



Protecting child nutritional status in the aftermath of a financial crisis: Evidence from Indonesia[☆]



John Giles^{a,b,*}, Elan Satriawan^c

^a Development Research Group, The World Bank, Mail Stop MC 3-311, 1818 H St NW, Washington, DC 20433, USA

^b Institute for the Study of Labor (IZA), Bonn, Germany

^c Fakultas Ekonomi dan Bisnis, Universitas Gadjah Mada, Jl. Humaniora No. 1, Bulaksumur, Yogyakarta 55281, Indonesia

ARTICLE INFO

Article history:

Received 29 November 2010

Received in revised form 5 December 2014

Accepted 8 December 2014

Available online 13 December 2014

JEL classification:

I12

I18

O15

O20

O22

Keywords:

Nutritional interventions

Program evaluation

Poverty

Financial crises

Indonesia

ABSTRACT

In response to concerns over the vulnerability of the young in the wake of Indonesia's 1997–1998 economic crises, the Government of Indonesia implemented a supplementary feeding program to support early childhood nutritional status. This paper exploits heterogeneity in duration of program exposure to evaluate the impact of the program on children aged 6 to 60 months. By examining differences in nutritional status of treated younger children and a placebo group of older children, the analysis finds that the program improved the nutritional status of treated children, and most significantly, led to 7 and 15% declines in rates of moderate and severe stunting, respectively, for children aged 12 to 24 months who were exposed to the program for at least 12 months over two years.

© 2014 World Bank. Published by Elsevier B.V.

1. Introduction

With the onset of the global financial and economic crisis in late 2008, concerns were immediately raised over the vulnerability of infants and young children, and the likelihood of increases in infant mortality (Friedman and Schady, 2013). Apart from shocks due to crises, less extreme business cycle fluctuations may have considerable impact on early childhood well-being. Indeed, even in less extraordinary times, it is common for negative aggregate shocks to be associated with

increased infant mortality across the developing world, particularly for girls (Baird et al., 2011; Bhalotra, 2010).¹ A growing number of studies establish a link between malnutrition during early childhood and slower physical growth, delayed motor development, lower IQ, and low educational achievement. Improving health and nutritional status, on the other hand, is frequently associated with improvements in longer-term outcomes, including reduced likelihood of chronic disease, increases in educational attainment, and higher subsequent returns in the labor market.²

The Global Financial Crisis of 2008 was not the first macroeconomic event to threaten child nutritional status. Not only have families with young children in middle and lower income countries endured significant macroeconomic shocks in recent years, but governments have responded with efforts to alleviate impacts on vulnerable populations.

[☆] This paper has benefitted from comments on earlier versions from Harold Alderman, Richard Bernsten, Alan de Brauw, Jed Friedman, Emanuela Galasso, John Strauss, Duncan Thomas and three anonymous referees. The authors are grateful for support from the Knowledge for Change Program and the Strategic Impact Evaluation Fund at the World Bank. Supplementary appendix materials are available through the journal website, or as appendices in the penultimate drafts of this paper as World Bank Policy Research Working Paper 5471 or an IZA Discussion Paper 8721.

* Corresponding author.

E-mail addresses: jgiles@worldbank.org (J. Giles), esatriawan@feb.ugm.ac.id (E. Satriawan).

¹ The counter-cyclical relationship does not hold in all circumstances. Miller and Urdinola (2010) find a pro-cyclical relationship associated with coffee price fluctuations in Columbia, which is driven by a decline in the opportunity cost of providing time to child health maintenance when the price of coffee declines.

² See, for example, Alderman et al., 2001, 2005, 2006; Glewwe et al., 2001; Glewwe and King, 2001; Maluccio et al., 2009; Martorell, 1999 and Strauss and Thomas, 1998.

The Government of Indonesia's policy response to the East Asian financial crisis of 1997–1998 is one such example.³ While there is ample evidence that the nutritional status of young children did not decline in Indonesia in the wake of the 1997/98 financial crisis (e.g., Block et al., 2004; Frankenberg et al., 1999; Strauss et al., 2004; Thomas and Frankenberg, 2007), research as to whether specific policies can be credited with helping to avert negative consequences to nutritional status is relatively sparse.⁴ By improving our understanding of how Indonesia's policy response affected child nutritional outcomes, this paper aims to offer lessons for policymakers both in Indonesia and in other economies with vulnerable populations.

This study evaluates the effect of a supplementary feeding program implemented between 1998 and 2000, *Program Makanan Tambahan (PMT)*, on child health and nutritional status in Indonesia. The specific aim of the feeding program was to prevent children under five years of age from suffering deterioration in nutritional status as a result of the crisis. Exploiting differences across communities in the timing of program implementation, the study estimates the difference in the effect of an additional month of exposure between age-eligible young children and older children not targeted by the program. The analysis takes advantage of rich information included in two rounds of panel data from the Indonesia Family Life Survey (IFLS-2 and IFLS-3) covering the pre- and post-crisis periods (1997 and 2000, respectively). Crucial to our identification of the “intent-to-treat” effect of the PMT program, the community questionnaire provides detailed information on the implementation of emergency social safety net programs, which allows us to determine the duration of program exposure within the community.

Prior work evaluating public health programs in Indonesia, including the impact of placing midwives in communities (Frankenberg and Thomas, 2001; Frankenberg et al., 2005), recognizes the importance of controlling for program placement. Our identification strategy exploits the duration of program exposure for two reasons: First, nearly all communities were treated, but child exposure differed with age and the timing of implementation within villages (*desa*) and urban communities (*kelurahan*). Second, the impact of early childhood development (ECD) programs tends to vary with the rate of take-up and the cumulative effects of participation over time, both of which are sensitive to duration of program exposure (King and Behrman, 2009).⁵ For these reasons, this paper identifies impacts of the PMT program by exploiting differences in program exposure within communities while controlling for fixed community characteristics across the two survey waves.

