

# Changes in the Structure of Wages in Indonesia during the Crisis

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## Abstrak

*Di pasar tenaga kerja, dampak krisis yang menonjol adalah memurunnya tingkat upah riil, sementara kenaikan tingkat pengangguran terbuka tidak begitu besar. Studi ini menganalisis perubahan struktur upah yang terjadi karena krisis. Hasil studi menunjukkan bahwa penurunan tingkat upah riil relatif merata dilihat dari kategori tingkat pendidikan, pengalaman kerja, dan jender. Akan tetapi, terdapat perbedaan yang nyata dalam penurunan upah antar sektor dan wilayah. Tenaga kerja di sektor-sektor yang berbasis sumberdaya alam mengalami penurunan upah riil yang lebih kecil dibandingkan dengan mereka yang bekerja di sektor-sektor lain. Secara umum penurunan tingkat upah riil di perkotaan lebih besar daripada di perdesaan.*

## 1. INTRODUCTION

The economic crisis which took place in Indonesia starting in the mid of 1997 was a turn around from three decades of economic growth. The long sustained pre-crisis growth has in general benefited all workers (Agrawal, 1996), including both unskilled and skilled workers (Suryahadi *et al*, 1999). Both employment and real wages have steadily increased during the pre-crisis period.

The economic crisis in Indonesia was triggered by a financial panic which assailed the whole East Asian region.<sup>1</sup> In fact, it began abroad with a currency attack on Thailand's baht, which ultimately forced the Thai authority to float the baht on 2 July 1997. This floating of baht sent a warning to the Indonesian business community, which had accumulated relatively large short-term private foreign debt on the expectation of exchange rate stability, that they were facing a large unhedged foreign exchange risk. In panic, they rushed to buy US dollars to cover the risk. The panic soon spread to the wider community, inducing wealthy Indonesians to transfer their financial assets abroad, while foreign investors followed suit later (Johnson, 1998; Soesastro and Basri, 1998).<sup>2</sup>

This massive capital flight caused a large depreciation in the value of rupiah. The nominal exchange rate, which was around Rp 2,400 per US\$ before the crisis, hit a record low of around Rp 17,000 per US\$ on 22 January 1998 (Soesastro and Basri, 1998) and stayed close to Rp 15,000 per US\$ for a few months following the riot and the ensuing political crisis in the mid of May 1998. Unhedged private foreign debt denominated in US\$ was so widespread that this drove banks and vast numbers of other domestic firms into technical insolvency.

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1 Beside Indonesia, other countries which were particularly hard hit were Thailand, Malaysia, and South Korea.

2 The capital flight placed heavy pressure on the managed exchange rate regime, the then exchange rate policy in Indonesia. Having learned that market intervention by the Thai authority had little effect on the slide of the baht, the Indonesian central bank did not try to defend the rupiah value through intervention in the foreign exchange market. Instead, they opted to widen the intervention band from 8 percent to 12 percent on 11 July 1997. But the pressures on rupiah continued and the new intervention floor was soon reached, forcing the government to finally change to a free float on 14 August 1997.

The impacts of the financial crisis on the real sector of the Indonesian economy have been substantial. Not only have many firms with foreign exchange denominated debt been made insolvent, but also firms with imported materials faced about four fold rises in rupiah input costs. These negative impacts on the real sector were made worse by the fact that the associated insolvency of banks made it very difficult for firms to obtain financing for their activities. Therefore, there has been a substantial contraction in the real sector of the economy (Suryahadi, 1999).

The resultant social impacts of the crisis have also been substantial. Partial or full closing down of firms resulted in mass lay off of workers. In one year period between August 1997 and August 1998, it was estimated that there were 4.2 million displaced workers, where 3.2 million of them were formal sector employees (Sigit, 1999). During the same one year period, the inflation rate was around 78 percent, while food inflation was much higher at around 115 percent. This escalating prices, particularly those of food, practically made staple food out of reach of a significant portion of the population, at least in short term. As a result, it was estimated that poverty rate increased by 164 percent from the pre-crisis period in the mid of 1997 to one year later in the second half of 1998 (Suryahadi *et al.*, 2000).

Despite large number of displaced workers, however, the impacts of the crisis on the labor market have relatively been small in terms of increasing open unemployment, but very substantial in lowering real wages (Feridhanusetyawan, 1999; Manning, 2000; Papanek and Handoko, 1999). This is seen as reflecting the relatively flexible nature of the Indonesian labor market. Furthermore, the declines in real wages have been relatively evenly distributed among workers across different cohorts or generations and among male and female workers of the same cohort (Skoufias and Suryahadi, 1999).

