two regional income deciles (households whose total income is at the bottom 20% of all Metro Manila households, which constitute the "Poor" segment) contain the necessary information that may reveal their budget allocation process—hence their consumption pattern. The choice of using the first and the second regional income deciles to identify the poor is due to the 2009 poverty incidence of 20.9% for the Philippines (Virola, 2011) which is closely approximated by the 20% figure. The empirical model that subscribes to the theoretical tenets of microeconomics is formulated accordingly this way: letting  $\varpi_i$  = the budget share of the *i*th consumption category in the consumption basket, and M = total household expenditure (proxy for disposable income) or total household income.

#### The Basic Engel Curve

The basic form of the Engel curve for the *i*th consumption items takes the following empirical form popular in the literature as the Working–Leser Engel curve (Working, 1943; Leser, 1963):

$$\boldsymbol{\varpi}_i = \boldsymbol{\alpha}_i + \boldsymbol{\beta}_i \ln(M) + \boldsymbol{u}_i \text{ for } i = 1, 2, \dots, k \tag{1}$$

where *k* is the total number of mutually exclusive consumption categories in the household's budget,  $\alpha_i$  and  $\beta_i$  are parameters to be estimated, and  $u_i$  is

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a random disturbance term that is assumed to have zero mean and constant variance, generally independent across sample households and not related to M.

In order for this function to be empirically plausible, the adding-up restriction must be met in the parameter estimation, that is,

$$\sum_{i=1}^{k} \overline{\omega}_{i} = 1 \text{ that is possible only when } \sum_{i=1}^{k} \alpha_{i} = 1 \text{ and } \sum_{i=1}^{k} \beta_{i} = 0 \qquad (2)$$

Note that the above restrictions can be satisfied when ordinary least squares (OLS) estimation of the model's parameters is implemented independently on an equation-by-equation basis. Hence, under the basic Working-Leser Engel curve model, adding up is not a cross-equation restriction that usually messes up the parameter estimation. In this study, separate Engel curves will be constructed and analyzed for M = total household expenditure and M = total household income. When total household expenditure is used, budget shares are the proportion of the total expenditure accounted for by the *i*th consumption item, while budget shares are deemed to be the proportion of the total household income allocated for the various items M is income. Additionally, in the income Engel curves, household savings is assumed to be a distinct consumption category.

#### Augmented Engel Curves with Demographic and Locational Dummies

The basic form of the model can easily be adjudged to be overly simple, bordering on being a crude approximation of reality. Since different household characteristics are posited earlier to influence budget decisions of households, we can modify the basic model by augmenting it with household composition as well as demographic and locational dummy variables. In this way, we can empirically determine and assess the significance of the differential impact of these supposedly relevant factors on the budget shares of the various consumption categories.

The form of the Engel curves that will serve as our means of testing our a priori expectations and theoretical predictions take the following form (known as the Augmented Working–Leser Engel curves):

$$\varpi_i = \alpha_i + \beta_i \ln(M) + \sum_{j=1}^a \gamma_{ij} \eta_j + \sum_{j=1}^b \psi_{ij} DEM_j + \sum_{j=1}^c \phi_{ij} DISTRICT_j + u_i \quad (3)$$

where  $\overline{\omega}_i, \alpha_i, \beta_i, M$ , and  $u_i$  are the same as before,

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*a* = number of age-specific household composition variables

- *b* = number of demographic characteristics dummy variables
- *c* = number of Metro Manila district dummy variables
- $\eta_j$  = number of household members belonging to the *j*th age category  $DEM_j = 1$  if sample household belongs to the *j*th demographic
- category, 0 if otherwise  $DISTRICT_{j} = 1$  if sample household belongs to the *j*th Metro Manila district, 0 if otherwise

To make model (3) subscribe to the adding-up requirement of the theory, it is necessary for the following to be met in the parameter estimates:

$$\sum_{i=1}^{k} \alpha_{i} = 1 \qquad \sum_{i=1}^{k} \beta_{i} = 0 \qquad \sum_{i=1}^{k} \gamma_{ij} = 0 \qquad \sum_{i=1}^{k} \psi_{ij} = 0 \qquad \text{and} \qquad \sum_{i=1}^{k} \varphi_{ij} = 0 \qquad (4)$$

It is to be noted however that when OLS estimation is applied for each equation in isolation, there is no way we can incorporate the above constraints; hence, it is imperative that we employ simultaneous equation system estimation, with facility to handle cross-equations a priori restrictions. In this study, the Full Information Maximum Likelihood (FIML) estimation is seen to provide the best results under the adding-up constraints (4). As an alternative, the Iterative SURE, by virtue of its being an asymptotic FIML, can likewise be used, provided that the solution converges.

#### Incorporating the Sampling Design of the Survey in Inference

It has been one of the goals of this study to compute parameter estimates of the models together with the necessary descriptive measures and standard errors with full consideration of the complex design of the survey. This is made clear at the onset since the proponent would like to distinguish this study from most statistical investigations that employ survey data. More often than not, statistical inferences in most of these researches are done with the assumption that the data collection is undertaken using simple random sampling (SRS) without replacement, with the elements of the target population having equal chance of being included in the sample. Although computationally convenient, this procedure is theoretically flawed when complex design was used in the survey (Deaton, 1997; Korn & Graubard, 1999).

The FIES in particular employs a multistage stratified sampling design aimed at economizing on the sample size without sacrificing the precision of the sample representation. As a consequence, each population element has different probabilities of inclusion in the sample. As such, there is a need to take into consideration the use of sampling weights (sometimes called raising factors), which represent the inverse of the selection probabilities for each sample element (Cochran, 1977). These sampling weights are needed to correct for differential representation and the effect of the sampling design on the estimates and their respective standard errors (Deaton, 1997). This will ensure the unbiasedness and consistency of the estimates, resulting in better inference.

An important by-product of the adjustment process called the design effect (Deff) is generated for each design-consistent estimate. This statistic represents the ratio of the variance of the estimate (using the complex design) and the variance under a hypothetical survey conducted under the SRS sampling without replacement and with the same number of elements as in the complex survey (Kish, 1965). Stratification tends to reduce Deff below 1.0 while clustering tends to increase it above 1.0 (Deaton, 1997; Kish, 1995). A design effect above 1.0 may seem to be pointing to the relative undesirable of the complex design vis-à-vis SRS on the basis of efficiency; however, survey designers have to take into consideration various factors in designing surveys (e.g., costs and timeliness of the results). All things being equal, a simple random sample gives the most efficiency per observation collected. Oftentimes however, important considerations dictate that samples not be taken strictly at random (Wolter, 2007).

The adjustment process to incorporate the complex design of the 2009 FIES in all of the estimation and statistical inferences procedures implemented in the study is automated using the STATA Ver. 11 software through the various commands and macros known collectively as "svy commands." Such a suite of commands is well suited for all researchers who use survey data in their analyses and wanted to "do it right," that is, to avoid the consequences of using SRS-based estimation and inference procedures that may lead to misleading results.

#### Identifying the Poor Households

Due to the multifaceted nature of poverty, identifying the individuals who are in such a state has become a matter of conjecture. In the Philippines, there are a number of estimates for an indicator known as the "poverty line" or "poverty threshold"—an income cutoff point that represents the "minimum acceptable standard of welfare that separates the poor from the non-poor" (ADB, 2009). The government, multilateral organizations, and private entities employ different poverty lines, which vary significantly in any given reference period. During the year 2009, the official poverty threshold using the approved poverty estimation methodology announced by NSCB is

P16,841 per capita income, which when used for the entire Philippines puts the poverty incidence at 20.9% (Virola, 2011). For international comparison, multilateral organizations either use the \$1-a-day or the \$1.25-a-day standards as the threshold. The Social Weather Stations (SWS) employs the "self-rated poverty indicator," which in the second quarter of 2009 stood at 50% (ADB, 2009). The methodology of the Annual Poverty Indicator Survey (APIS) identifies the poor as those belonging to lower 40% of the income distribution (NSO, 2009). Balisacan (2003) on the other hand, proposed a spatially consistent poverty threshold that varies across time and space, which at the moment has no updated figure for NCR available yet.

In the present study, the official poverty incidence of 20.9% in 2009 is used to identify the poor, which roughly corresponds to the bottom 20% (lowest quintile) of the regional income distribution of the NCR. When the P16,841-per-capita threshold is to be used, only 57 of the Metro Manila 2009 FIES sample of 4,285 will be classified as poor, defeating the purpose of the study. Hence, due to the asymptotic nature of the econometric estimation methodology to be employed as well as to come up with a more robust descriptive estimates, it is deemed necessary to use the more "realistic" system of identifying the poor as those households belonging to the first two regional income deciles resulting in a working sample of 854 households.

#### **Conceptual Framework**

The classical microeconomic theory of consumer demand behavior has it that the basic determinant of the budget share formation of consumers is the total income available at their disposal (Varian, 2005). It is to be expected that the higher the income of the consumer, the higher would be the allocation proportion that they would assign to those items they can do without when they are poorer. Moreover, during situations of relative poverty, families tend to put higher priorities to items that are considered to be of basic importance to their survival, like food, utilities, clothing, and shelter.

It is however simplistic to assume that consumption varies exclusively with income of the household. Some other characteristics could decidedly impact on the budget allocation process. For one, the presence of schoolaged members could influence the budget shares for education, food, clothing and footwear, and transportation and communication, among other consumption items. Having nonrelatives, particularly family friends and household helps, could create a dent on the household budget in terms of allocation to household operations, nondurables, and other related items. In short, household composition should be taken into consideration in the modeling process. Households also vary extensively in their demographic characteristics. Consequently, such variation can be manifested in the manner they form their household budget. We can postulate that variables such as, gender, age, educational attainment and employment status of the household head, and the type of family may be considered as logical determinants of consumption behavior of the family. Location of the household in the metropolis may also play a role in family budgeting.

Presented in Figure 1 is the conceptual framework paradigm of the study. It simply shows the interrelationships of the various components—database, models, inference techniques, estimation procedures, basic outcomes, and the possible policy implications of the results.



Figure 1. Conceptual Fframework diagram

#### The Variables and How They are Prepared for Analysis

The main concern of the analysis are the budget shares for the different consumption categories that are used and conceptually presented in the operational definitions of the 2009 FIES. Two different kinds of budget shares are generated: the shares of total household expenditures and the shares of total household income devoted to each of the 19 consumption items. For the income budget share, an additional category of budget is used, which is that of household savings. For each of these sets of budget shares for each household, the total is 1 by construction. It has to be emphasized that in

this study, the average share of each item pertains to the sample average for the item, that is, for the *i*th consumption item:  $\varpi_i = \frac{\sum_{j}^{w_j,\omega_i}}{\sum_{j}^{w_j}}$ , with  $w_j$  is the weight of the sample household, in contrast to the share concept (Deaton & Case, 1997), which the NSO has adopted in its published figures. The formula for this concept is  $\overline{w_i} = \frac{\sum_{i=1}^{w_j,\omega_i} \sum_{j=1}^{w_i} w_j}{\sum_{i=1}^{w_i} \sum_{j=1}^{w_i} w_j}$ , with *j* across sample households.

#### **Income and Expenditure Elasticities**

Among the most important parameters of economic relationships essential in research is the concept of elasticity. In this study, both the income and expenditure elasticities of consumption of each of the various consumption categories. In budget studies like Engel curve analysis, income or expenditure elasticities may be used as a basis of categorizing the various items of consumption into necessity, luxury, or inferior. Obtaining estimates for these coefficients in the present study may reveal important insight into how the urban poor of the Metropolis consider the various items.

Using the Basic Working–Leser Engel curve model (1), a general elasticity formula can be derived by considering that the budget share  $\varpi_i$  may be represented as the ratio of the unit price times the quantity of the commodity consumed by the household and the total consumption or total income.

Given the model  $\varpi_i = \frac{p_i q_i}{M} = \alpha_i + \beta_i \ln(M)$ , the income/expenditure elasticity for the *i*th consumption item which is denoted by  $\mathcal{E}_i$  can be derived as

$$\varepsilon_i = \frac{\partial \ln q_i}{\partial \ln M} = 1 + \frac{\beta_i}{\varpi_i} \tag{5}$$

Evaluation of the elasticities is undertaken at the mean budget share  $\boldsymbol{\varpi}_i$  using the empirically determined parameter  $\hat{\boldsymbol{\beta}}_i$  (the coefficient of the natural logarithm of income or natural logarithm of expenditure).

In this study, both the income and expenditure elasticities of the different consumption items are estimated. In estimating the income elasticities, household savings is considered as one of the items families allocate budget for. Hence, a design-based estimate for savings elasticity of household income will be one of the distinct outputs of the study.

#### **Review of Related Literature**

The earliest account in the literature of empirical modeling of complete system of demand equation was the contribution of Leser (1941) using family budget data of a cross-section of Australian households. Prior to Leser, the early history of empirical demand analysis is characterized by the extensive use of single-equation methodology centered on measurement of elasticities (e.g., Schultz, 1938). After Leser, it took a decade for another researcher to come up with another application of the complete system approach. This happened when Stone (1954) published an empirical implementation of the linear expenditure system (LES) to British consumption data. This publication marked the beginning of a slow but steady flow of research concerning the application of the theory of consumer demand behavior in multicommodity markets using both cross-section and time series data.

The publication by Houthaker (1960) of a theoretical landmark about additive preferences marked the end of the infant stage of the systems approach (Barten, 1977). Since then, there has been an almost continuous flow of journal articles and published materials, theoretical and applied, delving mainly on systems of consumer demand equations. The primary concern of the modern strand of the literature on demand systems is the specification of the mathematical form of the complete system model. The trust along this area in microeconomics is in the formulation of the model or models with the most desirable properties (Barten, 1977). Over the years, many models have been proposed, but perhaps the most outstanding among these complete demand models are the Rotterdam model, due to Theil (1965) and Barten (1966), and the Almost Ideal Demand System (AIDS) by Deaton and Muellbauer (1980). These two models are considered excellent alternatives to the LES, which remained to be the model of choice by many researchers since the time of Stone (1954).

What made these three models extremely popular to consumer demand analysts and other economists is their demonstrated empirical validity as well as the fact that these models are the leading representative functional forms of the three approaches used in generating systems of consumer demand equations. No other models registered a better loyal following among demand researchers than these three theoretically sound and mathematically rigorous models. These demand systems can also be used to model budget shares of the consumption items on household's income (or spending). When taken in this form, the model becomes a system of Engel curves.

The type of Engel curve initially used in empirical studies was the singleequation model of budget shares and per capita disposable income for each

commodity item in the consumption basket. Empirical estimation can be performed in many ways. The review works of Prais and Houthakker (1971) and Brown and Deaton (1972) offered a glimpse of the various techniques used in estimating single-equation Engel curves. The common consensus in the reviews was that the double logarithmic and semi-logarithmic forms produced better goodness-of-fit performance than the other commonly used forms.

A major concern in the estimation of Engel curves is for the algebraic form of the model used should be consistent with observed consumer behavior and at the same time fall within the theoretical requirements of consumer demand theory. One important theoretical condition called the "adding-up" restriction is usually violated by single-equation models. Adding up requires that consumers do not spend more than what they earn. One functional form that satisfies this restriction and can represent closely demand behavior of consumers was originally proposed by Working (1943) and elaborated by Leser (1963), which came to become the most popular single-equation modeling technique for Engel curves under the name *Working-Leser model*. It allows for luxuries, necessities and inferior goods, and elasticities to vary with income. Finally, the form is linear in the logarithm of expenditure (under the nonsatiety assumption) and is easily estimated by OLS equation by equation.

More recent studies gravitate towards the use of full system models of Engel curves. The main reason for such a shift was the implausibility of some of the requirements of consumer demand theory when more explanatory variables are used in the single-equation forms. Under this scenario, the theoretical developments in the literature of the full system consumer demand equations converged with that of the full system Engel curve modeling as both are deemed to be theoretically similar in many respects. Current issues that are being resolved in the literature concern the appropriateness of using nonlinear budget shares and elasticities (e.g., Bhalotra & Attfield, 1998; Gong et al., 2005; Kedir & Girma, 2007) and the concern about the maximum dimension of the function space contained by the Engel curve (e.g., Yu, Hertel, Preckel, & Eales, 2004; Cranfield et al., 2003).

#### Philippines Demand and Engel Curves System Studies

In the Philippines, most of the complete system studies were about consumer demand analysis using cross-section data. Bouis (1990) estimated food demand elasticities for the Philippines' urban and rural populations on seven food categories and one nonfood category using a food characteristic demand model. He noted more pronounced tendencies for rural populations to have higher estimated income elasticities for more expensive foods. In using the model to simulate consumption, he noted that the model correctly anticipated urban and rural consumption of certain food items using observed price and income data in out-of-sample simulation.

Balisacan (1994) employed a two-stage budgeting framework in estimating the coefficients of an AIDS implementation of another food demand system. Instead of using the original Deaton and Muellbauer (1980) specification of AIDS, he followed the suggestion of Blundell (1988) of incorporating quadratic real income term and some household demographic variables. Using data from the 1985 to 1992 FIES, he estimated the model for six consumption categories and uncovered different patterns of consumption of various demographic groups across survey periods.

The structure used by Balisacan (1994) gave Llanto (1996) a theoretical and procedural basis for a separate study aimed at determining the consumption response of agricultural households to changes in income and prices. Llanto posited that poor households are more vulnerable to adverse price movements, particularly that of food, due to inappropriate government policies mostly intended to protect producers but are detrimental to consumers (e.g., tariffs and price supports). Following the same procedure used by Balisacan, Llanto reported theoretically plausible and statistically adequate results. In this study, Llanto cited the study of Orbeta (1994), whose finding is consistent with his.

Orbeta and Alba (1998) employed the regional data files of the 1991 FIES to analyze the impact of macroeconomic policy changes on the nutritional status of Filipino households. To do this, they used an eight-equation food demand system with a modified AIDS specification for the purpose of estimating uncompensated price elasticities and expenditure elasticities. These elasticity estimates were then used as inputs to a multimarket model developed by Quisumbing (1988) that calculates the changes in nutrient consumption resulting from changes in prices and income. This allowed simulation exercises to be done through the APEX General Equilibrium Model (Cororaton, 1996) to examine the impact of the Tariff Reform Program implementation between 1988 and 1992 on micronutrient availability to the household sector.

The most interesting innovation of Orbeta and Alba (1998) is in the computation of price elasticities using cross-section data. In circumventing the price invariance of survey data, they exploited the fact that price variation occurs across provincial boundaries (spatial price variation). By grouping the nationwide sample into income quintiles and applying the contemporaneous provincial price indices of the various consumption categories on the households in each income grouping, they were able to generate expenditure

and price elasticities. The study was able to show progressive impact of policy changes on nutrition as compared to the impact on income.

