



PHILIPPINE JOURNAL OF DEVELOPMENT  
NUMBER 65, SECOND SEMESTER 2008  
VOLUME XXXV, No. 2



# International Remittances and Family Expenditure Patterns: The Philippines' Case<sup>1</sup>

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## ABSTRACT

This paper examines the influence of overseas remittances to patterns of family expenditures in the Philippines using a matched dataset of the Family Income and Expenditure Survey (FIES) and the Labor Force Survey (LFS). The objective is to study whether or not remittances influence budget allocation of families receiving these income transfers. Specifically, it is interesting to check if families with remittances tend to allocate more on say education, healthcare, and housing thereby increasing the development impact of remittances or if they tend to budget more conspicuously on vices and consumer items and hence may forego their chance to maximize gains from remittances. This is becoming an important question amidst many issues of labor migration as the country continues to send hundreds of thousands of its labor abroad. This paper estimated a system of demand equations. The dataset has been adjusted to reflect a more accurate definition of remittances from abroad by excluding the investment dividends and pension components in the FIES remittance data as recommended in previous studies. Likewise, the paper attempts to address the endogeneity issue in studying remittance effects and the presence of zero values in expenditure data.

<sup>1</sup> Paper presented at the 11th International Convention of the East Asian Economic Association, 15–16 November 2008, Manila.

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## INTRODUCTION

The amount of overseas remittances to the Philippines has been recently increasing at phenomenal rates. Official estimates indicate that from 2002 to 2007, remittances have been growing at an average rate of around 16 percent annually. Because of this rapid growth, the total amount of remittances during this period reached \$61 billion, one of the highest in East Asia and the Pacific. This huge amount, although includes only those that were coursed through the formal banking system, signifies the important role remittances play in the economic development of the country.

Owing to the increasing importance of remittances in the Philippine economy, a lot of research works in the area of remittances and migration have been conducted. These studies, however, have focused more on remittance determinants and macro level effects of remittances. For instance, Rodriguez (1996) and Tan (2006) researched the determinants of remittances. Others such as those of Pernia (2006) and Burgess and Haksar (2005) have also focused on the macro level impact of remittances. However, because remittances directly benefit the households, micro level studies are indeed relevant and very important. In particular, studying the impact of remittances to household investments is critical to assessing the effects of remittances on local economic development. At the same time, assessing the spending behavior of households helps in determining whether remittances are spent wisely or not. If remittances are spent in productive rather than consumptive ways, then remittances have greater potential of spurring progress. There is limited number of studies that have looked into the effects of remittances on the spending or expenditure patterns of Filipino households.<sup>3</sup> This paper attempts to fill this gap.

### Methodological issues

In studying remittance effects to expenditure patterns of households, one methodological issue is endogeneity. Remittances, or the likelihood to receive remittances, are usually endogenous or predetermined as they may be influenced by the same factors (i.e., various household characteristics and location factors) that could be affecting the variables that are being estimated, in this case expenditure behavior. Put differently, the factors that may explain the ability of families to send their members abroad and then receive remittances in return may be correlated with the household expenditure patterns. Households receiving remittances may be fundamentally different from those that do not. Comparing the expenditure patterns and attributing the difference to the remittances received may not be reasonable. To deal with this issue, expenditure behavior of households

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<sup>3</sup> The study by Yang (2005) is the only one done so far at the household level for the Philippines in terms of household investments. Yang tested for the effect of remittances on investments in education and entrepreneurial activities using exchange rate shocks generated by the Asian financial crisis during the period 1997 to 1998 as instrumental variable. He found that when given an exogenous shock to remittance income, households tend to invest the increase in child schooling and entrepreneurial activities.

receiving remittances should be compared with that of similar households without migrants while controlling for the endogeneity of migration choices and hence, remittances (Mora and Taylor 2006).

In addition to endogeneity, there is a constraint in the dataset of the Family Income and Expenditure Survey (FIES) in the Philippines in terms of the definition of remittance income. This problem was noted in both studies of Burgess and Haksar (2005) and Yang (2005). The variable—cash receipts from abroad—is the one being used in various micro and macro studies. However, this includes not only remittances from family members working abroad but also dividends from investments and pension payments from abroad. Using this information may be misleading.

### Analytical framework

The concept that remittances impact household consumption behavior may have been relying on emerging studies on mental accounting theory. The mental accounting theory states that the marginal propensity to consume out of different sources of income is not equal. This is said to be true even where the income is equally liquid. The findings of Davies et al. (2006) on Malawi households support this theory and are consistent with findings of remittance studies which say that households regard remittance flows as distinct from other sources of income and, thus, use it distinctively. This finding is in conflict with traditional consumption theories such as the lifecycle and permanent income theories of consumption, which state that the source of income does not matter because households tend to smooth consumption. Based on these traditional theories, it should be expected that households receiving remittances behave like any other households with all other factors being the same. However, a number of recent studies have been showing that household receiving remittances have exhibited varying tendency to consume and invest compared to those that do not.<sup>4</sup> Several studies using a behavioral approach also show that sources and amount of income both play roles in placing them in certain accounts.<sup>5</sup>

Meanwhile, it is notable to mention that to study remittance effect, one need not ask how the household or family spends the remittance income simply because remittance income has fungible property. It does not make sense to separate it and see how it is being spent because families spending remittances on consumption goods can devote other income to investments or vice versa. The research question then, is stated as: for two Filipino families that are relatively comparable in terms of economic stature and characteristics but one receives remittance-income while

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<sup>4</sup> Castaldo and Reilly (2007) found that remittances have positive effect on durables and utilities spending of Albanian households. Mora and Taylor (2006) found that Mexicans receiving remittances have higher budget shares for investments and consumer durables but lower for education. Yang (2005) also found that remittances tend to affect education expenditures positively. See also Adams (2005) and Amuedo-Dorantes (2002).

<sup>5</sup> See behavioral lifecycle hypothesis by Shefrin and Thaler (1988).

the other one does not, does the presence of remittance-income influence the former to spend its income differently than the latter? In the econometric analysis, this may mean simply adding a dummy variable that represents remittance receipt into the model. However, it must be noted that being a remittance receiver is a function of many factors that needs to be controlled. The most important of these factors is migration itself. A family is likely to receive remittance income if a family member is a migrant worker.

To address endogeneity of remittances, this paper uses an instrumental variable for remittance receipt. Ideally, obtaining information on premigration characteristics (e.g., presence of family members that are migrant workers) of the households under study would definitely enhance the method of research. However, since the FIES does not have a recent panel dataset, this is difficult to implement. To remedy this, the instrument used for remittance is the percentage of migrant workers in 2001 at the provincial level. Using a lagged variable is a way to capture the preremittance receipt conditions thereby hastening the problems caused by the endogeneity of remittances.