This study analyzes changes in the structure of wages during the crisis. In particular, it focuses on the disaggregated changes in real wages across education levels, experience, gender, industries, and regions. The findings indicate that there were no significant differences in the patterns of real wage changes across categories of education, experience, and gender. However, there have been some significant changes in the structure of wages across industries and regions.

## 2. DATA

The data analyzed in this study are from the 1997 and 1998 National Labor Force Survey (Sakernas). The survey is conducted annually in the months of August by the Statistics Indonesia (BPS). Since this study only concerns on wage structure, the samples included in the analysis are only wage employees who were actually working during the surveys.

The framework of analysis centers on the standard Mincer's equation (Mincer, 1974), where log hourly real wage is regressed on education dummy variables, year of experience variable and its squared, gender dummy variable, industry dummy variables, and region dummy variables. The year 1997 is used as the base year, while the 1998 nominal wage data are deflated by provincial consumer price index (CPI) inflation to obtain real wages.

Data on educational achievement of individual samples are available only on categories of the highest education level accomplished. There are 10 categories reported: (1) no schooling, (2) not finished primary, (3) primary, (4) general junior secondary, (5) vocational junior secondary, (6) general senior secondary, (7) vocational senior secondary, (8) college diploma I/II, (9) college diploma I/II, and (10) university. These categories are then transformed into 10 education dummy variables, with the first category used as the reference category (i.e. omitted in the wage regressions).

Data on years of working experience are not directly available. Hence, this variable is approximated using age and educational achievement data. For those who have no schooling, years of experience is approximated as age minus six years. For those who did not finish primary schools, it is assumed that they stayed in schools until the age of nine. For other education categories, the final ages in schools are assumed as 12 for primary, 15 for junior secondary, 18 for senior secondary, 20 for college diploma I/II, 21 for college diploma III, and 22 for university graduates.

Samples' industry of occupations are grouped into nine categories: (1) agriculture, (2) mining, (3) manufacturing, (4) utility, (5) construction, (6) trade, (7) communication, (8) finance, and (9) social services. These industrial categories are transformed into nine industry dummy variables, with agriculture is set as the reference category in the wage regressions.

In this study, region is defined as a combination of province and urban/rural area. At the time of both surveys, Indonesia had 27 provinces. However, the capital Jakarta is a wholly urban area. Therefore, there are 53 regions overall, which is then transformed into 53 region dummy variables with Jakarta chosen as the reference region in the wage regressions.

### 3. CHANGES IN WAGE STRUCTURE

The results of the wage regressions for both 1997 and 1998 are presented in Table A1 in the appendix. The coefficients from these regressions are then used as the basis to construct real wages in both years and changes in real wages during the period across categories of education, experience, gender, industries, and regions. The changes in wage structure across these different aspects are discussed consecutively in this section.

#### 3.1. Education

The coefficients of education dummy variables in Table A1 are used to construct the real wage levels and changes of various education categories, holding all other variables constant. This implies that differences in real wages across education categories are purely due to the differences in educational attainment of workers. Since "no schooling" is the reference category, the wage level of this category is obtained from the coefficient of constant, e.g.  $\exp[5.9306] = \text{Rp. } 376$  per hour in 1997. For other categories, the levels of wages can be obtained from the sum of coefficients of constant and the respective dummy variables. For example, the real wages of workers with general secondary education in 1997 is  $\exp[5.9306 + 0.8830] = \text{Rp } 910$  per hour.

Table 1 shows the constructed real wage levels across education categories in 1997 and 1998 as well as their percentage changes. One clear picture from this table is that the crisis hit workers from all levels of education almost equally. Those with high level of education were similarly hit as those with low level of education. With the range of real wage fall between 29.6 percent for those with college diploma I/II and 36.4 for those with vocational junior secondary education, there were no significantly different patterns of the crisis impact on real wages by education categories.

