

# Working Children on Java Island 2017

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## ABSTRACT

Children's wellbeing has currently become a global concern as many of them are engaged in the labor force. A small area estimation (SAE) technique, EBLUP under Fey-Herriot model, is employed to reveal their number in regencies of Java Island. Statistics have been disaggregated by geographical location (urban/rural) and gender. These statistics are required by the government as the basis for policy making.

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## INTRODUCTION

Children are considered invaluable assets as they will shape the country's future. Unfortunately, many of them are involved in the labor market at an early age. Household income and uncertainty are major reasons behind their involvement (Dammert et al., 2018). Khatab argued that employing children could lead to a major threat to the community economically (Khatab et al. 2019).

The number of children actively working is an important information for the local government. The estimated number of children working in a regency in 2017 assist local authorities in setting up protection for children. Empirical best linear unbiased prediction (EBLUP) under the Fey-Herriot model is applied to generate small area statistics for every regency on Java Island. The employment of children across regencies varies, is higher in urban areas than in rural areas, and males are employed more than females.

## METHODS

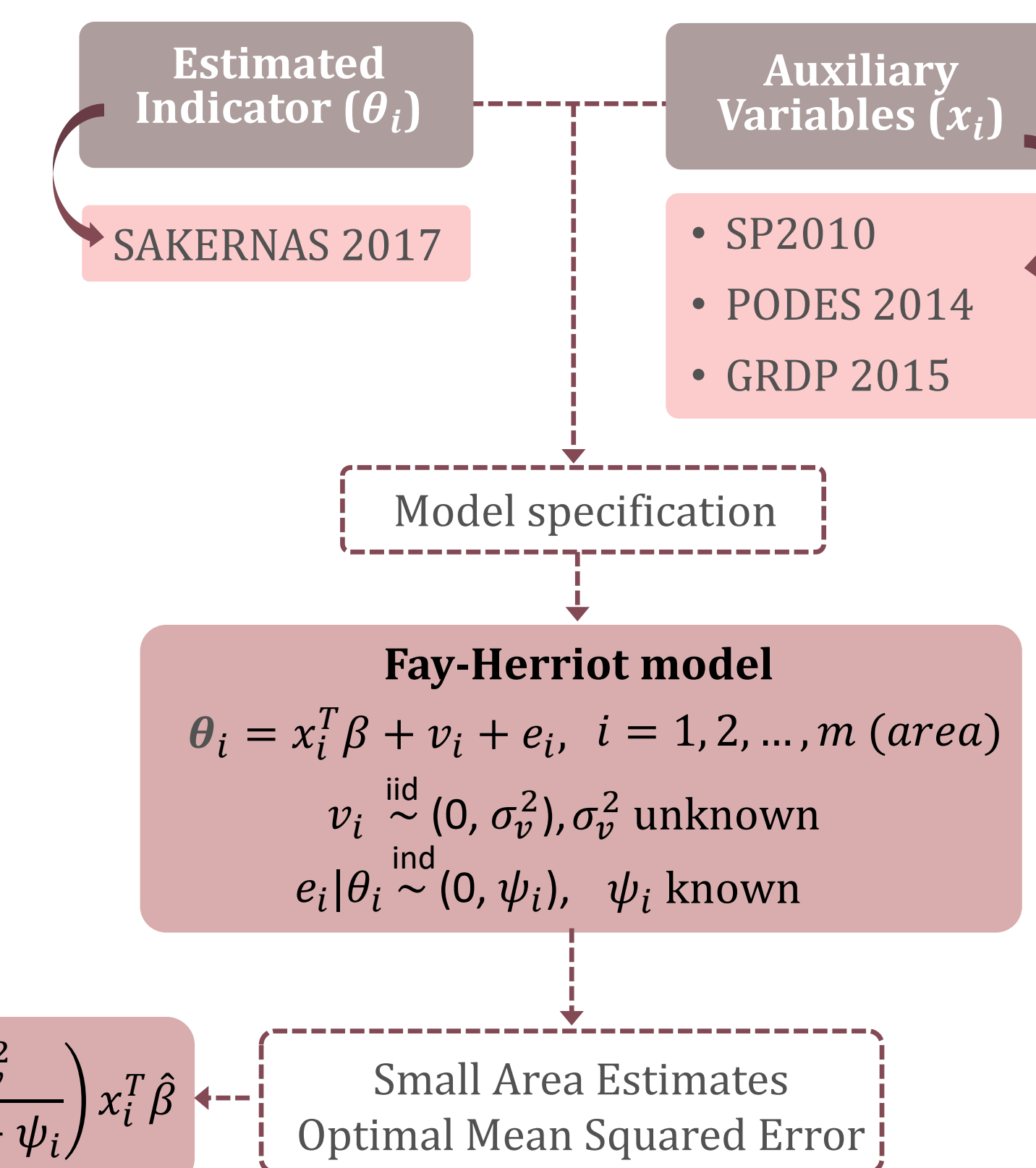
Badan Pusat Statistik (BPS) is an Indonesian national statistics office that is responsible for providing employment statistics. Yet the proportion of working children cannot be produced by BPS for regency level due to the inadequate sample size of National Labor Force Survey (SAKERNAS). According to Rao, borrowing strength from other related data sets is the possible solution to improve the effectiveness of sample size. This is considered as the principle of SAE (Rao, 2003).