The reason for using the provincial level data on migrants is because it is the smallest possible unit where one can generate data since there are no adequate samples in the survey that allow for lower level disaggregation.

The percentage of migrant workers in the community (i.e., migrant workers 18–64 years old as a percentage of population of the same cohort) controls for the fact that remittance inflows in the country are driven by the huge deployment of migrant workers abroad. The higher the percentage of migrant workers the community has, the more likely the households within that community will receive remittance-income. Also, this variable reflects the influence that migrant networking has in inflating the number of migrant workers and, thus, remittance-senders in an area. The presence of migrant workers within the social circles of an individual or family increases the access to information on employment opportunities abroad. At the same time, it serves as a possible source of financing should the family choose to send members abroad to work. In the Philippines, the influence of migrant networks was further affirmed by a study done by UN-INSTRAW (2008) in the case of Filipino migration to Italy. This study found that networks of friends and relatives in both places of origin and destination are essential for encouraging and facilitating migration. These are important in terms of financing the trip and finding jobs and getting established in the place of destination. More importantly, in the Philippines where there are close family ties, there are households that receive remittances from abroad but do not necessarily have members who are migrant workers. Since they may have relatives or friends working abroad, they may be receiving remittances as well. In the UN-INSTRAW 2008 study, around 28 percent of overseas Filipino workers in Italy covered under the study remitted some amount to extended family members. The migrant networks approach has been explored in the studies of Adams, Cuecuecha, and Page (2008) and Amuedo-Dorantes et al. (2007). Past

studies such as those done by Massey et al. (1987); Woodruff and Zenteno (2007); and Munshi (2003) found that migration networks are important in migration decisions and the receipt of remittances.

### Empirical analysis

This paper used the Working-Leser model modified to include the remittance instrument and exclude prices, most of which are not homogenous, to analyze the budget allocation of Filipino families in 2003. The household-level empirical model is:

$$\frac{q_i}{Y} = \alpha_i + \beta \text{LOG}(Y) + \sum(\lambda)Z + \varepsilon_i \quad ;$$

where  $\frac{q_i}{Y}$  is the expenditure share of a commodity group to total expenditures of a household,  $\text{LOG}(Y)$  is the logarithm of per capita expenditures of the household,  $Z$  is a vector of household characteristics used to explain variation in each of the budget shares including the remittance instrument, and  $\varepsilon$  is the usual error term.

In the first set of econometric exercises, the budget shares were estimated both independently of each other using standard Ordinary Least Squares (OLS) and as a system of equations using Seemingly Unrelated Regression with iterations to take into account the cross-equation error correlations. The latter is necessary because the family has its budget constraints and the budget shares add up to unity, indicating that allocations are very much correlated with one another. In these estimations, the models include the remittance dummy to test for the influence of remittance-income to expenditure shares.

In the second set of econometric estimations, instrumental variable regression was used. This aimed to estimate the association of having remittance-income with spending patterns of the families, while taking into account the idea that the presence of remittance (i.e., remittance dummy variable) is a function of migration history of the community where the household resides. As mentioned earlier, the instrumental variable for having remittance income is the 2001 percentage of migrant workers per province. The estimated provincial data are tabulated in Appendix 1.

The definition of the expenditure groups for the budget shares to be analyzed are reported under Appendix 2. Note that several categories were aggregated in a way that the number of observations with zero values is minimized. The categories are: (1) food; (2) vices and consumption; (3) education and medical care; (4) housing and minor repair; (5) fuel, light, water, household operations including transportation and communication, and (6) recreation and others.

### Data

This study used the merged datasets of the 2003 FIES and the 2004 January-round Labor Force Survey (LFS) conducted by the Philippine government's National Statistics Office (NSO).

The FIES is a nationwide survey of households conducted every 3 years and contains detailed expenditure items and sources of income of families including remittances. In the FIES, the respondents were interviewed in two separate operations using the same questionnaire. The half-year period preceding the interview was the reference period. The first round of the survey was conducted in July covering January to June and the second round was done within the first quarter of the following year covering July to December. For all food items, the reference period was the "average week" consumption to reduce memory bias. In categories like fuel, transportation, household operations, and personal care, the reference period was the past month but in some cases average month consumption was used. For all other categories, the past six months was used as the reference period. To obtain the data for the entire year, the data for both survey rounds were summed up.

The data on expenditures and income refers to that of the family which is defined in the survey as a group of persons usually living together and composed of the head and other persons related to the head by blood, marriage, or adoption. Moreover, in the FIES, the "extended" family concept is followed where a single person living alone is considered as a separate family.

The data on remittances—the subject of this study—is obtained from the income sources category "cash receipts, assistance from abroad" which include: (1) total cash received from family members who are contract workers; (2) total cash received from family members who are working abroad; (3) total pensions, retirement, workmen's compensation, and other benefits; (4) total cash gifts, support, relief, etc. from abroad; and (5) total dividends from investment abroad. The basic Public Use File of the FIES does not contain this kind of disaggregation. Instead, these items are summed up and entered as one figure. Burgess and Haksar (2005) and Yang (2005) noted the problem in using it as an estimate for remittances.<sup>6</sup> Thus, to obtain a more accurate estimate of remittance effects, the author requested for a computation of each item under the "cash receipts, assistance from abroad" variable from the NSO. The items (1), (2), and (4) were then summed up to account only for remittances sent by the family and/or friends abroad. The term remittance used in this study therefore refers only to a narrow definition consisting of the three categories mentioned. Moreover, in-kind remittances were not taken into account as well as those brought home by migrant workers.

The remittance-receiving households were identified based on the magnitude of remittances that they receive. More specifically, remittance-receiving households were defined as those that receive relatively significant amount of remittances. The word "significant" was arbitrarily set at having at least 10 percent

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<sup>6</sup> Burgess and Haksar (2005) noted that "data were not yet available to allow breakdown of income from abroad into remittances and investment income." Yang (2005), on the other hand, mentioned in the Data Appendix that he used the household data on remittances from the Survey on Overseas Filipinos (SOF) which is more accurate instead of the "cash receipts from abroad" contained in the APIS (Annual Poverty Indicators Survey), a substitute to the FIES during non-FIES year, which include both remittances and investment income from abroad.

of the household income coming from remittances. This study assumes that if a family receives very little amount relative to its total income, it would not have much effect on the overall expenditure behavior.

“Expenditures” as used in this paper follow the definition used by the NSO in the FIES. Expenditures refer to the expenses or disbursements made by the family purely for personal consumption during the calendar year 2003. These exclude all expenses in relation to farm or business operations, investment ventures, purchase of real property, and other disbursements which do not involve personal consumption. Gifts, support, assistance, or relief in goods and services received by the family from friends, relatives, etc., are also included as part of family expenditures. Value consumed from net share of crops, fruits and vegetables produced, or livestock raised by other households, family sustenance, and entrepreneurial activities are also considered as family expenditures. The FIES 2003 sampled 42,094 households.