**Table 1**  
**Real Wages by Education, 1997 and 1998**

| Education Level             | 1997  | 1998  | % Change |
|-----------------------------|-------|-------|----------|
| No schooling                | 376   | 259   | -31.2    |
| Not finished primary        | 426   | 285   | -33.0    |
| Primary                     | 506   | 339   | -33.0    |
| General Junior Secondary    | 646   | 429   | -33.6    |
| Vocational Junior Secondary | 690   | 439   | -36.4    |
| General Senior Secondary    | 910   | 609   | -33.1    |
| Vocational Senior Secondary | 1,039 | 701   | -32.5    |
| College Diploma I/II        | 1,426 | 1,004 | -29.6    |
| College Diploma III         | 1,470 | 983   | -33.2    |
| University                  | 1,582 | 1,053 | -33.4    |

### 3.2. Experience

The coefficients of both experience variables in 1997 and 1998 are not significantly different. This implies that the fall in real wages was relatively equal between workers with long or short years of work experience. This indicates that the structure of wages across workers with different length of work experience relatively unchanged during the crisis. This is consistent with the finding of Skoufias and Suryahadi (1999) that the fall in real wages during the period was relatively evenly distributed across cohorts of workers.

### 3.3. Gender

As suggested by the coefficients of female variable which barely changed between 1997 and 1998, gender wage differentials only changed very slightly during the crisis, i.e. less than one percentage point. Further calculation on real wage changes indicates that during the period, male real wages fell by 31.2 percent, similar to those of female workers which fell by 31.8 percent. This implies that the crisis hit male and female workers almost equally, so that the adjustments in their real wages were proportionally similar. This is also consistent with the findings in Skoufias and Suryahadi (1999).

### 3.4. Industry

Since industries enter the wage regressions as dummy variables, the construction of wage levels across industries is similar as those for education categories. The constructed real wage levels across industries in 1997 and 1998 as well as their percentage changes are presented in Table 2. The industries are ranked by the proportion of real wage fall.

Table 2  
Changes in Real Wages by Industry

| Industry        | 1997 | 1998 | % Change |
|-----------------|------|------|----------|
| Mining          | 454  | 348  | -23.2    |
| Agriculture     | 376  | 259  | -31.2    |
| Finance         | 488  | 326  | -33.2    |
| Trade           | 380  | 247  | -35.0    |
| Transportation  | 436  | 282  | -35.4    |
| Utility         | 499  | 322  | -35.6    |
| Manufacturing   | 427  | 275  | -35.7    |
| Social Services | 414  | 265  | -36.0    |
| Construction    | 462  | 295  | -36.3    |

The table shows that there are significant differences in the real wage fall between resource-based industries and other industries. Workers in the mining industry suffered the smallest fall in their real wages, i.e. 23.2 percent. In contrast, construction workers suffered the most by a 36.3 percent fall in their real wages. Workers in other modern industries suffered a real wage fall between 33 and 36 percent. Agricultural workers, meanwhile, had the second lowest real wage fall, but its magnitude, 31.2 percent, is closer to workers in modern industries than to mining industry.

### 3.5. Region

Using the same method, real wage levels and changes across regions were calculated and the results are presented in Table 3. At least there are four conclusions that can be drawn from this table regarding the regional distribution of the crisis impact on wages. *First*, there is no single region which was spared from the negative shock of the crisis. The table shows that workers in all regions similarly experienced falling real wages between August 1997 and August 1998.

*Second*, there is a marked regional heterogeneity on the magnitude of the impact of the crisis on wages. Although all regions similarly suffered from negative shock, but the range in magnitudes of real wage fall is quite large, i.e. from around 5 percent in rural Jambi to over 36 percent in urban Central Kalimantan.

*Third*, there is a clear pattern that workers in urban areas were hit relatively harder than those in rural areas. There are 11 regions where real wages fell by more than 30 percent and nine out of these 11 regions are urban areas. On the other hand, there are 16 regions where real wages fell less than 20 percent and 11 out of these 16 regions are rural areas.

*Fourth*, Java was uniformly hard hit by the crisis. Seven out nine regions on Java are included in the top twenty of regions which experienced the largest fall in real wages. The two remaining regions are urban and rural of Central Java, which both experienced real wage fall of around 24 percent.

These findings are similar to the findings from *kecamatan* survey as summarized in Wetterberg *et al* (1999). Using expert respondents at *kecamatan* level, they also find marked heterogeneity of the crisis impacts across regions, where urban areas tend to be hit harder than rural areas, but in Java both urban and rural areas were equally hard hit.