An analytical study (Alba, 1999) on the consumption pattern of urban poor households was conducted using full system Engel curve models using a modified Working-Lesser model. The model was implemented using primary data collected by two NGOs-HASIK and PHLSSA-in five consumption categories (food, transport, clothing, utilities, and others). Estimation was carried out by the full information maximum likelihood (FIML) method, with cross-equation adding-up restrictions imposed to make the estimates satisfy consumer demand theory. The estimated model however produced very few significant parameter estimates, particularly in the transport and utility equations with no significant coefficients. Differential effects can not be sorted out even in Engel curve equations with significant coefficients. To figure out the net influences of the significant variables, Alba resorted to the use of counter-factual simulations implemented on households with hypothetical characteristics. The most robust among the findings uncovered was that urban poor families are (probably) less able to adjust to increases in prices of food and utilities than to similar changes in transport and clothing.

#### Presentation and Analysis of Results

After implementing the different descriptive and analytical procedures outlined in the methodology section, we are now ready to present the results. The presentation is divided into two main sections: the first is the outcome of the descriptive analysis of the stylized facts about Metro Manila urban poor; the second is a discussion of the results of the analytical models employed in the study particularly the Working–Leser Engel curves of the various consumption items. A total of 38 statistical tables were constructed summarizing the information extracted from the Metro Manila sample of FIES 2009.

#### Stylized Facts on the Demographics and Consumption Pattern of Metro Manila Urban Poor

Using the estimation procedure suggested by the survey design of FIES 2009, it is estimated that the total number of urban poor households in Metro Manila in 2009 stands at 492,392 families. Presented in Table 1 and Table 1A are the different demographic and locational characteristics of this segment of Metro Manila households. The average age of household heads is 45.63 years with a mean family size of 3.6 persons. The highest number of age-specific household members is under the working-age segment—the 25- to

59-year-old bracket—with 1.5 persons on the average, while nonrelative members and infants (aged less than 1 year old) have the least number with less than 0.1 average members. Adolescents (7 to 14 years old) average 0.8 members; toddlers (1 to 6 years old) average 0.6 members, while young adults (15 to 24 years old) are estimated at a little less than 0.5 average.

Three out of four (75.1%) households are headed by males, 7 out of 10 (70.1%) have married heads, and about 6 in 10 (56.6%) have high-school–educated heads. Nine out of ten (89.3%) households belong to the nuclear single-family type. The unemployment rate of the household heads stands at 21.95%, of which married unemployed are 12.4% of household heads, male unemployed are 12.1%, and heads who are older than 45 years and jobless are estimated at 17.4%. Unemployment rate in the poorest decile is estimated at 13.6%.

In those households with unemployed heads, 59,577 (12.1% of all households) are male, 61,145 (12.4%) are married, 85,950 (13.6%) are at least 45 years old, and 6,592 (1.3%) are college graduates.

Among Metro Manila's four contiguous districts, the largest number of poor households at 180,499 is located in District 2 (Eastern Metro Manila composed of Mandaluyong, Marikina, Pasig, Quezon City, and San Juan). District 3 (CAMANAVA District-Caloocan, Malabon, Navotas, and Valenzuela) houses 132,949 households, while District 4 (Southern Metro Manila-Las Piñas, Makati, Muntinlupa, Parañaque, Pasay, Pateros, and Taguig) has 124,952 poor households. The district comprising the City of Manila has the least number of poor households at 53,991. Judging the severity of poverty across districts may not be appropriate because of scale effects; the number of poor households in districts with bigger geographical area is expectedly higher than smaller districts. Looking at the per capita income of poor households in the four districts, the CAMANAVA District, with per capita income of P43,170, proved to have the poorest of the poor while the City of Manila with per capita income of P45,584 has poor with the highest purchasing power. Estimates of the average income, expenditures, per capita income, and per capita expenditure of the poor in the different districts are presented in Table 1B.

Sampling design-consistent estimation of the average income and expenditure of the poor in Metro Manila resulted in the figures of P117,087 and P115,433, respectively, in current (2009) peso, with per capita figures of P44,008 and P42,521. These numbers are less than half of Metro Manila's FIES results (P356,000 income and P309,000 expenditure) reported by NSO for the year 2009 but better than those estimated for ARMM (P113,000 income and P98,000 expenditure) during the same year (NSO Press l Release Number: 2011-07). Despite their meager purchasing power, the urban poor

of the capital region managed to generate an estimated P1,654 average savings (compared to Metro Manila savings of P47,000). As expected, food accounts for the lion share of both income and expenditure of the households, with budget shares of 49.94% of income and 50.41% of expenditure. House rent (17.46% of income and 17.74% of expenditure) and utilities (9.37% of income and 9.48% of expenditure) are the two other major consumption items. These three categories, together with household operations and personal care and effects, registered 100% consumption incidence (or items consumed by all sample households) during the reference period.

As gleaned from Tables 2, 6, and 7, expenditure items receiving the least budget shares are purchases of nondurable furnishings (0.10% of income and 0.11% of expenditure), house repair and maintenance (0.16% of income and 0.17% of expenditure), recreation (0.22% of income and 0.22% of expenditure), and education (0.7% of income and 0.69% of expenditure). These items also registered the least consumption incidence although not in the same order. Interestingly, 28.36% of the big cities' poor paid taxes, 59.37% were able to save part of their income, 68.46% turned in positive expenditure on gifts and contributions to others, and more than half (51.59%) consumed alcoholic beverages.

#### Nonpoor Versus Poor Income Disposition

Looking at the other segment of the population of households in Metro Manila we labeled "Nonpoor," which basically consist of households belonging to the top 8 regional income deciles, a glaring contrast in consumption patterns may be noted. Table 7A presents the disposition of household income and consumption incidence by the nonpoor households of all consumption items. Also exhibited in the table are the average income and expenditure per household as well as the per capita income and expenditure figures. To highlight the contrast in consumption patterns and purchasing power between nonpoor and poor households, Table 7B is constructed from information in Table 7 and Table 7A.

The validity of the Engel's Law that richer families tend to have lower proportion of their income devoted to food is apparent in Table 7B as only 36.38% of the nonpoor's income is consigned to food while the figure is 49.94% for the poor. In all other expenditure items, the disposition of their income essentially differ, but the ranking in their importance is basically the same, especially in the top two items—food and housing—which account for the bulk of their income. For the nonpoor, savings occupy the third highest allocation proportion, while utilities are the third highest for the poor. The difference in their savings rate is an awe-inspiring ratio of more than 10:1 (9.89% for the nonpoor versus 0.91% for the poor). Two other items

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exhibit glaring contrasts: tax payments (2.33% versus 0.36%) and education expenditures (3.18% versus 0.70%). These figures suggest an extreme disparity in well being enjoyed by the nonpoor over the poor.

With regards to consumption incidence (percentage of the total households consuming positive amount) of the various items, the two segments registered 100% incidence of almost the same items except for savings, where only 59.37%% of the poor was able to save while the nonpoor posted 100%. Among the other noteworthy differences in consumption incidence are in education, recreation, durable, and nondurable furnishings, special occasions of the family, gifts and contribution to others, house repairs and maintenance, and tax payments. When one looks at the hard figures of average household and average per capita income and expenditure, the picture of contrast will be complete—for the nonpoor vis-à-vis the poor, total income (almost fourfold), total expenditure (threefold), per capita income (2.4-fold), and per capita expenditure (double).

#### Design-Consistent vis-à-vis Simple Random Sampling (SRS) Estimates

One of the value-added features of the study is the survey design-consistent estimation procedure employed in all of the descriptive and analytical methodologies implemented. The 2009 FIES is a complex survey with clustering and stratification features of the different stages of sample selection; hence, treating the raw data as elements of a simple random sample when used in data analysis will produce biased and inconsistent results (Deaton, 1997). To make a comparative analysis of the difference between the design-consistent and SRS estimates, Tables 2, 3, and 4 will be of help.

Presented in Tables 2 and 3 are the design-consistent and SRS estimates of the mean household consumption by expenditure categories, respectively. Table 4 exhibits the two estimates side by side to highlight their difference. It is to be emphasized that the SRS estimates disregard the true survey design of FIES and hence are fictitious and are generated only for comparative analysis. One may note the glaring difference between the two sets of estimates, with the design consistent estimates being generally higher than SRS estimates and having larger standard errors. Out of 23 items estimated, only six SRS estimates are higher than the design consistent estimates and only seven produced higher standard errors.

In all of the tables showing design consistent estimates, an indicator of the relative efficiency of SRS estimates over that of design-based figures, called the Deff, is included for reference. A Deff figure of 1.5000 can be interpreted to mean that SRS without replacement is 50% more efficient (lesser variance) than a complex design should SRS be the actual sample selection procedure

used. However, as mentioned in the Methodology section, SRS estimates are biased and inconsistent (hence misleading) if the true survey design involves clustering and stratification.

#### **Estimated Income and Expenditure Elasticities**

Further insights can be gathered beyond a descriptive analysis of the budget allocation process of Metro Manila poor households when we can quantify the manner they consume the various consumption items in response to their changing disposable income. We call this measure income elasticity of demand. Sometimes we use the alternative measure called expenditure elasticity when we equate disposable income to the total expenditure. Such an assumption is usually made in analytical studies and is necessary to allow the adding-up restriction of consumer demand theory to be relevant. In this study, both the income and expenditure elasticities are computed as we allow savings to be endogenized and treated as an additional consumption category in the computation of income elasticities.

One of the most useful applications of the estimated elasticities is in the classification of the consumption items as necessity or luxury goods. Identifying which of the different expenditure categories are considered necessity for the urban poor may provide important insights into the type of assistance suitable for this segment of the population. The following summary, taken from Tables 7 and 8, gives the results of the computation of both the income and the expenditure elasticities for the different budget items.

Consumption Item	Income Elasticity	Classification	Expenditure Elasticity	Classification
Food	0.8734	Necessity	0.9558	Necessity
Alcoholic beverages	ns (p > 0.567)	Independent	ns (p > 0.942)	Independent
Tobacco	0.5292	Necessity	ns (p > 0.143)	Independent
Fuel, light, and water	0.8066	Necessity	0.8812	Necessity
Transportation and communication	1.5703	Luxury	1.6581	Luxury
Household operations	ns (p > 0.125)	Independent	ns (p > 0.396)	Independent
Personal care and effects	ns (p > 0.666)	Independent	1.1105	Luxury
Clothing and footwear	ns (p > 0.262)	Independent	1.1683	Luxury
Education	2.1169	Luxury	2.1429	Luxury

Recreation	1.7832	Luxury	1.8915	Luxury
Medical care	ns (p > 0.828)	Independent	ns (p > 0.665)	Independent
Nondurable furnishings	ns (p > 0.164)	Independent	1.4787	Luxury
Durable furnishings	3.0067	Luxury	2.8230	Luxury
Taxes paid	3.0396	Luxury	3.0175	Luxury
House rent/rental value	0.5355	Necessity	0.6407	Necessity
House maintenance/ repairs	ns (p > 0.766)	Independent	ns (p > 0.648)	Independent
Special occasions	1.3740	Luxury	1.3993	Luxury
Gifts and contributions	1.5900	Luxury	1.7579	Luxury
Other expenditures	2.3792	Luxury	2.3876	Luxury
Savings	9.3401	Luxury		

continued...

Note. ns—not significant (with *p*-value > 0.05).

As seen in the above summary, five (5) items are categorized as necessity while the rest are either luxury or independent (with insignificant income/ expenditure coefficients in the basic Working–Leser Engel curves) goods. Both income and expenditure elasticities agree with their classification (except for three items—tobacco, personal care and effects, and clothing, footwear and other wears). Foremost among the list of necessary consumption items are food, utilities (fuel, light, and water), and house rent, which a priori are items the poor cannot do without. The other four necessities (alcoholic beverages, tobacco, medical care, and household operations) are not really expected a priori. However, when one analyzes the nature of these items, one can justify their classification as necessary goods for the poor.

For the expenditure items classified as luxury by either income or expenditure elasticities, sound economic sense can be gleaned from their inclusion. Transportation and communication; personal care and effects; clothing, footwear, and other wear; education; recreation; durable and nondurable furnishings; special occasions of the family; gifts and contributions; house maintenance and repairs; tax payments; and household savings may be expected to fall at the lower priority end of the budget formation of the financially challenged segment of the population. The items having the highest income elasticities—savings (9.34), tax payment (3.04), durable furnishings (3.01), and education (2.12)—indicate the aspirations of the poor to consume more of these items when their purchasing power improves.

#### **Results of Engel Curve Modeling**

The income and expenditure elasticities presented in the previous section are estimated using the basic (linear-logarithmic) Working–Leser Engel curves (1) estimated for each item using the elasticity formula (5). When the objective is to model how the budget allocation process of Metro Manila poor is influenced by the household's socioeconomic and demographic characteristics, the basic model has to be augmented to form model (3) called the augmented Working–Leser Engel curves (Working, 1943, and Leser, 1963).

The model given by specification (5) represents a system of Engel curves of the various consumption items which are seen to be linked through their stochastic disturbance terms, thus forming a system of seemingly unrelated regression equations (SURE) to be estimated simultaneously via the joint generalized least squares (JGLS) estimation, which is asymptotic FIML. Twenty (20) statistical tables are constructed (Tables 10 to 30) to exhibit the results of SURE estimation of both the income and the expenditure Engel curves. Tables 31 and 32 show the correlation matrix of the residuals of the expenditure and income Engel curves, respectively, together with the results of the Breusch-Pagan tests of independence of the residuals to empirically validate the assumption underlying the SURE estimation of the Engel curves that there exist cross-equations linkage via their error terms. The test for both expenditure and income Engel curves turned in highly significant results (p < 0.0001), hence validating the propriety of using the seemingly unrelated regression framework, instead of doing equation-by-equation estimation via OLS. Tables 33A and 33B present the goodness-of-fit measures for the two Engel curve SURE systems. From these tables, all equations with the exception of repairs and maintenance and durable furnishings have excellent goodness of fit.

The most important item in the consumption basket of the urban poor in Metro Manila is food, which accounts for a little over 50% of the family's income or expenditure. From Table 10, household consumption of food as revealed by its augmented Engel curves is strongly influenced by logarithm of income or total expenditure and the different household composition variables. Additional memberships in all age-specific categories are highly significantly positive except for the eldest category of 60 years old and over. The working age class of 25 to 59 years old appears to have the highest relative increase in food consumption as their membership grows by an additional person (3.72% per person), followed by the two younger groups with almost identical incremental relative consumption of 3.5% increase per additional member. Food consumption by households with high-schooleducated heads and those 45 years and ever registered significantly negative food consumption change per household. Households situated in Districts 2 and 4 and those under the single-family-type group turned in significantly higher percentage increase.

Alcohol and beverage consumption relative change per household is significantly higher for male-headed households, ceteris paribus, while those in the poorest decile and with elder heads have significantly lower relative consumption. Heavy users of alcohol and beverages per capita are inferred to be those belonging to the working-age population while those in other age groups except the toddlers and eldest members (with insignificant coefficients) have significantly negative semielasticities. Locational and other demographic variables, as seen in Table 11, have insignificant percentage change in alcohol and beverage consumption. As reflected in Table 12, the Engel curve for cigarette and tobacco also suggests that male-headed households are heavy users of this consumption item, while those whose heads are married and those belonging to the elder category of heads have negative coefficients. On a per-person basis, working-age members have positive incremental change in percentage consumption of cigarettes and tobacco. The three district dummies, on the other hand, have significantly lower percentage change in cigarette and beverage consumption over the base Metro Manila district of the City of Manila.

The Engel curves for utilities show that all age-specific household membership of poor households have significantly positive semielasticities for electricity, gas, and water, particularly the eldest age group and the adolescents. Households with married heads also registered positive and significant semielasticity as well as all of the Metro Manila district dummies, signifying the increased utilities consumption of the poor with these attributes. With regards to transportation and communication, a pronounced disparity of the results of income and expenditure Engel curves was noted. In particular, consumption does not depend on income for the income curve while expenditure curve depends heavily on income. Both curves however have significant coefficients for the above-60-years-age group (negative), the above-45-years-old group (negative), college graduate heads (positive), and Metro Manila District 4 (positive). These bits of information from Table 14 indicate the diminished need of elder poor and increased need of highly educated poor for transport and communications.

Consumption on household operations does not depend on either income or total expenditure by the household as reflected in Table 15. Households with highly educated heads and those situated in the CAMANAVA District as well as those in the poorest income decile have significantly positive coefficients; other variables have insignificant coefficients. For personal

care and effects (Table 16), all age-specific household membership variables turned in significant positive semielasticities with the sole exception of the senior citizens, who have significantly negative figures for both curves. Married households and those in the CAMANAVA District and fourth district of Metro Manila also have positively significant coefficients. Negatively significant coefficients are noted for male-headed households

Recreation's budget share of income and total expenditure varies significantly negative with regards to young adults and working-age adults as well as the household being of the single nuclear type. Total income, total expenditure, and other variables do not significantly affect the poor's budget formation for recreation (Table 17).

For medical care as a consumption item (Table 18), both income and expenditure Engel curves indicate the important factors that show the consumption pattern of the poor. Consumption varies negatively with income or expenditure; infants and the oldest age group receive the most positive semielasticities; working adults (25 to 59 years old) have negative semielasticities—suggesting the poor's priority in allocating their income to medical needs of the household members—infants and eldest first at the expense of the working adults. Other explanatory variables have insignificant roles in the budget formation for medical care.

Augmented Working–Leser Engel curves for nondurable and durable furnishings (Tables 19 and 20) produced insignificant semielasticities in all explanatory variables, even the logarithm of total income and total expenditures as well as their locational circumstances. This empirical result suggests that budget allocation for any types of furnishing is not systematically related to any of their household attributes; they can make do with whatever furnishings they have or come to acquire over time.

Even the poor segment of Metro Manila population considers education important as indicated by both the income and expenditures Engel curves for this consumption item. Table 21 reveals that the proportion of income/ expenditure allocated to education by the poor significantly vary (positively) with the number of household members who are of school age. Interestingly, even the number of young working-age adults has significant influence on the budget formation for education, which may be interpreted to mean that urban poor working population tend to acquire education even later than normal.

In a society where the regime of socialized taxation is the norm, as in the Philippines, the poor are supposed to enjoy the benefit of being subsidized by the upper income segments of the population, especially when it comes to paying income taxes. This norm however does not exempt them from paying other types of taxes that are imposed by consuming something or by enjoying certain services. Hence, tax payment is also a distinct budget item even for the poor. Although only 28.26% of our sample households paid tax in 2009, the determinants of budget share for taxes can still be assessed using Engel curves. Table 22 presents the income and expenditure Engel curves for tax payments. Some of the most significant predictors are the single status of household head and the completion of a college degree, both of which have significantly positive coefficients. The negative predictors of tax payments among the poor are the presence of children in the household (toddlers and adolescents), the household head being older than 45 years old, and the household being at the bottom 10% of Metro Manila families in terms of income. With respect to locational attributes of the poor, those situated in Metro Manila District 4 (Southern MM District) have significantly positive semielasticity.

Among the estimated Engel curves in this study, minor repairs and maintenance income and expenditure Engel curves exhibit a poor fit as evidenced by the lack of significant determinants of this budget item. Table 23 shows the estimated model generated by the iterative seemingly unrelated regression estimation (SURE) procedure. Like that of the nondurable and durable furnishings curves, budget formation for repairs and maintenance does not depend on any specific demographic and other socioeconomic attributes of the urban poor households of Metro Manila.