The Labor Force Survey (LFS), on the other hand, contains detailed information on the individuals in each of the household surveyed in the FIES. The LFS is a survey conducted on labor-related information and is done on a quarterly basis for a rotating sample of households. It contains important variables that the FIES does not have like age, sex, educational attainment, and employment status of each member including those who are overseas workers. The reference period of the LFS covers the “past week,” referring to the past seven days preceding the date of the enumerator’s visit.

The January 2004 round of the LFS includes the FIES as its rider. These surveys use the 2003 Master Sample Design of the NSO which uses the population projections based on the 2000 Census of Population and Housing and which samples are selected using an area sample design by three-stage stratification. The first stage is selecting Primary Sampling Units (PSUs) within each of the 17 regions in the country. At the second stage, enumeration areas (EA) were selected from the sampled PSUs and the third stage, housing units were selected from the sampled EAs.<sup>7</sup>

When the FIES and LFS datasets were merged, the author, however, did not arrive at the total sample of 42,094 households but only 39,494. The reason for this is that the author administered the merging herself such that the ordinary Public Use Files (i.e., the usual files available which are independently used) of each of the surveys were used. To make an exact match of the 2003 FIES and the January-round of the 2004 LFS, the NSO produced a special file that is more updated and is especially made to match the two files. While the author has no access yet to this special release of the merged files, the 39,494 samples should still be large enough to represent the characteristics of Filipino households in general.

The summary statistics of families receiving remittance-income as compared to those that do not are shown in Table 1. There was a total of 5,057 (around 13%

<sup>7</sup> For the details in sampling design of the 2003 Master Sample for household surveys, please visit the NSO website at [http://www.census.gov.ph/data/technotes/notelfs\\_new.html](http://www.census.gov.ph/data/technotes/notelfs_new.html).

of the 39,494 households obtained from the merged dataset) sample households that received cash remittance of at least 10 percent of their household income in 2003. On the average, these households have relatively higher per capita income and expenditures, more likely to own (or have an owner-like status in) their house, and have more educated members. Moreover, these households have older head, fewer young members, and more likely headed by a female. They are more likely located in urban areas.

Table 2 shows a picture of the mean budget shares for various commodity groups. On the average, remittance-receiving households spend less on food but more on consumer items compared to those not receiving remittances. They also allocated more on education and medical care; housing; fuel, light and water; household operations, transportation and communication; and recreation and special occasions. These families allocated lower share on tobacco and alcohol and other expenditure items.

The expenditures per capita by category for the two groups of families are shown in Table 3. Note that remittance-receivers spent on the average more than three times on a per capita basis the amount spent on education and durables by those nonreceivers. In fact, the average per capita expenditure of these households is lower only for tobacco and alcohol.

## RESULTS AND DISCUSSION

The expenditure share estimations were done in two sets of exercises. The first part used the remittance dummy with the assumption that remittance-income is exogenous. The second part attempted to address the endogeneity problem using an instrumental variable.

Tables 4 and 5 show the OLS results without and with the remittance dummy, respectively. The explanatory variables in the model exhibit robustness with the addition of remittance dummy. The result of interest, Table 5, shows that presence of remittance-income is negatively associated with expenditure shares of food and miscellaneous while it is positively correlated with shares of vices and consumer goods, basic utilities and transportation and communication, housing, and education and medical care. This result is the same as that in Table 6 which is the result of the SUREG technique.

Table 7 contains the estimates that took into account the endogeneity of remittance-income. Here, the coefficients of the remittance instrument vary quite substantially with the model that did not account for endogeneity. The results now indicate that remittance-income is positively correlated with budget share of food and is negatively associated with shares of vices and consumer goods and education and medical care. Indeed, this type of analysis is very much dependent on the methodology employed. Thus, interpreting the results should be done with considerable caution.

From these exercises, however, the consistent results are that among comparable households, those with remittance-income tend to have higher budget



Table 1. Summary statistics of variables included in the analysis <sup>1/</sup>

| Variable  | All (N=39494) |           |        |         | Remittance-receiving families (N=5057) |           |        |         | Nonremittance-receiving families (N=34437) |           |        |         |
|---|---------------|-----------|--------|---------|--|-----------|--------|---------|--|-----------|--------|---------|
|   | Mean          | Std. Dev. | Min    | Max     | Mean                                   | Std. Dev. | Min    | Max     | Mean                                       | Std. Dev. | Min    | Max     |
| Log of per capita income                                | 10.0665       | 0.8643    | 7.1365 | 15.9029 | 10.6605                                | 0.7779    | 8.3568 | 13.6241 | 9.9714                                     | 0.8392    | 7.1365 | 15.9029 |
| Log of per capita expenditure                           | 9.9633        | 0.7850    | 7.5116 | 14.0770 | 10.5027                                | 0.7186    | 8.2881 | 13.6398 | 9.8770                                     | 0.7604    | 7.5116 | 14.0770 |
| Dummy for female household head                         | 0.1666        | 0.3726    | 0.0000 | 1.0000  | 0.3406                                 | 0.4740    | 0.0000 | 1.0000  | 0.1387                                     | 0.3456    | 0.0000 | 1.0000  |
| Age of household head                                   | 46.1          | 14.2      | 15.0   | 99.0    | 48.8                                   | 15.1      | 15.0   | 96.0    | 45.7                                       | 14.0      | 15.0   | 99.0    |
| Squared age of household head                           | 2330          | 1437      | 225    | 9801    | 26.14                                  | 15.74     | 225    | 9216    | 2284                                       | 14.08     | 225    | 9801    |
| Family size   | 4.8163        | 2.1302    | 1.0000 | 21.5000 | 4.6539                                 | 2.0869    | 1.0000 | 15.5000 | 4.8423                                     | 2.1360    | 1.0000 | 21.5000 |
| Presence of school-aged member dummy (6 to 21)          | 0.7251        | 0.4465    | 0.0000 | 1.0000  | 0.7394                                 | 0.4390    | 0.0000 | 1.0000  | 0.7228                                     | 0.4476    | 0.0000 | 1.0000  |
| No. of educated members (at least high school graduate) | 2.0763        | 1.6905    | 0.0000 | 16.0000 | 2.7685                                 | 1.7761    | 0.0000 | 13.0000 | 1.9655                                     | 1.6497    | 0.0000 | 16.0000 |
| Agricultural household dummy                            | 0.2541        | 0.4354    | 0.0000 | 1.0000  | 0.0485                                 | 0.2149    | 0.0000 | 1.0000  | 0.2870                                     | 0.4524    | 0.0000 | 1.0000  |
| Urban dummy   | 0.5051        | 0.5000    | 0.0000 | 1.0000  | 0.6451                                 | 0.4785    | 0.0000 | 1.0000  | 0.4827                                     | 0.4997    | 0.0000 | 1.0000  |
| Consumer price index (all items at provincial level.    | 113.5         | 3.2       | 103.9  | 124.3   | 113.6                                  | 2.9       | 103.9  | 124.3   | 113.5                                      | 3.2       | 103.9  | 124.3   |
| Percentage of migrant workers in 2001 by province       | 2.5966        | 1.2871    | 0.1000 | 6.0000  | 3.1156                                 | 1.1903    | 0.1000 | 6.0000  | 2.5131                                     | 1.2825    | 0.1000 | 6.0000  |

1/ Means are weighted averages.

