

URBAN-RURAL TRANSMISSION MECHANISMS IN INDONESIA IN THE CONTEXT OF THE CRISIS (VERY PRELIMINARY)

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1. INTRODUCTION

This paper focuses on the transmission mechanisms of the crisis in between urban and rural areas. First, as urban-to-rural transmission, we expect that the amount of remittance to rural households decreases due to migrants losing their jobs in the urban area. We also expect that non-agricultural employment income decreases due to less jobs in the urban area.

Secondly, in terms of rural-to-urban transmission, we expect that many rural households are negatively affected through decrease in demand for agricultural products. The decrease in agricultural income of rural households may have led to higher level of remittances from migrants in the urban area.

In this preliminary analysis, we look into the changes in the components of the total income of rural households including remittances to observe these two dimensional transmission mechanisms in the context of the crisis. We will pay careful attention to the amount of remittance as the crisis can decrease and also increase it

We find that 39 rural households out of 100 experienced per capita income decrease, while 61 rural households out of 100 experienced income increase per capita. Reduced total income is a result of losses in agricultural income and non-agricultural employment income. At the same time, increased total income is a result of gains in agricultural income and self employment. Remittances on average constitute only a small percentage of total income, but increased in South Sulawesi. In contrast, 19 households in both Central Java and South Sulawesi experienced almost a halt in remittance. Also, decrease in household income (Central Java) or remittance (South Sulawesi) is associated with negative impact on children's health.

2. DATA

We build this rapid analysis on a panel dataset of rural households in Indonesia from two provinces (Central Java, South Sulawesi, 2007 and 2009). Originally, JICA has conducted with IFPRI in 2007, village and household level surveys covering 98 villages in seven Indonesian provinces (Lampung, Central Java, East Java, West Nusa Tenggara, South Sulawesi, North Sulawesi, and South Kalimantan; more than 2000 households). This survey was designed to overlap with villages in the 1994-5 National Farmer's Panel (PATANAS) survey conducted by Indonesian Center for Agriculture Socio-Economics and Policy Institute (ICASEPS) to build household panel data. In June 2009 we have selected the provinces of Central Java and South Sulawesi to conduct a quick survey on the effect of the financial crisis re-visiting 50 households in each province. Central Java was selected for its proximity to Jakarta. South Sulawesi was

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selected for its variety in rural based production activities. We plan to continue revisiting for the next three quarters to monitor the effects of the crisis. It is important to note that income from the 2009 data shows the income only between April-June 2009, while the income from 2007 data is one third of the annual income. Therefore, we need to adjust for seasonality of income in the next round of analysis.

3. TOTAL INCOME

Among the 100 sample households in our data, 39 experienced decrease of total income per capita in between 2007 and 2009 while 61 households experienced increase of total income per capita. Those households with decreasing income were found more in Central Java (28 households) than in South Sulawesi (11 households) (Table 1-1). These households, on average, experienced sharp drop in agricultural income (97 percent drop). Non-agricultural employment income also decreased (8 percent drop). Although the proportion of remittance in total income is small on average, households experiencing total income decrease in South Sulawesi had sharp increase in remittances (520 percent increase in real terms, resulting in 45.6% of total income in 2009).

Table 1-1: The amount of income from different sources (total income decreased households)

	Total			Central Java			South Sulawesi		
	Obs	2007	2009	Obs	2007	2009	Obs	2007	2009
Agriculture income	39	3,565,605 (75.9%)	110,569 (12.9%)	28	3,319,784 (70.4%)	115,761 (12.0%)	11	4,191,331 (90.3%)	97,353 (17.1%)
Agricultural labor income	39	55,400 (1.2%)	51,022 (6.0%)	28	70,926 (1.5%)	37,487 (3.9%)	11	15,879 (0.3%)	85,473 (15.1%)
Non-agricultural labor income	39	420,308 (9.0%)	368,175 (43.1%)	28	527,040 (11.2%)	473,835 (49.0%)	11	148,627 (3.2%)	99,221 (17.5%)
Self employment income	39	624,305 (13.3%)	228,932 (26.8%)	28	773,854 (16.4%)	308,268 (31.9%)	11	243,636 (5.2%)	26,984 (4.8%)
Remittance	39	29,486 (0.6%)	95,645 (11.2%)	28	24,671 (0.5%)	31,588 (3.3%)	11	41,742 (0.9%)	258,700 (45.6%)
Average household income	39	2,018,076	751,645	28	2,222,502	849,551	11	1,497,718	502,429

Source: IMDG-FCM June 2009

The 61 sample households which experienced increase of total income were found more in South Sulawesi (39 households) than in Central Java (22 households). These households with increased total income, on average, experienced sharp increase in agricultural income (466 percent increase) as well as self employment income (636 percent increase). The amount of remittances increased, although their percentage in total income is small. Non-agriculture labor employment for this category remained almost constant (table 1-2).