Clothing, footwear, and other wear budget share depends on some agespecifichousehold memberships (see Table 24). The presence of adolescents—7 to 14 years old—has shown to positively influence budget formation for this consumption item, while working-age adults (25- to 59-year-olds) and seniors (60 years old and over) negatively affect it. Surprisingly, household members who are nonrelatives (e.g., friends, household helps) exhibit strong explanatory influence on the share of clothing and footwear in the family's budget. This phenomenon may be due to the payment in kind arrangement poor families adopt in asking nonrelatives to stay and help in household chores.

The second most important item in the budget of Metro Manila poor households is house rental. It accounts for a little less than 20% of the household's income or total expenses. It is also among the items in the consumption basket of the poor with 100% consumption incidence. Consequently, it is expected that budget allocation for this item may have numerous predictors. As seen in Table 25, both the income and the expenditure Engel curves for house rentals are significantly influenced by most household composition variables, except the infants, seniors, and nonrelatives. Interestingly, every relative increase in household composition (toddlers, adolescents, young adults, and working adults) decreases the

proportion of house rentals out of the income or expenditure of the household. This may seem to be counter-intuitive at first, but for poor families, balancing the budget when household members increase involves a trade-off among the major consumption items—food and house rentals. But since the share of food cannot be compromised, house rental's share decreases.

Urban poor from Metro Manila form their budget allocation for special occasions of the family on the basis of its income with positive coefficient. A relative increase in their income results in an increase on the budget allocation proportion to expenses on special occasions. The other positive predictor for this consumption item is the high school education of the household heads. Factors that contribute negatively are the jobless status of the household head, the household being of the single-family type, and the presence of adolescents.

With respect to gifts and contributions made by the household, a good number of predictors are noted in the Engel curves for this category of consumption by the poor (Table 27). Other than categorizing this item as a luxury, budget allocation for this item positively responds to income of the family but negatively related to all household composition variables, with the working-age group having the highest negative semielasticity. Other negative predictors are the age of the household head and the type of household, while the only positive factor other than income is the married status of the household head. The rest of the explanatory variables are insignificant. The insight that can be inferred from these results is that due to the limited financial capability of poor families, the needs of the family members come first before giving away part of their meager income as gifts and contributions. However, as their income grows, they tend to engage more in charitable giving.

Savings is a feature of only the income Engel curve as we deliberately consider it as an item in the budget list of the family. As can be seen in Table 28, the income Engel curve reveals a lot of insights into how the poor households in Metro Manila form their budget allocation for savings. Realistically, the budget share of savings correlates positively with the income of the family as evidenced by the highly significant semielasticity of 0.14097, which when interpreted means that for every percent increase in the income of the family, they tend to increase the amount they set aside for future use by an additional budget allocation of 14.1% ceteris paribus. Adolescents (7 to 14 years old) and young adults (15 to 24 years old) exert significantly negative influence in the family's saving behavior. This observed phenomenon may be due to education, medical care, and other needs of these age groups that impinge on the family's desire to save. The presence of nonrelative members

of the household and, understandably, the jobless status of the head also dampen the savings propensity of the poor.

Interestingly, households with lesser educated heads are more prone to savings than households with more educated heads. The same observation was noted for single-headed households vis-à-vis households with married heads. Poor households also present locational variation in savings budget allocation with District 2 (East Metro Manila) and District 4 (South Metro Manila) with significantly negative differential savings propensity than the benchmark district, the City of Manila. The CAMANAVA District has insignificant differential intercept, hence having the same propensity as the benchmark district.

#### Consumption Profile of the Urban Poor in Metro Manila

The main objective of the study is to generate the consumption profile of the poor households in Metro Manila area using survey design-consistent analysis of the most recently available FIES data. The foregoing stylized facts and results of a systems-wide modeling of Engel curves of the various consumption items comprising the market basket of the poor provide us with the necessary information to meet this objective. Since all of the descriptive statistics and Engel curves presented pertain to the average household, an attempt will be made to create a portrait of a typical Metro Manila poor household in a nontechnical and intuitive manner.

Based on the results of the analytical procedures implemented, the typical urban poor family in Metro Manila is composed of four members headed by a 46-year-old high-school-educated father, living in District 2 (Eastern Metro Manila) of Metro Manila with his wife and two children—an adolescent and a toddler. They live as a single-family household whose family income in 2009 amounted to P117,087 and have a total expenditure of P115,433, making them on the average better off than families living in the Autonomous Region of Muslim Mindanao but more than twice worse off than the average Metro Manila families. The typical poor family finds it difficult to allocate their income to their various consumption requirements as they need to spend two-thirds of it for food (49.9%) and house rent (17.5%), leaving the remaining third to other expenditure items, especially those needed by their children like education, medical care, and apparel. Despite their meager income, the family managed to make both ends meet and is able to pay tax and save a modest P1,654 for the year.

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# **Appendix: Tables**

# Table 1. Design Consistent Means of Demographic Characteristics of Metro Manila Poor Households, 2009

Hanachald Dama muchica	Maar	Standard	95% Co Inte	Design	
Housenoid Demographics	Mean	Error	Lower Limit	Upper Limit	Effect
Age of household head	45.62916	0.52725	44.59107	46.66726	1.0967
Family size	3.58901	0.06710	3.45691	3.72112	1.0929
Members of household younger than 1 year	0.06969	0.00989	0.05022	0.08915	1.2461
Members of household who are 1 to 6 years old	0.56111	0.02884	0.50433	0.61789	0.9663
Members of household who are 7 to 14 years old	0.76892	0.03627	0.69750	0.84033	1.0224
Members of household who are 15 to 24 years old	0.43399	0.02829	0.37829	0.48968	1.1257
Members of household who are 25 to 59 years old	1.50160	0.02936	1.44379	1.55940	1.2815
Members of household who are 60 years and older	0.27787	0.02125	0.23603	0.31972	1.2060
Number of nonrelative members of household	0.02697	0.00920	0.00885	0.04508	1.0934
Male household head (dummy)	0.75091	0.01606	0.71928	0.78253	1.1766
Female household head (dummy)	0.24909	0.01606	0.21747	0.28072	1.1766
Household head is jobless (dummy)	0.21952	0.01510	0.18978	0.24926	1.1358
Household head is 45 years old and older (dummy)	0.46172	0.01756	0.42714	0.49629	1.0585
Single household head (dummy)	0.09838	0.01184	0.07507	0.12168	1.3471
Married household head (dummy)	0.70070	0.01618	0.66885	0.73255	1.0644
Widowed household head (dummy)	0.13624	0.01223	0.11216	0.16032	1.0843
Separated or divorced household head (dummy)	0.06468	0.00813	0.04867	0.08069	0.9322
At most elementary graduate (dummy)	0.30770	0.01804	0.27217	0.34323	1.3038
High school undergraduate or graduate (dummy)	0.56456	0.01515	0.53473	0.59440	0.7966

#### *Table 1 continued...*

With some college education (dummy)	0.09319	0.01054	0.07243	0.11395	1.1221
At least college graduate (dummy)	0.03455	0.00635	0.02205	0.04704	1.0304
Single type of household (dummy)	0.89289	0.01115	0.87095	0.91484	1.1084
Household in the poorest decile (dummy)	0.50025	0.01878	0.46327	0.53724	1.2040
Household in the City of Manila (dummy)	0.10965	0.01410	0.08188	0.13742	1.7380
Household in Metro Manila District 2 (dummy)	0.36658	0.03429	0.29905	0.43410	4.3205
Household in Metro Manila District 3 (dummy)	0.27001	0.02599	0.21884	0.32117	2.9223
Household in Metro Manila District 4 (dummy)	0.25377	0.02701	0.20058	0.30695	3.2864
Household head is married and jobless (interaction)	0.12418	0.01153	0.10148	0.14688	1.0425
Household head is a college graduate and jobless (interaction)	0.01339	0.00411	0.00529	0.02148	1.0916
Household head is 45 years old and older and jobless (interaction)	0.17456	0.01277	0.14942	0.19969	0.9648
Household head is male and jobless (interaction)	0.12100	0.01154	0.09828	0.14371	1.0676
Household head is jobless and in poorest decile (interaction)	0.13622	0.01235	0.11191	0.16052	1.1051

Table 1A. Design-Consistent Estimates of Total Number of Metro Manila Poor Households by Demographic and Locational Characteristics

Poor Households Demographic or	Estimated	Linearized	95% Cor Inter	nfidence rval	Design
Locational Characteristics	Households	Error	Lower Limit	Upper Limit	Effect
Male headed	369,740	26,399	317,763	421,717	13.1088
Household head is jobless	108,090	9,089	90, 194	125,986	1.6964
Household head is 45 years old and older	227,346	15,804	196,229	258,463	3.5358
Household head is single	48,440	6,724	35,200	61,679	1.7935

Table 1A continued...

Household head is married	345,021	25,477	294,859	395, 183	10.8892
Household head is widowed	67,084	6,633	54,025	80,144	1.3153
Household head is separated	31,847	4,113	23,750	39,944	0.9836
Household head has elementary education	151,508	15,649	120,698	182,319	4.0446
Household head has high school education	277,987	18,014	242,521	313,454	4.6440
Household head is college undergraduate	45,886	5,311	35,430	56,342	1.1741
Household head is college graduate	17,010	3,079	10,948	23,073	1.0001
Single-type household	439,653	28,458	383,623	495,684	29.7929
Household is in City of Manila	53,991	6,787	40,629	67,353	1.6598
Household is in Metro Manila District 2	180,499	23,550	134, 131	226,868	8.4036
Household is in Metro Manila District 3	132,949	13,934	105,514	160,384	3.4658
Household is in Metro Manila District 4	124,953	15,025	95,371	154,534	4.1939
Household head is male and jobless	59,577	6,695	46,395	72,760	1.4829
Household head is married and jobless	61,145	6,842	47,674	74,617	1.5144
Household is in bottom regional income decile and with jobless head	67,072	6,906	53,474	80,670	1.4262
Household head is college graduate but jobless	6,592	2,027	2,601	10,582	1.0943
Household head is at least 45 years old and jobless	85,950	7,814	70,565	101,334	1.4908

	_	1			
Matua Manila			95% Co		
District	District Mean Error		Lower Limit	Upper Limit	Effect
Total income					
City of Manila	118,970	3,021	113,022	124,919	1.38664
Eastern Metro Manila	116,018	1,576	112,914	119,121	1.03770
CAMANAVA	113, 131	2,213	108,774	117,488	1.29669
Southern Metro Manila	122,027	1,823	118,437	125,617	1.10880
Metro Manila	117,087	1,056	115,007	119, 167	1.26440
Total expenditure					·
City of Manila	112,962	3,132	106,796	119,128	1.27085
Eastern Metro Manila	116,262	1,732	112,852	119,671	0.75605
CAMANAVA	108,867	2,285	104,367	113,366	1.16868
Southern Metro Manila	122,289	2,347	117,668	126,911	1.40513
Metro Manila	115,433	1,197	113,076	117,790	1.16270
Per capita income					·
City of Manila	45,584	3,997	37,714	53,453	1.32498
Eastern Metro Manila	43,644	1,631	40,432	46,856	1.03828
CAMANAVA	43,170	1,877	39,475	46,865	0.84477
Southern Metro Manila	44,745	2,549	39,727	49,763	1.63119
Metro Manila	44,008	1,106	41,830	46,187	1.16540
Per capita expenditure					
City of Manila	42,991	3,994	35,127	50,854	1.49731
Eastern Metro Manila	42,521	1,497	39,574	45,468	1.06060
CAMANAVA	40,930	1,847	37,295	44,566	0.94781
Southern Metro Manila	44,010	2,372	39,341	48,679	1.69783
Metro Manila	42,521	1,049	40,455	44,587	1.23810

Table 1B. Design Consistent Estimates of the Mean Household Income and Expenditure, Per Capita Household Income and Expenditure, Metro Manila Poor by District, 2009

	95% Confid		95% Confide	ence Interval	
Consumption Items	(Mean)	Standard Error	Lower Limit	Upper Limit	Design Effect
Food	57,936.69	834.21	56,294.22	59,579.16	1.5405
Alcoholic beverages	1,050.02	72.01	908.24	1,191.81	1.0761
Tobacco	1,076.27	72.62	933.29	1,219.25	1.4984
Fuel, light, and water	10,813.77	186.39	10,446.79	11,180.76	1.2532
Transport and communication	6,037.71	235.03	5,574.97	6,500.45	1.5905
Household operations	1,751.18	61.40	1,630.28	1,872.08	1.1243
Personal care and effects	5,154.23	118.92	4,920.09	5,388.36	1.6050
Clothing, footwear, and other wear	2,359.85	89.46	2,183.71	2,536.00	2.0079
Education	876.90	104.06	672.02	1,081.78	0.9366
Recreation	270.11	46.59	178.38	361.84	1.1330
Medical care	1,799.57	177.24	1,450.60	2,148.54	1.2798
Nondurable furnishings	124.28	13.45	97.81	150.75	1.8355
Durable furnishings	1,531.20	515.88	515.49	2,546.90	2.5056
Taxes paid	490.61	103.00	287.80	693.41	1.4011
Rental value of dwelling unit	19,828.47	495.60	18,852.68	20,804.26	1.5732
House maintenance and minor repairs	188.04	37.45	114.31	261.78	1.1008
Special occasions of the family	1,254.55	95.82	1,065.88	1,443.21	1.5998
Gifts and contributions to others	1,845.09	204.53	1,442.40	2,247.78	1.0759
Other expenditures	1,044.25	81.03	884.72	1,203.78	1.2777
Total income	117,086.90	1,056.36	115,007.10	119, 166.80	1.2644
Total expenditure	115,432.80	1,197.19	113,075.60	117,789.90	1.1627
Total savings	1,654.14	729.57	217.70	3,090.58	1.1147
Per capita income	44,008.03	1,106.456	41,829.54	46,186.52	1.1654
Per capita expenditure	42,520.93	1,049.151	40,455.27	44,586.59	1.2381

# Table 2. Design Consistent Mean Household Consumption per Consumption Items, Metro Manila Poor Households, 2009

	CDC	Cto p do vol	95% Confidence Interval			
Consumption Items	Estimates	Error	Lower Limit	Upper Limit		
Food	57,970.14	674.83	56,645.62	59,294.66		
Alcoholic beverages	1,034.89	70.69	896.15	1,173.63		
Tobacco	1,065.17	58.80 949.76		1,180.59		
Fuel, light, and water	10,787.73	169.50 10,455.04		11,120.41		
Transport and communication	5,940.51	186.90	5,573.67	6,307.34		
Household operations	1,741.31	58.50	1,626.49	1,856.14		
Personal care and effects	5,161.93	63.34	4,978.47	5,345.40		
Clothing, footwear, and other wear	2,374.77	111.35	2,250.37	2,499.17		
Education	861.56	39.46	643.02	1,080.11		
Recreation	254.41	156.00	176.96	331.85		
Medical care	1,749.81	10.03	1,443.63	2,055.99		
Nondurable furnishings	123.95	237.69	104.26	143.64		
Durable furnishings	1,152.78	77.51	686.26	1,619.30		
Taxes paid	470.23	392.77	318.10	622.35		
Rental value of dwelling unit	19,917.95	34.23	19,147.03	20,688.86		
House maintenance and minor repairs	178.38	198.25	111.19	245.57		
Special occasions of the family	1,232.39	73.71	1,087.71	1,377.07		
Gifts and contributions to others	1,817.93	72.62	1,428.81	2,207.05		
Other expenditures	1,037.49	1,083.96	894.96	1,180.03		
Total expenditure	104,873.30	72.62	112,745.80	177,000.90		
Total income	116,572.70	945.16	114,717.60	118,427.90		
Per capita income	44,310.61	1,041.55	42,266.32	46,354.91		
Per capita expenditure	42,831.19	958.90	40,949.12	44,713.26		

Table 3. SRS Estimates of the Mean Household Consumption by Consumption Items of Metro Manila Poor Households, 2009

	Design	Ct-nd-rd	95% Confide	ence Interval	CDC	broba cto	95% Confide	ence Interval	%
Consumption Items	Consistent Estimate	Error	Lower Limit	Upper Limit	Estimate	Error	Lower Limit	Upper Limit	Difference of SRS
Food	57,936.69	706.22	56,550.55	59,322.83	57,970.14	674.83	56,645.62	59,294.66	0.06
Alcoholic beverages	1,050.02	70.94	910.79	1,189.26	1,034.89	70.69	896.15	1,173.63	-1.44
Iobacco	1,076.27	62.73	953.14	1,199.40	1,065.17	58.80	949.76	1,180.59	-1.03
Fuel, light, and water	10,813.77	168.10	10,483.83	11,143.72	10,787.73	169.50	10,455.04	11,120.41	-0.24
Transport and communication	6,037.71	191.66	5,661.53	6,413.88	5,940.51	186.90	5,573.67	6,307.34	-1.61
Household operations	1,751.18	59.05	1,635.28	1,867.08	1,741.31	58.50	1,626.49	1 ,856.14	-0.56
Personal care and effects	5,154.23	98.26	4,961.36	5,347.09	5,161.93	63.34	4,978.47	5,345.40	0.15
Clothing, footwear, and other wear	2,359.85	66.24	2,229.84	2,489.86	2,374.77	111.35	2,250.37	2,499.17	0.63
Education	876.90	107.84	665.25	1,088.56	861.56	39.46	643.02	1,080.11	-1.75
Recreation	270.11	49.15	173.65	366.57	254.41	156.00	176.96	331.85	-5.81
Medical care	1,799.57	163.62	1,478.44	2,120.71	1,749.81	10.03	1,443.63	2,055.99	-2.77
Vondurable furnishings	124.28	10.11	104.43	144.13	123.95	237.69	104.26	143.64	-0.27
Durable furnishings	1,531.20	236.98	477.24	2,585.15	1,152.78	77.51	686.26	1,619.30	-24.71
Taxes paid	490.61	100.81	292.74	688.47	470.23	392.77	318.10	622.35	-4.15
Rental value of dwelling unit	19,828.47	425.15	18,994.00	20,662.94	19,917.95	34.23	19, 147.03	20,688.86	0.45
House maintenance and minor repairs	188.04	38.95	111.59	264.50	178.38	198.25	111.19	245.57	-5.14
Special occasions of the family	1,254.55	82.23	1,093.14	1,415.95	1,232.39	73.71	1,087.71	1,377.07	-1.77
Gifts and contributions to others	1,845.09	205.11	1,442.52	2,247.67	1 ,817 .93	72.62	1,428.81	2,207.05	-1.47
Other expenditures	1,044.25	73.03	900.91	1,187.58	1,037.49	1,083.96	894.96	1,180.03	-0.65
Total expenditure	115,432.80	1,258.88	112,961.90	117,903.60	104,873.30	72.62	112,745.80	177,000.90	-9.15
Total income	117,086.90	980.60	115, 162.30	119,011.60	116,572.70	945.16	114,717.60	118,427.90	-0.44
Per capita income	44,008.03	1,106.456	41,829.54	46,186.52	44,310.61	1,041.55	42,266.32	46,354.91	-0.69
Per capita expenditure	42,520.93	1,049.1	40,455.27	44,586.59	42,831.19	958.90	40,949.12	44,713.26	-0.73