Table 2. Mean expenditure shares by category and type of households, 2003

| Variable  | All (N=39494) |           |        | Remittance-receiving families (N=5057) |           |        | Nonremittance-receiving families (N=34437) |           |        |
|---|---------------|-----------|--------|--|-----------|--------|--|-----------|--------|
|   | Mean          | Std. Dev. | Max    | Mean                                   | Std. Dev. | Max    | Mean                                       | Std. Dev. | Max    |
| Food  | 0.5127        | 0.1407    | 0.8973 | 0.4262                                 | 0.1350    | 0.8677 | 0.5266                                     | 0.1366    | 0.8973 |
| Vices and consumption   |               |           |        |  |           |        |  |           |        |
| Tobacco and alcohol   | 0.0249        | 0.0292    | 0.3995 | 0.0156                                 | 0.0219    | 0.2030 | 0.0264                                     | 0.0300    | 0.3995 |
| Clothing, personal care, and non-durables                                     | 0.0693        | 0.0345    | 0.5229 | 0.0757                                 | 0.0402    | 0.4584 | 0.0682                                     | 0.0334    | 0.5229 |
| Durables  | 0.0159        | 0.0534    | 0.9156 | 0.0265                                 | 0.0748    | 0.9156 | 0.0142                                     | 0.0489    | 0.7868 |
| Education   | 0.0257        | 0.0505    | 0.6820 | 0.0464                                 | 0.0708    | 0.6101 | 0.0224                                     | 0.0456    | 0.6820 |
| Medical care  | 0.0176        | 0.0432    | 0.8013 | 0.0256                                 | 0.0573    | 0.7296 | 0.0163                                     | 0.0403    | 0.8013 |
| Housing and minor repair  | 0.1202        | 0.0861    | 0.8420 | 0.1460                                 | 0.0957    | 0.8169 | 0.1161                                     | 0.0837    | 0.8420 |
| Fuel, light & water and household operation; transportation and communication |               |           |        |  |           |        |  |           |        |
| Fuel, light & water   | 0.0683        | 0.0312    | 0.3549 | 0.0722                                 | 0.0316    | 0.2724 | 0.0677                                     | 0.0311    | 0.3549 |
| Household operation   | 0.0181        | 0.0179    | 0.3927 | 0.0213                                 | 0.0240    | 0.3814 | 0.0176                                     | 0.0166    | 0.3927 |
| Transportation and communication  | 0.0542        | 0.0463    | 0.7143 | 0.0737                                 | 0.0551    | 0.7143 | 0.0510                                     | 0.0440    | 0.6411 |
| Recreation and others   |               |           |        |  |           |        |  |           |        |
| Recreation  | 0.0031        | 0.0077    | 0.2648 | 0.0050                                 | 0.0104    | 0.2032 | 0.0028                                     | 0.0071    | 0.2648 |
| Special occasions   | 0.0220        | 0.0372    | 0.6336 | 0.0275                                 | 0.0438    | 0.5814 | 0.0211                                     | 0.0359    | 0.6336 |
| Others, inc. Gifts  | 0.0481        | 0.0554    | 0.7395 | 0.0383                                 | 0.0487    | 0.7318 | 0.0496                                     | 0.0562    | 0.7395 |

Table 3. Mean per capita expenditures by category and type of families, 2003

| Variable  | All (N=39494) |           |      |        |       | Remittance-receiving families (N=5057) |           |        |       |      | Nonremittance-receiving families (N=34437) |           |     |     |  |
|---|---------------|-----------|------|--------|-------|--|-----------|--------|-------|------|--|-----------|-----|-----|--|
|   | Mean          | Std. Dev. | Min  | Max    |       | Mean                                   | Std. Dev. | Min    | Max   |      | Mean                                       | Std. Dev. | Min | Max |  |
| Food  | 12412         | 8306      | 1084 | 182010 | 16777 | 9438                                   | 2335      | 125563 | 11714 | 7889 | 1084                                       | 182010    |     |     |  |
| Vices and consumption   |               |           |      |        |       |  |           |        |       |      |  |           |     |     |  |
| Tobacco and alcohol   | 546           | 880       | 0    | 23582  | 535   | 926                                    | 0         | 17316  | 548   | 873  | 0  | 23582     |     |     |  |
| Clothing, personal care, and non-durables                                   | 2080          | 2726      | 0    | 112112 | 3523  | 3994                                   | 0         | 112112 | 1849  | 2384 | 0  | 84915     |     |     |  |
| Durables  | 810           | 7622      | 0    | 684000 | 2077  | 17770                                  | 0         | 684000 | 607   | 4070 | 0  | 344543    |     |     |  |
| Education and medical care  |               |           |      |        |       |  |           |        |       |      |  |           |     |     |  |
| Education   | 1076          | 3592      | 0    | 184345 | 2631  | 5595                                   | 0         | 98699  | 827   | 3084 | 0  | 184345    |     |     |  |
| Medical care  | 700           | 3571      | 0    | 381789 | 1465  | 4896                                   | 0         | 93333  | 578   | 3294 | 0  | 381789    |     |     |  |
| Housing and minor repairs   | 4537          | 9972      | 12   | 538333 | 8207  | 13757                                  | 51        | 270000 | 3949  | 9087 | 12   | 538333    |     |     |  |
| Basic utilities, household operations, and transportation and communication |               |           |      |        |       |  |           |        |       |      |  |           |     |     |  |
| Fuel, light and water   | 1979          | 2319      | 52   | 74739  | 3250  | 3186                                   | 111       | 74739  | 1776  | 2077 | 52   | 72000     |     |     |  |
| Household operations  | 695           | 2330      | 8    | 181848 | 1317  | 4256                                   | 34        | 181848 | 596   | 1824 | 8  | 80586     |     |     |  |
| Transportation and communication  | 2211          | 4961      | 0    | 185901 | 4265  | 7831                                   | 0         | 162744 | 1883  | 4237 | 0  | 185901    |     |     |  |
| Recreation and others   |               |           |      |        |       |  |           |        |       |      |  |           |     |     |  |
| Recreation  | 142           | 634       | 0    | 44953  | 302   | 919                                    | 0         | 21424  | 117   | 571  | 0  | 44953     |     |     |  |
| Special occasions   | 748           | 2079      | 0    | 91500  | 1387  | 3343                                   | 0         | 86600  | 646   | 1775 | 0  | 91500     |     |     |  |
| Others, inc. gifts  | 1322          | 3721      | 0    | 176200 | 1553  | 4015                                   | 0         | 119783 | 1285  | 3671 | 0  | 176200    |     |     |  |