Table 1-2: The amount of income from different sources (total income increased households)

	Total			Central Java			South Sulawesi		
	Obs	2007	2009	Obs	2007	2009	Obs	2007	2009
Agriculture income	61	859,825 (62.6%)	4,867,555 (65.4%)	22	847,027 (41.5%)	654,741 (10.4%)	39	867,044 (87.1%)	7,244,014 (89.5%)
Agricultural labor income	61	30,510 (2.2%)	121,401 (1.6%)	22	19,911 (1.0%)	85,515 (1.4%)	39	36,489 (3.7%)	141,644 (1.8%)
Non-agricultural labor income	61	178,869 (13.0%)	253,082 (3.4%)	22	385,732 (18.9%)	423,139 (6.7%)	39	62,177 (6.2%)	157,153 (1.9%)
Self employment income	61	286,597 (20.9%)	2,108,344 (28.3%)	22	777,318 (38.1%)	4,993,211 (79.3%)	39	9,780 (1.0%)	480,982 (5.9%)
Remittance	61	16,722 (1.2%)	93,844 (1.3%)	22	11,752 (0.6%)	140,779 (2.2%)	39	19,526 (2.0%)	67,368 (0.8%)
Average household income	61	705,860	7,420,221	22	1,362,205	6,246,127	39	335,614	8,082,530

Source: IMDG-FCM June 2009

These preliminary comparisons suggest that reduced total income is a result of losses in agricultural income and non-agricultural employment income. At the same time, increased total

income is a result of gains in agricultural income and self employment. Remittances on average constitute only a small percentage of total income, but had a large increase in the case of South Sulawesi. (Table 1-3)

Table 1-3: The amount of income from different sources (all samples)

	Total			Central Java			South Sulawesi		
	Obs	2007	2009	Obs	2007	2009	Obs	2007	2009
Agriculture income	100	1,915,079 (71.8%)	3,012,331 (61.8%)	50	2,231,771 (63.1%)	352,912 (10.7%)	50	1,598,387 (88.9%)	5,671,749 (88.1%)
Agricultural labor income	100	40,217 (1.5%)	93,953 (1.9%)	50	48,479 (1.4%)	58,619 (1.8%)	50	31,955 (1.8%)	129,287 (2.0%)
Non-agricultural labor income	100	273,031 (10.2%)	297,968 (6.1%)	50	464,865 (13.1%)	451,529 (13.6%)	50	81,196 (4.5%)	144,408 (2.2%)
Self employment income	100	418,303 (15.7%)	1,375,373 (28.2%)	50	775,378 (21.9%)	2,369,643 (71.5%)	50	61,229 (3.4%)	381,103 (5.9%)
Remittance	100	21,700 (0.8%)	94,547 (1.9%)	50	18,987 (0.5%)	79,632 (2.4%)	50	24,414 (1.4%)	109,461 (1.7%)
Average household income	100	1,217,624	4,819,476	50	1,843,971	3,224,045	50	591,277	6,414,908

Source: IMDG-FCM June 2009

In the following sections, we look into the changes in non-agricultural employment, self-employment, and remittances more into detail to shed light on the interaction mechanism between urban and rural areas in the context of the crisis.

4. INCOME FROM NON-AGRICULTURAL EMPLOYMENT

Non-agricultural employment income increased slightly in between 2007 and 2009. (from 46% to 49% of total income). The number of households engaged in this activity decreased from 35 to 25. The decrease in the number of households was larger for Central Java, although the amount of non-agricultural employment income slightly increased there (Table 2). The decrease in the number of households receiving non-agricultural employment suggests that non-agricultural employment activities were negatively affected by the economic downturn which reduced the job opportunities in the proximity of Jakarta.