Table 4. Comparative Table of the SRS and Design Consistent Estimates of Mean Consumption of Metro Manila Poor Households by Consumption Items, 2009

Poor Households' Demographic	Estimated	Linearized Standard	95% Co Inte	Design	
or Locational Characteristics	Households	Error	Lower Limit	Upper Limit	Effect
Male headed	369,740	26,399	317,763	421,717	13.1088
Household head is jobless	108,090	9,089	90, 194	125,986	1.6964
Household head is 45 years old and older	227,346	15,804	196,229	258,463	3.5358
Household head is single	48,440	6,724	35,200	61,679	1.7935
Household head is married	345,021	25,477	294,859	395,183	10.8892
Household head is widowed	67,084	6,633	54,025	80,144	1.3153
Household head is separated	31,847	4,113	23,750	39,944	0.9836
Household head has elementary education	151,508	15,649	120,698	182,319	4.0446
Household head has high school education	277,987	18,014	242,521	313,454	4.6440
Household head is college undergraduate	45,886	5,311	35,430	56,342	1.1741
Household head is college graduate	17,010	3,079	10,948	23,073	1.0001
Single-type household	439,653	28,458	383,623	495,684	29.7929
Household is in City of Manila	53,991	6,787	40,629	67,353	1.6598
Household is in Metro Manila District 2	180,499	23,550	134,131	226,868	8.4036
Household is in Metro Manila District 3	132,949	13,934	105,514	160,384	3.4658
Household is in Metro Manila District 4	124,953	15,025	95,371	154,534	4.1939
Household head is male and jobless	59,577	6,695	46,395	72,760	1.4829
Household head is married and jobless	61,145	6,842	47,674	74,617	1.5144
Household is in bottom regional income decile and with jobless head	67,072	6,906	53,474	80,670	1.4262
Household head is college graduate but jobless	6,592	2,027	2,601	10,582	1.0943
Household head is at least 45 years old and jobless	85,950	7,814	70,565	101,334	1.4908

Table 5. Design-Consistent Estimates of Total Number of Metro Manila Poor Households by Demographic and Locational Characteristics

Communition literat	Estimated	Standard	95% Confidence Standard		Design	Design Consumption
Consumption items	Expenditure	Error	Lower Limit	Upper Limit	Effect	Incidence
Food	50.41%	0.48%	49.46%	51.35%	1.8098	100.00%
Alcoholic beverages	0.91%	0.06%	0.79%	1.04%	1.0159	51.59%
Tobacco	0.99%	0.07%	0.85%	1.13%	1.5990	49.09%
Fuel, light, and water	9.48%	0.14%	9.21%	9.75%	1.2339	100.00%
Transport and communication	4.97%	0.18%	4.62%	5.31%	1.6503	96.10%
Household operations	1.54%	0.05%	1.44%	1.64%	1.1038	100.00%
Personal care and effects	4.44%	0.09%	4.26%	4.62%	1.8540	100.00%
Clothing, footwear, other wear	2.02%	0.08%	1.87%	2.17%	2.2550	97.27%
Education	0.69%	0.08%	0.53%	0.85%	0.9985	57.91%
Recreation	0.22%	0.04%	0.15%	0.30%	1.1345	46.68%
Medical care	1.54%	0.13%	1.29%	1.79%	1.1468	97.96%
Nondurable furnishings	0.11%	0.01%	0.08%	0.13%	1.7734	31.85%
Durable furnishings	0.92%	0.21%	0.50%	1.33%	2.3240	22.77%
Taxes paid	0.37%	0.07%	0.23%	0.51%	1.3731	28.36%
Rental value of dwelling unit	17.74%	0.39%	16.98%	18.51%	1.4380	100.00%
House maintenance and minor repairs	0.17%	0.04%	0.10%	0.24%	1.1258	8.31%
Special occasions of the family	1.06%	0.08%	0.90%	1.22%	1.7661	65.10%
Gifts and contributions to others	1.61%	0.17%	1.27%	1.96%	1.0931	68.46%
Other expenditures	0.83%	0.06%	0.70%	0.95%	1.2617	31.33%
Total expenditure	115,433	1,197	113,076	117,790	1.1627	
Total income	117,087	1,056	115,007	119,167	1.2644	
Per capita income	44,008	1,106	41,830	46,187	1.1654	
Per capita expenditure	42,521	1,049	40,455	44,587	1.2381	

# Table 6. Budget Shares of Total Expenditure of Metro Manila Poor Households by Consumption Items, 2009

Commention Home	Estimated	Standard	95% Co Inte	nfidence rval	Design	Consumption
Consumption tierns	Income	Error	Lower Limit	Upper Limit	Effect	Incidence
Food	49.94%	0.60%	48.76%	51.12%	1.7107	100.00%
Alcoholic beverages	0.90%	0.06%	0.77%	1.02%	1.0517	51.59%
Tobacco	0.95%	0.07%	0.82%	1.09%	1.5654	49.09%
Fuel, light, and water	9.37%	0.14%	9.08%	9.65%	1.2121	100.00%
Transport and communication	4.96%	0.18%	4.60%	5.33%	1.6220	96.10%
Household operations	1.52%	0.05%	1.42%	1.62%	1.0416	100.00%
Personal care and effects	4.40%	0.09%	4.21%	4.58%	1.6743	100.00%
Clothing, footwear, and other wear	2.00%	0.08%	1.85%	2.15%	2.2033	97.27%
Education	0.70%	0.08%	0.54%	0.85%	0.9697	57.91%
Recreation	0.22%	0.03%	0.15%	0.29%	1.1201	46.68%
Medical care	1.55%	0.14%	1.27%	1.82%	1.1837	97.96%
Nondurable furnishings	0.10%	0.01%	0.08%	0.13%	1.8068	31.85%
Durable furnishings	1.13%	0.36%	0.43%	1.83%	2.5182	22.77%
Taxes paid	0.36%	0.07%	0.22%	0.51%	1.3888	28.36%
Rental value of dwelling unit	17.46%	0.39%	16.69%	18.23%	1.4184	100.00%
House repairs and maintenance	0.16%	0.03%	0.09%	0.23%	1.1388	8.31%
Special occasions of the family	1.05%	0.08%	0.88%	1.21%	1.5896	65.10%
Gifts and contributions to others	1.52%	0.17%	1.18%	1.86%	1.0656	68.46%
Other expenditures	0.81%	0.06%	0.69%	0.93%	1.2756	31.33%
Savings	0.91%	0.64%	≪0.35%	2.17%	1.1426	59.37%
Average income	117,087	1,056	115,007	119,167	117,087	
Average expenditure	115,433	1,197	113,076	117,790	115,433	
Per capita income	44,008	1,106	41,830	46,187	44,008	
Per capita expenditure	42,521	1,049	40,455	44,587	42,521	

# Table 7. Budget Shares of Total Income of Metro Manila Poor Households by Consumption Items, 2009

	Estimated	Standard	95% Co Inte	nfidence rval	Design	Consumption
Consumption Items	Share of Income	Error	Lower Limit	Upper Limit	Effect	Incidence
Food	36.38%	0.40%	35.58%	37.17%	3.35353	100.00%
Alcoholic beverages	0.58%	0.02%	0.53%	0.62%	1.99837	59.60%
Tobacco	0.59%	0.03%	0.53%	0.64%	2.41444	52.82%
Fuel, light, and water	7.53%	0.08%	7.37%	7.69%	2.22034	100.00%
Transport and communication	7.47%	0.13%	7.23%	7.72%	1.92315	99.86%
Household operations	1.86%	0.06%	1.74%	1.99%	2.18020	100.00%
Personal care and effects	3.49%	0.05%	3.38%	3.59%	3.18696	100.00%
Clothing, footwear, and other wear	1.92%	0.04%	1.84%	2.01%	4.02608	99.23%
Education	3.18%	0.12%	2.95%	3.41%	1.64224	78.65%
Recreation	0.39%	0.02%	0.35%	0.43%	2.52066	69.59%
Medical care	1.64%	0.08%	1.49%	1.79%	1.24062	99.39%
Nondurable furnishings	0.13%	0.01%	0.12%	0.15%	2.38343	45.70%
Durable furnishings	1.75%	0.18%	1.40%	2.10%	1.40642	40.36%
Taxes paid	2.33%	0.12%	2.10%	2.57%	3.04146	65.25%
Rental value of dwelling unit	15.47%	0.30%	14.87%	16.06%	3.71157	100.00%
House repairs and maintenance	0.26%	0.03%	0.21%	0.32%	1.58358	14.14%
Special occasions of the family	1.58%	0.07%	1.45%	1.70%	2.23376	85.25%
Gifts and contributions to others	1.63%	0.08%	1.48%	1.78%	1.92449	70.57%
Other expenditures	1.94%	0.05%	1.84%	2.03%	1.63887	77.13%
Savings	9.89%	0.43%	9.04%	10.73%	1.87639	100.00%
Average Income	416,002	16,024	384,487	447,517	5.73872	
Average Expenditure	357,387	10,761	336,223	378,551	5.18452	
Per Capita Income	105,362	5,573	94,402	116,322	5.80070	
Per Capita Expenditure	90,020	3,807	82,532	97,507	5.25078	

# Table 7A. Budget Shares of Total Income of Nonpoor of Metro Manila Households by Consumption Items, 2009

Communition Items	Estimated Sh	are of Income	Consumptio	on Incidence
Consumption Items	Nonpoor	Poor	Nonpoor	Poor
Food	36.38%	49.94%	100.00%	100.00%
Alcoholic beverages	0.58%	0.90%	59.60%	51.59%
Торассо	0.59%	0.95%	52.82%	49.09%
Fuel, light, and water	7.53%	9.37%	100.00%	100.00%
Transport and communication	7.47%	4.96%	99.86%	96.10%
Household operations	1.86%	1.52%	100.00%	100.00%
Personal care and effects	3.49%	4.40%	100.00%	100.00%
Clothing, footwear, and other wear	1.92%	2.00%	99.23%	97.27%
Education	3.18%	0.70%	78.65%	57.91%
Recreation	0.39%	0.22%	69.59%	46.68%
Medical care	1.64%	1.55%	99.39%	97.96%
Nondurable furnishings	0.13%	0.10%	45.70%	31.85%
Durable furnishings	1.75%	1.13%	40.36%	22.77%
Taxes paid	2.33%	0.36%	65.25%	28.36%
Rental value of dwelling unit	15.47%	17.46%	100.00%	100.00%
House repairs and maintenance	0.26%	0.16%	14.14%	8.31%
Special occasions of the family	1.58%	1.05%	85.25%	65.10%
Gifts and contributions to others	1.63%	1.52%	70.57%	68.46%
Other expenditures	1.94%	0.81%	77.13%	31.33%
Savings	9.89%	0.91%	100.00%	59.37%
Average household income	416,002	115,433		
Average household expenditure	357,387	117,087		
Per capita income	105,362	44,008		
Per capita expenditure	90,020	42,521		

# Table 7B. Disposition of Total Income and Consumption Incidence of Poor vis-à-vis Non poor Metro Manila Households, 2009

Consumption Items	Constant	Standard Error	t Value	<i>p</i> Value	Log of Expenditure	Standard Error	<i>t</i> Value	<i>p</i> Value	Expenditure Elasticity
Food	0.76319	0.14770	5.17	0.000	-0.02227	0.01286	-1.73	0.084	0.9558
Alcoholic beverages	0.01260	0.04757	0.26	0.791	-0.00030	0.00408	-0.07	0.942	0.9671
Tobacco	0.05202	0.02892	1.80	0.073	-0.00362	0.00247	-1.47	0.143	0.6343
Fuel, light, and water	0.22582	0.05144	4.39	000.0	-0.01126	0.00441	-2.55	0.011	0.8812
Transport and communication	-0.33086	0.05188	-6.38	0.000	0.03271	0.00447	7.32	0.000	1.6581
Household operations	0.03121	0.01859	1.68	0.094	-0.00136	0.00160	-0.85	0.396	0.9118
Personal care and effects	-0.01272	0.02689	-0.47	0.636	0.00491	0.00233	2.10	0.036	1.1105
Clothing, footwear, and other wear	-0.01935	0.02163	-0.89	0.372	0.00340	0.00185	1.83	0.068	1.1683
Education	-0.08487	0.01943	-4.37	0.000	0.00789	0.00173	4.57	0.000	2.1429
Recreation	-0.02058	0.01192	-1.73	0.085	0.00196	0.00105	1.87	0.063	1.8915
Medical care	0.03263	0.03966	0.82	0.411	-0.00148	0.00342	-0.43	0.665	0.9038
Nondurable furnishings	-0.00506	0.00274	-1.85	0.065	0.00053	0.00024	2.21	0.028	1.4787
Durable furnishings	-0.18599	0.07336	-2.54	0.012	0.01677	0.00648	2.59	0.010	2.8230
Taxes paid	-0.08319	0.02258	-3.68	0.000	0.00746	0.00200	3.74	0.000	3.0175
Rental value of dwelling unit	0.91900	0.13748	6.68	0.000	-0.06374	0.01186	-5.37	0.000	0.6407
House maintenance and minor repairs	-0.00361	0.01169	-0.31	0.758	0.00045	0.00099	0.46	0.648	1.2674
Special occasions of the family	-0.03866	0.02285	-1.69	0.092	0.00423	0.00196	2.16	0.032	1.3993
Gifts and contributions to others	-0.12584	0.05537	-2.27	0.024	0.01220	0.00479	2.55	0.011	1.7579
Other expenditures	-0.12575	0.01994	-6.31	0.000	0.01152	0.00173	6.66	0.000	2.3876

Table 8. Basic Working–Leser Engel Curves and Estimated Expenditure Elasticities of Metro Manila Poor Households, 2009

#### Elasticity Income 0.8734 0.8245 0.5292 0.8066 1.5703 0.8482 1.0275 2.1169 1.7832 0.9466 1.3262 3.0067 3.0396 0.5355 1.1719 1.3740 .5900 2.3792 9.3401 1.1093 *p* Value 0.676 0.666 0.009 0.000 0.000 0.000 0.828 0.000 0.000 0.083 0.000 0.125 0.053 D.001 0.262 0.057 0.164 0.041 0.766 0.059 f Value -3.53 -0.42 -1.94 -3.50 -1.54 -0.22 6.00 2.64 0.43 1.13 4.49 1.40 2.06 3.62 0.30 <u> 60</u> 1.74 6.47 5.51 1.91 Standard 0.00513 0.00149 0.00173 06000.0 0.00380 0.00024 0.00205 0.00206 0.00515 0.00172 0.01790 0.00377 0.00280 0.00195 0.00231 0.01103 0.02871 0.00517 0.01351 0.00033 Error -0.00449 -0.00083 0.00158 -0.00230 Log of Income -0.06321 0.02830 0.00219 0.00778 0.00172 0.00034 0.02266 0.08109 0.00028 0.00896 0.01116 0.07570 0.00121 0.00741 0.00391 -0.01812 *p* Value 0.000 0.535 0.000 0.000 0.000 0.083 0.044 0.000 0.000 0.146 0.140 0.000 0.010 0.016 0.023 0.361 0.567 0.301 0.883 0.811 t Value -1.46 -1.04 -1.48 -4.70 15 6.12 -2.60 5.93 0.62 2.28 5.04 0.92 -0.24 -4.27 -1.74 0.57 -2.02 -3.57 7.12 2.41 ò 0.20840 0.04400 Standard 0.02712 0.06043 0.06008 0.01988 0.02272 0.12484 0.02316 15705 0.33553 0.05954 0.01737 0.03268 0.01955 0.01020 0.04380 0.02405 0.00280 0.01092 Error 0 0.30448 .23479 -0.27968 -0.00544 -0.08355 -0.25233 -0.08904 -0.12175 0.00290 -0.08260 -0.87172 Constant .02735 0.06182 0.04192 0.02992 0.01777 0.02512 1.11802 -0.00160 -0.03504 Gifts and contributions to others House maintenance and minor Special occasions of the family Transport and communication Clothing, footwear, and other Rental value of dwelling unit Consumption Items Personal care and effects Nondurable furnishings Household operations Fuel, light, and water Alcoholic beverages Durable furnishings Other expenditures Medical care Recreation Education Taxes paid Savings Tobacco repairs Food wear

# Table 9. Basic Working–Leser Engel Curves and Estimated Income Elasticities of Metro Manila Poor Households, 2009

PATHWAYS OUT OF POVERTY

		Income En	gel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	-0.14893	0.01898	-7.850	0.000	-0.07421	0.01301	-5.700	0.000
Members of household younger than 1 year	0.01731	0.01449	1.190	0.232	0.01723	0.01141	1.510	0. 131
Members of household who are 1 to 6 years old	0.02730	0.00496	5.500	0.000	0.02789	0.00391	7.140	0.000
Members of household who are 7 to 14 years old	0.03501	0.00386	9.080	0.000	0.02708	0.00305	8.870	0.000
Members of household who are 15 to 24 years old	0.03519	0.00513	6.860	0.000	0.02847	0.00405	7.030	0.000
Members of household who are 25 to 59 years old	0.03718	0.00663	5.600	0.000	0.03770	0.00518	7.270	0.000
Members of household who are 60 years and over	-0.00405	0.00926	-0.440	0.662	0.00270	0.00725	0.370	0.710
Number of nonrelative members of household	0.01691	0.01434	1.180	0.238	-0.00134	0.01130	-0.120	0.906
Male household head (dummy)	-0.01221	0.01100	-1.110	0.267	-0.00805	0.00865	-0.930	0.352
Household head is jobless (dummy)	0.00076	0.00993	0.080	0.939	-0.01451	0.00781	-1.860	0.063
Household head is 45 years old and older (dummy)	-0.02119	0.00958	-2.210	0.027	00706	0.00757	-0.930	0.351
Single household head (dummy)	-0.02874	0.01869	-1.540	0.124	-0.01438	0.01471	-0.980	0.328

# Table 10. Augmented Working–Leser Food Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

# Table 10 continued...

Married household head (dummy)	0.02687	0.01640	1.640	0.101	0.00208	0.01293	0.160	0.872
Widowed household head (dummy)	0.02004	0.01748	1.150	0.252	0.01196	0.01375	0.870	0.384
At most elementary graduate (dummy)	-0.01008	0.00926	-1.090	0.276	0.01108	0.00733	1.510	0. 131
At most high school graduate (dummy)	-0.04351	0.01152	-3.780	0.000	-0.01826	0.00911	-2.010	0.045
With some college education (dummy)	-0.00995	0.01339	-0.740	0.457	-0.01518	0.01054	-1.440	0. 150
At least college graduate (dummy)	0.02176	0.02080	1.050	0.295	0.00217	0.01639	0.130	0.895
Single type of household (dummy)	0.04208	0.01372	3.070	0.002	0.03464	0.01081	3.200	0.001
Household in the poorest decile (dummy)	0.00467	0.01029	0.450	0.650	0.00708	0.00725	0.980	0.329
Household in Metro Manila District 2 (dummy)	0.02718	0.01221	2.230	0.026	0.00510	0.00962	0.530	0.596
Household in Metro Manila District 3 (dummy)	-0.00117	0.01254	-0.090	0.925	-0.00341	0.00987	-0.350	0.730
Household in Metro Manila District 4 (dummy)	0.02900	0.01274	2.280	0.023	-0.00066	0.01006	-0.070	0.947
Intercept	2.07219	0.22333	9.280	0.000	1.23582	0.15205	8.130	0.000