Table 3  
Real Wages by Region, 1997 and 1998

| No  | Region                     | 1997 | 1998 | % Change |
|-----|----------------------------|------|------|----------|
| 1.  | Jambi - rural              | 329  | 312  | -5.1     |
| 2.  | Irian Jaya - rural         | 434  | 406  | -6.5     |
| 3.  | Central Kalimantan - rural | 349  | 312  | -10.7    |
| 4.  | North Sulawesi - urban     | 248  | 219  | -11.7    |
| 5.  | South Sulawesi - rural     | 289  | 251  | -13.4    |
| 6.  | Maluku - rural             | 314  | 271  | -13.5    |
| 7.  | Bali - urban               | 289  | 247  | -14.5    |
| 8.  | Jambi - urban              | 312  | 267  | -14.5    |
| 9.  | West Nusa Tenggara - rural | 241  | 206  | -14.7    |
| 10. | East Timor - urban         | 435  | 367  | -15.7    |
| 11. | East Nusa Tenggara - urban | 254  | 213  | -16.3    |
| 12. | Southeast Sulawesi - rural | 281  | 235  | -16.3    |
| 13. | South Kalimantan - rural   | 308  | 257  | -16.5    |
| 14. | North Sulawesi - rural     | 290  | 237  | -18.3    |



## Changes in the Structure of Wages in Indonesia during the Crisis

|     |                            |     |     |       |
|-----|----------------------------|-----|-----|-------|
| 15. | West Sumatera - rural      | 303 | 246 | -18.7 |
| 16. | Bali - rural               | 284 | 228 | -19.6 |
| 17. | North Sumatera - rural     | 309 | 241 | -22.1 |
| 18. | East Nusa Tenggara - rural | 280 | 215 | -23.3 |
| 19. | West Nusa Tenggara - urban | 264 | 201 | -23.8 |
| 20. | Central Java - urban       | 267 | 203 | -24.0 |
| 21. | Central Java - rural       | 262 | 199 | -24.1 |
| 22. | East Timor - rural         | 464 | 350 | -24.7 |
| 23. | Irian Jaya - urban         | 465 | 350 | -24.7 |
| 24. | Aceh - urban               | 331 | 249 | -24.8 |
| 25. | Riau - rural               | 382 | 287 | -24.8 |
| 26. | East Kalimantan - rural    | 358 | 267 | -25.3 |
| 27. | Maluku - urban             | 329 | 245 | -25.3 |
| 28. | South Sumatera - rural     | 296 | 221 | -25.5 |
| 29. | South Sulawesi - urban     | 296 | 219 | -25.9 |
| 30. | West Kalimantan - urban    | 333 | 246 | -26.2 |
| 31. | South Kalimantan - urban   | 331 | 244 | -26.5 |
| 32. | Bengkulu - rural           | 291 | 213 | -26.6 |
| 33. | Aceh - rural               | 358 | 261 | -27.0 |
| 34. | Central Sulawesi - urban   | 269 | 195 | -27.3 |
| 35. | East Java - rural          | 259 | 187 | -27.6 |
| 36. | East Kalimantan - urban    | 361 | 261 | -27.7 |
| 37. | Yogyakarta - urban         | 243 | 175 | -28.0 |
| 38. | North Sumatera - urban     | 309 | 221 | -28.5 |
| 39. | West Kalimantan - rural    | 377 | 267 | -29.1 |
| 40. | Lampung - rural            | 274 | 193 | -29.6 |
| 41. | Riau - urban               | 397 | 279 | -29.9 |
| 42. | West Java - rural          | 322 | 226 | -29.9 |
| 43. | East Java - urban          | 274 | 191 | -30.2 |
| 44. | West Sumatera - urban      | 314 | 219 | -30.3 |
| 45. | South Sumatera - urban     | 293 | 203 | -30.5 |
| 46. | West Java - urban          | 346 | 240 | -30.6 |
| 47. | Southeast Sulawesi - urban | 318 | 220 | -30.7 |
| 48. | Jakarta - urban            | 376 | 259 | -31.2 |
| 49. | Central Sulawesi - rural   | 283 | 194 | -31.3 |
| 50. | Lampung - urban            | 287 | 194 | -32.4 |
| 51. | Bengkulu - urban           | 294 | 196 | -33.2 |
| 52. | Yogyakarta - rural         | 262 | 168 | -35.9 |
| 53. | Central Kalimantan - urban | 362 | 230 | -36.3 |

### 3.6. Conclusion

Starting in the mid of 1997, Indonesia was hit by an economic crisis which swept the East Asian region. There have been substantial social impacts of the crisis, which in the labor market have been reflected much more on substantial decline in real wages than on increasing open unemployment rate.

