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WORKING PAPER

Estimating the National Impact of the Financial Crisis in Indonesia by Combining a Rapid Qualitative Study with Nationally Representative Surveys

Neil McCulloch

Amit Grover

Supported by:

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ABSTRACT

Estimating the National Impact of the Financial Crisis in Indonesia by Combining a Rapid Qualitative Study with Nationally Representative Surveys

Neil McCulloch,* Amit Grover

This paper draws on a rapid qualitative assessment of the impact of the financial crisis in Indonesia to generate hypotheses about the potential national impacts. We test these hypotheses using nationally representative labor force surveys from before and after the onset of the financial crisis. We find that Indonesia weathered the storm rather well: there is no evidence for increased school dropouts; labor force participation fell, particularly for young workers, whilst unemployment rose for the young, but fell for workers over 25. The changes for female workers were the same as those for male workers and there do not appear to have been any major sectoral shifts in labor. Surprisingly, we find that real wages for employees rose significantly during the crisis period, although those in the informal sector did not benefit to the same extent. Our results are similar to those from the earlier qualitative study, except that, because it focused on areas harder hit by the crisis, the qualitative study did not observe the significant gains made by employees over the crisis period.

JEL Codes: J30, R23, O53

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I. INTRODUCTION

During 2009, a large number of papers were written about the impact of the global financial crisis on developing countries (Griffith-Jones and Ocampo, 2009; IMF, 2009; Mendoza, 2009; Naude, 2009; ODI, 2009; World Bank, 2009). Most of these papers focus on the macroeconomic impact of the crisis, elaborating the effect of the crisis on GDP growth, current and capital account balances, debt, and inflation. However, policymakers have also been keen to understand the microeconomic impact of the crisis, most notably on poverty and employment. In previous crises, researchers have attempted to estimate such impacts by simulating the impact of the crisis based on precrisis data, along with macroeconomic data on the shocks and some assumptions about the pathways through which households are likely to have been affected (e.g., Friedman and Levinsohn, 2002). Such papers can be extremely valuable in giving policymakers an indication of the groups within society that are likely to be most affected in order to put in place suitable policy responses. However, inevitably, the results are dependent on the assumptions made about the channels of transmission and, therefore, may not accurately reflect what has actually happened.

An alternative way of obtaining timely information about the impact of the crisis on households is to undertake rapid qualitative evaluations in selected locations. These have been done in several countries.[1] These are extremely valuable in that they give detailed accounts of what has actually happened in the selected communities. They also help to uncover the pathways through which impacts have been felt and to provide preliminary indications about the effectiveness of various assistance programs. However, budget and time constraints mean that such studies can usually be done only in a small number of locations in the country and, therefore, it is not clear the extent to which the results are typical of those that might be found elsewhere.

Fortunately, for Indonesia—and a few other countries—there is now national survey data from both before and after the crisis. This provides an opportunity to draw on the strengths of both qualitative and quantitative analysis: qualitative case studies can be used to derive hypotheses about which groups are likely to be most affected and through which channels; the nationally representative quantitative data can then be used to test these hypotheses. Conversely, quantitative data may provide interesting results which can then be explored in more depth through subsequent qualitative work (Kanbur, 2003).

To preview our main results, we find that, despite being done in only a handful of locations, the qualitative studies paint a reasonably accurate picture of how the crisis has (or has not) affected households throughout Indonesia. The macroeconomic shocks experienced by Indonesia—relative to many other countries—have been quite mild. For Indonesia, this crisis is only a shadow of the Asian financial crisis of 1997/1998. However, growth did slow sharply at the end of 2008 and there was a rapid contraction in trade and major falls in commodity prices of importance to Indonesia. One might therefore expect to see a significant impact on unemployment or wages, at least in the affected sectors. One might also expect to see children withdrawn from school, particularly at the more senior levels. In fact, we see little evidence for changes in school dropouts or attendance, except for younger students where dropout rates fell and attendance improved. Similarly, labor participation is unchanged for most, but reduces for younger workers. Unemployment declines and there is no evidence for sectoral shifts in employment. Perhaps our most surprising finding is of significant and large increases in real wages for employees over the period of the financial crisis, although those outside the formal sector do not share in this improvement.

[1]See Hossain and Eyben (2009) for syntheses of qualitative country case studies.

Our paper proceeds as follows. Section 2 explains Indonesia's macroeconomic performance prior to and during the crisis period. Section 3 summarises the results from an early qualitative study of the impact of this financial crisis in two villages in Indonesia. Section 4 describes our data and its limitations. Section 5 then describes our results focusing on changes in school dropout and attendance, as well as changes in the labor market, notably in employment, hours worked and wages, using cross-sectional data from February 2008, August 2008, and February 2009. Section 6 concludes.

II. INDONESIAN MACROECONOMIC CONTEXT[2]

Indonesia's economy was performing reasonably well prior to the onset of the current crisis in the last quarter of 2008. GDP growth averaged more than 5% a year during 2001–2008 and was on an increasing trend. In the year up to the third quarter of 2008 GDP growth was 6.4% (Yudo et al., 2009). Unemployment was falling, as were poverty numbers, albeit slowly. Inflation, which peaked at 11% in mid-2008 due to the global food price crisis and reductions in government fuel subsidies, was falling steadily. Investment had been growing at 12% (year on year/YOY), with large increases in capital goods imports and this, along with the higher price of imported fuel, resulted in import growth of 65% in the year to the third quarter of 2008. But exports had also been performing well in the preceding years, driven by the boom in commodity prices. Total exports reached US$136 billion in 2008, 20% above the 2007's exports, which in turn were 13% above the 2006 levels. Agricultural and natural resource goods contributed most to export growth—notably, crude palm oil (CPO), rubber, ores, minerals, petroleum, and natural gas. Exports of certain manufactured products such as clothing, footwear, and automotive parts also increased considerably (World Bank, 2008). Indonesia's strong merchandise trade surplus, particularly in 2006 and 2007, gave rise to surpluses on the current account, which—when added to inflows of foreign capital—resulted in a balance of payments of more than 3% of GDP. Although the collapse in commodity prices in 2008 pushed the balance of payments into deficit, Indonesia's foreign reserves were still almost US$58 billion by mid-2008.