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### Pathways Out of Poverty

		Income Eng	rel Curve		Ê	xpenditure E	ngel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	-0.00684	0.00318	-2.150	0.031	-0.00425	0.00285	-1.490	0.136
Members of household younger than 1 year	-0.00093	0.00243	-0.380	0.701	-0.00097	0.00250	-0.390	0.697
Members of household who are 1 to 6 years old	-0.00162	0.00083	-1.950	0.051	-0.00164	0.00086	-1.910	0.056
Members of household who are 7 to 14 years old	-0.00157	0.00065	-2.440	0.015	-0.00170	0.00067	-2.530	0.011
Members of household who are 15 to 24 years old	-0.00143	0.00086	-1.660	0.097	-0.00153	0.00089	-1.730	0.084
Members of household who are 25 to 59 years old	0.00263	0.00111	2.360	0.018	0.00238	0.00114	2.100	0.036
Members of household who are 60 years and older	-0.00138	0.00155	-0.890	0.373	-0.00164	0.00159	-1.030	0.302
Number of nonrelative members of household	-0.00027	0.00240	-0. 110	0.911	-0.00049	0.00248	-0.200	0.842
Male household head (dummy)	0.00728	0.00184	3.950	0.000	0.00786	0.00190	4.140	0.000
Household head is jobless (dummy)	0.00122	0.00166	0.730	0.464	0.00096	0.00171	0.560	0.577
Household head is 45 years old and older (dummy)	-0.00325	0.00160	-2.030	0.043	-0.00313	0.00166	-1.890	0.059
Single household head (dummy)	-0.00126	0.00313	-0.400	0.687	-0.00089	0.00322	-0.270	0.784

Table 11. Augmented Working–Leser Alcoholic Beverages Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### PATHWAYS OUT OF POVERTY

# *Table 11 continued...*

Married household head (dummy)	-0.00278	0.00275	-1.010	0.311	-0.00343	0.00284	-1.210	0.226
Widowed household head (dummy)	0.00197	0.00293	0.670	0.501	0.00247	0.00301	0.820	0.413
At most elementary graduate (dummy)	0.00078	0.00155	0.510	0.613	0.00123	0.00161	0.760	0.444
At most high school graduate (dummy)	0.00306	0.00193	1.580	0.113	0.00337	0.00200	1.690	0.092
With some college education (dummy)	-0.00152	0.00224	-0.680	0.498	-0.00206	0.00231	-0.890	0.373
At least college graduate (dummy)	0.00089	0.00348	0.260	0.797	-0.00111	0.00359	-0.310	0.758
Single type of household (dummy)	0.00020	0.00230	060.0	0.931	-0.00017	0.00237	-0.070	0.943
Household in the poorest decile (dummy)	-0.00411	0.00172	-2.390	0.017	-0.00406	0.00159	-2.550	0.011
Household in Metro Manila District 2 (dummy)	-0.00190	0.00204	-0.930	0.353	-0.00249	0.00211	-1.180	0.237
Household in Metro Manila District 3 (dummy)	-0.00215	0.00210	-1.020	0.307	-0.00249	0.00216	-1.150	0.250
Household in Metro Manila District 4 (dummy)	-0.00279	0.00213	-1.310	0. 191	-0.00369	0.00221	-1.670	0.095
_Intercept	0.08866	0.03739	2.370	0.018	0.05986	0.03334	1.800	0.073

		Income En	gel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	-0.00551	0.00268	-2.060	0.040	-0.00734	0.00240	-3.060	0.002
Members of household younger than 1 year	0.00018	0.00204	060.0	0.931	-0.00012	0.00210	-0.060	0.953
Members of household who are 1 to 6 years old	-0.00040	0.00070	-0.570	0.570	-0.00030	0.00072	-0.410	0.681
Members of household who are 7 to 14 years old	-0.00113	0.00054	-2.080	0.037	-0.00107	0.00056	-1.900	0.058
Members of household who are 15 to 24 years old	0.00089	0.00072	1.230	0.221	0.00100	0.00075	1.350	0.178
Members of household who are 25 to 59 years old	0.00197	0.00094	2.100	0.035	0.00207	0.00095	2.170	0.030
Members of household who are 60 years and older	0.00013	0.00131	0.100	0.922	0.00041	0.00134	0.310	0.759
Number of nonrelative members of household	-0.00033	0.00202	-0.160	0.869	-0.00034	0.00208	-0. 160	0.870
Male household head (dummy)	0.00639	0.00155	4.120	0.000	0.00667	0.00159	4.190	0.000
Household head is jobless (dummy)	-0.00029	0.00140	-0.210	0.836	-0.00059	0.00144	-0.410	0.682
Household head is 45 years old and older (dummy)	-0.00306	0.00135	-2.260	0.024	-0.00330	0.00139	-2.360	0.018
Single household head (dummy)	-0.00286	0.00264	-1.080	0.278	-0.00200	0.00271	-0.740	0.460

Table 12. Augmented Working–Leser Cigarette and Tobacco Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

# Pathways Out of Poverty

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Table 12 continued...

Married household head (dummy)	-0.00407	0.00231	-1.760	0.078	-0.00390	0.00238	-1.640	0.101
Widowed household head (dummy)	-0.00226	0.00247	-0.920	0.359	-0.00201	0.00253	-0.790	0.428
At most elementary graduate (dummy)	0.00152	0.00131	1.170	0.243	0.00183	0.00135	1.350	0.176
At most high school graduate (dummy)	0.00093	0.00163	0.570	0.567	0.00111	0.00168	0.660	0.508
With some college education (dummy)	-0.00119	0.00189	-0.630	0.529	-0.00118	0.00194	-0.610	0.545
At least college graduate (dummy)	-0.00139	0.00293	-0.470	0.636	-0.00245	0.00302	-0.810	0.417
Single type of household (dummy)	0.00039	0.00194	0.200	0.839	0.00037	0.00199	0.190	0.852
Household in the poorest decile (dummy)	0.00122	0.00145	0.840	0.402	0.00024	0.00134	0.180	0.860
Household in Metro Manila District 2 (dummy)	-0.00313	0.00172	-1.820	0.069	-0.00368	0.00177	-2.080	0.038
Household in Metro Manila District 3 (dummy)	-0.00293	0.00177	-1.660	0.098	-0.00337	0.00182	-1.850	0.064
Household in Metro Manila District 4 (dummy)	-0.00464	0.00180	-2.580	0.010	-0.00537	0.00185	-2.900	0.004
Intercept	0.07316	0.03150	2.320	0.020	0.09491	0.02801	3.390	0.001

		Income Eng	gel Curve		Ш	kpenditure E	ingel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	-0.01782	0.00656	-2.720	0.007	-0.00726	0.00551	-1.320	0.187
Members of household younger than 1 year	-0.00850	0.00501	-1.700	0.090	-0.00794	0.00483	-1.640	0.100
Members of household who are 1 to 6 years old	0.00170	0.00171	0.990	0.322	0.00130	0.00165	0.780	0.433
Members of household who are 7 to 14 years old	0.00347	0.00133	2.600	0.009	0.00195	0.00129	1.510	0.132
Members of household who are 15 to 24 years old	0.00337	0.00177	1.900	0.057	0.00181	0.00171	1.050	0.292
Members of household who are 25 to 59 years old	0.00428	0.00229	1.860	0.062	0.00481	0.00219	2.190	0.028
Members of household who are 60 years and older	0.01039	0.00320	3.250	0.001	0.01242	0.00307	4.050	0.000
Number of nonrelative members of household	0.00958	0.00496	1.930	0.053	0.00588	0.00478	1.230	0.219
Male household head (dummy)	-0.00437	0.00380	-1.150	0.250	-0.00502	0.00366	-1.370	0.170
Household head is jobless (dummy)	0.00257	0.00343	0.750	0.454	-0.00028	0.00331	-0.080	0.933
Household head is 45 years old and older (dummy)	0.00772	0.00331	2.330	0.020	0.01040	0.00320	3.250	0.001
Single household head (dummy)	0.00409	0.00646	0.630	0.527	0.00892	0.00622	1.430	0.152

Table 13. Augmented Working–Leser Fuel, Light, and Water Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### PATHWAYS OUT OF POVERTY

# *Table 13 continued...*

Married household head (dummy)	0.01735	0.00567	3.060	0.002	0.01356	0.00547	2.480	0.013
Widowed household head (dummy)	0.00354	0.00604	0.590	0.558	0.00154	0.00582	0.270	0.791
At most elementary graduate (dummy)	-0.00694	0.00320	-2.170	0.030	-0.00283	0.00310	-0.910	0.362
At most high school graduate (dummy)	-0.00546	0.00398	-1.370	0.171	-0.00105	0.00386	-0.270	0.785
With some college education (dummy)	0.00323	0.00463	0.700	0.486	0.00292	0.00446	0.650	0.513
At least college graduate (dummy)	0.00761	0.00719	1.060	0.290	0.00200	0.00694	0.290	0.773
Single type of household (dummy)	-0.00221	0.00474	-0.470	0.642	-0.00284	0.00458	-0.620	0.534
Household in the poorest decile (dummy)	0.00772	0.00356	2.170	0:030	0.00674	0.00307	2.200	0.028
Household in Metro Manila District 2 (dummy)	0.01400	0.00422	3.320	0.001	0.01059	0.00407	2.600	0.009
Household in Metro Manila District 3 (dummy)	0.01161	0.00433	2.680	0.007	0.01125	0.00418	2.690	0.007
Household in Metro Manila District 4 (dummy)	0.01766	0.00440	4.010	0.000	0.01262	0.00426	2.960	0.003
_Intercept	0.26087	0.07718	3.380	0.001	0. 14413	0.06436	2.240	0.025

		Income Enge	el Curve		Ex	penditure E	ngel Curve	
Factors	Coefficient	Stdandard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	0.01049	0.00717	1.460	0.144	0.02010	0.00591	3.400	0.001
Members of household younger than 1 year	0.00000	0.00548	0.000	666.0	0.00003	0.00518	0.010	0.995
Members of household who are 1 to 6 years old	-0.00089	0.00188	-0.470	0.637	-0.00093	0.00177	-0.530	0.599
Members of household who are 7 to 14 years old	0.00114	0.00146	0.780	0.434	-0.00052	0.00139	-0.380	0.707
Members of household who are 15 to 24 years old	0.00180	0.00194	0.930	0.354	0.00038	0.00184	0.200	0.838
Members of household who are 25 to 59 years old	-0.00027	0.00251	-0.110	0.916	-0.00087	0.00235	-0.370	0.712
Members of household who are 60 years and older	-0.00668	0.00350	-1.910	0.056	-0.00567	0.00329	-1.720	0.085
Number of nonrelative members of household	0.00659	0.00542	1.220	0.224	0.00447	0.00513	0.870	0.384
Male household head (dummy)	-0.00573	0.00416	-1.380	0.168	-0.00427	0.00393	-1.090	0.277
Household head is jobless (dummy)	-0.00058	0.00375	-0.150	0.877	-0.00282	0.00355	-0.800	0.426
Household head is 45 years old and older (dummy)	-0.00835	0.00362	-2.310	0.021	-0.00625	0.00344	-1.820	0.069
Single household head (dummy)	-0.00696	0.00706	-0.990	0.324	-0.00393	0.00668	-0.590	0.557

## Table 14. Augmented Working–Leser Transportation and Communication Income/ Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### PATHWAYS OUT OF POVERTY

# Table 14 continued...

Married household head (dummy)	0.00607	0.00620	0.980	0.327	0.00326	0.00587	0.550	0.579
Widowed household head (dummy)	-0.00919	0.00661	-1.390	0.164	-0.01005	0.00624	-1.610	0.108
At most elementary graduate (dummy)	-0.00054	0.00350	-0.160	0.876	0.00228	0.00333	0.680	0.493
At most high school graduate (dummy)	-0.00582	0.00435	-1.340	0.181	-0.00165	0.00414	-0.400	0.690
With some college education (dummy)	-0.00012	0.00506	-0.020	0.981	-0.00025	0.00479	-0.050	0.959
At least college graduate (dummy)	0.01815	0.00786	2.310	0.021	0.01598	0.00744	2.150	0.032
Single type of household (dummy)	0.00129	0.00519	0.250	0.803	-0.00133	0.00491	-0.270	0.786
Household in the poorest decile (dummy)	-0.00154	0.00389	-0.400	0.693	-0.00163	0.00329	-0.490	0.622
Household in Metro Manila District 2 (dummy)	0.00415	0.00462	006.0	0.368	0.00158	0.00437	0.360	0.717
Household in Metro Manila District 3 (dummy)	-0.00016	0.00474	-0.030	0.973	-0.00129	0.00448	-0.290	0.773
Household in Metro Manila District 4 (dummy)	0.01794	0.00481	3.730	0.000	0.01296	0.00457	2.840	0.005
Intercept	-0.07204	0.08441	-0.850	0.393	-0.17702	0.06905	-2.560	0.010

		Income En	gel Curve		E	xpenditure	Engel Curve	
Factors	Coefficient	Standa rd Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	0.00297	0.00256	1.160	0.247	0.00311	0.00213	1.460	0.145
Members of household younger than 1 year	-0.00075	0.00196	-0.380	0.701	-0.00072	0.00187	-0.390	0.700
Members of household who are 1 to 6 years old	-0.00065	0.00067	-0.970	0.330	-0.00062	0.00064	-0.960	0.335
Members of household who are 7 to 14 years old	0.00008	0.00052	0.140	0.885	-0.00018	0.00050	-0.350	0.725
Members of household who are 15 to 24 years old	-0.00039	0.00069	-0.560	0.577	-0.00058	0.00066	-0.870	0.384
Members of household who are 25 to 59 years old	0.00088	06000.0	0.980	0.325	0.00068	0.00085	0.810	0.421
Members of household who are 60 years and older	0.00160	0.00125	1.280	0.200	0.00195	0.00119	1.640	0.100
Number of nonrelative members of household	0.00347	0.00194	1.790	0.073	0.00256	0.00185	1.380	0.166
Male household head (dummy)	0.00025	0.00148	0.170	0.867	0.00038	0.00142	0.270	0.790
Household head is jobless (dummy)	0.00026	0.00134	0.190	0.848	-0.00059	0.00128	-0.460	0.643
Household head is 45 years old and older (dummy)	-0.00082	0.00129	-0.640	0.525	-0.00018	0.00124	-0.140	0.886
Single household head (dummy)	0.00231	0.00252	0.910	0.360	0.00320	0.00241	1.330	0.184
Married household head (dummy)	-0.00014	0.00221	-0.060	0.950	-0.00067	0.00212	-0.320	0.751

Table 15. Augmented Working–Leser Household Operations Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### PATHWAYS OUT OF POVERTY

Table 15 continued...

Widowed household head (dummy)	0.00098	0.00236	0.410	0.678	0.00083	0.00225	0.370	0.713
At most elementary graduate (dummy)	0.00014	0.00125	0.110	0.911	0.00044	0.00120	0.370	0.714
At most high school graduate (dummy)	-0.00120	0.00156	-0.770	0.440	-0.00049	0.00149	-0.330	0.742
With some college education (dummy)	0.00142	0.00181	0.780	0.434	0.00109	0.00173	0.630	0.528
At least college graduate (dummy)	0.00773	0.00281	2.750	0.006	0.00528	0.00268	1.970	0.049
Single type of household (dummy)	0.00235	0.00185	1.270	0.205	0.00206	0.00177	1.160	0.244
Household in the poorest decile (dummy)	0.00347	0.00139	2.500	0.012	0.00229	0.00119	1.930	0.054
Household in Metro Manila District 2 (dummy)	0.00218	0.00165	1.320	0.186	0.00146	0.00157	0.930	0.352
Household in Metro Manila District 3 (dummy)	0.00433	0.00169	2.550	0.011	0.00411	0.00162	2.540	0.011
Household in Metro Manila District 4 (dummy)	0.00078	0.00172	0.460	0.649	-0.00035	0.00165	-0.210	0.832
Intercept	-0.02717	0.03015	-0.900	0.368	-0.02655	0.02489	-1.070	0.286

		Income Eng	gel Curve		Ш	xpenditure Er	ngel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Sta nda rd Er ror	z Value	<i>p</i> Value
Log of income/expenditure	-0.00274	0.00341	-0.800	0.423	-0.00074	0.00282	-0.260	0.794
Members of household younger than 1 year	0.01189	0.00261	4.560	0.000	0.01168	0.00248	4.720	0.000
Members of household who are 1 to 6 years old	0.00298	0.00089	3.330	0.001	0.00315	0.00085	3.710	0.000
Members of household who are 7 to 14 years old	-0.00014	0.00069	-0.200	0.842	-0.00086	0.00066	-1.290	0.196
Members of household who are 15 to 24 years old	0.00267	0.00092	2.890	0.004	0.00210	0.00088	2.390	0.017
Members of household who are 25 to 59 years old	0.00282	0.00119	2.360	0.018	0.00287	0.00113	2.550	0.011
Members of household who are 60 years and older	-0.00430	0.00167	-2.580	0.010	-0.00351	0.00157	-2.230	0.026
Number of nonrelative members of household	0.01073	0.00258	4.160	0.000	0.00976	0.00245	3.980	0.000
Male household head (dummy)	-0.00986	0.00198	-4.990	0.000	-0.01035	0.00188	-5.510	0.000
Household head is jobless (dummy)	0.00260	0.00179	1.460	0.145	0.00085	0.00170	0.500	0.616
Household head is 45 years old and older (dummy)	-0.00301	0.00172	-1.740	0.081	-0.00164	0.00164	-1.000	0.319
Single household head (dummy)	-0.00153	0.00336	-0.450	0.650	-0.00013	0.00319	-0.040	0.969

#### Table 16. Augmented Working–Leser Personal Care and Effects Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

# Table 16 continued...

Married household head (dummy)	0.00871	0.00295	2.950	0.003	0.00696	0.00281	2.480	0.013
Widowed household head (dummy)	0.00389	0.00314	1.240	0.216	0.00227	0.00298	0.760	0.447
At most elementary graduate (dummy)	-0.00301	0.00167	-1.810	0.071	-0.00115	0.00159	-0.720	0.470
At most high school graduate (dummy)	-0.00239	0.00207	-1.150	0.250	0.00005	0.00198	0.030	0.979
With some college education (dummy)	0.00114	0.00241	0.470	0.636	0.00102	0.00229	0.450	0.656
At least college graduate (dummy)	0.00350	0.00374	0.930	0.350	0.00009	0.00356	0.020	0.981
Single type of household (dummy)	-0.00065	0.00247	-0.260	0.793	-0.00163	0.00235	-0.700	0.486
Household in the poorest decile (dummy)	0.00416	0.00185	2.250	0.025	0.00231	0.00157	1.470	0.143
Household in Metro Manila District 2 (dummy)	0.00354	0.00220	1.610	0.107	0.00079	0.00209	0.380	0.703
Household in Metro Manila District 3 (dummy)	0.00513	0.00226	2.270	0.023	0.00444	0.00214	2.070	0.038
Household in Metro Manila District 4 (dummy)	0.00762	0.00229	3.320	0.001	0.00446	0.00218	2.040	0.041
_Intercept	0.06563	0.04018	1.630	0.102	0.04766	0.03301	1.440	0.149

