# Parental Migration and The Incidence of Working Children: Evidence from Indonesia

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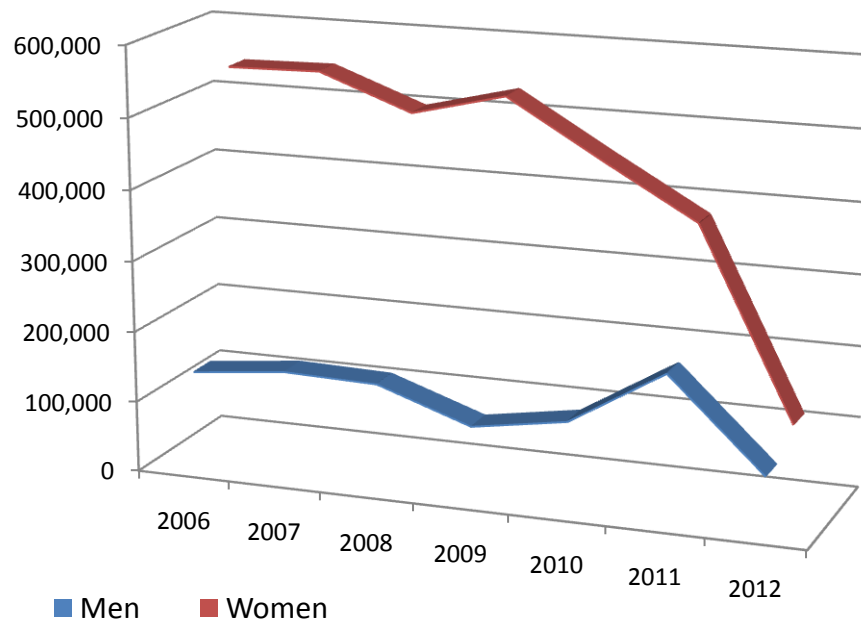SMERU Research Institute

# Research Questions

1. How does parental migration affect the share of working children in a household?

2. Which type of parental migration determines participation of left-behind children in working activities?
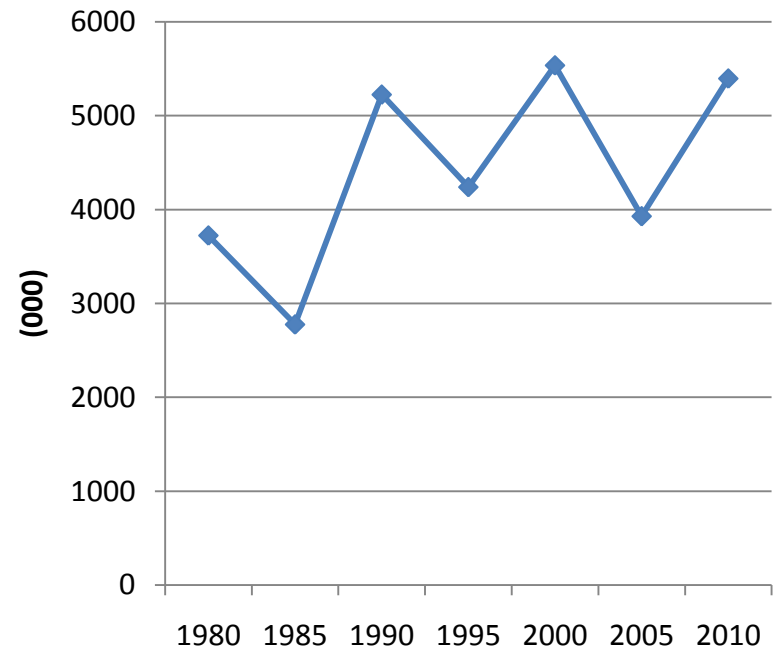
# Migration in Number