In fact, the macroeconomic shock experienced by Indonesia did not start with the global financial crisis. Commodity prices collapsed in the latter half of 2008, stabilizing in early 2009 at around 40% of their mid-2008 peaks. The price falls particularly affected the sectors which had contributed most to export growth in the preceding years. The financial crisis compounded these falls. As a result, export values dropped sharply—by January 2009 export values were 36.1% below the level of a year earlier—with the fall in oil prices by more than two-thirds driving much of this drop. But export volumes also fell with reduced demand from key markets and, by the first quarter of 2009, were almost a fifth lower than the previous year. Imports also fell at least as fast as exports. Total import values in the first quarter of 2009 were down one third relative to the previous year. Again this was driven by the sharp falls in the price of oil, but import volume was also down by 28%, with falls in intermediate goods as well as capital and transport goods contributing to this.

On the capital account, sharp reversals of portfolio flows in the last quarter of 2008 contributed to a major fall in the value of shares on the Indonesian Stock Exchange. At the end of 2008, domestic equity market capitalization was down 51%. The exchange rate also came under significant pressure and fell from around Rp9,200 to Rp11,325 per US$ by the

[2]This section draws heavily on World Bank (2009). Indonesia Economic Quarterly: Weathering the Storm. Jakarta. and Yudo et al. (2009).

end of the final quarter of 2008 (Yudo et al., 2009). Real investment dropped in the first quarter of 2009 due to lower spending on machinery, appliances, and transport equipment, in contrast to growth rates of around 12% in much of 2007 and 2008. Credit also fell sharply—approvals for new loans were down by 50%–60% in March 2009 (YOY).

Taken on its own, therefore, Indonesia experienced a significant macroeconomic shock at the end of 2008. However, of course, Indonesia was not on its own. Indeed, Indonesia was one of the least affected countries in South East Asia. Although its GDP growth slowed markedly to 4.4% in the first quarter of 2009, it did not experience the collapse in growth experienced by countries such as Korea, Thailand, and Malaysia. In part, this was because the major impact has been through exports and the share of Indonesia's output that is exported is the smallest of all the major South East Asian economies (World Bank, 2009). Growth in recent years has been driven predominantly by nontradeables rather than tradeables and, although the crisis reduced growth across the board, sectors such as transport and communications as well as utilities have continued to grow in double digits. At the same time, the tradeable sector having performed best is agriculture, which—at 4.8%—has experienced its strongest growth since the East Asian crisis, helping to compensate for the effects of the crisis.

Moreover, Indonesia's economic performance in 2009 has been remarkably good, with predictions of full-year GDP growth of over 4%. The stock market has restored all of the substantial losses associated with the crisis and inflation had declined to 2.78% by the end of 2009 due to the falls in international commodity and fuel prices.[3] Food inflation has fallen particularly fast, helping poor households. Domestic credit growth continues to be much lower than in 2008, but this may reflect declining demand for loans as well as more stringent lending conditions.

Indonesia's relatively good performance in the crisis may also be due to strong responses on the part of the government. Interest rates, while initially high to counter the inflation caused by high food prices and booming bank credit, were brought down quickly from 9.5% in June 2008 to 6.5% by September 2009. Careful management by the Central Bank, including the arrangement of foreign exchange swaps and setting up with donors a large public expenditure support facility of US$4 billion, have restored confidence in the markets, bringing the exchange rate down to pre-crisis levels. Steps were also taken to bolster confidence in the banks, providing greater deposit insurance, along with a series of measures to provide greater liquidity.

In addition, the government approved a major fiscal stimulus of 1.4% of GDP. More than half of this took the form of tax reductions in Corporate and Personal Income Tax, although Payroll tax subsidies and additional infrastructure expenditure also played a role. The government has also expanded the National Program for Community Empowerment (PNPM Mandiri) to focus on labor intensive employment creation and SME development. During the peak of the crisis it also temporarily reintroduced its Unconditional Cash Transfer program for 19 million households, although this was stopped at the end of March 2009. The 2009 budget has also provided for access to free healthcare for all at local clinics. Finally, although not an explicit support program, the nationwide elections in April 2009 and the subsequent presidential election in July gave rise to large quantities of local expenditure by the competing parties from around March 2009 onwards.

Table 1 shows the key macroeconomic variables for Indonesia before the crisis, during the last quarter of 2008, and for mid-2009.

[3]See www.bps.go.id for latest inflation figures.

Table 1. Selected Macroeconomic Variables for Indonesia before, during, and after the Crisis

Growth % (YOY)	3rd Quarter 2008	1st Quarter 2009	3rd quarter 2009
GDP	6.4	4.4	4.2
Inflation	13.5[a]	8.48[a]	2.83[a]
Exports	10.6	-19.1	-22.3[b]
Imports	11	-24.1	-30.84[b]
Exchange rate (Rp/US$)	9,331	11,517	9,633
Investment	12.2	3.5	4

Source: Statistics Indonesia, World Bank (2009).
[a]Inflation figures are YOY figures for the end of the last month of each quarter.
[b]Jan–Oct 2009 over Jan–Oct 2008.

The macroeconomic evidence above makes it clear that, for Indonesia, this was no East Asian crisis. Indonesia's macroeconomic management has been good and macroeconomic indicators have been remarkably stable given the size of the shock experienced. Nonetheless, the experience of the East Asian crisis should lead us to expect very heterogeneous impacts upon households. Although the average economic performance may suggest little impact, it is possible that particular subgroups in society may have been severely affected. The macroeconomic data give some pointers to the sorts of effects which we might expect to observe at the household level. In particular, the large decline in exports would lead us to expect strong effects on communities that are dependent on commodities which have experienced major price declines. Similarly, the two sectors most affected appear to be manufacturing as well as the trade, hotel, and restaurant sectors. The decline in manufacturing output would lead us to expect firms to lay off workers, particularly those on short-term (or nonformal) contracts. This is likely to have affected predominantly medium-skilled young urban workers in the areas in which these industries are concentrated. In addition, the trade, hotel, and restaurant sector is a major employer. Declining output in this sector would lead us to expect either falling employment or reductions in real wages.

Moreover, the macroeconomic data say little about whether the crisis has affected the young more or less than the older, the worse educated more than the better educated, women more than men, and the poor more than the nonpoor. To address these questions, we need to examine the effects experienced directly by communities, households, and individuals.

III. QUALITATIVE EVIDENCE ON THE IMPACT OF THE CRISIS[4]

When the financial crisis first broadened beyond the US in the last quarter of 2008, the Institute of Development Studies undertook a set of rapid qualitative assessments with its research partners in five countries (Hossain and Eyben, 2009), one of which was Indonesia.[5] A set of participatory methods were employed to explore the impact of the crisis, the pathways through which that impact had been felt, and both government and household level responses. The work done over two weeks in February 2009 in two villages, purposively

[4]This section draws heavily on Fillaili, R. et al. (2009).