T. advant		Income Engel	Curve			Expenditure Eng	iel Curve	
racio15	Coefficient	Standard Error	z Value	p Value	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.00226	0.00152	1.490	0.136	0.00209	0.00143	1.460	0.145
Members of household younger than 1 year	-0.00078	0.00116	-0.680	0.499	-0.00078	0.00126	-0.620	0.535
Members of household who are 1 to 6 years old	-00000	0.00040	-0.220	0.827	-0.00008	0.00043	-0.180	0.858
Members of household who are 7 to 14 years old	-0.00017	0.00031	-0.540	0.589	-0.00024	0.00034	-0.710	0.476
Members of household who are 15 to 24 years old	-0.00124	0.00041	-3.030	0.002	-0.00134	0.00045	-3.010	0.003
Members of household who are 25 to 59 years old	-0.00107	0.00053	-2.030	0.043	-0.00105	0.00057	-1.840	0.066
Members of household who are 60 years and older	-0.00091	0.00074	-1.240	0.217	-0.00088	0.00080	-1.100	0.273
Number of nonrelative members of household	-0.00034	0.00114	-0.300	0.764	-0.00056	0.00124	-0.450	0.655
Male household head (dummy)	0.00027	0.00088	0.310	0.756	0.00028	0.00095	0.290	0.772
Household head is jobless (dummy)	-0.00126	0.00079	-1.590	0.113	-0.00146	0.00086	-1.700	0.089
Household head is 45 years old and older (dummy)	-0.00041	0.00076	-0.540	0.591	-0.00034	0.00083	-0.400	0.688
Single household head (dummy)	-0.00062	0.00149	-0.420	0.677	-0.00061	0.00162	-0.380	0.706
Married household head (dummy)	0.00021	0.00131	0.160	0.875	-0.00007	0.00142	-0.050	0.963
Widowed household head (dummy)	0.00186	0.00140	1.340	0.182	0.00175	0.00151	1.150	0.248
At most elementary graduate (dummy)	-0.00047	0.00074	-0.640	0.523	-0.00015	0.00081	-0.190	0.852
At most high school graduate (dummy)	-0.00082	0.00092	-0.890	0.371	-0.00051	0.00100	-0.510	0.610
With some college education (dummy)	-0.00008	0.00107	-0.080	0.937	-0.00021	0.00116	-0.180	0.857
At least college graduate (dummy)	-0.00081	0.00166	-0.490	0.626	-0.00062	0.00181	-0.340	0.731
Single type of household (dummy)	-0.00465	0.00110	-4.240	0.000	-0.00496	0.00119	-4.170	0.000
Household in the poorest decile (dummy)	-0.00004	0.00082	-0.050	0.962	-0.00044	0.00080	-0.550	0.584
Household in Metro Manila District 2 (dummy)	-0.00121	0.00097	-1.240	0.215	-0.00114	0.00106	-1.080	0.281
Household in Metro Manila District 3 (dummy)	-0.00165	0.00100	-1.650	0.100	-0.00150	0.00109	-1.380	0.167
Household in Metro Manila District 4 (dummy)	-0.00183	0.00102	-1.800	0.071	-0.00187	0.00111	-1.690	0.091
_Intercept	-0.01582	0.01783	-0.890	0.375	-0.01319	0.01675	-0.790	0.431

#### Table 17. Augmented Working–Leser Recreation Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

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		Income En	gel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	0.01366	0.00645	2.120	0.034	0.01496	0.00521	2.870	0.004
Members of household younger than 1 year	0.01537	0.00492	3.120	0.002	0.01594	0.00456	3.490	0.000
Members of household who are 1 to 6 years old	-0.00122	0.00168	-0.730	0.468	-0.00071	0.00156	-0.450	0.649
Members of household who are 7 to 14 years old	-0.00088	0.00131	-0.670	0.504	-0.00117	0.00122	-0.960	0.339
Members of household who are 15 to 24 years old	-0.00235	0.00174	-1.350	0.177	-0.00241	0.00162	-1.490	0.137
Members of household who are 25 to 59 years old	-0.00717	0.00225	-3.180	0.001	-0.00796	0.00207	-3.840	0.000
Members of household who are 60 years and older	0.00594	0.00315	1.890	0.059	0.00619	0.00290	2.130	0.033
Number of nonrelative members of household	-0.00259	0.00487	-0.530	0.595	-0.00413	0.00452	-0.910	0.361
Male household head (dummy)	-0.00143	0.00373	-0.380	0.702	-0.00155	0.00346	-0.450	0.653
Household head is jobless (dummy)	0.00271	0.00337	0.800	0.422	0.00203	0.00313	0.650	0.516
Household head is 45 years old and older (dummy)	0.00528	0.00325	1.620	0.105	0.00711	0.00303	2.350	0.019
Single household head (dummy)	0.00663	0.00635	1.040	0.296	0.00909	0.00589	1.540	0.123
Married household head (dummy)	0.00807	0.00557	1.450	0.147	0.00760	0.00518	1.470	0.142
Widowed household head (dummy)	0.00303	0.00594	0.510	0.609	0.00365	0.00550	0.660	0.507
At most elementary graduate (dummy)	-0.00313	0.00315	-1.000	0.320	-0.00160	0.00293	-0.550	0.585
At most high school graduate (dummy)	-0.00542	0.00391	-1.390	0.166	-0.00369	0.00364	-1.010	0.311
With some college education (dummy)	-0.00571	0.00455	-1.260	0.209	-0.00489	0.00422	-1.160	0.246
At least college graduate (dummy)	0.00328	0.00706	0.460	0.642	0.00479	0.00656	0.730	0.465
Single type of household (dummy)	-0.00227	0.00466	-0.490	0.626	-0.00228	0.00433	-0.530	0.598
Household in the poorest decile (dummy)	0.00446	0.00349	1.280	0.202	0.00417	0.00290	1.440	0.151
Household in Metro Manila District 2 (dummy)	0.00659	0.00415	1.590	0.112	0.00463	0.00385	1.200	0.229
Household in Metro Manila District 3 (dummy)	0.00823	0.00426	1.930	0.053	0.00820	0.00395	2.080	0.038
Household in Metro Manila District 4 (dummy)	0.00358	0.00432	0.830	0.407	0.00288	0.00403	0.720	0.475
_Intercept	-0.14531	0.07584	-1.920	0.055	-0.15945	0.06085	-2.620	0.009

# Table 18. Augmented Working–Leser Medical Care Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

		Income En	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	p Value	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.00012	0.00042	0.270	0.785	-0.00026	0.00039	-0.660	0.509
Members of household younger than 1 year	-0.00039	0.00032	-1.200	0.231	-0.00041	0.00034	-1.180	0.238
Members of household who are 1 to 6 years old	0.00013	0.00011	1.210	0.226	0.00010	0.00012	0.830	0.408
Members of household who are 7 to 14 years old	-0.00017	0.0000	-1.980	0.048	-0.00018	60000.0	-1.950	0.051
Members of household who are 15 to 24 years old	0.0008	0.00011	0.660	0.506	0.00010	0.00012	0.820	0.415
Members of household who are 25 to 59 years old	-0.00001	0.00015	-0.060	0.951	0.00007	0.00016	0.430	0.666
Members of household who are 60 years and older	0.00012	0.00021	0.600	0.546	0.00022	0.00022	1.030	0.304
Number of nonrelative members of household	60000.0	0.00032	0.270	0.788	-0.00004	0.00034	-0.110	0.913
Male household head (dummy)	0.0000	0.00024	0.380	0.706	60000.0	0.00026	0.360	0.722
Household head is jobless (dummy)	0.00012	0.00022	0.560	0.576	0.00006	0.00024	0.240	0.810
Household head is 45 years old and older (dummy)	-0.00011	0.00021	-0.510	0.612	-0.00012	0.00023	-0.530	0.598
Single household head (dummy)	-0.00097	0.00042	-2.330	0.020	-0.00112	0.00044	-2.530	0.011
Married household head (dummy)	-0.00033	0.00036	-0.900	0.366	-0.00052	0.00039	-1.330	0.182
Widowed household head (dummy)	-0.00058	0.00039	-1.500	0.134	-0.00076	0.00041	-1.840	0.066
At most elementary graduate (dummy)	-0.00026	0.00021	-1.250	0.211	-0.00026	0.00022	-1.160	0.244
At most high school graduate (dummy)	0.00017	0.00026	0.670	0.503	0.00017	0.00027	0.640	0.525
With some college education (dummy)	0.00006	0.00030	0.200	0.844	0.00012	0.00032	0.380	0.704
At least college graduate (dummy)	0.00047	0.00046	1.010	0.311	0.00060	0.00049	1.220	0.222
Single type of household (dummy)	0.00022	0.00031	0.710	0.476	0.00025	0.00033	0.760	0.448
Household in the poorest decile (dummy)	-0.00001	0.00023	-0.060	0.948	-0.00024	0.00022	-1.100	0.270
Household in Metro Manila District 2 (dummy)	-0.00049	0.00027	-1.790	0.073	-0.00057	0.00029	-1.960	0.050
Household in Metro Manila District 3 (dummy)	-0.00029	0.00028	-1.030	0.305	-0.00032	0.00030	-1.090	0.278
Household in Metro Manila District 4 (dummy)	0.00015	0.00028	0.510	0.608	0.00010	0.00030	0.340	0.735
_Intercept	0.00013	0.00496	0:030	0.979	0.00471	0.00458	1.030	0.304

#### Table 19. Augmented Working–Leser Nondurable Furnishings Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### p Value 0.206 0.000 0.000 0.794 0.141 0.049 0.142 0.314 0.055 0.706 0.775 0.523 0.918 0.480 0.604 0.493 0.149 0.728 0.329 0.918 0.798 0.010 0.102 0.599 Expenditure Engel Curve z Value -0.640 -1.270 -5.100 -1.470 -1.970 -1.470 -1.010 -1.920 5.350 -0.260 -0.380 0.290 0.100 -0.710 -0.520 -0.690 .440 0.350 -0.980 0.100 -0.260 2.580 .630 0.530 0.05509 0.00409 0.00283 0.00469 0.00498 0.00266 0.00330 0.00382 0.00348 0.00358 0.00365 Standard 0.00413 0.00313 0.00274 0.00533 0.00594 0.00392 0.00263 0.00142 0.00188 0.00263 0.00471 0.00111 0.00147 Error Coefficient -0.00376 -0.00108 -0.00208 -0.00215 -0.00189 -0.00504 -0.00154 0.00090 0.00028 -0.00243 -0.00342 -0.00373 0.00040 0.00899 -0.28091 0.02523 -0.00217 -0.00181 0.00383 0.00115 -0.00751 0.00584 0.00192 0.00067 p Value 0.348 0.856 0.798 0.345 0.946 0.702 0.530 0.762 0.439 0.422 0.030 0.416 0.172 0.310 0.649 0.886 0.283 0.951 0.521 0.752 0.111 0.174 0.547 0.751 z Value -0.140 -0.060 -0.260 -0.940 -0.640 -0.380 -0.300 -0.770 -0.800 -1.590 0.940 -1.370 -1.020 -1.070 -0.810 -0.320 -0.450 0.070 0.630 0.320 1.360 0.600 0.180 2.170 Income Engel Curve 0.00634 0.00486 0.00439 0.00826 0.00725 0.00773 0.00509 0.00540 Standard 0.00839 0.00641 0.00219 0.00227 0.00409 0.00424 0.00410 0.00592 0.00919 0.00607 0.00455 0.00555 0.00563 0.09874 0.00171 0.00293 Error Coefficient -0.00440 -0.00400 -0.00300 -0.00042 -0.00039 -0.00530 -0.00296 -0.00458 0.00739 0.00788 -0.00203 -0.00173 -0.00103 0.00088 -0.00112 0.00049 0.00257 -0.00154 -0.00724 0.00754 0.00339 -0.08033 0.00191 0.01174 Members of household who are 60 years and older Household head is 45 years old and older (dummy) Members of household who are 15 to 24 years old Members of household who are 25 to 59 years old Members of household who are 7 to 14 years old Members of household who are 1 to 6 years old Number of nonrelative members of household Household in Metro Manila District 2 (dummy) Household in Metro Manila District 3 (dummy) Household in Metro Manila District 4 (dummy) Members of household younger than 1 year Household in the poorest decile (dummy) At most elementary graduate (dummy) At most high school graduate (dummy) With some college education (dummy) Widowed household head (dummy) Household head is jobless (dummy) Married household head (dummy) At least college graduate (dummy) Single type of household (dummy) Single household head (dummy) Factors Male household head (dummy) og of income/expenditure Intercept

#### Table 20. Augmented Working–Leser Durable Furnishings Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

PATHWAYS OUT OF POVERTY

		Income En	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	p Value	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.00295	0.00421	0.700	0.484	0.00609	0.00364	1.670	0.094
Members of household younger than 1 year	-0.00488	0.00321	-1.520	0.129	-0.00473	0.00319	-1.480	0.138
Members of household who are 1 to 6 years old	-0.00126	0.00110	-1.140	0.254	-0.00128	0.00109	-1.170	0.241
Members of household who are 7 to 14 years old	0.00195	0.00086	2.280	0.023	0.00163	0.00085	1.910	0.056
Members of household who are 15 to 24 years old	0.00334	0.00114	2.930	0.003	0.00282	0.00113	2.500	0.013
Members of household who are 25 to 59 years old	-0.00136	0.00147	-0.930	0.355	-0.00153	0.00145	-1.050	0.292
Members of household who are 60 years and older	0.00074	0.00205	0.360	0.718	0.00065	0.00203	0.320	0.748
Number of nonrelative members of household	-0.00088	0.00318	-0.280	0.782	-0.00155	0.00316	-0.490	0.624
Male household head (dummy)	-0.00512	0.00244	-2.100	0.036	-0.00481	0.00242	-1.990	0.047
Household head is jobless (dummy)	0.00019	0.002.20	060.0	0.931	0.00001	0.00218	0.000	0.996
Household head is 45 years old and older (dummy)	-0.00150	0.00212	-0.710	0.480	-0.00141	0.00212	-0.670	0.505
Single household head (dummy)	0.00241	0.00414	0.580	0.561	0.00330	0.00411	0.800	0.423
Married household head (dummy)	0.00274	0.00364	0.750	0.452	0.00280	0.00361	0.770	0.438
Widowed household head (dummy)	-0.00418	0.00388	-1.080	0.281	-0.00347	0.00384	-0.900	0.367
At most elementary graduate (dummy)	0.00028	0.00205	0.140	0.892	0.00103	0.00205	0.500	0.614
At most high school graduate (dummy)	0.00067	0.00256	0.260	0.793	0.00161	0.00255	0.630	0.528
With some college education (dummy)	0.00488	0.00297	1.640	0.100	0.00431	0.00295	1.460	0.144
At least college graduate (dummy)	-0.00195	0.00461	-0.420	0.673	-0.00293	0.00458	-0.640	0.522
Single type of household (dummy)	0.00295	0.00304	0.970	0.332	0.00231	0.00302	0.770	0.444
Household in the poorest decile (dummy)	-0.00207	0.00228	-0.910	0.364	-0.00156	0.00203	-0.770	0.441
Household in Metro Manila District 2 (dummy)	-0.00396	0.00271	-1.460	0.144	-0.00475	0.00269	-1.770	0.077
Household in Metro Manila District 3 (dummy)	-0.00344	0.00278	-1.240	0.217	-0.00388	0.00276	-1.410	0.159
Household in Metro Manila District 4 (dummy)	-0.00387	0.00282	-1.370	0.171	-0.00501	0.00281	-1.780	0.075
_Intercept	-0.02341	0.04953	-0.470	0.636	-0.05887	0.04249	-1.390	0. 166