allocated to basic household necessities like fuel, light and water, household operations, and transportation and communication. It is possible that these families hire more household help or spend more on cellular phones as these are included in this category. Another consistent finding is that these families tend to have higher allocations on housing and minor repair. It is not clear, however, whether the families are renting bigger and more expensive houses or that they actually own those bigger and more expensive houses because the data on housing expenditures included imputed values. Also, take note that the housing expenditures as reported in the FIES and used in this paper do not include major repairs and purchase of new house which are popular investments usually made by overseas Filipino workers. These are categorized in the FIES as capital outlays, not as regular expenditures. The effect of remittances on such investments is an interesting area for future research.

### **CONCLUSION AND AREAS FOR FUTURE RESEARCH**

After controlling for various household characteristics and community factors, this study provides evidences that overseas remittances influence spending patterns of Filipino families. It shows that having remittance-income influences families to allocate more on basic household needs (such as fuel, light water, household operations, and transportation and communication) and housing and minor repair.

However, the effect of remittances on the other categories, especially education and medical care and housing investments, need further and more careful analysis. Note that since this paper used cross-sectional analysis and because several determinants of household expenditures may not be included due to limitations of the survey data used, caution should be exercised in interpreting the results. Future works would definitely benefit if panel data can be established from the FIES, LFS, and Survey on Overseas Filipinos. In the absence of panel data, household matching techniques can be applied to further enhance the analysis. This paper is just the initial step in understanding the effects of remittances on family expenditures and its major issues in the Philippines.

Table 4. Results of OLS regression of expenditure equations (without remittance variable)

|   | Food          | Alcohol, tobacco, personal care, clothing, nondurables, durables | Fuel, light, and water; transportation and communication; household operations | Housing and minor repair <sup>1/</sup> | Education and medical care | Others/ Miscellaneous |
|---|---------------|--|--|--|----------------------------|-----------------------|
| Log of per capita expenditures                          | -0.136230 *** | 0.01838 ***  | 0.02313 ***  | 0.03009 ***                            | 0.02780 ***                | 0.03682 ***           |
| Family size   | -165.68 ***   | 31.31 ***  | 48.98 ***  | 43.85 ***                              | 51.51 ***                  | 65.31 ***             |
| Dummy for female household head                         | -0.003386 *** | 0.00271 ***  | -0.00102 ***   | -0.00303 ***                           | 0.00200 ***                | 0.00272 ***           |
| Age of household head                                   | -10.11 ***    | 11.35 ***  | -5.29 ***  | -10.86 ***                             | 9.10 ***                   | 11.86 ***             |
| Age of household head squared                           | -0.001782 *** | -0.01151 ***   | 0.00612 ***  | 0.01095 ***                            | 0.00148 ***                | -0.00525 ***          |
| Presence of school-aged member dummy (6 to 21)          | -1.35 ***     | -12.20 ***   | 8.05 ***   | 9.93 ***                               | 1.70 ***                   | -5.79 ***             |
| Urban dummy   | -0.000840 *** | -0.00046 ***   | 0.00087 ***  | -0.00089 ***                           | 0.00070 ***                | 0.00062 ***           |
| No. of educated members [at least high school graduate] | -4.71 ***     | -3.78 ***  | 7.45 ***   | -5.24 ***                              | 5.22 ***                   | 4.45 ***              |
| Consumer price index (all items) by province            | 0.000002 ***  | 0.00000 ***  | -0.00001 ***   | 0.00001 ***                            | 0.00000 ***                | -0.00001 ***          |
| Constant  | 0.78 ***      | -1.41 ***  | -5.31 ***  | 8.42 ***                               | -1.63 ***                  | -3.91 ***             |
| Number of obs   | -0.010679 *** | -0.00354 ***   | 0.00562 ***  | -0.00615 ***                           | 0.02267 ***                | -0.00792 ***          |
| Prob > F  | -8.59 ***     | -3.99 ***  | 7.88 ***   | -5.93 ***                              | 27.79 ***                  | -9.29 ***             |
| R-squared   | 0.015190 ***  | -0.01670 ***   | 0.01288 ***  | 0.02771 ***                            | -0.01220 ***               | -0.02688 ***          |
| Adj R-squared   | 14.17 ***     | -21.82 ***   | 20.92 ***  | 30.99 ***                              | -17.35 ***                 | -36.57 ***            |
|   | -0.006871 *** | -0.00188 ***   | 0.00492 ***  | -0.00143 ***                           | 0.00342 ***                | 0.00185 ***           |
|   | -19.10 ***    | -7.33 ***  | 23.83 ***  | -4.78 ***                              | 14.47 ***                  | 7.50 ***              |
|   | -0.000469 *** | -0.00038 ***   | -0.00015 ***   | 0.00125 ***                            | -0.00030 ***               | 0.00004 ***           |
|   | -320 ***      | -3.60 ***  | -1.75 ***  | 10.21 ***                              | -3.08 ***                  | 0.40 ***              |
|   | 1.98235 ***   | -0.00040 ***   | -0.11601 ***   | -0.30703 ***                           | -0.25461 ***               | -0.31119 ***          |
|   | 107.16 ***    | -0.03 ***  | -10.88 ***   | -19.82 ***                             | -20.89 ***                 | -24.45 ***            |
|   | 39494 ***     | 39494 ***  | 39494 ***  | 39494 ***                              | 39494 ***                  | 39494 ***             |
|   | 5789.53 ***   | 222.88 ***   | 1112.75 ***  | 1086.58 ***                            | 689.81 ***                 | 720.44 ***            |
|   | 0 ***         | 0 ***  | 0 ***  | 0 ***                                  | 0 ***                      | 0 ***                 |
|   | 0.5689 ***    | 0.0483 ***   | 0.2023 ***   | 0.1985 ***                             | 0.1359 ***                 | 0.1411 ***            |
|   | 0.5688 ***    | 0.0481 ***   | 0.2021 ***   | 0.1983 ***                             | 0.1357 ***                 | 0.1409 ***            |

Legend: \* p<.05; \*\* p<.01; \*\*\* p<.001; t-values in italics; <sup>1/</sup> Housing expenditures does not include major repair/renovation of house and construction of new house because they are not considered under personal consumption.

