Economic, Demographic, and Other Factors Affecting School Participation among Children in Urban and Rural Households: The Case of Pasay and Eastern Samar

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Introduction

• Philippines
  - Millennium Development Goals: Universal access to primary education by 2015
  - Department of Education (DepEd):
    • SY 2008 to 2009: the net enrollment rate is 85 percent.
  - National Statistical Coordination Board (NSCB)
    • the number of Filipino children that do not have access to primary education has increased to 16.8 percent in 2007 from 15.6 percent in 2006
• Addressing MDG Target on Education
  - Supply Factors
    • ability of the government to provide resources to finance education including the hiring of teachers, construction of school facilities and the provision of books, school supplies, and other educational inputs.
  - Demand Factors
    • variables including household income, cost of education, and demographic characteristics of the households (age structure and family characteristics)
Introduction

• Objectives
  - To measure the elementary school participation rate among urban and rural households
  - To identify demographic factors, economic factors, and household characteristics that may influence elementary school participation rate among urban and rural households
  - To test the significance of factors determining elementary school participation rate
  - To draw policy implication that LGUs and NGOs can undertake or intervene in addressing non-participation which can contribute in meeting the MDG.

• Significance
  - answer the MDG on education
  - undertake empirically-based interventions in enhancing school participation rate at the household level.
  - address the supply factors affecting school participation rate since the LGUs and NGOs can identify the relevant demand factors that affect the communities that they served.
Demand for Education

• Determinants
  – Trivial Factors (distance of school to homes)
  – Financial Capability (income and wealth)
  – Family Characteristics

• Human Capital Theory

• Models of Education Demand and School Participation
  – Household Income (domestic and remittances)
  – Employment Status of Household Head
  – Family Size
  – Educational Attainment of Household Head
  – Age of Household Head
  – Availability of Public Services
  – Socioeconomic Development / Urbanization
Methodology

• Data Requirements

• Model Specification

\[ SPR_i = f(HI_i, NOFW_i, ESHH_i, HSIZE_i, NELEM612_i, EDUHH_i, AGEHH_i, SHGR_i, DSW\_NEAR_i, ELECT_i, TYPMAT_i, URBAN_i) \]

• Estimation Procedure
  – Ordinary Least Squares Regression (OLS)
Methodology

- **SPR** = School Participation Rate
- **HI** = Household Income
- **NOFW** = Number of OFWs in the Household
- **ESHH** = Employment Status of Household Head (Permanent, Temporary, or Seasonal)
- **HSIZE** = Household Size
- **NELEM612** = Household Members Age 6 to 12
- **EDUHH** = Educational Attainment of Household Head
- **AGEHH** = Age of Household Head
- **SHGR** = Experienced State of Hunger (1 = Yes; 0 = Otherwise)
- **DSW_NEAR** = Distance of Water Source (1 = Near; 0 = Otherwise)
- **ELECT** = Availability of Electricity (1 = With Electricity; 0 = Otherwise)
- **TYPMAT** = Strength of House Construction Materials (1 = Strong; 0 = Otherwise for Walls and Roofs)
- **URBAN** = Urbanity (1 = Urban; 0 = Rural)
## Results for Pasay City

| Variables          | Estimated Coefficient | Robust Standard Error | $P > |t|$ | Number of Observations |
|--------------------|-----------------------|-----------------------|-------|------------------------|
| $HI_i$             | 0.0000                | 0.0000                | 0.000 | F (15, 39,547)         |
| $NOFW_i$           | 0.0156                | 0.0370                | 0.673 | Prob > F               |
| $ES\_PERMANENT_i$ | 0.0169                | 0.0189                | 0.371 | R-squared              |
| $ES\_SEASONAL_i$  | -0.0243               | 0.0404                | 0.548 | Root MSE               |
| $ES\_TEMPORARY_i$ | -0.1442               | 0.0844                | 0.088 |                        |
| $HSIZE_i$          | -0.0187               | 0.0095                | 0.050 |                        |
| $NELEM612_i$       | 0.3047                | 0.0176                | 0.000 |                        |
| $EDUHH_i$          | -0.0008               | 0.0016                | 0.607 |                        |
| $AGEHH_i$          | 0.0000                | 0.0009                | 0.963 |                        |
| $SHGR_i$           | -0.4789               | 0.0330                | 0.000 |                        |
| $D\_SW\_NEAR_i$    | -0.0052               | 0.0179                | 0.771 |                        |
| $ELECT_i$          | 0.1655                | 0.0677                | 0.015 |                        |
| $WALLSTRONG_i$     | 0.0267                | 0.0248                | 0.281 |                        |
| $ROOFSTRONG_i$     | -0.0106               | 0.0196                | 0.589 |                        |
| $URBAN_i$          | dropped               |                       |       |                        |
| Constant           | 0.3059                | 0.0970                | 0.002 |                        |
## Results for Eastern Samar