# Table 21. Augmented Working–Leser Education Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

Expenditure En	ent Standard Error	0.00238	00208	17	-	1	.	0.2	0	-0.4U	-0.400 1.340	-0.400 1.340 1.350	-0.400 1.340 1.350 -2.520	-0.400 1.340 1.350 -2.520 2.510	-0.400 1.340 -2.520 2.510 -0.330	-0.400 1.340 1.350 -2.520 2.510 -0.330 0.270	-0.400 1.350 -2.520 2.510 -0.330 0.270 -0.820	-0.400 1.350 -2.520 -2.510 -0.330 -0.330 -0.330 -0.820 -0.820 -0.820	-0.400 1.350 -2.520 -2.510 -0.330 0.270 -0.820 -0.820 -0.840 1.800	-0.400 1.340 1.350 -2.550 -2.510 -0.330 0.270 -0.820 -0.820 -0.820 1.800 1.800 2.830	-0.400 1.360 -2.520 -2.520 -2.510 0.270 0.270 -0.840 1.800 -0.840 -0.840 -0.830 -0.2830 -0.2830	-0.400 1.360 -2.520 -2.510 -2.510 -2.510 0.270 -0.820 -0.820 -0.820 -0.820 -0.820 -0.820 -0.260 -0.260 -0.260	-0.400 1.340 1.350 -2.520 -2.510 -0.330 0.270 0.270 0.270 0.270 0.270 0.2830 -0.260 -0.260 0.180 0.180	-0.400 1.360 -2.520 -2.510 -0.330 0.270 -0.820 -0.820 -0.820 -0.820 -0.820 -0.830 -0.2830 -0.260 -0.260 -0.260 0.180 0.180	-0.400 1.340 1.350 -2.520 2.510 -0.330 0.270 0.270 0.270 0.280 1.800 1.800 1.800 0.260 0.180 0.180 0.180 0.810 0.810 2.440
	ent		ö	0.000	0.00056	0.00074	0.00095	0.00132 (	0.00206		0.00158 1	0.00158 1	0.00158 1 0.00143 0.00138 -	0.00158 1 0.00143 1 0.00138 -	0.00158         1           0.00143         1           0.00138         -           0.00269         2           0.00236         -	0.00158 1 0.00143 1 0.00138 0.00269 1 0.00236	0.00158         1           0.00143         1           0.00138         -           0.00259         -           0.00236         -           0.00251         -           0.00251         -           0.00251         -           0.00251         -	0.00158         1           0.00143         1           0.00138         -           0.00269         -           0.00251         -           0.002536         -           0.00134         -           0.00251         0           0.00134         -           0.00144         -           0.00251         0	0.00158         1           0.00143         1           0.00138         -           0.00269         2           0.00236         -           0.00236         -           0.00236         -           0.00236         -           0.00236         -           0.00236         -           0.00236         -           0.00034         -           0.00034         -           0.00034         -           0.00033         -	0.00158         1           0.00143         1           0.00138         -           0.00269         2           0.00251         -           0.00251         -           0.00134         -           0.00251         -           0.00134         -           0.00251         -           0.00134         -           0.00135         -           0.00134         -           0.00193         -           0.00193         -	0.00158         1           0.00143         1           0.00138         -           0.00136         -           0.00236         -           0.00251         -           0.00134         -           0.00134         -           0.00251         -           0.00251         -           0.00134         -           0.00135         -           0.00136         -           0.00137         -           0.00133         -           0.00193         -           0.00198         -	0.00158         1           0.00143         1           0.00138         -           0.00136         -           0.00251         -           0.00251         -           0.00134         -           0.00251         -           0.00251         -           0.00253         -           0.00254         -           0.00134         -           0.00139         -           0.00193         -           0.00193         -           0.00133         -           0.00133         -	0.00158         1           0.00143         1           0.00138         -           0.001369         2           0.002569         -           0.00134         -           0.00259         2           0.00139         1           0.00134         -           0.00134         -           0.00134         -           0.00133         1           0.00133         1           0.00133         1           0.00133         1           0.00133         1           0.00133         1           0.00133         1           0.00133         1           0.00133         1           0.00133         1	0.00158         1           0.00143         1           0.00138         -           0.00259         2           0.00251         -           0.00251         -           0.00134         -           0.00251         -           0.00251         -           0.00251         -           0.00134         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -           0.00133         -	0.00158         1           0.00143         1           0.00138         -           0.00259         2           0.00251         -           0.00254         -           0.00134         -           0.00251         -           0.00251         -           0.00134         -           0.00134         -           0.00133         -           0.00193         1           0.00133         -           0.00136         2           0.00176         -           0.00180         -
	Coefficie	0.00247	0.00251	-0.00175	-0.00152	-0.00011	0.00117	0.00027	-0.00082		0.00212	0.00212 0.00193	0.00212 0.00193 -0.00349	0.00212 0.00193 -0.00349 0.00673	0.00212 0.00193 -0.00349 0.00673 -0.00077	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00109	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00190 -0.00140	0.00212 0.00193 -0.00349 0.00673 0.00673 -0.00077 0.00068 -0.00109 -0.00140	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00109 -0.00140 0.00347 0.000847	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00190 -0.00140 0.00347 0.00347 -0.00052	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00140 -0.00140 0.00347 0.00847 -0.00052 -0.0052	0.00212 0.00193 -0.00349 0.00673 0.00068 -0.00109 -0.00140 0.00347 0.00347 0.00347 -0.00347 0.0032 -0.00348	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00109 -0.00109 -0.00140 0.00347 -0.00324 -0.00032 0.00032 0.00032	0.00212 0.00193 -0.00349 0.00673 -0.00077 0.00068 -0.00190 -0.00140 0.00347 0.00347 -0.00348 -0.00052 -0.00032 0.00046 0.00046 0.00048 0.00048
	p Value	0.704	0.187	0.017	0.012	0.984	0.139	0.765	0.744		0.196	0.196 0.144	0.196 0.144 0.010	0.196 0.144 0.010 0.021	0.196 0.144 0.010 0.021 0.764	0.196 0.144 0.010 0.021 0.764 0.823	0.196 0.144 0.010 0.021 0.764 0.823 0.322	0.196 0.144 0.010 0.010 0.021 0.823 0.322 0.320	0.196 0.144 0.010 0.021 0.021 0.323 0.322 0.320	0.196 0.144 0.010 0.021 0.223 0.322 0.320 0.320 0.320	0.196 0.144 0.010 0.010 0.021 0.323 0.322 0.322 0.320 0.094 0.002	0.196 0.144 0.010 0.021 0.323 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.032 0.002	0.196 0.144 0.010 0.021 0.021 0.323 0.322 0.322 0.322 0.328 0.328 0.094 0.094 0.002 0.828 0.828 0.011 0.011	0.196 0.144 0.010 0.021 0.024 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.323 0.323 0.323 0.323 0.022 0.022 0.011 0.011 0.011 0.021 0.021 0.010	0.196 0.144 0.010 0.021 0.323 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.322 0.323 0.323 0.323 0.339 0.000
gel Curve	z Value	0.380	1.320	-2.380	-2.520	0.020	1.480	0.300	-0.330		1.290	1.290 1.460	1.290 1.460 -2.570	1.290 1.460 -2.570 2.300	1.290 1.460 -2.570 2.300 -0.300	1.290 1.460 -2.570 2.300 -0.300 0.220	1.290 1.460 -2.570 2.300 -0.300 0.220 0.220	1.290 1.460 -2.570 -2.570 -2.570 -0.300 0.220 0.220 -0.990	1.290 1.460 -2.570 2.300 -0.300 0.220 -0.990 -0.990 1.670	1.290 1.460 -2.570 -2.300 -0.300 0.220 0.220 -0.990 -0.990 1.670 1.670	1.290 1.460 -2.570 -2.570 -0.300 0.220 -0.990 1.670 3.030 -0.220	1.290 1.460 -2.570 -2.570 -2.300 -0.300 0.220 -0.990 1.670 3.030 -0.220 -0.220	1.290 1.460 -2.570 2.300 0.220 -0.300 0.220 -0.990 1.670 1.670 3.030 -0.220 -0.220 0.330	1.290 1.460 -2.570 2.300 -0.300 0.220 0.220 0.220 0.220 1.670 1.670 3.030 -0.990 0.330 0.330 0.840	1.290 1.460 -2.570 -2.570 -0.300 0.220 -0.990 1.670 1.670 3.030 -0.220 -0.230 0.330 0.330 0.840 0.840
Income En	Standard Error	0.00274	0.00209	0.00072	0.00056	0.00074	0.00096	0.00134	0.00207		0.00159	0.00159 0.00143	0.00159 0.00143 0.00138	0.00159 0.00143 0.00138 0.00270	0.00159 0.00143 0.00138 0.00270 0.00237	0.00159 0.00143 0.00138 0.00270 0.00237	0.00159 0.00143 0.00138 0.00270 0.00237 0.00253	0.00159 0.00143 0.00138 0.00138 0.00237 0.00237 0.00233 0.00134	0.00159 0.00143 0.00138 0.00138 0.00237 0.00253 0.00154 0.00167 0.00194	0.00159 0.00143 0.00138 0.00270 0.00237 0.00253 0.00134 0.00157 0.00167 0.00167	0.00159 0.00143 0.00138 0.00138 0.00237 0.00253 0.00154 0.00154 0.00154 0.00194 0.00194	0.00159 0.00143 0.00138 0.00270 0.00237 0.00253 0.00154 0.00154 0.00194 0.00194 0.00198	0.00159 0.00143 0.00138 0.00138 0.00237 0.00253 0.00134 0.00134 0.00157 0.00157 0.00198 0.00198	0.00159 0.00143 0.00138 0.00137 0.00253 0.00154 0.00154 0.00154 0.00194 0.00194 0.00198 0.00198 0.00149 0.00176 0.00176	0.00159 0.00143 0.00138 0.00237 0.00237 0.00153 0.00154 0.00154 0.00194 0.00194 0.00198 0.00198 0.00198 0.00176 0.00181
	Coefficient	0.00104	0.00276	-0.00171	-0.00140	0.00002	0.00142	0.00040	-0.00068		0.00205	0.00205 0.00209	0.00205 0.00209 -0.00356	0.00205 0.00209 -0.00356 0.00622	0.00205 0.00209 -0.00356 0.00622	0.00205 0.00209 -0.00356 0.00622 -0.00071 0.00056	0.00205 0.00209 -0.00356 0.00622 -0.00071 0.00056	0.00205 0.00209 -0.00356 0.00622 -0.0071 0.00056 -0.00133 -0.00165	0.00205 0.00209 -0.00356 0.00622 -0.00071 0.00056 -0.00133 -0.00165	0.00205 0.00209 -0.00356 -0.00622 -0.00056 -0.00155 -0.00155 0.00324 0.00324	0.00205 0.00209 -0.00356 0.00622 -0.0071 0.00056 -0.00165 0.00165 0.00324 0.00910 -0.00910	0.00205 0.00209 -0.00356 0.00622 -0.00071 0.00056 -0.00133 -0.00185 0.00324 0.00324 0.000325 -0.00133 -0.00133 0.00010	0.00205 0.00209 -0.00356 0.00622 -0.0071 0.00056 -0.00133 -0.00165 0.00324 0.00324 0.00910 -0.00910 -0.00376	0.00205 0.00209 -0.00356 0.00622 -0.00071 0.00056 -0.00165 0.00056 0.00324 0.00376 0.00376 0.00058	0.00205 0.00256 -0.00356 0.00622 -0.0071 0.00056 -0.00165 0.00165 0.00165 0.00153 -0.00133 -0.0013 -0.0013 0.00058 0.00058 0.00058 0.00153 0.00153
	Factors	ne/expenditure	s of household younger than 1 year	ers of household who are 1 to 6 years old	ers of household who are 7 to 14 years old	ers of household who are 15 to 24 years old	bers of household who are 25 to 59 years old	bers of household who are 60 years and older	ber of nonrelative members of household		household head (dummy)	household head (dummy) ehold head is jobless (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy) s household head (dummy)	household head (dummy) ehold head is Jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) ed household head (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) ed household head (dummy) wed household head (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) wed household head (dummy) st elementary graduate (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is /5 years old and older (dummy) e household head (dummy) wed household head (dummy) set elementary graduate (dummy) st high school graduate (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is /5 years old and older (dummy) e household head (dummy) ed household head (dummy) wed household head (dummy) st elementary graduate (dummy) st high school graduate (dummy) some college education (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) eed household head (dummy) wed household head (dummy) sst elementary graduate (dummy) sst high school graduate (dummy) some college education (dummy) st college graduate (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) wed household head (dummy) wed household head (dummy) st elementary graduate (dummy) st high school graduate (dummy) some college education (dummy) st college graduate (dummy) ist college graduate (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is /45 years old and older (dummy) e household head (dummy) ed household head (dummy) wed household head (dummy) st elementary graduate (dummy) st elementary graduate (dummy) some college education (dummy) etype of household (dummy) e type of household (dummy)	household head (dummy) ehold head is jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) ed household head (dummy) set elementary graduate (dummy) st elementary graduate (dummy) some college education (dummy) some college graduate (dummy) et type of household (dummy) ehold in the poorest decile (dummy) ehold in Metro Manila District 2 (dummy)	household head (dummy) ehold head is Jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) ed household head (dummy) wed household head (dummy) set lementary graduate (dummy) st high school graduate (dummy) some college education (dummy) some college education (dummy) et ype of household (dummy) e type of household (dummy) ehold in the poorest decle (dummy) ehold in Metro Manila District 2 (dummy)	household head (dummy) ehold head is Jobless (dummy) ehold head is 45 years old and older (dummy) e household head (dummy) wed household head (dummy) orst elementary graduate (dummy) orst elementary graduate (dummy) some college education (dummy) ast college education (dummy) etype of household (dummy) eehold in the poorest decile (dummy) sehold in Metro Manila District 2 (dummy) eehold in Metro Manila District 3 (dummy)

## Table 22. Augmented Working–Leser Taxes Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### Pathways Out of Poverty

		Income En	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Er ror	z Value	p Value	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.00110	0.00156	0.700	0.482	0.00026	0.00141	0.180	0.856
Members of household younger than 1 year	-0.00098	0.00119	-0.820	0.410	-0.00096	0.00124	-0.780	0.438
Members of household who are 1 to 6 years old	0.00018	0.00041	0.430	0.666	0.00013	0.00042	0.300	0.768
Members of household who are 7 to 14 years old	0.00033	0.00032	1.030	0.302	0.00039	0.00033	1.170	0.242
Members of household who are 15 to 24 years old	0.00001	0.00042	0:030	0.979	0.00000	0.00044	0.000	0.999
Members of household who are 25 to 59 years old	-0.00074	0.00055	-1.350	0.178	-0.00071	0.00056	-1.260	0.209
Members of household who are 60 years and older	0.00105	0.00076	1.370	0.170	0.00109	0.00079	1.380	0.167
Number of nonrelative members of household	-0.00029	0.00118	-0.240	0.808	-0.00032	0.00123	-0.260	0.796
Male household head (dummy)	0.00042	06000.0	0.460	0.643	0.00014	0.00094	0.150	0.881
Household head is jobless (dummy)	-0.00123	0.00082	-1.500	0.133	-0.00138	0.00085	-1.630	0.103
Household head is 45 years old and older (dummy)	-0.00025	0.00079	-0.310	0.754	-0.00039	0.00082	-0.470	0.638
Single household head (dummy)	-0.00073	0.00154	-0.480	0.633	-0.00108	0.00160	-0.680	0.498
Married household head (dummy)	-0.00111	0.00135	-0.830	0.409	-0.00138	0.00141	0.990	0.324
Widowed household head (dummy)	-0.00117	0.00144	-0.810	0.415	-0.00157	0.00149	-1.050	0.293
At most elementary graduate (dummy)	0.00087	0.00076	1.140	0.255	0.00088	0.00080	1.100	0.272
At most high school graduate (dummy)	0.00031	0.00095	0.330	0.742	0.00042	0.00099	0.430	0.669
With some college education (dummy)	-0.00020	0.00110	-0.180	0.855	-0.00043	0.00115	-0.370	0.710
At least college graduate (dummy)	-0.00063	0.00171	-0.370	0.711	-0.00053	0.00178	-0.300	0.766
Single type of household (dummy)	-0.00049	0.00113	-0.440	0.662	-0.00074	0.00117	-0.630	0.530
Household in the poorest decile (dummy)	-0.00040	0.00085	-0.470	0.639	-0.00096	0.00079	-1.220	0.223
Household in Metro Manila District 2 (dummy)	0.00189	0.00100	1.880	0.060	0.00197	0.00104	1.890	0.059
Household in Metro Manila District 3 (dummy)	0.00078	0.00103	0.760	0.450	0.00077	0.00107	0.720	0.471
Household in Metro Manila District 4 (dummy)	0.00024	0.00105	0.230	0.821	0.00025	0.00109	0.230	0.822
_Intercept	-0.01018	0.01836	-0.550	0.579	0.00067	0.01652	0.040	0.967

#### Table 23. Augmented Working–Leser Repairs and Maintenance Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### PATHWAYS OUT OF POVERTY

		Income Er	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	p Value	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.00169	0.00263	0.640	0.520	0.00323	0.00226	1.430	0.153
Members of household younger than 1 year	-0.00092	0.00201	-0.460	0.648	-0.00108	0.00199	-0.540	0.587
Members of household who are 1 to 6 years old	0.00091	0.00069	1.330	0.183	06000.0	0.00068	1.330	0.183
Members of household who are 7 to 14 years old	0.00131	0.00053	2.450	0.014	0.00087	0.00053	1.650	0.100
Members of household who are 15 to 24 years old	-0.00015	0.00071	-0.220	0.828	-0.00044	0.00070	-0.620	0.534
Members of household who are 25 to 59 years old	-0.00159	0.00092	-1.730	0.083	-0.00161	06000.0	-1.780	0.074
Members of household who are 60 years and older	-0.00239	0.00128	-1.860	0.063	-0.00218	0.00126	-1.730	0.084
Number of nonrelative members of household	0.00762	0.00199	3.840	0.000	0.00724	0.00197	3.680	0.000
Male household head (dummy)	0.00198	0.00152	1.300	0. 193	0.00212	0.00151	1.410	0.158
Household head is jobless (dummy)	0.00149	0.00137	1.080	0.279	66000.0	0.00136	0.730	0.466
Household head is 45 years old and older (dummy)	0.00102	0.00133	0.770	0.441	0.00160	0.00132	1.220	0.223
Single household head (dummy)	-0.00375	0.00259	-1.450	0.147	-0.00387	0.00256	-1.510	0.131
Married household head (dummy)	-0.00030	0.00227	-0.130	0.894	-0.00192	0.00225	-0.850	0.393
Widowed household head (dummy)	-0.00134	0.00242	-0.550	0.581	-0.00246	0.00239	-1.030	0.305
At most elementary graduate (dummy)	-0.00228	0.00128	-1.770	0.076	-0.00115	0.00128	-0.900	0.366
At most high school graduate (dummy)	-0.00048	0.00160	-0.300	0.763	0.00057	0.00159	0.360	0.721
With some college education (dummy)	0.00126	0.00185	0.680	0.497	0.00142	0.00183	0.780	0.438
At least college graduate (dummy)	0.00167	0.00288	0.580	0.563	0.00078	0.00285	0.270	0.785
Single type of household (dummy)	-0.00267	0.00190	-1.400	0.160	-0.00283	0.00188	-1.500	0.133
Household in the poorest decile (dummy)	0.00228	0.00143	1.600	0.109	0.00150	0.00126	1.190	0.236
Household in Metro Manila District 2 (dummy)	-0.00178	0.00169	-1.050	0.294	-0.00303	0.00167	-1.810	0.070
Household in Metro Manila District 3 (dummy)	-0.00031	0.00174	-0.180	0.856	-0.00052	0.00172	-0.300	0.763
Household in Metro Manila District 4 (dummy)	0.00128	0.00176	0.720	0.469	-0.00032	0.00175	-0.180	0.855
Intercept	0.00269	0.03093	060.0	0.931	-0.01253	0.02646	-0.470	0.636

### Table 24. Augmented Working–Leser Clothing and Footwear Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

		Income En	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	p Value	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.03029	0.01479	-2.050	0.041	0.00084	0.01240	0.070	0.946
Members of household younger than 1 year	-0.01615	0.01129	-1.430	0.153	-0.01558	0.01087	-1.430	0.152
Members of household who are 1 to 6 years old	-0.01178	0.00387	-3.050	0.002	-0.01233	0.00372	-3.310	0.001
Members of household who are 7 to 14 years old	-0.00810	0.00301	-2.700	0.007	-0.01143	0.00291	-3.930	0.000
Members of household who are 15 to 24 years old	-0.01412	0.00400	-3.530	0.000	-0.01815	0.00386	-4.700	0.000
Members of household who are 25 to 59 years old	-0.02146	0.00517	-4.150	0.000	-0.02345	0.00494	-4.750	0.000
Members of household who are 60 years and older	0.00214	0.00722	0.300	0.767	0.00436	0.00691	0.630	0.528
Number of nonrelative members of household	-0.01120	0.01117	-1.000	0.316	-0.01894	0.01077	-1.760	0.079
Male household head (dummy)	0.01241	0.00857	1.450	0.148	0.01026	0.00824	1.240	0.213
Household head is jobless (dummy)	0.04002	0.00773	5.170	0.000	0.03017	0.00745	4.050	0.000
Household head is 45 years old and older (dummy)	0.01453	0.00746	1.950	0.052	0.02151	0.00721	2.980	0.003
Single household head (dummy)	-0.02578	0.01456	-1.770	0.077	-0.01003	0.01401	-0.720	0.474
Married household head (dummy)	-0.03385	0.01277	-2.650	0.008	-0.03817	0.01233	-3.100	0.002
Widowed household head (dummy)	-0.01484	0.01362	-1.090	0.276	-0.01463	0.01310	-1.120	0.264
At most elementary graduate (dummy)	-0.01830	0.00722	-2.540	0.011	-0.01296	0.00699	-1.850	0.064
At most high school graduate (dummy)	0.01111	0.00898	1.240	0.216	0.01728	0.00868	1.990	0.047
With some college education (dummy)	0.00724	0.01043	0.690	0.488	0.00389	0.01005	0.390	0.699
At least college graduate (dummy)	0.00412	0.01620	0.250	0.799	-0.01799	0.01562	-1.150	0.249
Single type of household (dummy)	0.00119	0.01069	0.110	0.912	-0.00145	0.01030	-0.140	0.888
Household in the poorest decile (dummy)	0.00325	0.00802	0.410	0.685	0.00294	0.00691	0.430	0.670
Household in Metro Manila District 2 (dummy)	-0.01342	0.00951	-1.410	0.158	-0.01918	0.00916	-2.090	0.036
Household in Metro Manila District 3 (dummy)	-0.02833	0.00977	-2.900	0.004	-0.02915	0.00940	-3.100	0.002
Household in Metro Manila District 4 (dummy)	-0.00855	0.00992	-0.860	0.389	-0.01771	0.00959	-1.850	0.065
_Intercept	0.59854	0.17399	3.440	0.001	0.25423	0.14490	1.750	0.079

