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POLICY BRIEF

YOUNG ECONOMISTS' PERSPECTIVE

2024-01-025, JANUARY 2024

ISSN # 2094-3342



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The Effect of Remittances on Housing Expenditure in Filipino Households

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Abstract

Overseas Filipino Workers (OFWs) have chosen to work abroad due to the abundance of better work opportunities and a higher salary earned. Migrant workers send remittances to their families from their country of origin to bring extra income for these households to spend on essential consumption. These remittances serve as additional income and protection for recipient households, easing their consumption and enabling them to spend their money on education, housing construction, and household electrical appliances. Numerous existing literature has stated that household-receiving remittances spend more money on investments that will help improve their standard of living; one of these investments is housing. The researchers used a probit model to estimate the propensity scores to be used in propensity score matching. Using the coefficients from the average treatment effect (ATE) and the average treatment effect on the treated (ATT), results from the study find that remittance-receiving households significantly spend more on housing expenditures, specifically actual rentals, and maintenance costs, than non-receiving households. However, it was found that imputed rent for households receiving remittances are significantly lower than non-receiving households.

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Policy Recommendations

1. Provide information for investors in housing-related sectors - Given that remittances positively impact housing expenditures, specifically actual rentals and maintenance costs, it is important for housing-related sectors to look into the positive relationship between remittances and housing expenditures as studies reveal that OFWs spend their income on housing construction and repairs.

2. Provide information for investors in real-estate sectors - Since remittance-receiving households spend more on rentals than non-receiving households, looking into the positive relationship between remittances and actual rentals as this could potentially impact the demand for properties in the market that seeks rental payment. Further, this study finds that the imputed rental value of remittance-receiving households is lower than non-recipients; investors should look into the impact of remittances on imputed rent. Given that imputed rent is the computed value an owner would be paying if they were to put up their property for rent in the market (Kilgarriff et al., 2019), it may be implied that those receiving remittances have lower imputed rent since they do not own the property and pay an amount of rent based on the imputed rent value of the property.

3. For investors in construction companies - The findings of this study would be beneficial for construction companies specializing in housing repair and renovation, as remittance-receiving households spend their remittances on housing maintenance.

Introduction

Migrant workers leave their country of origin to support the families they left behind and become more financially equipped, among other reasons. Migration of a family member to work overseas will bring extra income to support investment and ease consumption (Démurger, 2015).

According to Mapa (2022) of the Philippine Statistics Authority, the total number of Overseas Filipino Workers (OFWs) recorded in 2020 and 2021 was 1.77 million and 1.83 million, respectively. Further, personal remittances reached an all-time high in the Philippines in 2022, totaling US\$36.14 billion, 3.6% more than in 2021, when remittances hit US\$34.88 billion (Bangko Sentral ng Pilipinas, 2023). In addition, personal remittances in 2022 comprised 8.9% of the Philippines' Gross Domestic Product (GDP). Alongside a higher salary earned, OFWs choose to work abroad to send their children to schools, purchase properties or other investments, and work in a greener pasture (Bautista and Tamayo, 2020). With that, the increasing trend of OFWs migrating to different countries for job opportunities and the amount of remittances they send play a significant role in the Philippine economy. Moreover, OFWs' main agenda is to support their families back home; in a study by Sahakian (2011), respondents of households in Metro Manila with family members working abroad said that remittances sent by OFWs are mainly allocated these cash transfers to spend for education, housing construction, and purchasing household electrical appliances.

This study investigates whether remittances increase housing expenditure for recipients or non-recipient households, considering that both groups share similar socioeconomic factors. Housing expenditures are gathered from the 2018 Family Income and Expenditures Survey (FIES) as actual rentals, imputed rent, and maintenance and repair for dwellings. Thus, this study's objectives are to (1) determine the factors that affect the probability of households receiving remittances, (2) construct a probit model, then match households with or without receipt of remittances with similar socioeconomic characteristics, (3) estimate the average treatment effect of remittances on housing expenditures, (4) determine if remittances affect housing-related expenditures such as imputed rent, actual rentals for housing, and maintenance costs, and (5) provide analysis for future policy interventions.

Methodology

This study used the 2018 Family Income and Expenditures (FIES) Survey dataset from the Philippine Statistics Authority. Among the 147, 717 respondents, the sample population was divided into two groups: Non-Remittance Recipients and Remittance Recipients. From the results, 105,912 are non-recipients (71.70%), and 4,885 are remittance recipients (28.30%). Housing expenditure is gathered as *tractualrent*, *timputedrent*, and *tmaintenance* from the 2018 FIES dataset.

The first step in this study's methodology is constructing a probit model to estimate the propensity scores. A probit regression is a statistical model that provides a conditional probability of an observation belonging to a particular category (Dephamphilis, 2018). Further, the propensity score seeks to determine the effect of a treatment group by considering the covariates that predict receiving the treatment (Valojerdi and Janani, 2018). Using the propensity scores, propensity score matching allows the formation of a matched set of treated and untreated groups with similar propensity scores (Austin, 2011; Rosenbaum and Rubin, 1983).

Propensity score matching provides a comparison between households that receive remittances as opposed to those that do not, allowing for the determination of any variations in the outcome variable that may be attributable to the treatment variable—remittances. The treated group in propensity score matching refers to households receiving remittances, while the untreated group refers to households that do not receive remittances. However, before implementing propensity score matching, a balancing test must be performed to verify the accuracy and significance of the propensity score matching.