[5]The others were Kenya, Jamaica, Zambia, and Bangladesh.

chosen because it was felt that they would be most likely to illustrate the impact of the crisis.[6] One rural and one urban village were selected.

The urban village, Gandasari, is in Kabupaten (District of) Bekasi, just outside the capital city Jakarta. It is the site of a major Industrial Park, home to over 170 mostly large Japanese, Korean, and US manufacturing firms and with a total employment of around 73,000 employees. As a result, Desa Gandasari houses a large number of migrant workers from other parts of Indonesia who work in the Industrial Park. Anecdotal reports (and the macroanalysis above) suggested that this was one of the hardest hit groups.

The rural village, Simpang Empat, in Kabupaten Banjar, in South Kalimantan is heavily dependent on local rubber plantations. A large number of households are dependent on rubber for livelihood, either directly as tappers, or indirectly through trading activities, or the provision of goods and services to the local community. In addition, nearby coal stockpiles can also generate significant employment. Both coal and rubber prices have dropped dramatically from their mid-2008 peaks. The study in this area focused on the impact that this shock has had.

The methodology in both areas combined a wide range of participatory and qualitative research methods over a two-week period. Information was collected on changes in prices of local consumer and producer prices, as well as other measures of overall wellbeing. People were asked to describe how these had changed over the previous year, as well as how this crisis compared with the 1997/1998 crisis. In addition, information was collected about household responses to the shock and their coping strategies, as well as the responses of the government, nongovernment organizations (NGO), and the community. Finally, the study noted local perceptions about how the crisis had affected social life, security, and intra-household relations.

The data were collected through a series of in-depth interviews, focus group discussions (FGD), and direct observations. In-depth interviews were conducted with the head of the village, village officials, and local leaders. The village level FGDs were held with the village elites and *dusun*[7] representatives. The village level FGD was used to generate a matrix ranking of the most affected groups. A further four FGDs were then conducted separately for men and women in the two most affected groups. These FGDs identified a time line of shocks and underlying trends, identified and ranked the problems faced by the participants, discussed the causes of those problems and the coping mechanisms adopted by the community. In addition, the FGDs used a Venn Diagram to identify the various institutions that support the community and assess the extent to which different groups can access these institutions and their relative importance.

The FGDs were complemented with a set of in-depth interviews with a minimum of six households in each village, including at least two female-headed households. These interviews were used to get a better understanding on the impact of the crisis at the household level, their coping strategies, and the forms of institutional support available. In-depth interviews were also conducted with local economic players, nongovernment organizations, government officials, and program implementers. Finally, a transect walk was undertaken to provide a direct observation of the local housing conditions, land use, as well as the availability and the condition of various public services.[8]

[6]The speed with which the assessment had to be fielded also meant that villages which were already known to the researchers were chosen.

[7]A *dusun* is an administrative area within a village, consisting of a number of RT (neighborhood units).

[8]For full details see Fillaili et al. (2009).

Key findings from the Qualitative Studies

The qualitative studies provided a rich and nuanced picture of the impact of the crisis in the two selected villages. We highlight here the key findings relating to the impact on employment, wages, and schooling that relate to our subsequent quantitative analysis.

Perhaps the most common complaint in both locations was the persistence of high prices for food, agricultural inputs, and transport. This reflected the rapid rise in food and fuel prices during 2008 as a result of the spike in world food and fuel prices during 2008 and the subsequent reduction in national fuel subsidies. Respondents were aware that world fuel prices have fallen significantly since, but said that these had not yet translated into reductions in prices for food and agricultural inputs (the price of fuel is fixed by the government). Thus respondents felt that the financial crisis was adding to the problems that they were already facing due to high prices.

In the rural location, it was clear that the economy has been severely affected by the collapse in rubber and coal prices. The decline in production has reduced the income of workers in both sectors and this, in turn, has led to a decline in other economic activities in the village, including food stalls, traders, and shops selling agricultural inputs. The reduction in job opportunities has forced some men to shift to service activities—such as car/motorbike cleaning, repairs, and *ojek* (motorcycle taxi)—or to migrate to other regions for work, e.g., by participating in illegal gold mining in Sulawesi.

In the urban village, reduced foreign demand for automotive, electronic, and consumer goods has led to a reduction in working hours in the factories, the removal of overtime for workers, reductions in additional benefits (such as transport and food allowances), the temporary layoff of permanent workers, and the discontinuation of contract workers. Most migrant workers that had been dismissed had already returned to their hometown; the few that have stayed said that their savings can only support them for a couple of months. As in Simpang Empat, the decline in production activities has had a knock on the impact on economic activities of related business (e.g., catering, waste handling, and transport) as well as broader village economy (e.g., dormitory rental, food stalls, shops, and *ojek*).

Interestingly, both communities felt that this crisis was worse than that of 1997/98. In the rubber plantation and coal mining region, the sharp depreciation of the Rupiah in the 1997/98 crisis led to a large increase in the prices of food and other consumable goods, but this was compensated by a sharp increase in the price of rubber and coal. Similarly in the industrial region, the depreciation during the 1997/1998 crisis had increased exports from the industrial park, so there were no layoffs and their purchasing power was maintained.

Notwithstanding these effects, neither community saw reductions in primary, junior high, or senior high school attendance, although there were cases of arrears in school payment. Similarly neither community reported any changes in health, although there was a shift towards using cheap government health clinics rather than going directly to a doctor which is more expensive. There has also been no reduction in meal frequency, although some households are consuming less or have reduced the quality of the rice that they consume and are eating less protein or shifted to less expensive forms of protein. There is no indication of increasing child labor or domestic violence (although there were reports of increased crime and insecurity in the urban location). There was also almost no indication of increased female participation in the labor force due to the crisis, but there was some evidence that those in the informal sector are having to work longer hours to make ends meet. Finally, in the rural area,

there was evidence of weaker participation in *arisan*[9] and, because these *arisan* are linked to other forms of social gatherings, there were worries that this might lead to forms of social exclusion for those worst affected.

IV. DATA

The statistics for employment, working status, schooling, income, and hours worked presented in this paper have been produced from the 2008 and 2009 Indonesian Labor Force Survey (known by its Indonesian acronym Sakernas). Data from three waves of this survey are used: February 2008, August 2008 and February 2009. The period between the first two waves marks the run up to the financial crisis during the midst of the global food crisis; the financial crisis hit Indonesia between the second and third waves of the survey.