Table 5. Results of OLS regression of expenditure equations (with remittance dummy)

| Variable  | Food               | Alcohol, tobacco, personal care, clothing, nondurables, durables | Fuel, light, and water; transportation and communication; household operations | Housing and minor repair <sup>1/</sup> | Education and medical care | Others/ Miscellaneous |
|---|--------------------|--|--|--|----------------------------|-----------------------|
| Log of per capita expenditures                          | -0.13491 ***       | 0.01749 ***  | 0.02207 ***  | 0.02968 ***                            | 0.02604 ***                | 0.03963 ***           |
| Family size   | -160.92 ***        | 29.20 ***  | 45.85 ***  | 42.40 ***                              | 47.43 ***                  | 69.41 ***             |
| Dummy for female household head                         | -0.00332 ***       | 0.00267 ***  | -0.00107 ***   | -0.00305 ***                           | 0.00192 ***                | 0.00286 ***           |
| Age of household head                                   | -9.93 ***          | 11.17 ***  | -5.56 ***  | -10.92 ***                             | 8.75 ***                   | 12.53 ***             |
| Age of household head squared                           | -0.00026 ***       | -0.01255 ***   | 0.00488 ***  | 0.01048 ***                            | -0.00055 ***               | -0.00200 *            |
| Presence of school-aged member dummy (6 to 21)          | -0.19 -0.00089 *** | -13.16 ***   | 6.37 ***   | 9.40 ***                               | -0.63 ***                  | -2.20 ***             |
| Remittance dummy  | -4.35 ***          | -0.00043 **  | 0.00091 ***  | -0.00088 ***                           | 0.00077 ***                | 0.00052 ***           |
| Urban dummy   | 0.00000            | -2.96 ***  | 7.79 ***   | -5.15 ***                              | 5.72 ***                   | 3.73 ***              |
| No. of educated members (at least high school graduate) | 1.07 ***           | 0.00000  | -0.00001 ***   | 0.00001 ***                            | 0.00000 *                  | 0.00000 **            |
| Consumer price index (all items) by province            | -0.01012 ***       | -1.68 ***  | -5.72 ***  | 8.31 ***                               | -2.22 ***                  | -3.03 ***             |
| Constant  | -8.13 ***          | -0.00392 ***   | 0.00517 ***  | -0.00633 ***                           | 0.02192 ***                | -0.00672 ***          |
| Number of obs   | -0.01127 ***       | -4.42 ***  | 7.24 ***   | -6.09 ***                              | 26.91 ***                  | -7.94 ***             |
| Prob > F  | -7.88 ***          | 0.00767 ***  | 0.00912 ***  | 0.00348 **                             | 0.01505 ***                | -0.02405 ***          |
| R-squared   | 0.01484            | 7.51 ***   | 11.11 ***  | 2.91 ***                               | 16.07 ***                  | -24.69 ***            |
| Adj R-squared   | 13.85 ***          | -2.51 ***  | 21.39 ***  | 31.08 ***                              | -16.73 ***                 | -37.84 ***            |
|   | -0.00667 ***       | -0.00202 ***   | 0.00476 ***  | -0.00150 ***                           | 0.00314 ***                | 0.00228 ***           |
|   | -18.50 ***         | -7.86 ***  | 23.01 ***  | -4.98 ***                              | 13.32 ***                  | 9.31 ***              |
|   | -0.00048 ***       | -0.00037 ***   | -0.00014 ***   | 0.00125 ***                            | -0.00028 **                | 0.00002               |
|   | -3.28 ***          | -3.53 ***  | -1.65 ***  | 1024 ***                               | -2.93 ***                  | 0.16 ***              |
|   | 1.97864 ***        | 0.00681 ***  | -0.10743 ***   | -0.30376 ***                           | -0.24046 ***               | -0.33380 ***          |
|   | 106.39 ***         | 0.51 ***   | -10.06 ***   | -19.56 ***                             | -19.74 ***                 | -26.35 ***            |
|   | 39494              | 39494  | 39494  | 39494                                  | 39494                      | 39494                 |
|   | 5224.85            | 206.51   | 1016.93  | 978.95                                 | 650.69                     | 719.32                |
|   | 0                  | 0  | 0  | 0                                      | 0                          | 0                     |
|   | 0.5696             | 0.0497   | 0.2048   | 0.1987                                 | 0.1415                     | 0.1541                |
|   | 0.5695             | 0.0495   | 0.2046   | 0.1985                                 | 0.1413                     | 0.1539                |

Legend: \* p<.05; \*\* p<.01; \*\*\* p<.001; t-values in italics; <sup>1/</sup> Housing expenditures does not include major repair/renovation of house and construction of new house because they are not considered under personal consumption.

Table 6. Results of iterated seemingly unrelated regression of expenditure equations (with remittance dummy)

| Variable  | Food         | Alcohol, tobacco, personal care, clothing, nondurables, durables | Fuel, light, and water; transportation and communication; household operations | Housing and minor repair <sup>1/</sup> | Education and medical care | Others/ Miscellaneous |
|---|--------------|--|--|--|----------------------------|-----------------------|
| Log of per capita expenditures                          | -0.13491 *** | 0.01749 ***  | 0.02207 ***  | 0.02968 ***                            | 0.02604 ***                | 0.03963               |
| Family size   | -160.93      | 29.21  | 45.86  | 42.40                                  | 47.44                      |                       |
|   | -0.00332 *** | 0.00267 ***  | -0.00107 ***   | -0.00305 ***                           | 0.00192 ***                | 0.00286               |
| Dummy for female household head                         | -9.93        | 11.18  | -5.56  | -10.92                                 | 8.75                       |                       |
|   | -0.00026     | -0.01255 ***   | 0.00488 ***  | 0.01048 ***                            | -0.00055                   | -0.00200              |
|   | -0.19        | -13.17   | 6.37   | -9.40                                  | -0.63                      |                       |
| Age of household head                                   | -0.00089 *** | -0.00043 **  | 0.00091 ***  | -0.00088 ***                           | 0.00077 ***                | 0.00052               |
|   | 0.00000      | -2.96  | 7.79   | -5.15                                  | 5.72                       |                       |
|   | 0.00000      | 0.00000  | -0.00001 ***   | 0.00001 ***                            | 0.00000 *                  | 0.00000               |
|   | 1.07         | -1.68  | -5.72  | 8.31                                   | -2.22                      |                       |
| Presence of school-aged member dummy (6 to 21)          | -0.01012 *** | -0.00392 ***   | 0.00517 ***  | -0.00633 ***                           | 0.02192 ***                | -0.00672              |
|   | -8.14        | -4.42  | 7.24   | -6.09                                  | 26.92                      |                       |
| Remittance dummy  | -0.01127 *** | 0.00767 ***  | 0.00912 ***  | 0.00348 **                             | 0.01505 ***                | -0.02405              |
|   | -7.88        | 7.51   | 11.11  | 2.91                                   | 16.07                      |                       |
| Urban dummy   | 0.01484      | -0.01646   | 0.01316 ***  | 0.02782 ***                            | -0.01174 ***               | -0.02762              |
|   | 13.85        | -21.51   | 21.39  | 31.09                                  | -16.73                     |                       |
| No. of educated members (at least high school graduate) | -0.00667 *** | -0.00202 ***   | 0.00476 ***  | -0.00150 ***                           | 0.00314 ***                | 0.00228               |
|   | -18.50       | -7.86  | 23.01  | -4.98                                  | 73.32                      |                       |
| Consumer price index (all items) by province            | -0.00048 *** | -0.00037 ***   | -0.00014   | 0.00125                                | -0.00028                   | 0.00002               |
|   | -3.28        | -3.53  | -1.65  | 10.24 ***                              | -2.93                      |                       |
| Constant  | 1.97864 ***  | 0.00681  | -0.10743 ***   | -0.30376                               | -0.24046 ***               | -0.33380              |
|   | 106.40       | 0.51   | -10.06   | -19.56                                 | -19.75                     |                       |
| chi2  | 52263.06     | 2065.69  | 10172.1  | 9792.23                                | 6508.71                    |                       |
| R-sq  | 0.5696       | 0.0497   | 0.2048   | 0.1987                                 | 0.1415                     |                       |
| Obs   | 39494        | 39494  | 39494  | 39494                                  | 39494                      |                       |

