REGIONAL DIFFERENCES IN THE IMPACT OF THE ECONOMIC CRISIS AND SOCIAL SAFETY NET ON CHILD NUTRITION IN INDONESIA

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Summary

BACKGROUND Previous studies in Indonesia suggested that the effect of economic crisis on the nutrition status of children was not apparent, and possibly varied from one region to another.

OBJECTIVE To compare the nutrition status of children under five years of age who lived in the region perceived to be much affected by the crisis, to those in the region which also suffered from El Nino drought and forest fires, and those in the region with natural resources supporting exported commodities.

METHODS Anthropometric data obtained from SUSENAS in 1989, 1992, 1998, 1999 and 2000 were used to identify changes of the proportion of children under five years of age with severe underweight (weight/age less than –3 z-score) over the years in the three regions, variably affected by the crisis. Data from panel surveys in provinces representing the three regions were used to compare differences in the changes of the means of weight/height z-scores from first wave to second and third waves of the anthropometric surveys among the three regions.

RESULTS Children from poor households who lived in Java and Bali (Region 1), which seemed to be deeply affected by the economic crisis, showed mild changes of nutrition status, and the lowest proportion of severe underweight. On the other hand, children from poor households who lived in Region 3 (West and East Nusatenggara, Kalimatan and Irian Jaya) showed worsened nutrition status two years after the crisis started. Children who lived in Region 2 (Sumatera, Sulawesi and Maluku) indicated the most favorable changes in their nutrition status.

CONCLUSION Households more able to protect their children from the harmful effects of economic crisis may show much hardship yet resilience in adjusting to the changes brought by the crisis. On the other hand, households living in non food-producing regions with limited social and welfare security may easily fail to protect children from severe malnutrition and other ill-health.

keywords economic crisis, nutrition, underfives, social safety net, Indonesia

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Introduction

Indonesia, a country with the fourth largest population (about 220 million people) in the world, had achieved decades of rapid growth, stability, and significant poverty reduction before suffering an intractable economic crisis, which started in the mid-1997. The crisis manifested itself as a contagion, sparked by the collapse of Thai’s baht. In January 1998, Indonesian rupiah fell nearly 80% from its pre-crisis value against dollar. The crisis led to a 13.7% economic contraction and an inflation rate as high as 77.6% in 1998. Political instability, corruption, social unrest, El Nino drought, and forest fires aggravated the burden faced by the Indonesian people who had already suffered from economic difficulties. Massive capital outflows and non-performing bans in the banking system caused major industries to go into bankruptcy. Millions of people lost their jobs, many of them found refuge to less paying informal sectors (Mann 1998).

The crisis threatened the wellbeing of poor people due to the lack of work opportunities, the rising cost of basic necessities, diminishing government spending on subsidized public services, and derangement of social fabrics. The government, international agencies, and non-government organizations almost unanimously predicted that the crisis would take a heavy toll among women and children. The “lost generation” was a popular phrase used to illustrate a longer-term impact of the crisis on infants and children due to protein, energy and micronutrient deficiencies. Poor people generally spend most of their earnings on food. With the substantial rise of food prices during the crisis, households had to make adjustments on their expenditure to ensure enough food for the whole family (Thomas et al. 2000). In order to cope with the hardship caused by the crisis, many households sold their durable assets and increased their work efforts.

There is no doubt that Indonesia was driven to the worst economic mess and became the slowest to recover from the crisis among East Asian countries. However, no drastic changes were seen in everyday life in Indonesia, despite how hard the crisis seemed to be (Sadli 2000). In certain parts of the country, people enjoyed the boom due to elevated prices of their traded products, such as clove, cocoa, coffee, and fish. Preliminary findings of community surveys carried out by different groups of researchers showed that the negative impact of the economic crisis on the health and nutrition status of children was not always apparent and unevenly distributed. A rapid nationwide subdistrict (kecamatan) survey found that rural and urban areas of Java had suffered most from the crisis, while large parts of Sumatera, Sulawesi, and Maluku experienced a very mild negative impact of the crisis. For others, especially the eastern part of Indonesia, it was unclear whether the economic hardship was caused by the crisis, drought, or forest fires (Sumarto et al. 1998).

The nutrition status of children under 5 years of age is considered as a sensitive measure of community wellbeing. A panel survey, the “100 villages survey” funded by UNICEF, revealed little evidence to support the notion that the crisis had a dramatic negative health impact on children (Cameron 2000). The Indonesian Family Life Survey,
a panel survey project of RAND, carried out a special wave of data collection (IFLS2+) in late 1998, to estimate the changes in wellbeing of households, based on a portion of the same sample of households participating in the previous wave of the survey (IFLS2), fielded prior to the crisis. The survey found no significant evidence of deterioration in nutritional status among young children (6-24 months old), and even some improvement in the average of height for age and weight for height z-score among older children (Frankenberg et al. 1999).