The main annual Sakernas survey is conducted by the Statistics Indonesia (BPS) every August. In August 2008, 931,890 individuals were sampled from 291,689 households across Indonesia. This large sample is designed to provide estimators which are representative at the *kabupaten* (district) level. The February Sakernas surveys cover a random subset of the August sample. In 2008 and 2009, it sampled 218,833 individuals (69,114 households) and 291,689 individuals (68,535 households) respectively. The February surveys are representative at the provincial level. The Sakernas surveys are stratified into rural and urban samples. However, the census blocks in each stratum are geographically ordered within each *kabupaten* and the *kabupaten* are geographically ordered within each province, so that systematic sampling provides implicit stratification by province and *kabupaten*.[10] Samples are clustered at the household level. All estimators take into account stratification and clustering and use sample weights to calculate population estimates.

The sampling design makes it possible to compare estimators between survey waves. We find it useful to use all the three waves since the differences between February and August 2008 can give some indication of how the food crisis was affecting households, whilst differences between August 2008 and February 2009 can provide evidence about the impact of the financial crisis. Having both annual and sub-annual comparisons also helps to identify the extent to which observed changes in indicators are due to seasonal variation.

The Sakernas questionnaire is designed to collect data on the workforce for individuals aged 10 and over. However, households are only sampled if they live in a physical building and are either a family living together, an individual renting a room independently, or as a group of lodgers with less than 10 people. Lodgings with more than 10 people and people whose daily needs are provided for by a foundation or organization, such as a prison or dormitory, are not sampled. This may have implications for our analysis, since the qualitative study described above suggested that many of those affected by the crisis in industrial areas could be migrant workers. Many young migrant workers tend to live in rented blocks of one- or two-person rooms, known as *kos*. Whether or not these are included in the sample will depend on whether the rooms are individually rented or rented collectively, e.g., by a contract labor supply company. If migrant workers are only partly sampled, depending on their living arrangements, indicators may not be able to fully capture the impact of the crisis on some groups of migrant workers and some sections of the poor who do not live in physical buildings.

[9] An *arisan* is a regular social gathering in which the members operate a rotating savings scheme.

[10] See Colledge, M. (2009) for full details of the sampling methodology.

Because the Sakernas questionnaire only gathers data on people aged 10 and over, analysis of changes in participation in primary school and of child labor is limited. However, it is possible to give an indication of the tradeoff between work and school for older school children by breaking down employment rates and school participation measures for children aged 10 to 17.

Descriptive statistics are calculated for labor and schooling outcomes as well as shifts in working status. We use the Statistics Indonesia definitions of employment and unemployment. A person is employed if they are of working age (15 or over in Indonesia) and have had paid work in the last week, or are not working temporarily but usually have a job. A person is unemployed if they are not working and either looking for work or establishing a new business/firm or not looking for work because they feel discouraged, or are waiting to start a new job (see (Cuevas et al., n.d.). The Statistics Indonesia definition of unemployment is broader than the ILO definition because it includes people who are not working and not looking for work because they feel discouraged (Suryadarma et al., 2005). We use the standard definition of the labor force as the total employed and unemployed population.[11]

Net monthly wages from the main work activity are defined as "*the income received by a worker/employee which is paid in cash or in goods (in local price) paid by the establishment/employer after deducted with discounts, obligatory contribution, income taxes* " (Statistics Indonesia, 1996). In addition, the net monthly income from the main work activity is reported for single-handed enterprises, and casual agricultural and nonagricultural workers. However, the survey does not ask about the income of individuals who are owners of businesses that employ paid workers since it would be difficult to distinguish between the income of the business and their personal income. Thus, the Sakernas survey provides evidence about the wages of employees and the income levels for informal workers and single-handed enterprises, but cannot make any statements about the impact of the financial crisis on larger businesses.

Moreover, wages and income may be underestimated since the questionnaire only asks for wages and income from the main activity; the respondent's income will be higher if they have more than one job or if they are employed and simultaneously run a business. Thus, if the effect of the financial crisis is to reduce income from a secondary activity, this will not be reflected in the wages or income figures reported. Conversely, if the crisis forces people to increase hours in a secondary job to compensate for reduced income in their primary job, our results will not capture this. Qualitative work gives some support to the idea that there was an increase in portfolio working or livelihood diversification (Hastuti et al., 2010). We, therefore, have a significant limitation in our ability to assess changes in average wages and average incomes since around 14% of working individuals have a secondary job and individuals with a secondary job typically spend just over a quarter of their working hours on this job. However, because we know hours worked in the secondary job, it is possible to assess the extent of the bias by observing whether secondary working activity is being substituted for main work.

Nominal income and wages are adjusted for inflation using CPI deflators for each province. We follow Friedman and Levinsohn (2002) by calculating provincial deflators by mapping the 66 cities in which the Statistics Indonesia collect price data to the 33 provinces using population weighted averages.

[11]We report measures using the Statistics Indonesia definitions—results using the ILO definitions are available on request.

V. RESULTS

School Enrollment and Attendance

One of the key concerns when a crisis hits is that it will result in children being withdrawn from school. This issue was extensively studied for the Indonesian crisis in 1997/1998—Frankenberg et al. (1999) found an increase in the percentage of 13–19 year olds not currently enrolled in school between 1997 and 1998. The percentage of 7–12 year olds that have dropped out of school also tripled. However, Cameron (2001), using a survey of 100 villages, found only a slight drop in school enrollment and Levine and Ames (2003) found that, overall, enrollments were stable or increasing, despite substantial cuts in household expenditure on education.

The qualitative study described above suggested that the households in the sampled *kabupaten* had not withdrawn their children from school. However, it is possible that this may simply reflect the overall income levels of the people in these villages or their attitudes towards education. Fortunately, the Sakernas datasets record information for all individuals in the household aged 10 and above, including whether they have never gone to school, are in school, or have finished school. We therefore used this to calculate the share of children of each age from 10–17 who are no longer in school, as well as the share that were in school last week. Table 2 reports the results.