Legend: \* p<.05; \*\* p<.01; \*\*\* p<.001; t-values in italics; 1/ Housing expenditures does not include major repair/renovation of house and construction of new house because they are not considered under personal consumption.

Table 7. Results of instrumental variables (2SLS) regression

| Variable  | Alcohol, tobacco, personal care, nondurables, durables |              |  |  |  | Fuel, light, and water; transportation and communication; household operations |  | Housing and minor repair <sup>1/</sup> |  | Education and medical care |  | Others/ Miscellaneous |              |
|---|--|--------------|--|--|--|--|--|--|--|----------------------------|--|-----------------------|--------------|
|   | Food   |              |  |  |  |  |  |  |  |                            |  |                       |              |
| Remittance instrument                                   | 0.28953 ***  | -0.16262 *** |  |  |  | 0.08856 ***  |  | 0.20973 ***                            |  | -0.14330 ***               |  |                       | -0.28191 *** |
| Log of per capita expenditures                          | 10.64 ***  | -9.35 ***    |  |  |  | 7.42 ***   |  | 10.13 ***                              |  | -8.91 ***                  |  |                       | -13.29 ***   |
| Family size   | -0.16987 ***   | 0.03716 ***  |  |  |  | 0.01282 ***  |  | 0.00566 *                              |  | 0.04452 ***                |  |                       | 0.06971 ***  |
| Dummy for female household head                         | -50.11 ***   | 17.14 ***    |  |  |  | 8.62 ***   |  | 2.20 ***                               |  | 22.22 ***                  |  |                       | 26.38 ***    |
| Age of household head                                   | -0.00486 ***   | 0.00353 ***  |  |  |  | -0.00149 ***   |  | -0.00416 ***                           |  | 0.00274 ***                |  |                       | 0.00423 ***  |
| Age of household head squared                           | -9.50 ***  | 10.82 ***    |  |  |  | -6.65 ***  |  | -10.70 ***                             |  | 9.07 ***                   |  |                       | 10.62 ***    |
| Presence of school-aged member dummy (6 to 21)          | -0.04116 ***   | 0.01061 ***  |  |  |  | -0.00592 ***   |  | -0.01748 ***                           |  | 0.02095 ***                |  |                       | 0.03301 ***  |
| Urban dummy   | -9.88 ***  | 3.98 ***     |  |  |  | -3.24 ***  |  | -5.52 ***                              |  | 8.51 ***                   |  |                       | 10.16 ***    |
| No. of educated members (at least high school graduate) | 0.00045 ***  | -0.00118 *** |  |  |  | 0.00125 ***  |  | 0.00001                                |  | 0.00008 ***                |  |                       | -0.00061 *   |
| Consumer price index (all items) by province            | 1.41 ***   | -5.73 ***    |  |  |  | 8.86 ***   |  | 0.03                                   |  | 0.39 ***                   |  |                       | -2.42 ***    |
| Constant  | -0.00001 ***   | 0.00001 ***  |  |  |  | -0.00001 ***   |  | 0.00000                                |  | 0.00001 **                 |  |                       | 0.00001 ***  |
| Number of obs   | -4.20 ***  | 3.09 ***     |  |  |  | -7.43 ***  |  | 1.39 ***                               |  | 2.72 ***                   |  |                       | 3.63 ***     |
| Prob > F  | -0.02531 ***   | 0.00462 ***  |  |  |  | 0.00125 ***  |  | -0.01661 ***                           |  | 0.02993 ***                |  |                       | 0.00612 ***  |
| R-squared   | -11.14 ***   | 3.18 ***     |  |  |  | 1.26 *   |  | -9.61 ***                              |  | 22.29 ***                  |  |                       | 3.46 ***     |
| Adj R-squared   | 0.02423 ***  | -0.02165 *** |  |  |  | 0.01559 ***  |  | 0.03412 ***                            |  | -0.01670 ***               |  |                       | -0.03559 *** |
|   | 13.66 ***  | -19.09 ***   |  |  |  | 20.04 ***  |  | 25.29 ***                              |  | -15.93 ***                 |  |                       | -25.74 ***   |
|   | -0.01215 ***   | 0.00117 **   |  |  |  | 0.00327 ***  |  | -0.00530 ***                           |  | 0.00604 ***                |  |                       | 0.00696 ***  |
|   | -16.78 ***   | 2.53 **      |  |  |  | 10.31 ***  |  | -9.63 ***                              |  | 14.12 ***                  |  |                       | 12.34 ***    |
|   | -0.00010 ***   | -0.00040 *** |  |  |  | -0.00015 ***   |  | 0.00137 ***                            |  | -0.00046 ***               |  |                       | -0.00026 *** |
|   | -0.45 ***  | -2.82 ***    |  |  |  | -1.58 ***  |  | 8.16 ***                               |  | -3.54 ***                  |  |                       | -1.48 ***    |
|   | 2.24944 ***  | -0.16693 *** |  |  |  | -0.02189 ***   |  | -0.10055 ***                           |  | -0.38622 ***               |  |                       | -0.57386 *** |
|   | 59.78 ***  | -6.94 ***    |  |  |  | -1.33 ***  |  | -3.51 ***                              |  | -17.37 ***                 |  |                       | -19.57 ***   |
|   | 3.9147 ***   | 39147 ***    |  |  |  | 39147 ***  |  | 39147 ***                              |  | 39147 ***                  |  |                       | 39147 ***    |
|   | 24.39.8 ***  | 124.62 ***   |  |  |  | 805.67 ***   |  | 558.14 ***                             |  | 366.59 ***                 |  |                       | 252.4 ***    |
|   | 0  | 0            |  |  |  | 0  |  | 0                                      |  | 0                          |  |                       | 0            |
|   | 0.0846 ***   |              |  |  |  | 0.0148 ***   |  |  |  |                            |  |                       |              |
|   | 0.0844 ***   |              |  |  |  | 0.0146 ***   |  |  |  |                            |  |                       |              |

Legend: \* p<.05; \*\* p<.01; \*\*\* p<.001; t-values in italics; <sup>1/</sup> Housing expenditures does not include major repair/renovation of house and construction of new house because they are not considered under personal consumption.