**Trend of International Migration**



Legend: ■ Men  ■ Women

Source: BNP2TKI (2012)
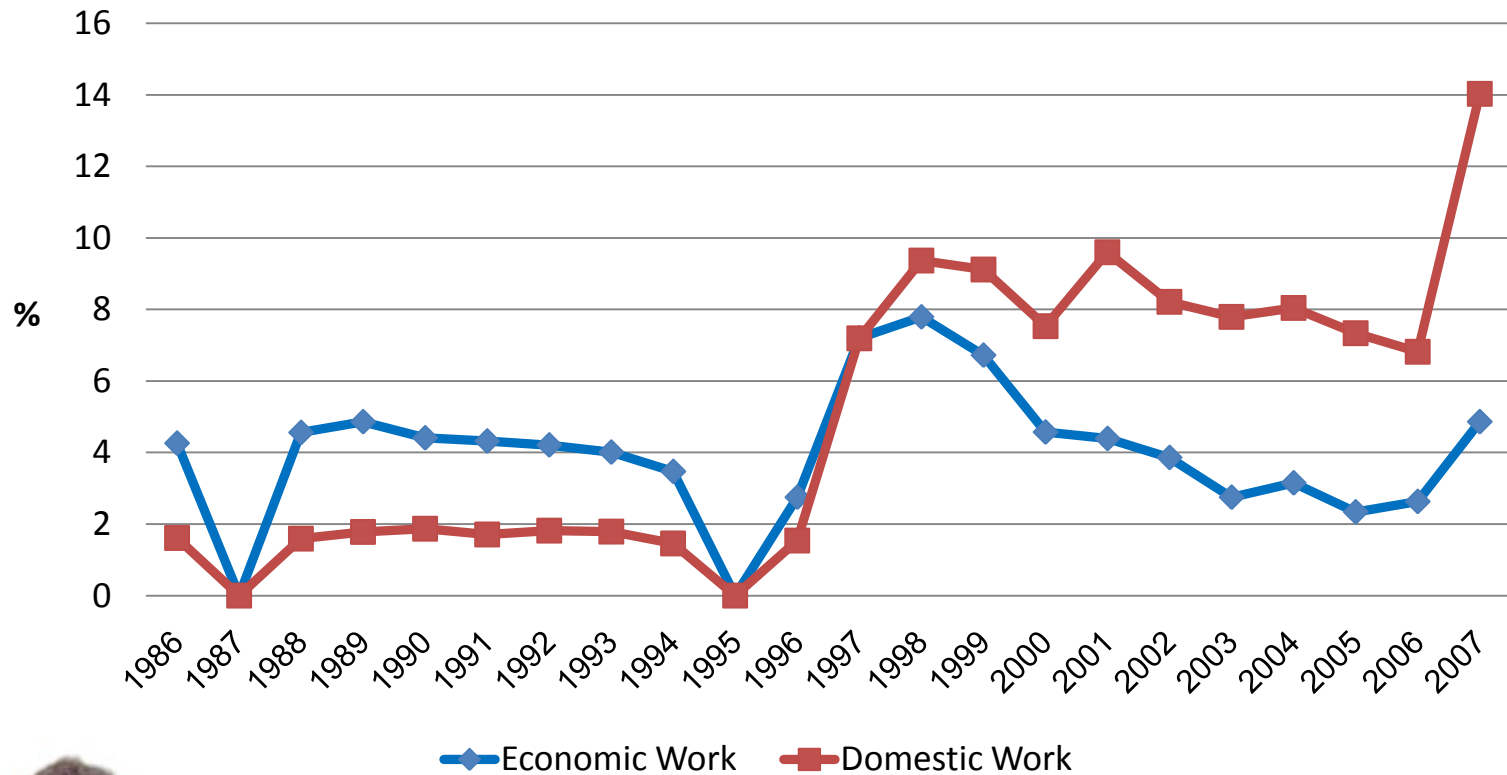
**Trend of Internal Migration**



Source: BPS(2011)

# Participation Rate of Children at Work

**Economic and Domestic Work**
**Performed by Children**



Source: Author's calculation from Sakernas 1986-2007

# Theory & Evidence

## 1. Why children work?

- **Quantity-quality tradeoff**
  Parents consider number of children and investment in human capital as substitutes and they diversify risk by sending some of their children to school and putting the others to labor market (Becker and Lewis, 1973)
- **Poverty hypothesis**
  Profile of child labor in Indonesia is closely related to the profile of poverty (Priyambada, et.al., 2005)
- **Market failure**
  Households send their children to labor market to compensate for foregone income by unemployed adult (Basu, 1999)

## 2. Parental migration and working children

- **Booth and Tamura (2009), Vietnam**
  Paternal temporary absence increases son's non-house-work labor supply and the impact is larger if absence is longer
- **Nguyen and Purnamasari (2011), Indonesia**
  Male migrant reduces working hours of remaining household members, while female migration only reduces non-house-work labor supply by children
- **Remittance effect, disruptive family effect, and immediate substitution effect**