Table 2 shows that, for most age cohorts, there was either no change in school enrollment between February 2008 and February 2009 or an improvement (for 13 and 14 years olds). These figures are consistent with the statistically significant improvements in the share of the cohort who were in school the previous week. However, breaking down the results for boys and girls provides a slight note of caution. The share of girls no longer in school increased from February 2008 to August 2008, although by February 2009 the share was insignificantly different from that of the previous year. Similarly both female and overall attendance fell from February to August 2008. A possible explanation for this would be if households badly affected by the strong food price rises during 2008 tended to withdraw their girls temporarily from school to help with household management, but, as food price inflation fell markedly towards the end of 2008, had put them back into school by February 2009.

Table 2. School Enrollment and Attendance by Age and Gender

Age and Gender	No Longer in School			In School Last Week		
	Feb-08	Aug-08	Feb-09	Feb-08	Aug-08	Feb-09
10	0.008	0.006	0.005**	0.987	0.988	0.990
11	0.011	0.011	0.010	0.983	0.981	0.986
12	0.037	0.034	0.036	0.958	0.956	0.959
13	0.079	0.070*	0.065**	0.915	0.919	0.928**
14	0.131	0.110***	0.112**	0.860	0.879***	0.881***
15	0.201	0.200	0.191	0.791	0.786	0.800
16	0.279	0.287	0.275	0.712	0.698	0.713
17	0.386	0.408**	0.386	0.602	0.575***	0.605
Male	0.157	0.154	0.149	0.836	0.834	0.844*
Female	0.135	0.144**	0.137	0.857	0.845***	0.856
Total (10–17)	0.146	0.149	0.143	0.846	0.839**	0.850

Source: Sakernas data for respective years.
Note: Asterisks in Aug-08 column indicate statistically significant changes from Feb-08 column; Asterisks in Feb-09 column indicate statistically significant changes from Feb-08 column, i.e., from one cohort to the next.
*10% significance level, **5% significance level, ***1% significance level.

Our description of the macroeconomic context above suggests that some sectors were worse hit than others. In particular, sectors dependent on commodities (e.g., mining), export-oriented industry, as well as the trade, hotel, and restaurant sectors appear to have suffered the worst effects of this crisis. However, Table 3, which shows school enrollment by the sector of employment of the household head, suggests that there were no clear changes in enrollment or attendance by sector. The only exception is that the children in households in which the head was in the construction sector were less likely to be in school in August 2008 than in February 2008, but this effect vanished by the following February.

Table 3. School Enrollment and Attendance by Sector of Household Head

Sector of Household Head	No Longer in School			In School Last Week		
	Feb-08	Aug-08	Feb-09	Feb-08	Aug-08	Feb-09
Agriculture, Plant, Forest, Hunt	0.194	0.193	0.186	0.797	0.794	0.804
Mining and Quarrying	0.151	0.186	0.145	0.841	0.802	0.845
Industry	0.136	0.130	0.133	0.853	0.859	0.864
Electricity, Gas, and Water	0.090	0.073	0.052	0.910	0.904	0.948
Construction	0.133	0.147	0.126	0.860	0.839**	0.869
Trade, Hotel, and Restaurant	0.122	0.124	0.120	0.871	0.866	0.873
Transport, Storage, and Communication	0.109	0.116	0.107	0.883	0.875	0.886
Financial Inst, Real Estate	0.067	0.075	0.072	0.930	0.915	0.915
Social Services, Social & Personal	0.074	0.074	0.074	0.921	0.917	0.922

Source: Sakernas data for respective years.
Note: Asterisks in Aug-08 column indicate statistically significant changes from Feb-08 column; Asterisks in Feb-09 column indicate statistically significant changes from Feb-08 column, i.e., from one cohort to the next.
*10% significance level, **5% significance level, ***1% significance level.

Labor Force Participation, Unemployment, and Hours Worked

In 1997/98 there was a sharp increase in labor force participation among women and a small increase in participation overall (Manning, 2000). Frankenberg et al. (1999) also reported little evidence of change in aggregate, in participation or hours of work, although they also find considerably higher proportions of women working in 1998 relative to 1997. Similarly, Levine and Ames (2003) found an increase in the labor force participation of female heads of over 10% between 1997 and 1999.

In the current crisis, it is therefore interesting to see that there is no statistically significant change in labor force participation for men or women (Table 4). There are small increases in participation for older workers, but the main finding is the large falls in participation for children. Participation in labor force for workers aged between 12 and 14 fell by between 17% and 24%, year on year. Participation for those aged 15–17 declined by 9%. This, combined with the increases in enrollment and attendance found above, suggests that families may have responded to the current crisis by keeping their children in school rather than by removing them.

The changes in unemployment are also revealing. In the 1997/98 crisis, unemployment increased only slightly, with the increase greatest amongst female workers aged 15–24 and younger rural males (Manning, 2000). For the current crisis, we find a sharp contrast between younger and older workers. Unemployment rates have risen for workers aged under 25 and are particularly high for children under 15 in August 2008. The latter undoubtedly reflects the influence of recent school leavers and may also help to explain falling participation and rising

enrollment—there is no point in leaving school if you are unlikely to get a job. By contrast, unemployment rates have been falling for workers between the ages of 25 and 55 and there is evidence for a small decrease in overall female unemployment.

In keeping with the findings from the previous crisis, we find very little change in hours of work. There is some evidence for increases in hours of work of younger workers between February and August 2008, but no clear evidence for major reductions in working hours caused by falling labor demand or, conversely, of people increasing their working hours to compensate for lost income. However, we would expect these effects to be sectorally concentrated. Table 5 presents the share of employment by sector as well as the hours of work. Had the crisis had a major impact on employment in any sector we would expect to see the share of employment of that sector shrinking. However, we find no evidence for this. The only sector where employment falls is in agriculture, but this effect is seasonal; employment in construction also rises in August for the same reason. There is also little support for the idea that hours of work fell in key-affected sectors. There are no statistically significant changes in hours worked between February 2008 and February 2009. Again, the small changes in hours worked in agriculture, construction, and social and personal services between February and August 2008 are likely to be seasonal.

Although we see little change in the sectoral allocation of jobs, it is possible that the financial crisis pushed out some workers into the informal sector. Table 6 shows the share of workers by different categories of work as well as their hours worked.[12]

Consistent with the story of increasing informality, there is an increase in the share of workers that own their single-person business, as well as in the share of workers doing casual nonagricultural work. However, both of these changes happen between February and August 2008—over the full year there is no significant increase in the share of workers in the informal sector. The changes in hours worked are also small and mostly seasonal, although hours spent by unpaid workers and owner of businesses with nonpermanent or unpaid workers increased slightly over the year.