The findings of this study indicate that the declines in real wages have been relatively similar across education levels, years of work experience, and gender. Workers with high level of education were equally hit as those with low level of education. Relative returns to experience barely changed during the crisis. Similarly, the declines in real wages have been relatively similar between male and female workers, resulting in relatively constant gender wage differential.

However, there have been differences in the real wage falls across industries. Workers in resource based industries experienced smaller real wage declines than their counterparts in other industries. Finally, the study also finds large regional differentials in real wage declines. In general, workers in urban areas suffered from larger real wage declines than those in rural areas.

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## APPENDIX

Table A1  
Wage regression results of 1997 and 1998 data  
(dependent variable: ln wage per hour)

| Independent Variable              | 1997        |           | 1998        |           |
|-----------------------------------|-------------|-----------|-------------|-----------|
|                                   | Coefficient | Std Error | Coefficient | Std Error |
| Constant                          | 5.9306      | 0.0211    | 5.5568      | 0.0255    |
| <b>Education dummy variables:</b> |             |           |             |           |
| Not finished primary              | 0.1235      | 0.0165    | 0.0971      | 0.0204    |
| Primary                           | 0.2954      | 0.0163    | 0.2682      | 0.0200    |
| General Junior Secondary          | 0.5404      | 0.0177    | 0.5052      | 0.0218    |
| Vocational Junior Secondary       | 0.6061      | 0.0246    | 0.5273      | 0.0311    |
| General Senior Secondary          | 0.8830      | 0.0177    | 0.8544      | 0.0218    |
| Vocational Senior Secondary       | 1.0155      | 0.0178    | 0.9963      | 0.0220    |
| College Diploma I/II              | 1.3317      | 0.0253    | 1.3553      | 0.0292    |
| College Diploma III               | 1.3626      | 0.0223    | 1.3333      | 0.0274    |
| University                        | 1.4356      | 0.0202    | 1.4024      | 0.0249    |
| Experience                        | 0.0472      | 0.0008    | 0.0478      | 0.0009    |
| Experience squared                | -0.0007     | 0.0000    | -0.0007     | 0.0000    |
| Female                            | -0.1937     | 0.0060    | -0.2024     | 0.0073    |
| <b>Industry dummy variables:</b>  |             |           |             |           |
| Mining                            | 0.1865      | 0.0226    | 0.2965      | 0.0295    |
| Manufacturing                     | 0.1265      | 0.0101    | 0.0592      | 0.0120    |
| Utility                           | 0.2830      | 0.0315    | 0.2168      | 0.0468    |
| Construction                      | 0.2055      | 0.0111    | 0.1289      | 0.0139    |
| Trade                             | 0.0099      | 0.0121    | -0.0466     | 0.0146    |
| Communication                     | 0.1481      | 0.0138    | 0.0844      | 0.0167    |
| Finance                           | 0.2588      | 0.0203    | 0.2291      | 0.0238    |
| Social Services                   | 0.0954      | 0.0097    | 0.0236      | 0.0115    |
| <b>Region dummy variables:</b>    |             |           |             |           |
| Aceh - urban                      | -0.1298     | 0.0259    | -0.0412     | 0.0336    |
| North Sumatera - urban            | -0.1968     | 0.0180    | -0.1589     | 0.0216    |
| West Sumatera - urban             | -0.1799     | 0.0293    | -0.1672     | 0.0335    |
| Riau - urban                      | 0.0544      | 0.0223    | 0.0732      | 0.0264    |
| Jambi - urban                     | -0.1883     | 0.0261    | 0.0291      | 0.0317    |
| South Sumatera - urban            | -0.2509     | 0.0220    | -0.2415     | 0.0273    |
| Bengkulu - urban                  | -0.2465     | 0.0288    | -0.2763     | 0.0395    |
| Lampung - urban                   | -0.2720     | 0.0234    | -0.2893     | 0.0268    |
| West Java - urban                 | -0.0831     | 0.0136    | -0.0748     | 0.0168    |
| Central Java - urban              | -0.3432     | 0.0136    | -0.2438     | 0.0170    |
| Yogyakarta - urban                | -0.4370     | 0.0207    | -0.3919     | 0.0262    |
| East Java - urban                 | -0.3174     | 0.0131    | -0.3027     | 0.0161    |
| Bali - urban                      | -0.2649     | 0.0203    | -0.0472     | 0.0260    |
| West Nusa Tenggara - urban        | -0.3552     | 0.0246    | -0.2531     | 0.0296    |
| East Nusa Tenggara - urban        | -0.3924     | 0.0250    | -0.1960     | 0.0318    |
| East Timor - urban                | 0.1454      | 0.0508    | 0.3487      | 0.0728    |