Once propensity scores are estimated, and the balancing test is executed, propensity score matching is done. Propensity score matching allows the researchers to obtain the average outcome variable in the treated and controlled groups. After matching, the differences in the outcome variable (housing expenditure) for the treated and controlled groups are obtained through the Average Treatment Effect (ATE), as this is the difference between the controlled group's and treated group's average outcome variable—remittances.

The coefficients from the ATE help determine the difference in outcomes between remittance-receiving households and non-remittance-receiving households. Further, the Average Treatment Effect on the Treated (ATT) shows the mean difference between the treated and controlled group. Thus, ATT estimates allow the researchers to determine the relationship between remittances and housing expenditure.

Results

Table 1 presents the estimation results for actual rentals. A difference of 711.13618 for ATT of the remittance-receiving and non-receiving households indicates that households with remittances are more likely to spend more on rent than non-recipients.

Table 1. *Actual Rentals Estimation Results*

Actual Rentals				
	Treated	Controlled	Difference	T-stat
ATT	2865.02318	2153.887	711.13618	6.32
ATU	2191.12446	2460.76903	269.644573	
ATE			394.589952	

Table 2 presents the estimation of imputed rent. A difference of -2093.37852 in the ATT for imputed rentals indicates that households receiving remittances have lower imputed rental values than non-recipients.

Table 2. *Imputed Rent Estimation Results*

Imputed Rent				
	Treated	Controlled	Difference	T-stat
ATT	32041.7744	34135.1529	-2093.37854	-3.90
ATU	19985.7799	23157.7143	3171.93446	
ATE			1681.81206	

Table 3 presents the estimation of maintenance costs. A difference of -2093.37852 in the ATT for maintenance costs indicates that households receiving remittances are more likely to spend more on maintenance and repairs than non-recipients.

Table 3. *Maintenance and Repairs Estimation Results*

Maintenance Costs				
	Treated	Controlled	Difference	T-stat
ATT	2427.26229	1778.6648	648.597488	4.05
ATU	1211.84183	1619.3901	407.548266	
ATE			475.766973	

Conclusions

Results from this study's analysis show that remittance-receiving households spend more on housing expenditures, specifically actual rentals and maintenance costs, but have lower imputed rent values than non-remittance-receiving households.

Since actual rentals for remittance-receiving households are higher than non-receiving households, these remittance-receiving households pay more to rent a property. Based on the results, households with remittances tend to spend their budgets to rent more on properties rather than invest in housing. Given that imputed rent is the computed value an owner would be paying if they were to put up their property for rent in the market (Kilgarriff et al., 2019), it may be implied that those receiving remittances have lower imputed rent since they do not own the property and pay an amount of rent based on the imputed rent value of the property. Furthermore, remittance-receiving households tend to spend more on rent rather than invest in the housing market.

References

- Austin, P. C. (2011). An Introduction to Propensity Score Methods for Reducing the Effects of Confounding in Observational Studies. *Multivariate Behavioral Research*, 46(3), 399-424. 10.1080/00273171.2011.568786
- Bautista, A.G.M. and Tamayo, V.T. (2020) Life Challenges of Overseas Filipino Workers. *Open Access Library Journal*, 7: e6854. <https://doi.org/10.4236/oalib.1106854>
- Démurger, S. (2015) Migration and families left behind. *IZA World of Labor 2015*: 144 doi: 10.15185/izawol.144
- DePamphilis, D. (2018). Mergers, Acquisitions, and Other Restructuring Activities An Integrated Approach to Process, Tools, Cases, and Solutions. <https://www.sciencedirect.com/science/article/pii/B9780128016091000270>
- Kilgarriff, P., Charlton, M., Foley, R., & O'Donoghue, C. (2019, March). The impact of housing consumption value on the spatial distribution of welfare. *Journal of Housing Economics*, 43, 118-130. <https://doi.org/10.1016/j.jhe.2018.11.002>
- Mapa, D. S. (2022, December 2). *2021 Overseas Filipino Workers (Final Results)*. Philippine Statistics Authority | Republic of the Philippines. Retrieved June 27, 2023, from <https://psa.gov.ph/statistics/survey/labor-and-employment/survey-overseas-filipinos>
- Rosenbaum, P.R., & Rubin, D.B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70(1), 41-55. <https://doi.org/10.1093/biomet/70.1.41>
- Rubin, D. (2001). Using Propensity Scores to Help Design Observational Studies: Application to the Tobacco Litigation. *Health Services & Outcomes Research Methodology*, 2, 169-188. DOI:10.1023/A:1020363010465
- Sahakian, M. D. (2011, February). Understanding household energy consumption patterns: When “West Is Best” in Metro Manila. *Energy Policy*, 39(2), 596-602. <https://doi.org/10.1016/j.enpol.2010.10.032>
- Valojerdi, A. E., & Janani, L. (2018). A brief guide to propensity score analysis. *Medical Journal of the Islamic Republic of Iran*, 32, 122. <https://doi.org/10.14196/mjiri.32.122>

*This publication is based on an undergraduate thesis for the Economics program of the School of Economics of De La Salle University.