[12]Cuevas et al. (n.d.) define formality as the first four of these categories and informality as the last three. However, in practice, most single-handed businesses in Indonesia are informal in the sense that very few are registered or have formal business licenses (see The Asia Foundation, 2008). We therefore include these in our definition of informality.

Table 4. Participation, Unemployment, and Hours of Work by Age and Gender

Age and Gender	Participation						Unemployment						Hours of Work					
	Feb-08	Aug-08		Feb-09			Feb-08	Aug-08		Feb-09			Feb-08	Aug-08		Feb-09		
10	0.015	0.015		0.013			0.065	0.148	**	0.066			15.201	17.226		17.785		
11	0.031	0.023	***	0.025			0.051	0.138	***	0.095			15.038	18.482		14.51		
12	0.057	0.040	***	0.043	***		0.079	0.109		0.052			17.372	18.681		19.11		
13	0.090	0.066	***	0.070	***		0.078	0.151	***	0.090			20.173	22.903		20.831		
14	0.133	0.102	***	0.111	***		0.130	0.142		0.132			24.362	26.272		23.639		
15-17	0.263	0.242	***	0.238	***		0.211	0.249	***	0.223			33.257	35.702	***	33.736		
18-25	0.643	0.659	***	0.648			0.198	0.216	***	0.214	***		41.129	41.909	***	41.332		
26-35	0.754	0.753		0.757			0.087	0.082	*	0.082	*		42.556	42.788		42.567		
36-45	0.798	0.793		0.796			0.051	0.036	***	0.043	***		42.216	42.326		42.152		
46-55	0.777	0.790	***	0.801	***		0.023	0.017	***	0.016	***		40.395	40.55		40.354		
56+	0.543	0.530	***	0.549			0.008	0.013	***	0.008			34.77	35.228		35.077		
Male (15+)	0.836	0.835		0.836			0.079	0.076	**	0.077			42.099	42.614		42.053		
Female (15+)	0.512	0.511		0.518			0.093	0.097	*	0.088	*		37.61	38.028		38.023		
Total (15+)	0.673	0.672		0.676			0.085	0.084		0.081	*		40.398	40.885		40.512		

Source: Sakernas data for respective years.
*10% significance level, **5% significance level, ***1% significance level.

Table 5. Share of Employment and Hours Worked by Sector

Sector of the Individual	Share of Employment				Hours of Work			
	Feb-08	Aug-08		Feb-09	Feb-08	Aug-08		Feb-09
Agriculture	0.421	0.405	***	0.414	32.4	33.2	***	32.6
Mining and Quarrying	0.010	0.010		0.011	45.2	44.2		44.0
Industry	0.122	0.122		0.120	43.8	43.7		43.6
Electricity, Gas, and Water	0.002	0.002		0.002	42.6	44.0		42.8
Construction	0.046	0.053	***	0.044	46.0	47.0	*	45.8
Trade, Hotel, and Restaurant	0.203	0.207		0.209 *	49.3	49.3		48.9
Transport, Storage, and Communication	0.058	0.060		0.056	48.4	49.1		48.9
Financial Inst, Real Estate	0.014	0.014		0.014	44.1	42.9		43.0
Social Services, Social & Personal	0.124	0.127		0.130 **	43.0	42.0	***	43.3

Source: Sakernas data for respective years.
*10% significance level, **5% significance level, ***1% significance level.

Table 6. Share of Workers and Hours Worked by Work Category

Category of Work	Share Of Workers				Hours Worked			
	Feb-08	Aug-08		Feb-09	Feb-08	Aug-08		Feb-09
Own business	0.195	0.203	***	0.198	42.1	43.2	***	41.8
Business owners with nonpermanent or unpaid workers	0.209	0.210		0.205	39.8	40.0		40.4 **
Business owners with permanent or paid workers	0.029	0.029		0.028	45.4	46.1		45.5
Employee	0.277	0.273		0.275	46.4	46.0	**	46.2
Casual work agriculture	0.060	0.058		0.061	34.7	36.2	***	34.5
Casual work nonagriculture	0.047	0.051	***	0.049	44.0	44.3		43.3
Unpaid work	0.183	0.175	***	0.184	30.4	31.0	***	31.1 ***

Source: Sakernas data for respective years.
**5% significance level, ***1% significance level.

Wage and Income Changes

The overriding story of the 1997/1998 crisis in Indonesia was of collapsing real wages. Manning (2000) shows that the evidence strongly supports a neoclassical view of the labor market, with little change in employment but large reductions in real wages. This phenomenon is not unique to Indonesia. McKenzie (2004) shows that Argentina also suffered from large falls in real wages across all sectors in the wake of the 2002 financial crisis there.

The Sakernas data from the current crisis provide strong support for the idea that labor markets in Indonesia are highly flexible, but this time in an upwards direction. Table 7 shows real and nominal wages for employees by age category and gender, while Table 8 provides the same information by sector. The data suggest that there was a large increase in average real wages between February 2008 and February 2009. The average real wage increased by 11%. Moreover, this increase occurred entirely between August 2008 and February 2009, precisely the period spanning the onset of the global financial crisis in Indonesia. It is interesting to note that the only age group who did not benefit from this increase was young workers below the age of 25. These are precisely the workers whom the qualitative evidence would suggest were hardest hit, both by contract termination and reduction in overtime and other benefits; however, the data suggest that, at least on average, even these workers saw no decline in their real wage.

Breaking down these real wages changes by sector shows that these wages increases were not uniform. Mining and quarrying in particular—the sector is most likely to be negatively affected by falling commodity prices—saw a significant 9% drop in real wages. But most other sectors

saw an increase. Real wages in industry rose by 9%, those in construction by 12% and those in the transport and communications sector by a remarkable 23%.

The large increase in real wages for employees does not necessarily mean increases in real income for all categories of workers. Table 9 shows the real wages and incomes for all categories of workers. Those owning their own single-person business saw a significant increase in their real income between February and August 2008, but this fell markedly between August 2008 and February 2009, leaving no statistically significant increase over the year. A similar pattern prevailed for casual workers both in agriculture and in nonagriculture, with none of the nonemployee categories of workers experiencing a statistically significant increase in real income over the year. Thus there would appear to be a widening gap between employees in the formal sector and workers running single-person businesses or undertaking casual work.