Table A1. Continued

| Independent Variable       | 1997        |           | 1998        |           |
|----------------------------|-------------|-----------|-------------|-----------|
|                            | Coefficient | Std Error | Coefficient | Std Error |
| West Kalimantan - urban    | -0.1231     | 0.0253    | -0.0534     | 0.0317    |
| Central Kalimantan - urban | -0.0403     | 0.0295    | -0.1178     | 0.0334    |
| South Kalimantan - urban   | -0.1274     | 0.0228    | -0.0615     | 0.0291    |
| East Kalimantan - urban    | -0.0405     | 0.0251    | 0.0092      | 0.0315    |
| North Sulawesi - urban     | -0.4170     | 0.0274    | -0.1674     | 0.0370    |
| Central Sulawesi - urban   | -0.3362     | 0.0271    | -0.2815     | 0.0325    |
| South Sulawesi - urban     | -0.2407     | 0.0201    | -0.1663     | 0.0248    |
| Southeast Sulawesi - urban | -0.1696     | 0.0276    | -0.1627     | 0.0369    |
| Maluku - urban             | -0.1360     | 0.0259    | -0.0540     | 0.0346    |
| Irian Jaya - urban         | 0.2113      | 0.0259    | 0.3011      | 0.0365    |
| Aceh - rural               | -0.0509     | 0.0259    | 0.0087      | 0.0333    |
| North Sumatera - rural     | -0.1969     | 0.0214    | -0.0730     | 0.0251    |
| West Sumatera - rural      | -0.2175     | 0.0257    | -0.0502     | 0.0320    |
| Riau - rural               | 0.0144      | 0.0297    | 0.1026      | 0.0419    |
| Jambi - rural              | -0.1343     | 0.0366    | 0.1870      | 0.0449    |
| South Sumatera - rural     | -0.2404     | 0.0261    | -0.1607     | 0.0320    |
| Bengkulu - rural           | -0.2580     | 0.0387    | -0.1932     | 0.0548    |
| Lampung - rural            | -0.3182     | 0.0255    | -0.2954     | 0.0302    |
| West Java - rural          | -0.1554     | 0.0139    | -0.1372     | 0.0173    |
| Central Java - rural       | -0.3635     | 0.0141    | -0.2659     | 0.0171    |
| Yogyakarta - rural         | -0.3605     | 0.0235    | -0.4315     | 0.0259    |
| East Java - rural          | -0.3757     | 0.0136    | -0.3245     | 0.0166    |
| Bali - rural               | -0.2819     | 0.0217    | -0.1262     | 0.0249    |
| West Nusa Tenggara - rural | -0.4462     | 0.0244    | -0.2312     | 0.0290    |
| East Nusa Tenggara - rural | -0.2961     | 0.0338    | -0.1871     | 0.0414    |
| East Timor - rural         | 0.2094      | 0.0364    | 0.3000      | 0.0462    |
| West Kalimantan - rural    | 0.0016      | 0.0235    | 0.0310      | 0.0299    |
| Central Kalimantan - rural | -0.0743     | 0.0433    | 0.1864      | 0.0539    |
| South Kalimantan - rural   | -0.1994     | 0.0306    | -0.0064     | 0.0403    |
| East Kalimantan - rural    | -0.0510     | 0.0305    | 0.0312      | 0.0364    |
| North Sulawesi - rural     | -0.2597     | 0.0257    | -0.0882     | 0.0379    |
| Central Sulawesi - rural   | -0.2852     | 0.0355    | -0.2874     | 0.0440    |
| South Sulawesi - rural     | -0.2625     | 0.0301    | -0.0330     | 0.0340    |
| Southeast Sulawesi - rural | -0.2930     | 0.0428    | -0.0970     | 0.0589    |
| Maluku - rural             | -0.1822     | 0.0383    | 0.0467      | 0.0606    |
| Irian Jaya - rural         | 0.1415      | 0.0507    | 0.4486      | 0.0920    |
| R-squared                  | 0.4701      |           | 0.4534      |           |
| N                          | 40,757      |           | 28,028      |           |