At the time of the 2000 survey, most young children under five were exposed to different combinations of treatments depending on their age. Feeding regimens and nutritional content differed for 6 to 12 month, 12 to 24 month and 24 to 60 month old children, but regardless of age in 2000, we find that the program had significant impacts on treated children. After controlling for exposure of the mother to nutritional support programs when a child was in utero, we find that 6 months of exposure to the program for children who are 12 months old at the time of the survey reduced the likelihood of severe stunting by 1.2 percentage points, which corresponds to an 8.6% reduction in the probability of severe stunting. The effects of the program are cumulative,

and are stronger for toddlers and young children with longer exposure. Toddlers (aged 12 to 24 months) and young children (24 to 60 months) with 12 months exposure to the PMT program experienced increases of 0.11 and 0.13 standard deviations in standardized height for age, respectively, and 14.8 and 26.8% reductions in the probability of severe stunting.

The paper is organized as follows. Section 2 provides discussion of the program and its implementation, and Section 3 follows with a brief introduction to the data source, the Indonesia Family Life Survey (IFLS). The analytical framework and empirical strategy are developed in Section 4. Results are presented in Section 5 and a final section concludes.

2. A nutritional intervention aimed at protecting young children

The goal of the PMT supplementary feeding program was to maintain and to improve the nutritional status of children under five, particularly those at risk as a result of the 1997–98 economic crisis.⁶ The intervention divided children into three subgroups, with the program share of total diet, nutritional composition and the frequency of supplement provision varying by age group. Infants (6–12 months) received soft meals containing 360–430 kcal of energy per 100 g of food and 10–15 g of protein, which were to be consumed over three to four feedings during the day for 180 consecutive days. Young toddlers (12–24 months) were provided with up to 90 food supplements that included (360–430 kcal per day) and protein (9–11 g per day) over 12 months. Finally, children aged 24–60 months received up to 90 locally prepared snacks with a nutritional composition that included energy (360–430 kcal) and protein (9–11 g). The difference in the program between these two older groups was substantial: for younger children, the supplementary snack would be consumed daily or every other day for a longer period, while older children received less frequent snacks that were a smaller share of total daily nutrition requirements.⁷

Funding for the PMT was distributed to local public health clinics, the *Pusat Kesehatan Masyarakat (Puskesmas)*, and a list of children eligible to receive supplementary food was then prepared by the village (or urban community) midwife in consultation with other local leaders. Others involved in preparing the program's recipient list may have included the village head or other officials, family planning workers and community activists. As with other community health programs in Indonesia, program supervision was the responsibility of the village midwife if one was present, and otherwise it was assumed by the *Puskesmas*.⁸ Descriptive information from the IFLS shows that in 62% of IFLS communities, the village (or community) midwife administered the program, and in 35% the program was supervised by a member of the *Puskesmas* staff. Other than working through the *Posyandu* and village midwives, the village women's association (*Program Kesejahteraan Keluarga, PKK*) may have also played a role in delivering nutritional supplements to members of the community.

Although developed with the aim of supporting poorer children between 6 and 60 months of age and pregnant women, program implementation followed patterns of policy intervention that were common under the Suharto regime. Central and regional governments first

³ See Friedman and Sturdy (2011) for a review including policy responses in other countries.

⁴ A range of other work has looked at the impacts of the crisis on educational investments and health care utilization. Thomas et al. (2004) and Thomas and Frankenberg (2007) report short and longer-term effects, respectively, of the crisis on education spending and enrollments. Cameron (2009) finds that Indonesia's Social Safety Net Program reduced school drop-out rates, particularly among students in lower secondary school who were historically most at risk of dropping out. Pradhan et al. (2007) and Johar (2009) differ considerably over whether a health card program, which was expanded in the wake of the crisis, had any impact on health care utilization.

⁵ Behrman et al. (2004) and Gertler (2004) examine ways in which impact of ECD programs vary with program exposure and also exploit duration of exposure in their identification strategies. Frankenberg and Thomas (2001) exploit timing of placement and duration of exposure in examining the impact of village midwife placement on women's health status.

⁶ A monthly supplementary feeding program existed prior to the crisis as part of a public health program. In contrast to the post-crisis supplementary feeding program, the pre-crisis program did not reach as many children and families, and was being phased out before the crisis hit. Under this program, food supplements were delivered along with basic health services to preschool age children and pregnant women.

⁷ In addition to children under 5, the program also targeted pregnant women, with the objective of reaching women from poorer households. These services included pregnancy monitoring and provision of pregnancy vitamins. In the labeling of age ranges in this paper, a child falls within a specified age range if his (or her) age is greater than or equal to the lower bound and less than the upper bound. For example, aged 6 to 12 months refers to greater or equal to 6 months and less than 12 months.

⁸ Village midwives are trained to provide basic health services in communities (both urban *kelurahan* and rural *desa*). Their work is coordinated and supervised by the head of the local health clinic (*Puskesmas*), which typically serves a *kecamatan* (an administrative area intermediate in size between the district and the village).

Download English Version:

<https://daneshyari.com/en/article/5094449>

Download Persian Version:

<https://daneshyari.com/article/5094449>

[Daneshyari.com](https://daneshyari.com)