Although the macroeconomic evidence suggests that Indonesia was not hit hard by the financial crisis, the collapses in exports and commodity prices over the last quarter of 2008 were far from trivial. It is therefore extremely surprising to see such large increases in real wages. These results are not driven by outliers—a 1% trimmed sample produces much the same pattern of results. Moreover, it appears to be true across the wage and income distribution in the sense that the same pattern emerges if one looks at median wages/income or the lower or upper quartile.[13] One possibility may be that the higher inflation of mid-2008 led to demands for higher nominal wages. If formal sector employment contracts are decided after August but before the onset of the crisis in October, then employers may have agreed to relatively large nominal wage increases. But, as noted above, the collapse in commodity and world food prices led to a rapid reduction in domestic inflation, greatly increasing the value of any nominal wage increases given.

Another possible explanation for the increase in average wages may be that there are compositional changes in the workforce. Specifically, it may be the case that employers used the crisis as an opportunity to release lower paid workers, thereby increasing the average wage. Table 4 indicated that employment fell most amongst young workers, who earn around two-thirds of the national average wage. Moreover, employers may have removed the less skilled workers in each age class. Figure 1 provides some support for this idea. It shows total employment by education attainment for all three years. It is clear that employment is lower in February 2009 for those with only primary or junior secondary schooling, whereas it is higher for those who have completed senior secondary school.

[13]With the exception that income from single-person businesses increases by 14% from February 2008 to February 2009 at the median, but barely changes for the lower and upper quartile suggesting a narrowing of the distribution.

Table 7. Nominal and Real Wages by Age and Gender

Age and Gender	Real Wage (Rupiah per month)				Nominal Wage (Rupiah per month)				Percentage Changes			
									Real Wages		Nominal Wages	
	Feb-08	Aug-08	Feb-09		Feb-08	Aug-08	Feb-09		Feb-08–Aug-08	Feb-08–Feb-09	Feb-08–Aug-08	Feb-08–Feb-09
15-17	469,651	470,892	487,492		493,976	502,855	529,973		0%	4%	2%	7%
18-25	724,545	700,371	766,104		761,080	747,424	831,871		-3%	6%	-2%	9%
26-35	1,005,889	998,353	1,079,065	*	1,056,669	1,065,434	1,171,276	***	-1%	7%	1%	11%
36-45	1,311,045	1,332,889	1,465,920	***	1,377,236	1,423,376	1,591,641	***	2%	12%	3%	16%
46-55	1,608,741	1,641,481	1,789,487	***	1,689,170	1,752,972	1,943,712	***	2%	11%	4%	15%
56+	1,243,424	1,216,640	1,497,141	**	1,305,101	1,298,746	1,623,825	**	-2%	20%	0%	24%
Male	1,162,348	1,173,385	1,293,014	***	1,221,163	1,252,976	1,404,218	***	1%	11%	3%	15%
Female	886,075	909,449	984,577	***	930,151	970,307	1,068,290	***	3%	11%	4%	15%
Total	1,070,200	1,082,360	1,190,994	***	1,124,099	1,155,490	* 1,293,105	***	1%	11%	3%	15%

Source: Sakernas data for respective years.
*10% significance level, **5% significance level, ***1% significance level.

Table 8. Nominal and Real Wages by Sector

Sector of the Individual	Real Wage (Rupiah per month '000s)					Nominal Wage (Rupiah per month '000s)					Percentage Changes			
											Real Wage		Nominal Wages	
	Feb-08	Aug-08		Feb-09		Feb-08	Aug-08		Feb-09		Feb-08–Aug-08	Feb-08–Feb-09	Feb-08–Aug-08	Feb-08–Feb-09
Agriculture	717,624	795,119	***	723,491		756,034	851,767	***	788,112		11%	1%	13%	4%
Mining and Quarrying	2,015,396	2,102,264		1,840,817	***	2,125,965	2,258,565	*	2,015,873		4%	-9%	6%	-5%
Industry	920,908	869,769	***	1,002,005	***	966,614	927,115	**	1,085,574	***	-6%	9%	-4%	12%
Electricity, Gas, and Water	1,848,231	1,767,199		1,806,329		1,941,746	1,888,439		1,959,084		-4%	-2%	-3%	1%
Construction	1,084,087	1,024,250	*	1,218,448	***	1,138,929	1,093,257		1,324,231	***	-6%	12%	-4%	16%
Trade, Hotel, and Restaurant	902,201	914,102		955,810	**	946,907	974,677		1,035,862	***	1%	6%	3%	9%
Transport, Stor., and Comm.	1,273,183	1,277,662		1,569,649	***	1,337,079	1,362,912		1,703,966	***	0%	23%	2%	27%
Financial Inst, Real Estate	1,744,726	1,652,934	**	1,831,938	**	1,830,455	1,761,249		1,984,687	***	-5%	5%	-4%	8%
Social Services, Social & Pers.	1,181,987	1,246,432	***	1,344,543	***	1,241,538	1,331,335	***	1,461,161	***	5%	14%	7%	18%

Source: Sakernas data for respective years.
*10% significance level, **5% significance level, ***1% significance level.

Table 9. Real wages/Income by Work Category

Category of Work	Real Income/Real Wage				
	Feb-08	Aug-08		Feb-09	
Own business	706,257	825,304	***	722,141	
Business owners with nonpermanent or unpaid workers					
Business owners with permanent or paid workers					
Employee	1,070,200	1,082,360		1,190,994	***
Casual work agriculture	362,462	385,016		357,935	
Casual work nonagriculture	588,261	607,836		562,252	
Unpaid work					

Source: Sakernas data for respective years.
Note: Real wage is reported for employees; real income is reported for other categories. The question on income/wages was not asked for the shaded rows.
***1% significance level.