# Sample and Data Source

❖ **Data Source:** Indonesia Family Life Survey year 2000 and 2007

❖ **Sample:** 4,948 children and 2,007 households

❖ **Outcome variables:**
  ▪ Share of working children in a household (either economic/house-work)
  ▪ Share of children in a household doing economic-work
  ▪ Share of children in a household doing house-work

❖ **Variables of interest:**
  ▪ **Parental migration:** household which has children whose parents (at least one) resided in different village between 2000 and 2007
  ▪ **Dummy of paternal / maternal migration:** categorical variable of paternal migration / maternal migration where migration of both parents becomes the reference
  ▪ **Destination of migration:** categorical variables indicating whether migration is within Indonesia or abroad

# Children Profile

- We focus on a subset of IFLS respondents who were younger than 15 at the time of IFLS-4 and interviewed in IFLS-3

- We define working children into three categories:
    - child who is engaged in economic-work (working for wage or family farm/non-farm business) without doing any domestic work)
    - child who is engaged in house-work exclusively without doing economic-work
    - child who has participated in both economic-work and house-work

- Among 4,948 children:
    - 94.42% are doing house-work
    - 5.58% are actually doing economic-work
    - 12.73% of working children are doing economic-work along with house-work

# Parental Migration

**Table 1.**

**Distribution of children according to parental migration status**

| Children Status | Freq | % |
|---|---|---|
| Live with parents | **4,315** | **87.21** |
| Left by migrant parent(s) | **633** | **12.79** |
|     Left by mother | 112 | 30.81 |
|     Left by father | 326 | 51.5 |
|     Left by father and mother | 195 | 17.69 |
| **Total** | **4,948** | **100** |

*Source: Author's calculation from IFLS 2007*

# Estimation Strategy

## 1. Household level

$$L_i = \alpha + \beta_1 M_i + \beta_2 X_i + u_i$$

$L_i$     =     share of children in household *i* who perform working activities

$M_i$     =     migration dummy: 1 if household *i* participates in parental migration and leaves children, 0 otherwise

$X_i$     =     household-level covariates that determine household's share of working children

$u_i$     =     normally distributed error terms

## 2. Individual level

$$P(Y_i=1|X) = \Phi\ (\alpha + \beta_1 M_i + \beta_2 D_i + \beta_2 X_i + u_i)$$

$Y_i$     =     1 if child participates in working activities, 0 else

$M_i$     =     migration status of parents (both father and mother/ father only/ mother only)

$D_i$     =     dummy for migration destination: 1 if parent(s) migrates abroad, 0 otherwise

$X_i$     =     control variables

$u_i$     =     normally distributed error terms

# Selection and PSM

## Selection Bias

- Migration and decision to leave children at origin household are not randomly dispersed across individuals or households
- Source of selection may come from different aspects, such as welfare, health, cohort, gender, etc
- Self-selection poses a severe challenge to ascertain the impact of migration on working activities of left-behind children
- OLS estimate is unable to reveal the true causal relationship

## Propensity Score Matching (PSM)

- PSM is used to create comparable control group that resembles treatment group w.r.t probability to be left-behind household based on a number of observable characteristics
- PSM is applied on household-level data to ensure for balanced sample
- Once the weights are obtained from PSM for each household in the observation, the model is estimated using weighted regression
- Samples: 674 treated households and 1,333 control households

# Propensity Score Matching

**Table 2. Propensity Score Estimation**

| Variable | Coefficient | Standard Errors | P > |z| |
|---|---|---|---|
| Age of oldest child (1 if ≤ 10 years old) | 1.1151 | 0.0772 | 0.000 ** |
| Gender of oldest child (1 if male) | 0.1227 | 0.0628 | 0.051 * |
| Rural dummy | 0.3679 | 0.0663 | 0.000 ** |
| Household size dummy (1 if > 5) | -0.2004 | 0.0675 | 0.003 ** |
| Dependency ratio dummy (1 if > 2) | -0.3813 | 0.0648 | 0.000 ** |
| Quartile of per capita expenditure | -0.0909 | 0.0313 | 0.004 ** |
| Age of household head (1 if ≤ 64 years old) | -0.4967 | -0.4967 | 0.000 ** |
| Employment dummy (1 if head is employed) | -0.6594 | 0.1151 | 0.000 ** |
| Regional dummy: Java | 0.3033 | 0.0827 | 0.000 ** |
| Regional dummy: NTT/ Kalimantan/ Sulawesi | 0.3225 | 0.1009 | 0.001 ** |