**Appendix 1. Estimated percentage of OFWs to total working population (18 to 64 years old) by province, 2001**

| Province           | Estimated % of OFW to total population aged 18 to 64 <sup>a/</sup> | Province                     | Estimated % of OFW to total population aged 18 to 64 <sup>a/</sup> |
|--------------------|--|------------------------------|--|
| Abra               | 2.43   | Misamis Occidental           | 0.59   |
| Other Agusan Norte | 0.60   | Mtsamis Oriental             | 0.91   |
| Agusan del Sur     | 0.55   | Mountain Province            | 1.44   |
| Aklan              | 0.96   | Negros Occidental            | 0.73   |
| Albay              | 1.16   | Negros Oriental              | 0.43   |
| Antique            | 1.15   | Cotabato                     | 0.75   |
| Basilan            | 2.13   | Northern Samar               | 0.14   |
| Bataan             | 2.80   | Nueva Ecija                  | 1.34   |
| Batanes            | 3.17   | Nueva Vizcaya                | 2.78   |
| Batangas           | 2.19   | Occidental Mindoro           | 0.89   |
| Benguet            | 1.94   | Oriental Mindoro             | 1.29   |
| Bohol              | 1.10   | Palawan                      | 0.30   |
| Bukidnnn           | 0.65   | Pampanga                     | 2.22   |
| Bulacan            | 1.38   | Pangasinan                   | 2.33   |
| Cagayan            | 1.85   | Quezon                       | 1.25   |
| Camrnines Norte    | 0.74   | Quirino                      | 2.46   |
| Camarines Sur      | 0.45   | Rizal                        | 2.17   |
| Catniguin          | 0.89   | Romblon                      | 1.10   |
| Capiz              | 1.00   | Samar (Western)              | 0.05   |
| Catanduanes        | 0.53   | Siquijor                     | 0.83   |
| Cavite             | 1.97   | Sorsogon                     | 0.54   |
| Cebu               | 0.98   | South Cotabato               | 0.48   |
| Davao              | 0.68   | Southern Leyte               | 0.68   |
| Davao Sur          | 1.23   | Sultan Kudarat               | 1.03   |
| Davao Oriental     | 0.61   | Sulu                         | 1.11   |
| Eastern Samar      | 0.45   | Surigao del Norte            | 0.30   |
| Ifugao             | 0.80   | Surigao del Sur              | 0.62   |
| Ilocos Norte       | 3.31   | Tarlac                       | 1.90   |
| Ilocos Sur         | 3.08   | Tawi-Tawi                    | 1.90   |
| Hollo              | 2.45   | Zambales                     | 2.24   |
| Isabela            | 1.80   | Zamboanga del Norte          | 0.91   |
| Kalinga            | 0.93   | Zamboanga del Sur            | 0.70   |
| La Union           | 1.98   | Second District-Metro Manila | 1.66   |
| Laguna             | 1.69   | Third District-Metro Manila  | 2.57   |
| Lanan del Norte    | 1.18   | Fourth District-Metro Manila | 2.21   |
| Lanao del Sur      | 0.16   | Aurora                       | 1.48   |
| Leyte              | 0.45   | Biliran                      | 0.44   |
| Maguindanao        | 1.16   | Guimaras                     | 1.55   |
| Manila             | 2.63   | Apayao                       | 0.54   |
| Marinduque         | 0.66   | Cotabato City/Marawi City    | 0.94   |
| Masbate            | 0.28   |                              |  |

a/ Source of basic data: Labor Force Survey October 2001; OFW is defined as either OCW (overseas contract worker) or OOW (other overseas workers) as indicated in the LFS.

**Appendix 2. Description of expenditure categories**

| Category   | Description  |
|--|--|
| 1. Food  | includes actual food consumption of the family during the past week; includes food prepared at home and eaten in place of work and school, home-cooked foods bought outside the home but eaten at home; and food regularly consumed outside the home; includes food regularly bought and eaten outside the home like snacks and lunch; daily allowance of school children for their sandwiches at school |
| 2. Tobacco, alcohol, and consumer items                |  |
| Tobacco and alcoholic beverages                        | beer, wine, liquor, cigarettes, and cigars in cash and in kind   |
| Clothing, nondurables, personal care and durables      | clothing and footwear; nondurable furnishings such as utensils and accessories; expenditures on personal care goods such as beauty products, personal effects, and haircut services; durable equipment and furniture such as kitchen and laundry appliances, audiovisual equipment like TV, DVD, stereo set, cars, tricycle, computer, cell phone, and household tools                                   |
| 3. Utilities, household operations, and transportation |  |
| Fuel, light and water, and household operations        | fuel, light and water consumed during the reference period; payment for domestic services and payment for repair and maintenance of appliances   |
| Transportation and communication                       | expenditures on air, land, water fare, maintenance of family transport, driver's salary, gasoline/diesel; telephone bills, phone cards, postage stamps   |
| 4. Housing and minor repairs                           | actual house rent and imputed house rental value; house maintenance and repairs; does not include construction of new house and major repair of house  |
| 5. Education and health                                |  |
| Education  | tuition fees, study allowance, books, school supplies, and other educational supplies  |
| Medical care   | drugs and medicines, hospital room charges, medical charges, dental charges and other medical goods and supplies, other medical health services and contraceptives   |
| 6. Recreation and others                               |  |
| Recreation and special occasions                       | recreational goods, admission tickets to shows, admission fees to cockfights and races, and musical instruments; family occasions expenditures (food and refreshments, alcoholic beverages, services of priests, cooks, waiters, rental of space and facilities, package tours, and balloons, cakes)   |
| Others   | payment on taxes; life insurance and retirement premiums, interest in payment of loans on household expenditures and others including losses due to fire, theft, legal fees etc.; gifts outside the family, contributions to the church and other institutions   |

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