- DATA SOURCE**
- **SAKERNAS:** National Labor Force Survey
  - **SP2010:** Population Census 2010
  - **PODES:** Village Potential Enumeration Survey
  - **GRDP:** Gross Regional Domestic Product (manufacturing, agriculture, construction, trade)

## EMPIRICAL BEST LINEAR UNBIASED PREDICTION (EBLUP)

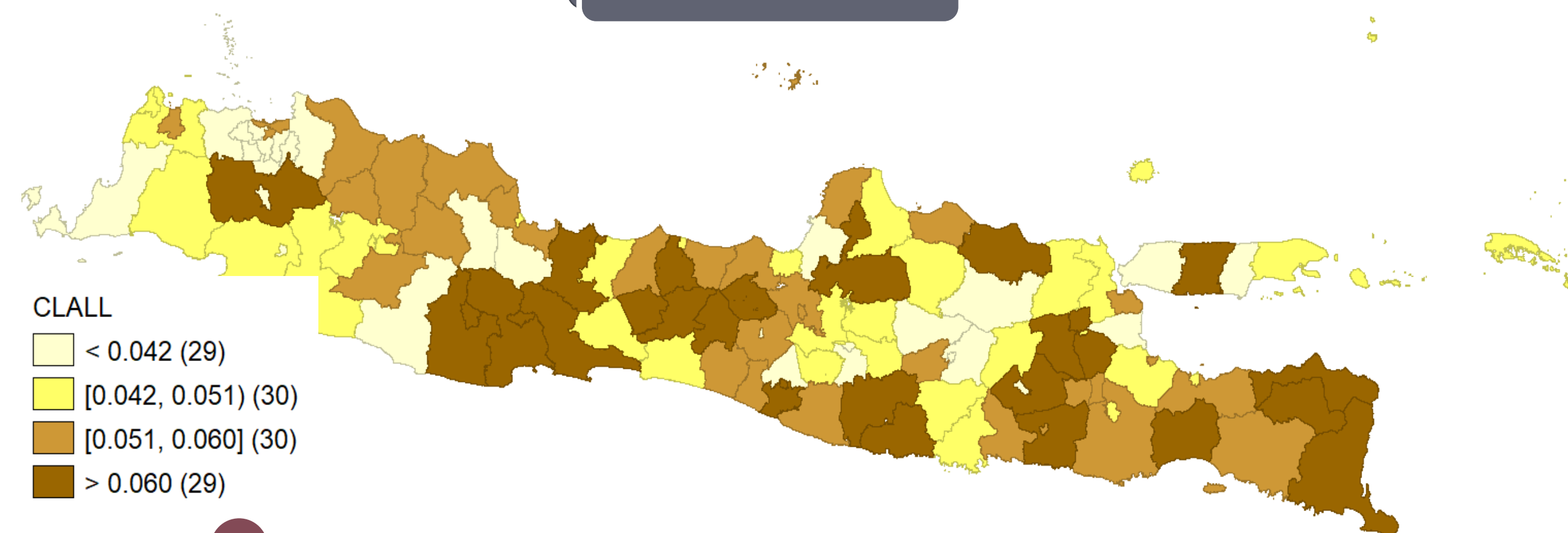
(Rao and Molina, 2015)