*N = 2007, Pseudo $R^2$ = 0.1642 , LR test (prob) = 420.72 (0.000) \*\*\**

*\*Significant at 5%, \*\* Significant at 1%*

# Propensity Score Matching

**Table 3. Balancing Test**

| Variable | Sample | Mean Treated | Mean Control | P > \|t\| | Sig. |
|---|---|---|---|---|---|
| Age of oldest child | Unmatched | 0.4035 | 0.0930 | 0.000 | ** |
| | Matched | 0.3195 | 0.3045 | 0.588 | |
| Gender of oldest child (1 if male) | Unmatched | 0.4911 | 0.4733 | 0.453 | |
| | Matched | 0.4883 | 0.5049 | 0.579 | |
| Rural dummy | Unmatched | 0.6572 | 0.5206 | 0.000 | ** |
| | Matched | 0.6409 | 0.6536 | 0.657 | |
| Household size dummy | Unmatched | 0.3649 | 0.4103 | 0.050 | * |
| | Matched | 0.3698 | 0.3504 | 0.500 | |
| Dependency ratio dummy | Unmatched | 0.4005 | 0.5633 | 0.000 | ** |
| | Matched | 0.4093 | 0.4392 | 0.312 | |
| Per capita expenditure (quartile) | Unmatched | 2.0742 | 2.2183 | 0.004 | ** |
| | Matched | 2.1059 | 2.0670 | 0.541 | |
| Age of household head | Unmatched | 0.8872 | 0.9587 | 0.000 | ** |
| | Matched | 0.9371 | 0.9268 | 0.495 | |
| Employment of household head | Unmatched | 0.8560 | 0.9504 | 0.000 | ** |
| | Matched | 0.9030 | 0.8874 | 0.394 | |
| Regional dummy: Java | Unmatched | 0.6335 | 0.5761 | 0.013 | * |
| | Matched | 0.6391 | 0.6214 | 0.541 | |
| Regional dummy: NTT/ Kalimantan/ Sulawesi | Unmatched | 0.2151 | 0.1740 | 0.026 | * |
| | Matched | 0.2028 | 0.2152 | 0.612 | |

*Note: Matching algorithm used is 5-NN matching*

*\* Significant at 5%, \*\* Significant at 1%*

# Result

## Table 4. Household Level Analysis

| Share of children in the households that work for: | Any type of work | | Economic work | | House work | |
|---|---|---|---|---|---|---|
| | OLS (1) | WLS (2) | OLS (3) | WLS (4) | OLS (5) | WLS (6) |
| Left behind by migrant parent(s) | 0.034 [0.020]* | 0.059 [0.023]*** | 0.001 [0.006] | -0.006 [0.007] | 0.041 [0.020]** | 0.066 [0.023]*** |
| **Control variables:** | | | | | | |
| Child's characteristics | YES | YES | YES | YES | YES | YES |
| Household head's characteristics | YES | YES | YES | YES | YES | YES |
| Household's characteristics | YES | YES | YES | YES | YES | YES |
| $R^2$ | 0.17 | 0.20 | 0.01 | 0.03 | 0.011 | 0.14 |
| N | 1,974 | 1,197 | 1,974 | 1,197 | 1,974 | 1,197 |

*$p<0.1$; ** $p<0.05$; ** $p<0.01$*
*standard errors in the bracket*

- Being left behind by migrant parents increases any type of child work by 6% approximately
- When type of work is disaggregated, we observe 6% increase in share of children in a household who do house work but no statistically significant impact of parental migration on share of children who do economic work