#### Table 25. Augmented Working–Leser House Rental Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

#### PATHWAYS OUT OF POVERTY

		Income En	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	0.00574	0.00322	1.780	0.075	0.00550	0.00272	2.020	0.044
Members of household younger than 1 year	-0.00067	0.00246	-0.270	0.784	-0.00085	0.00239	-0.350	0.723
Members of household who are 1 to 6 years old	0.00055	0.00084	0.650	0.514	0.00061	0.00082	0.740	0.458
Members of household who are 7 to 14 years old	-0.00182	0.00066	-2.770	0.006	-0.00214	0.00064	-3.350	0.001
Members of household who are 15 to 24 years old	-0.00045	0.00087	-0.510	0.607	-0.00071	0.00085	-0.840	0.402
Members of household who are 25 to 59 years old	0.00130	0.00113	1.150	0.249	0.00131	0.00109	1.210	0.226
Members of household who are 60 years and older	0.00219	0.00157	1.390	0.164	0.00249	0.00152	1.640	0.101
Number of nonrelative members of household	0.00245	0.00244	1.010	0.314	0.00182	0.00237	0.770	0.441
Male household head (dummy)	0.00051	0.00187	0.270	0.786	0.0008	0.00181	0.050	0.963
Household head is jobless (dummy)	-0.00339	0.00169	-2.010	0.044	-0.00376	0.00164	-2.300	0.022
Household head is 45 years old and older (dummy)	0.00043	0.00163	0.260	0.794	0.00067	0.00158	0.420	0.674
Single household head (dummy)	-0.00285	0.00317	-0.900	0.369	-0.00255	0.00308	-0.830	0.407
Married household head (dummy)	-0.00306	0.00279	-1.100	0.272	-0.00365	0.00271	-1.350	0.178
Widowed household head (dummy)	-0.00027	0.00297	060.0-	0.928	-0.00140	0.00288	-0.490	0.627
At most elementary graduate (dummy)	-0.00191	0.00157	-1.210	0.225	-0.00122	0.00153	-0.790	0.428
At most high school graduate (dummy)	0.00398	0.00196	2.030	0.042	0.00466	0.00191	2.440	0.015
With some college education (dummy)	0.00251	0.00228	1.100	0.271	0.00234	0.00221	1.060	0.289
At least college graduate (dummy)	0.00173	0.00353	0.490	0.625	0.00052	0.00343	0.150	0.879
Single type of household (dummy)	-0.00477	0.00233	-2.040	0.041	-0.00556	0.00226	-2.460	0.014
Household in the poorest decile (dummy)	0.00142	0.00175	0.810	0.417	0.00050	0.00152	0.330	0.744
Household in Metro Manila District 2 (dummy)	-0.00163	0.00207	-0.790	0.432	-0.00255	0.00201	-1.270	0.206
Household in Metro Manila District 3 (dummy)	0.00217	0.00213	1.020	0.309	0.00168	0.00207	0.810	0.416
Household in Metro Manila District 4 (dummy)	-0.00127	0.00216	-0.590	0.558	-0.00236	0.00211	-1.120	0.262
_Intercept	-0.05158	0.03794	-1.360	0.174	-0.04563	0.03183	-1.430	0.152

#### Table 26. Augmented Working–Leser Special Occasions Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

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		Income En	igel Curve			Expenditure	Engel Curve	
Factors	Coefficient	Standard Error	z Value	<i>p</i> Value	Coefficient	Standard Error	z Value	<i>p</i> Value
Log of income/expenditure	0.02012	0.00831	2.420	0.015	96600.0	0.00708	1.410	0.160
Members of household younger than 1 year	-0.01046	0.00634	-1.650	660.0	-0.01136	0.00621	-1.830	0.067
Members of household who are 1 to 6 years old	-0.00910	0.00217	-4.190	0.000	-0.00975	0.00213	-4.590	0.000
Members of household who are 7 to 14 years old	-0.00724	0.00169	-4.290	0.000	-0.00796	0.00166	-4.790	0.000
Members of household who are 15 to 24 years old	-0.00780	0.00225	-3.470	0.001	-0.00815	0.00220	-3.700	0.000
Members of household who are 25 to 59 years old	-0.01404	0.00290	-4.830	0.000	-0.01358	0.00282	-4.810	0.000
Members of household who are 60 years and older	-0.00890	0.00405	-2. 190	0.028	76600.0-	0.00395	-2.530	0.011
Number of nonrelative members of household	0.00012	0.00628	0.020	0.985	-0.00042	0.00615	-0.070	0.945
Male household head (dummy)	0.00274	0.00481	0.570	0.570	0.00238	0.00471	0.510	0.613
Household head is jobless (dummy)	-0.00574	0.00435	-1.320	0.186	-0.00823	0.00425	-1.940	0.053
Household head is 45 years old and older (dummy)	-0.01129	0.00419	-2.690	0.007	-0.01220	0.00412	-2.960	0.003
Single household head (dummy)	0.00628	0.00818	0.770	0.443	0.00992	0.00800	1.240	0.215
Married household head (dummy)	0.01445	0.00718	2.010	0.044	0.01522	0.00704	2.160	0.031
Widowed household head (dummy)	0.00957	0.00765	1.250	0.211	0.01155	0.00748	1.540	0.123
At most elementary graduate (dummy)	0.00373	0.00406	0.920	0.358	0.00295	0.00399	0.740	0.459
At most high school graduate (dummy)	0.00092	0.00504	0.180	0.856	0.00135	0.00496	0.270	0.785
With some college education (dummy)	0.00386	0.00586	0.660	0.510	0.00429	0.00574	0.750	0.454
At least college graduate (dummy)	-0.00717	0.00910	-0.790	0.431	-0.00825	0.00892	-0.930	0.355
Single type of household (dummy)	-0.01331	0.00601	-2.220	0.027	-0.01547	0.00588	-2.630	0.009
Household in the poorest decile (dummy)	-0.00192	0.00450	-0.430	0.670	-0.00786	0.00395	-1.990	0.047
Household in Metro Manila District 2 (dummy)	-0.00133	0.00535	-0.250	0.804	-0.00187	0.00523	-0.360	0.721
Household in Metro Manila District 3 (dummy)	0.00478	0.00549	0.870	0.384	0.00288	0.00537	0.540	0.592
Household in Metro Manila District 4 (dummy)	-0.00528	0.00558	-0.950	0.344	-0.00635	0.00548	-1.160	0.246
_Intercept	-0.17617	0.09777	-1.800	0.072	-0.04999	0.08275	-0.600	0.546

Table 27. Augmented Working–Leser Gifts and Contributions Income/Expenditure Engel Curves Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

		Income Enge	l Curve	
Factors	Coefficient	Standard Error	z Value	p Value
Log of income/expenditure	0.14097	0.02711	5.200	0.000
Members of household younger than 1 year	0.00049	0.02069	0.020	0.981
Members of household who are 1 to 6 years old	0.00053	0.00709	0.070	0.941
Members of household who are 7 to 14 years old	-0.01843	0.00551	-3.340	0.001
Members of household who are 15 to 24 years old	-0.01729	0.00733	-2.360	0.018
Members of household who are 25 to 59 years old	0.00389	0.00947	-0.410	0.681
Members of household who are 60 years and older	0.01206	0.01323	0.910	0.362
Number of nonrelative members of household	-0.03947	0.02048	-1.930	0.054
Male household head (dummy)	0.00247	0.01570	0.160	0.875
Household head is jobless (dummy)	-0.03882	0.01417	-2.740	0.006
Household head is 45 years old and older (dummy)	0.03384	0.01368	2.470	0.013
Single household head (dummy)	0.05072	0.02669	1.900	0.057
Married household head (dummy)	-0.04368	0.02341	-1.870	0.062
Widowed household head (dummy)	-0.01155	0.02496	-0.460	0.644
At most elementary graduate (dummy)	0.04166	0.01323	3.150	0.002
At most high school graduate (dummy)	0.05188	0.01645	3.150	0.002
With some college education (dummy)	-0.00794	0.01912	-0.420	0.678
At least college graduate (dummy)	-0.06149	0.02970	-2.070	0.038
Single type of household (dummy)	-0.02100	0.01960	-1.070	0.284
Household in the poorest decile (dummy)	-0.00536	0.01469	-0.360	0.715
Household in Metro Manila District 2 (dummy)	-0.04724	0.01744	-2.710	0.007
Household in Metro Manila District 3 (dummy)	-0.01115	0.01791	-0.620	0.534
Household in Metro Manila District 4 (dummy)	-0.06296	0.01819	-3.460	0.001
_Intercept	-1.54647	0.31892	-4.850	0.000

# Table 28. Augmented Working–Leser Savings Engel Curve Estimated via Seemingly Unrelated Regressions, Metro Manila Poor Households, 2009

	ifood	ialbev	itbcco	ifuel	itrcom	ihoper	iprcre	ircrtn	imedic	idufur	indfur	ieduc	itaxes	irpair	icloth	ihouse	ioccsn	igftot	isavings
ifood	1.0000																		
ialbev	0.0282	1.0000																	
ithcco	-0.0271	0.2346	1.0000																
ifuel	0.0768	-0.0832	-0.0703	1.0000															
itrcom	0.0331	-0.0538	-0.0396	-0.0058	1.0000														
ihoper	0.0766	0.0009	-0.0112	0.0713	-0.0217	1.0000													
iprcre	0.2155	-0.0196	-0.0194	0.1535	0.1723	0.1295	1.0000												
ircrtn	0.0057	0.0716	0.0472	-0.0005	0.0450	0.0152	0.0381	1.0000											
imedic	-0.0358	-0.0134	-0.0540	-0.0363	-0.0342	-0.0472	-0.0201	-0.0085	1.0000										
idufur	-0.0430	-0.0073	-0.0440	0.0404	0.0108	-0.0123	0.0028	-0.0040	0.0761	1.0000									
indfur	0.0370	-0.0213	-0.0550	0.0345	0.0006	-0.0023	0.0877	0.0556	-0.0209	0.0482	1.0000								
educ	0.0143	-0.0209	-0.0213	0.0035	0.0512	-0.0416	-0.0135	-0.0116	-0.0207	-0.0100	-0.0045	1.0000							
taxes	-0.0593	-0.0366	-0.0392	-0.0198	0.0677	-0.0015	-0.0150	0.0360	0.0067	-0.0111	-0.0280	-0.0286	1.0000						
rpair	-0.0479	0.0208	0.0045	-0.0296	-0.0399	0.0044	-0.0228	0.0309	0.0969	-0.0054	0.0346	0.0108	0.0273	1.0000					
doth	0.0698	0.0342	0.0198	0.0299	0.0977	0.0097	0.2492	0.0846	-0.0063	-0.0084	0.2531	0.0130	0.1148	-0.0012	1.0000				
ihouse	-0.1434	-0.0655	-0.0371	0.1023	-0.1396	0.0761	-0.0816	-0.0356	-0.0662	0.0083	-0.0916	-0.0792	-0.0888	-0.0274	-0.1394	1.0000			
occsn	-0.0280	-0.0039	0.0046	0.0519	0.0390	-0.0123	0.0874	0.0036	0.0241	0.0412	0.0828	0.0134	-0.0121	0.0789	0.0969	-0.0927	1.0000		
igftot	-0.1613	-0.0057	-0.0665	-0.1037	-0.0295	-0.0837	-0.1205	-0.0276	-0.0755	-0.0500	-0.0235	-0.0491	0.0008	-0.0372	-0.0152	-0.0912	-0.0571	1.0000	
savings	-0.6028	-0.0773	0.0049	-0.3349	-0.2507	-0.1630	-0.3140	-0.0722	-0.1500	-0.2884	-0.0394	-0.1002	-0.0476	-0.0120	-0.1717	-0.3158	-0.1018	-0.0384	1.0000
Note. Bi	reusch-	Pagan tu	est of in	depende	ence of 1	residual	s across	equatio	ms: 141	10.129;1	- value -	= 0.0000							
		C		-				-		•									

# Table 29. Correlation Matrix of Residuals Income Engel Curves and the Breusch–Pagan Test of Independence of Residuals

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Table 30. Correlation Matrix of Residuals Expenditure Engel Curves	
and the Breusch–Pagan Test of Independence of Residuals	

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	sfood	salbev	stbcco	sfuel	strcom	shoper	sprcre	srcrtn	smedic	sdufur	sndfur	seduc	staxes	srpar	scloth	shouse	soccsn	sgftot
sfood	1.0000																	
salbev	-0.0342	1.0000																
stbcco	-0.0323	0.2158	1.0000															
sfuel	-0.1981	-0.1120	-0.0786	1.0000														
strcom	-0.1593	-0.0697	-0.0219	-0.1098	1.0000													
shoper	-0.0364	-0.0026	0.0001	0.0314	-0.0689	1.0000												
sprcre	0.0073	-0.0487	-0.0124	0.0665	0.0755	0.0938	1.0000											
srcrtn	-0.0452	0.0779	0.0689	-0.0409	0.0329	0.0031	0.0111	1.0000										
smedic	-0.1712	-0.0309	-0.0542	-0.0754	-0.0736	-0.0701	-0.0613	-0.0331	1.0000									
sdufur	-0.1817	-0.0219	-0.0412	-0.0305	-0.0778	-0.0464	-0.0736	-0.0144	0.0552	1.0000								
sndfur	-0.0055	-0.0294	-0.0619	0.0367	-0.0078	-0.0091	0.0759	0.0522	-0.0261	0.0700	1.0000							
seduc	-0.0607	-0.0273	-0.0228	-0.0329	0.0184	-0.0557	-0.0475	-0.0130	-0.0379	-0.0285	-0.007	1.0000						
staxes	-0.1011	-0.0328	-0.0387	-0.0426	0.0528	-0.0125	-0.0226	0.0192	-0.0233	-0.0313	-0.0286	-0.0290	1.0000					
srpar	-0.0569	0.0135	0.0021	-0.0243	-0.0525	0.0108	-0.0171	0.0042	0.0937	0.0056	0.0363	0.0120	0.0091	1.0000				
scloth	-0.0742	0.0132	0.0225	-0.0129	0.0649	-0.0129	0.2086	0.0553	-0.0267	-0.0185	0.2466	-0.0048	0.1010	-0.0184	1.0000			
shouse	-0.4766	-0.1067	-0.0599	-0.0164	-0.2362	-0.0011	-0.2080	-0.0736	-0.0863	-0.0539	-0.1047	-0.1219	-0.1124	-0.0429	-0.2114	1.0000		
soccsn	-0.1108	-0.0095	0.0082	0.0400	0.0174	-0.0304	0.0600	-0.0042	0.0145	0.0080	6060.0	0.0067	-0.0203	0.0526	8060.0	-0.1405	1.0000	
sgftot	-0.2319	-0.0040	-0.0669	-0.1310	-0.0150	-0.0803	-0.1299	-0.0271	-0.0784	-0.0745	-0.0192	-0.0547	0.0052	-0.0387	-0.0208	-0.1286	-0.0629	1.0000
Note. Breusch	n-Pagan te	st of indep	endence o	fresiduals	$\chi^{2}_{(153)} =$	977.554; ]	o value = 0	.0000.										

Equation	Param	ieters	RMSE	$R^2$	$\chi^2$	p Value
Food	854	23	0.0835	0.3439	447.6500	0.0000
Alcoholic beverages	854	23	0.0183	0.0627	57.1000	0.0001
Tobacco	854	23	0.0154	0.0790	73.2700	0.0000
Fuel	854	23	0.0354	0.0963	90.9700	0.0000
Transport and communication	854	23	0.0379	0.1160	112.0600	0.0000
Household operations	854	23	0.0137	0.0455	40.6600	0.0129
Personal care	854	23	0.0181	0.1661	170.1200	0.0000
Recreation	854	23	0.0092	0.0391	34.7600	0.0550
Medical care	854	23	0.0334	0.1040	99.1500	0.0000
Durable furnishings	854	23	0.0303	0.0734	67.6700	0.0000
Nondurable furnishings	854	23	0.0025	0.0369	32.6900	0.0867
Education	854	23	0.0233	0.0509	45.8300	0.0031
Taxes	854	23	0.0153	0.1042	99.3400	0.0000
Repairs and maintenance	854	23	0.0091	0.0244	21.3600	0.5588
Clothing and footwear	854	23	0.0145	0.0468	41.9400	0.0092
House rental	854	23	0.0796	0.2975	361.5900	0.0000
Special occasions	854	23	0.0175	0.0610	55.5000	0.0002
Gifts and contributions	854	23	0.0455	0.1199	116.3900	0.0000

# Table 31A. Seemingly Unrelated Regression (Iterated) Expenditure Engel Curves

# Table 31B. Seemingly Unrelated Regression (Iterated) Income Engel Curves

Equation	Ob Param	os eters	RMSE	$R^2$	$\chi^2$	p Value
Food	854	23	0.1061	0.3563	472.7800	0.0000
Alcoholic beverages	854	23	0.0178	0.0606	55.0400	0.0002
Торассо	854	23	0.0150	0.0715	65.7300	0.0000
Fuel	854	23	0.0367	0.1137	109.5700	0.0000
Transportation and communication	854	23	0.0401	0.1182	114.5100	0.0000
Household operations	854	23	0.0143	0.0440	39.3400	0.0182

# Table 31B continued...

Personal care	854	23	0.0191	0.1883	198.0900	0.0000
Recreation	854	23	0.0085	0.0414	36.9200	0.0332
Medical care	854	23	0.0360	0.0787	72.9800	0.0000
Durable furnishings	854	23	0.0469	0.0306	27.0000	0.2561
Non durable furnishings	854	23	0.0024	0.0373	33.0900	0.0795
Education	854	23	0.0235	0.0501	45.0000	0.0040
Taxes	854	23	0.0153	0.1015	96.5000	0.0000
Repairs and maintenance	854	23	0.0087	0.0225	19.6300	0.6641
Clothing and footwear	854	23	0.0147	0.0544	49.1400	0.0012
House rental	854	23	0.0827	0.2612	301.9500	0.0000
Special occasions	854	23	0.0180	0.0500	44.9500	0.0040
Gifts & contributions	854	23	0.0465	0.1052	100.3600	0.0000
Food	854	23	0.1515	0.1467	146.8500	0.0000

Note. Base equation for both sets of Engel curves is other expenditures.