The purpose of this study is to describe regional differences of the changes in child nutrition status, although it is impossible to disentangle the changes due to the crisis, and those resulted from household responses to the crisis, as well as the nationwide social safety net programs. Whether the social and economic hardship in Java and Bali, or in areas affected by drought and forest fires, produced poorer nutrition status among children compared to that among children who lived in areas with milder effects of the economic crisis, became the main question addressed in this study.

Materials and methods

Nutritional status of children under five years of age was measured in the National Socioeconomic Survey (SUSENAS), a series of large-scale multipurpose cross-sectional surveys initiated in 1963-1964 in Indonesia. The aggregate data of child nutrition (weight for age) collected in 1989, 1992, 1998, 1999 and 2000 SUSENAS were used to estimate the changes in the weight/age z-scores among under-fives from each Indonesian province before and after the crisis struck the country in 1997. A child is considered as severely underweight if her or his weight is less than 3 standard deviation below the median reference standard for her or his age (NCHS, CDC/WHO 1977/1985 curves). Each province was classified into three areas (Figure 1): Region 1 (located in Java and Bali, which was perceived to be the most severely hit by the crisis), Region 2 (located in Sumatera, Sulawesi and Maluku, which was probably unaffected by or even benefited from the crisis) and Region 3 (located in West and East Nusatenggara, Kalimantan and Irian Jaya, which suffered from El Nino drought and forest fires beside the economic crisis).

Other sources of data in this study were panel surveys specifically designed to monitor the implementation of social safety net in the health sector (Jaring Pengaman Sosial Bidang Kesehatan or JPSBK) initiated in 1998. The first wave (wave 1) of the surveys was fielded in December 1998 to January 1999, covering 5 provinces (Central Java, East Java, South Sulawesi, West Nusatenggara and Yogyakarta). The sample of the study consisted of more than 20,000 households representing poor households
(entitled to free health care) living in 99 districts of the 5 provinces. The second and third waves of the surveys were implemented in April-May 1999 (wave 2) and November-December 1999 (wave 3) respectively. Only the anthropometric data of children under 5 years of age participating in the three waves of the survey were analyzed in this study. The weight/height z-scores of 1668 children from East Java (Region 1), 654 children from South Sulawesi (Region 2), and 722 children from West Nusatenggara (Region 3) were computed using NutStat module of Epi Info 2000. The comparison of changes of weight/height z-scores (reflecting acute changes in nutrition status) of children among the three provinces from the first to the second and third waves of the panel survey was done using ANOVA and post hoc analysis (multiple comparison of means) in SPSS version 11.0.

Results

The Indonesian National Socioeconomic Survey (SUSENAS) data indicated that the proportions of children with severe underweight (weight for age less than -3 z-score) were lower in 1999 and 2000, compared to that in 1998 when the hardship due to the crisis was at its peak, although the nutrition status of the children in 1989 was somewhat better in all regions. The prevalence of severe underweight was the lowest in Region 1 at all of those years, while that in Region 2 was almost comparable to Region 3 (Figure 1).

In the face of hardship, households who lived in Java and Bali (Region 1) may have worked longer and harder, sold durable assets, borrowed money, and improved home food production to ensure that children get enough quality food. However, according to the SUSENAS data, the prevalence of severe underweight in Region 1 showed a slight increase in 2000, while that in Region 2 and Region 3 decreased substantially in 1999 and 2000. The densely populated Region 1 seemed to continuously struggle with the longer-term impact of the crisis.

The results of the panel survey to monitor the implementation of social safety net in health sector showed that the means of weight/height z-scores among poor children increased from wave 1 to wave 2 and wave 3 in Region 1 and especially Region 2, where the impact of economic crisis was the mildest, and decreased in Region 3, where El Nino drought and forest fires compounded the economic crisis (Figure 2). The differences of changes in weight/height z-score from the first to second waves and from the first to third waves of anthropometric measurements among children of poor families in Region 1 and Region 3, and among those in Region 2 and Region 3 were statistically significant (Table 1).
The anthropometric data obtained from SUSENAS, which represented general population of children under five years of age, and panel surveys, which limited the samples only among children from poor households, suggested that children in Region 3 (Kalimantan, West Nusatenggara, East Nusatenggara and Irian Jaya) had the highest prevalence of undernutrition for many years, compared to other regions, and the average of nutrition status of children from poor households became worse when they had to go through hard times due to the economic crisis, drought and forest fires.

