

# **Risk of Transitory Food Insecurity in Indonesia: Food Demand Estimation and Assessment of Selected Scenarios\***

**Jesús Antón<sup>†</sup>, Shingo Kimura<sup>‡</sup> and Hiroaki Ogawa<sup>§</sup>**

*January 20, 2014*

## **Abstract**

The stability dimension of food insecurity focuses on the potential shocks that can temporarily bring additional population below the threshold of food security. This paper follows an individual household approach to measure the impact of a couple of risk scenarios on the transitory food security of Indonesia. First, prevalence of undernourishment is calculated and analysed, then a system of food demand equations is estimated and, finally, the food security impacts of two stylized scenarios (a price hike and an earthquake in Sumatra) are simulated using the demand system. This method is able to capture the household response in terms of substitution between non-food and food commodities and the adjustment in the diet or food consumption pattern. The results confirm that, under food security risk scenarios, the adjustment in the diet in favour of food and cheaper sources of calories is a significant household strategy to cope with temporary food insecurity in Indonesia. The method used in this paper has significant advantages compared to other approaches based on income/poverty and/or on a selection of representative households: it estimates individual demand responses representing changes in diet; it does so for a large number of individual households rather than by income class, allowing for a full distributional analysis. This work is an illustrative analysis calibrated in 2010. It will subsequently be extended to other risks of food insecurity, to other indicators or nutrients, and to analyse policy changes.

**JEL Classification Number:** D12; I32.

**Key words:** Food security, undernourishment, Indonesia, Linear-Approximated Almost Ideal Demand System (LA-AIDS), panel.

---

\* Preliminary draft: Please do not quote or distribute. We are grateful to the participants in Applied Econometrics Workshop at Prefectural University of Kumamoto for their valuable comments. The views expressed in this article are the authors' and not necessarily those of the OECD or its member or key partner countries. Any remaining errors are the authors'.

<sup>†</sup>Trade and Agriculture Directorate, OECD, 2 rue André Pascal, Paris Cedex 16, 75775, France, E-mail: [jesus.anton@oecd.org](mailto:jesus.anton@oecd.org)

<sup>‡</sup>Trade and Agriculture Directorate, OECD, 2 rue André Pascal, Paris Cedex 16, 75775, France, E-mail: [shingo.kimura@oecd.org](mailto:shingo.kimura@oecd.org)

<sup>§</sup> Corresponding author; Graduate School of Economics, Osaka University, 1-7 Machikaneyama, Toyonaka, Osaka, 560-0043, Japan, E-mail: [mge006oh@student.econ.osaka-u.ac.jp](mailto:mge006oh@student.econ.osaka-u.ac.jp); Research Fellow of the Japan Society for the Promotion of Science