Table 2: Per capita non-agricultural employment income and share in total income

Average non-agricultural employment income per capita:	Central Java		South Sulawesi		Overall	
	2007	2009	2007	2009	2007	2009
Decreased households	770,851	463,028	276,726	55,419	642,745	357,352
Increased households	559,014	951,134	111,723	359,603	301,483	610,555
Overall	683,624	664,013	156,147	277,707	455,051	496,614

Average share of non-agricultural employment income per capita:	Central Java		South Sulawesi		Overall	
	2007	2009	2007	2009	2007	2009
Decreased households	56.8%	48.0%	51.3%	10.1%	55.4%	38.2%
Increased households	49.2%	67.8%	30.7%	53.1%	38.6%	59.4%
Overall	53.7%	56.2%	36.2%	41.5%	46.1%	49.8%

Source: IMDG-FCM June 2009

5. INCOME FROM SELF EMPLOYMENT ACTIVITY

Self employment income sharply increased in between 2007 and 2009 (229 percent increase, from 15.7% to 28.2% of total income). The number of households engaged in this activity increased slightly from 19 to 21. This suggests that self-employment income may have played a large role in increasing total income as a part of coping strategy. Self-employment activity as a coping strategy seems to be stronger in Central Java where the share of self employment income increased from 21.9 to 71.5% of total income. (Table 3)

Table 3: Per capita self employment income and share in total income

Average self employment income per capita:	Central Java		South Sulawesi		Overall	
	2007	2009	2007	2009	2007	2009
Decreased household	1,429,707	384,886	520,286	14,107	1,190,386	287,312
Increased household	1,250,200	7,539,584	76,667	3,164,101	914,905	6,289,446
Overall	1,336,859	4,085,591	278,312	1,732,285	1,045,758	3,438,432

Average share of self employment income:	Central Java		South Sulawesi		Overall	
	2007	2009	2007	2009	2007	2009
Decreased household	62.1%	45.1%	37.7%	4.8%	55.7%	33.9%
Increased household	38.2%	54.6%	18.1%	74.2%	32.4%	60.2%
Overall	49.7%	50.2%	27.0%	42.7%	43.5%	48.1%

Source: IMDG-FCM June 2009

6. REMITTANCES

In our data, around 14% of the households received remittances. Majority of remittances are sent from domestic migrants to their families including parents and siblings (Table 4 and Table 5). On average, the amount of remittances per capita increased (12% of receiving household income in 2007 to 23% in 2009) (Table 6). This suggests that migrants who can keep working in the urban areas economize and send more money to their rural families. Also, the young and educated newly migrate as part of long term trend. However, there were 19 households who experienced decrease in remittances over the two years (11 in Central Java, 8 in South Sulawesi). Those households witnessed a significantly large drop in remittances (from 16.9% to 2% of household income). Therefore, although the amount of remittances increased on average, a not insignificant number of households (19) experienced almost a halt in remittances.

Table 4: Residence location of migrants sending remittances

	Freq.	Percent
Within village	8	18.6
Within sub-district	5	11.63
Within district	5	11.63
Within province	8	18.6
Within country	13	30.23
Abroad	4	9.3
Total	43	100

Source: IMDG-FCM June 2009

Table 5: Purpose of sending remittances (%)

	2007	2009
Child support (incl. education)	23.81	37.21
Medical	9.52	11.63
To buy daily goods	23.81	2.33
No specific reasons	42.86	48.84
Total	100	100

Source: IMDG-FCM June 2009

Table 6: Per capita remittance and share in total income

Average remittance per capita:	Central Java		South Sulawesi		Overall	
	2007	2009	2007	2009	2007	2009
Decreased household	66,417	0	76,033	12,690	70,996	6,043
Increased household	15,625	284,400	25,575	297,009	21,222	291,493
Overall	37,974	159,264	43,596	195,467	40,944	178,390

Average share of remittance per capita:	Central Java		South Sulawesi		Overall	
	2007	2009	2007	2009	2007	2009
Decreased household	8.1%	0.0%	27.6%	4.3%	16.9%	2.0%
Increased household	3.1%	20.6%	13.7%	50.3%	8.6%	37.3%
Overall	5.3%	11.5%	18.9%	33.8%	12.0%	23.3%

Source: IMDG-FCM June 2009

7. IMPACT ON CHILDREN'S HEALTH

Focusing on child health, in Central Java, the number of absent days from school during the last three months due to illness was greater in the case of household income decreasing households (2.17 days) (vis a vis total household income increasing households, 1.45 days).

In South Sulawesi, the number of absent days from school during the last three months due to illness was greater in the case of remittance decreasing households (2.17 days) (vis a vis remittance increasing households, 0.16 days).

This suggests that decrease in household income or remittances is associated with negative impact on children's health

8. WAY FORWARD

The impact of the financial crisis seems to be two dimensional, having both urban-to-rural and rural-to-urban transmission mechanisms. The key trigger seems to be the change in agricultural income through increase/decrease in price or demand.

In our next round of monitoring, we will pay more attention to the seasonality of agricultural income as well as price/demand of each crop to better describe the two dimensions of the transmission mechanism.