Discussion

One of the logical consequences of an economic crisis is household food insecurity, which may produce harmful effects on the health and nutrition status of the vulnerables. A survey conducted in 1998 found that 94.2% of households in Java were uncertain or insecure about their food situation in the previous year, when the crisis started (Studdert et al. 2001). However, households are usually able to make adjustments, to minimize the negative impact of an economic crisis. Food adjustments were made by residents of Metro Manila during the economic crisis in 1984-1985, with a steady consumption of rice, which was under price control, and an increased intake of green leavy and yellow vegetables, which were among the cheapest in Metro Manila markets (Florentino et al. 1992). Energy intake of pregnant women in Central Java decreased at the beginning of the economic crisis, but then returned to the previous level or even to the higher level, except among the rural poor and landless women (Hartini et al. 2002).

The economic crisis in Indonesia has forced more women to take informal jobs due to the diminishing family income relative to prices. Children of working mothers, especially in the informal sector in an Indonesian low-income urban community, were known to have lower height for age z-score than those of non-working mothers (Toyama et al. 2001).

In the eastern part of Indonesia, especially in Irian Jaya, the effects of El Nino drought were already felt before the economic crisis had taken place, and during the early stages of the crisis, food security in the regions were seriously threatened (Soekirman 2001). The nation-wide social safety net programs in 1998/1999 were successful in maintaining rice consumption among poor families (Booth 1999). However, an evaluation of the whole social safety net programs suggested that all of the
programs suffered from ineffective targeting and some programs were underimplemented, so that the programs ran into two major problems: undercoverage and leakage of benefits to the nonpoor (Sumarto et al. 2002). The effectiveness of the social safety net programs, designed to ensure the availability of food at affordable prices, enhance purchasing power through employment creation, and preserve access to critical social services, particularly health and education, varied across different regions (Sumarto et al. 2001). Despite of household food adjustments and some limited social safety net programs, the child nutrition status of children from poor households in West Nusatenggara, and probably other parts in eastern Indonesia, continued to deteriorate. Households with more income could have successfully adopted strategies to mitigate the effects of the crisis, however, the poorest households will likely suffer from any medium or longer-term effects of the economic crisis (Smith et al. 2002). A more effective social policy is needed to address the specific need of the vulnerables among poor households in less-developed regions in Indonesia.

Conclusion

Regional analyses of the impact of the economic crisis in Indonesia revealed that the nutrition status of children in Java and Bali, which was perceived as the region most deeply affected by the crisis, was better than expected. Children from poor households living in the region suffering from El Nino drought indicated the worsening of nutrition status during late 1998 to late 1999, likely due to the crisis and natural disaster. Poor households in this region may need a longer period of recovery from the crisis if there is no specific effort to implement a more effective and better targeted social safety net.

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References


Figure 1. Map of Indonesia classified by regions for data analyses in this study
Figure 2. The proportion of severe underweight (weight/age below –3 z-score) among children under 5 in the three regions of Indonesia in 1989, 1992, 1998, 1999 and 2000.
Figure 2. The means and 95% confidence intervals of the difference in the changes of weight/height z-score in children from wave 1 to wave 2 and from wave 1 to wave 3 among the three regions.
Table 1. Differences in the changes of weight/height z-score among different regions in Indonesia (December 1998 – December 1999)

<table>
<thead>
<tr>
<th>Changes of weight/height Z-score from wave 1 to wave 2 of the anthropometric surveys</th>
<th>Dunnet C Multiple Comparison of Means</th>
<th>Mean Difference</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1 – Region 2</td>
<td>-0.08207</td>
<td>-0.255676 – 0.09184</td>
<td></td>
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<tr>
<td>Region 1 – Region 3</td>
<td>0.553206*</td>
<td>0.181367 – 0.925045</td>
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</tr>
<tr>
<td>Region 2 – Region 3</td>
<td>0.635274*</td>
<td>0.274007 – 0.996541</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes of weight/height Z-score from wave 1 to wave 3 of the anthropometric surveys</th>
<th>Dunnet C Multiple Comparison of Means</th>
<th>Mean Difference</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1 – Region 2</td>
<td>-0.164815</td>
<td>-0.418200 – 0.088570</td>
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<tr>
<td>Region 1 – Region 3</td>
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<tr>
<td>Region 2 – Region 3</td>
<td>0.722743*</td>
<td>0.383250 – 1.062236</td>
<td></td>
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</tbody>
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*statistically significant (p < 0.05)