# Result

### Table 5. Determinants of Working Children

| Probability of left-behind children to work for: | Any type of work | Economic work | House work |
|---|---|---|---|
| | (1) | (2) | (3) |
| Left by father | 0.353 | -0.643 | 0.495 |
| | [0.190]+ | [0.379]+ | [0.183]** |
| Left by mother | 0.288 | -0.785 | 0.283 |
| | [0.229] | [0.467]+ | [0.229] |
| Father migrates abroad | 0.124 | | 0.123 |
| | [0.288] | | [0.283] |
| Mother migrates abroad | 0.099 | | 0.362 |
| | [0.232] | | [0.223] |
| **Control Variables:** | | | |
| Children's characteristics | YES | YES | YES |
| Household head's characteristics | YES | YES | YES |
| Household's characteristics | YES | YES | YES |
| $R^2$ | 0.16 | 0.37 | 0.09 |
| N | 562 | 562 | 562 |

+ $p<0.1$; * $p<0.05$; ** $p<0.01$
standard errors in the bracket

- Migration by father increases child's probability to participate in house work and decreases child's probability to participate in economic work compared to migration by both parents

- Migration by mother decreases child's probability to participate in economic work

# Findings – Household Analysis

- **Parental migration modifies division of work within household and children bear part of household responsibilities due to absence of parents**

    - estimation by WLS (weighted least square) method presents a more statistically significant result compared to OLS

    - being left behind by migrant parents doesn't translate into more children in a household performing economic work

- **Some variables are significant in determining share of working children in a household**

    - as children grow older, households begin to send more of them to work

    - households whose first child is a girl have higher share of children who do house work, but those with male first child tend to have higher share of children who do economic work

    - household whose head is employed have higher share of children who work

# Findings – Determinants of Working Children

- **Parental migration determines children's probability to perform working activities**
    - migration by father or mother decreases child's probability to join economic work compared to migration by both parents
    - migration by father increases child's probability to do house work
    - when father migrates, it is likely that mothers joins labor market and shifts her responsibility of house work to left-behind children

- **Explanation of some control variables**
    - boys have higher probability than girls to join economic work, while girls are more likely to do house work compared to boys
    - older children have higher probability to perform economic work, while age of children doesn't determine probability of house work
    - children are more likely to do economic work if caregiver is employed

# Discussions

### 1. Assignment of House Chores to Children: Yes or No?

- Through house chores, children contribute to the family by substituting mother's labor supply at home especially when both parents work (Blair, 1992)

- House chores help children develop self-management & responsibility

- Baldwin (2004) finds that there are distinct benefits between children who regularly perform house chores and those who don't in terms of social behavior and positive self perception

- In average, children spend 6.4 hours per week for house work (IFLS 2007)

- Assignment of house chores will force children to surrender their leisure time

### 2. Migration Data and Recognition of Unpaid Care Work

- Limited information related to migration & remittance in IFLS, we need a detailed survey exclusively designed for migration and remittance studies

- Susenas has recorded unpaid care work activities but detailed data such as time use survey has never been applied

# Discussions

## 3. Regulation Aspect

- Indonesia has already ratified The United Nations International Convention of the Rights of All Migrant Workers and Members of Their Families in 2012, nine years after it entered into force on July 2003, through enactment of Law No. 6/2012

- The convention is lacking the context for internal migrant workers

- Growing number of Indonesians engaged as domestic workers within Indonesia fall largely outside formal regulatory system

- Employment relationship between domestic workers and employers is mostly regulated by trust alone and most of the time being domestic workers translate into more working hours and less recognition of workers' basic rights

- Our labor law system has not incorporated domestic workers, and other national laws only provide protection in limited manner

# Discussions

## 4. The Role of PAUD and Community Support

- Our study finds that parents prefer to migrate and leave their children when their children are still at relatively young age

- The common practice is that left-behind children will be taken care by their grandparents during parental migration

- To help grandparents raise the children optimally, the role of PAUD (*Pendidikan Anak Usia Dini/* early childhood development) should be expanded to become day care institution in addition of educational institution

- Nowadays, the growth of day care facilities is limited only in urban areas and the price for day care service is still high

# Discussions

## 5. Remittance Management for Migrant/Migrant Families

- Remittance is rarely managed well by migrant families

- Studies based on field observations in Indonesia find that migrants or migrant families spend most of their remittances on housing

- Remittance is rarely spent on investment goods such as education or health, and migrant families become poor again once they finish beautifying their houses

- BNP2TKI or Ministry of Manpower and Transmigration should establish a program to help migrants manage the remittance and educate migrant/migrant families about investment and insurance to make the most out of their remittance

- Innovative programs from government or non-government entities could allow migration to reach its true potential by extending its impact from solely helping immediate families to improving whole communities and labor market