### Proportion of Working Children

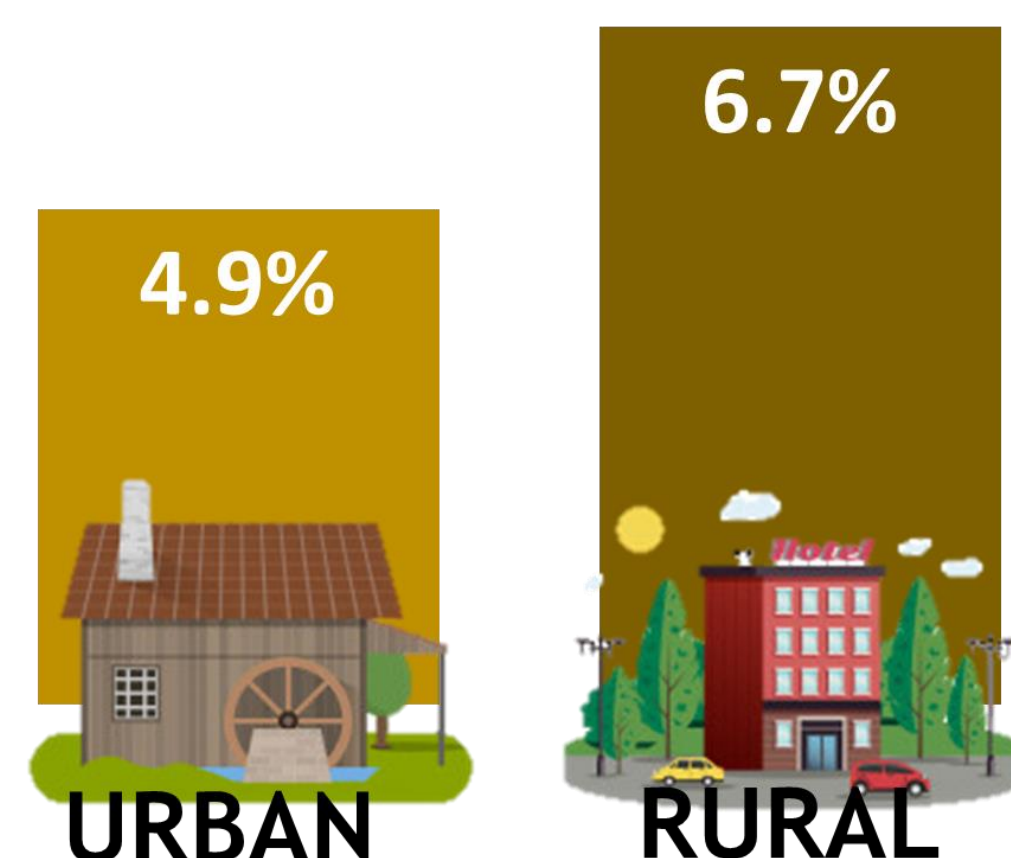


$$\hat{\theta}_i^{EBLUP} = \left( \frac{\sigma_v^2}{\sigma_v^2 + \psi_i} \right) \theta_i + \left( 1 - \frac{\sigma_v^2}{\sigma_v^2 + \psi_i} \right) x_i^T \hat{\beta}$$

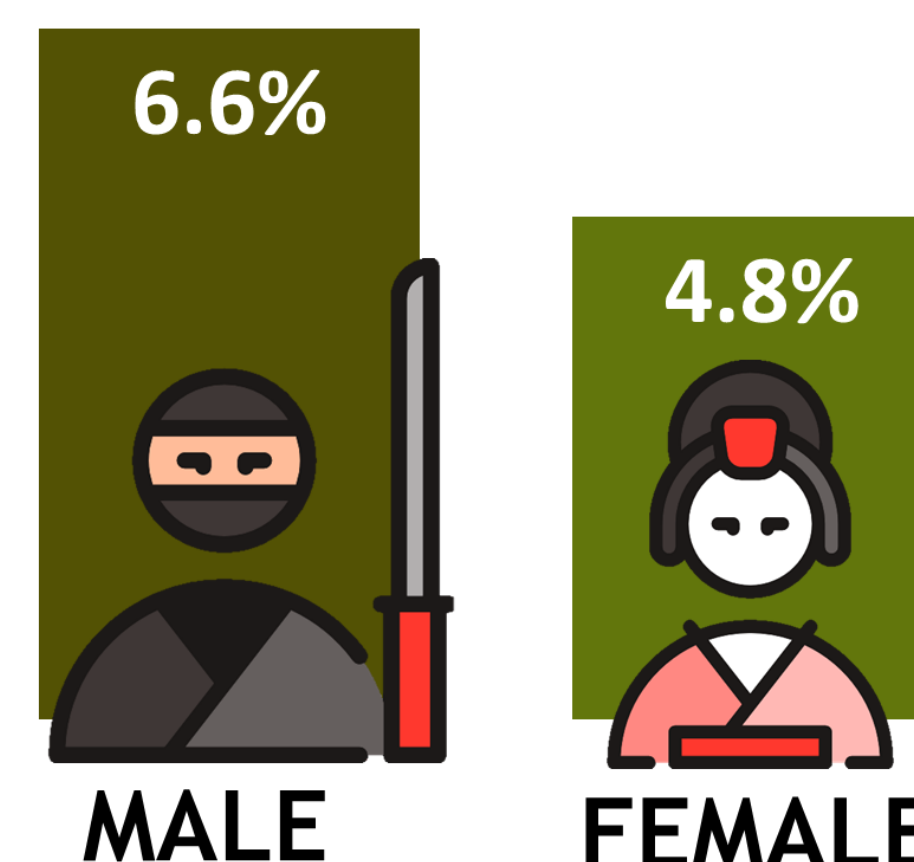
## RESULTS



1 Proportion of Working Children in Java Island by regency, 2017



2 Proportion of Working Children in Java Island by Location, 2017



3 Proportion of Working Children in Java Island by Gender, 2017

## CONCLUSIONS

- 1 The proportion of working children in regency level in the 2017 tends to be randomly distributed throughout Java Island. Regencies located along the border of West Java and Central Java provinces hold a high prevalence of children engaged in the labor force.
- 2 Children in rural areas are prone to be the labor force. It is strongly suspected due to low-income households usually located in these areas.
- 3 More male children are involved in employment compared to female.
- 4 Statistics resulted from this study are useful for government and local authorities as the basis of decision making related to children.

## REFERENCES

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