| Variables               | Estimated Coefficient | Robust Standard Error | $P > |t|$ | Number of Observations | $F$ (15, 39,547) | $\text{Prob} > F$ | $\text{R-squared}$ | Root MSE |
|-------------------------|-----------------------|-----------------------|-------|------------------------|-------------------|------------------|------------------|----------|
| $H_i$                   | 0.0000                | 0.0000                | 0.000 | 39,563                 | 1,508.87          | 0.0000           | 0.4281           | 0.2697   |
| $NOFW_i$                | -0.0085               | 0.0067                | 0.203 |                        |                    |                  |                  |          |
| $ES\_PERMANENT_i$       | 0.0315                | 0.0053                | 0.000 |                        |                    |                  |                  |          |
| $ES\_SEASONAL_i$        | 0.0331                | 0.0055                | 0.000 |                        |                    |                  |                  |          |
| $ES\_TEMPORARY_i$       | 0.0186                | 0.0061                | 0.002 |                        |                    |                  |                  |          |
| $HSIZE_i$               | -0.0444               | 0.0007                | 0.000 |                        |                    |                  |                  |          |
| $NELEM612_i$            | 0.2699                | 0.0019                | 0.000 |                        |                    |                  |                  |          |
| $EDUHH_i$               | 0.0020                | 0.0002                | 0.000 |                        |                    |                  |                  |          |
| $AGEHH_i$               | 0.0037                | 0.0001                | 0.000 |                        |                    |                  |                  |          |
| $SHGR_i$                | -0.0130               | 0.0038                | 0.001 |                        |                    |                  |                  |          |
| $DSW\_NEAR_i$           | 0.0042                | 0.0033                | 0.206 |                        |                    |                  |                  |          |
| $ELECT_i$               | 0.0352                | 0.0031                | 0.000 |                        |                    |                  |                  |          |
| $WALLSTRONG_i$          | 0.0072                | 0.0041                | 0.083 |                        |                    |                  |                  |          |
| $ROOFSTRONG_i$          | 0.0110                | 0.0040                | 0.006 |                        |                    |                  |                  |          |
| $URBAN_i$               | -0.0034               | 0.0031                | 0.279 |                        |                    |                  |                  |          |
| Constant                | 0.3910                | 0.0109                | 0.000 |                        |                    |                  |                  |          |
Conclusion and Policy Recommendation

• General Objective
  – To explore the extent to which demographic factors, economic factors, and other household characteristics influence elementary school participation rate among urban and rural households

• Empirical Evidences
  – As the income of households increases, they will also increase their expenditures on normal and superior goods and services including education
  – Households base their decisions including whether to send their children to school on permanent income rather than transitory income
Conclusion and Policy Recommendation

• **Empirical Evidences**
  - As the family size increases, school participation declines.
  - Need to manage population growth - may adversely affect the human capital formation at the household
  - Positive impact of the employment status and educational attainment of the household head to school participation
  - School participation can be assured if the household head is employed and educated parents beget more educated children
**Conclusion and Policy Recommendation**

- **Policy Recommendation**
  - Intervention can be done using household income as an avenue
  - Intervention can be done through the enhancement and provision of public services such as:
    - food distribution and medical support
    - housing services and employment generation
  - Priority must be placed on addressing population growth
  - **Socioeconomic Development and Urbanization**
    - improves access and proximity to schools
    - improves transportation and communication infrastructures
    - increases the school and labor market opportunities available
    - must be accompanied by the provision of job opportunities that will provide households with permanent employment and permanent income so that substitutability between education and other goods will be mitigated
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