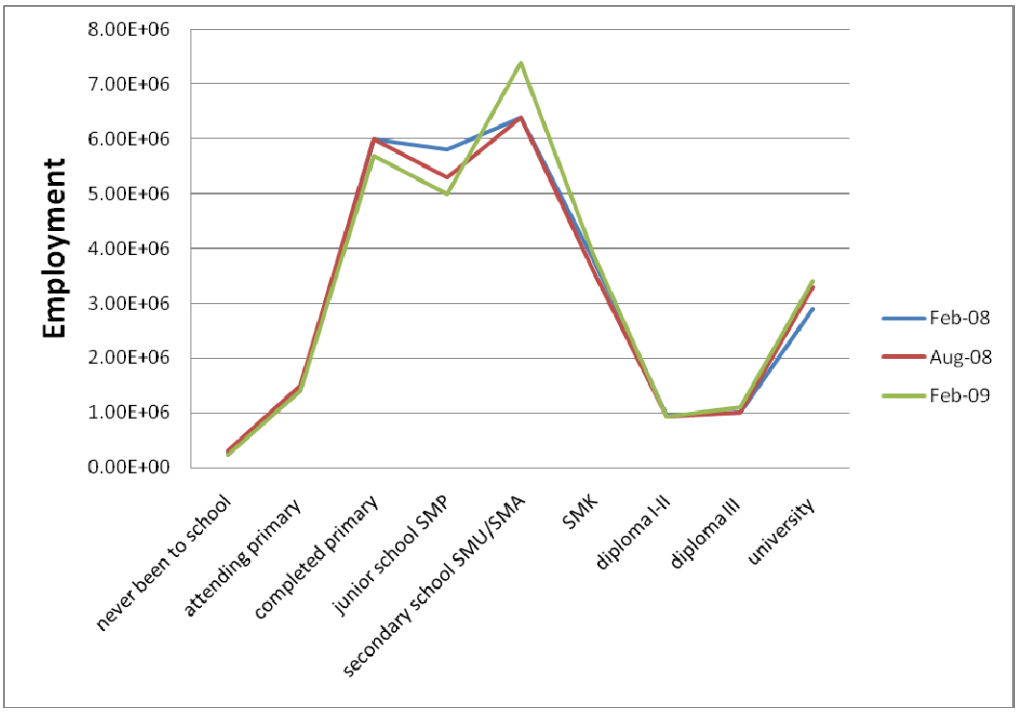

Figure 1. Employment by education attainment

Reasons for Ending Employment

Even though unemployment is falling and wages are rising, it may still be the case that the financial crisis has caused reductions in the demand for particular types of worker. If this is the case we would expect to see that a larger share of workers that have recently stopped working did so because of labor demand reasons (e.g. being fired or made redundant, or the firm that they were working for downsizing or going bankrupt as a result of a drop in demand) relative to labor supply reasons (e.g., the workers disliking the pay or conditions of employment). Table 10 shows the change in the reasons for finishing a job between August 2008 and February 2009.[14]

[14]Unfortunately, the question was not asked in February 2008.

Table 10. Reasons for Ending Employment

Reason for Ending Work/Changing Job	Aug-08	Feb-09	
Fired/Made redundant	0.050	0.060	***
No demand or firm went bankrupt	0.141	0.177	***
Income too low	0.205	0.195	*
Unsuitable work environment	0.093	0.094	
Contract finished	0.157	0.165	
Other	0.353	0.310	***

Source: Sakernas data for respective years.
*10% significance level, ***1% significance level.

Consistent with our expectations, there is a statistically significant increase in the share of workers ending work or changing job as a result of being fired or made redundant, and a large increase in the share of those doing so because of firms scaling down or going bankrupt. On the other hand, there is a small decrease in those leaving jobs because they were dissatisfied with the income. Thus labor demand reasons for quits appear to dominate during the period of the financial crisis.

Focusing on those who have ended work or changed their jobs is also likely to be a much more sensitive indicator of the impact of the crisis on different sectors. Table 11 shows, for each sector, the share of workers ending work or changing jobs as a result of reductions in labor demand (i.e., the sum of workers being fired/made redundant and a drop in demand or firm bankruptcy). The large increase in this share, particularly for both mining and industry, suggests that the job losses that did occur were increasingly driven by reductions in the labor demand due to the crisis.

Table 11. Changes in Termination due to Falling Demand by Sector

Sector of the Individual	Redundant or No demand		
	Aug-08	Feb-09	
Agriculture, Plant, Forest, Hunt	0.230	0.274	***
Mining and Quarrying	0.116	0.232	***
Industry	0.247	0.307	***
Electricity, Gas, and Water	0.131	0.145	
Construction	0.258	0.342	***
Trade, Hotel, and Restaurant	0.168	0.161	
Transport, Storage, and Communication	0.139	0.185	**
Financial Inst, Real Estate	0.098	0.119	
Social Services, Social & Personal	0.082	0.118	***

Source: Sakernas data for respective years.
**5% significance level, ***1% significance level.

Multivariate Analysis

The description statistics presented above provide a valuable picture of the impact of the crisis. However, they do not control for the wide variety of individual, household and locational characteristics which can influence schooling and labor force outcomes. To account for these we follow Levine and Ames (2003) and estimate regressions of our outcomes against these characteristics. Because Sakernas is not designed as a panel, it is not possible to explore the determinants of job entry and exit. Instead, we interact dummy variables for August 2008 and February 2009 with gender, sector, and rural/urban location. We can therefore determine

whether the influence of gender, sector, and location on our variables of interest have changed over the period.

Table A1 shows the results for school enrollment. We obtain common results on the determinants of school dropouts: older children are more likely to drop out, as are those from larger households with high dependency ratios, and those living in rural areas. Boys are more likely to drop out than girls, although the effect is very small. Similarly there is little to distinguish the dropout rates among households whose head works in different sectors, although children in households headed by casual workers, particularly in agriculture, are more likely to drop out. Unsurprisingly the educational achievements of the household head and spouse have a strong influence on dropout rates. Even after controlling for all of these factors, we see large differences in the dropout rates among different provinces.

However, our key variable of interest is the wave variable. Here the general result obtained from the descriptive statistics is confirmed; there is no statistically significant change in the number of children no longer in school across the three waves of the survey. Column 2 of Table A1 shows the same regression with interaction effects for age. These results suggest that the probability of no longer being in school rises by almost 1% in August 2008 for children aged 17, but falls by the same amount for children aged 10. For February 2009, the differences are even smaller. In effect, there is virtually no change in school dropouts across the waves.

Levine and Ames (2003) were particularly concerned to explore the impact on girls during the 1997/1998 crisis. Column 3 therefore shows the interaction with gender. Again we find no change in school dropouts across the waves, except for a very small (0.5 of a percentage point) increase in the probability of girls being no longer in school in August 2008, but this disappears in February 2009. Column 4 reports interactions with sector of the household head. In general, the sector of the household head does not appear to have any significant impact on the small declines in the share of children no longer in school in August 2008 and February 2009. The only significant result (at the 10% level) is an increase in the probability of dropping out of school for those children who live in households whose head works in the transportation, storage, or communication sector in August 2008, although the significance of this result disappears in February 2009. Finally, column 5 shows interaction terms with rural or urban location. These suggest a small increase in school dropouts by February 2009 for those in urban areas, while the share no longer in school continued to decline in rural areas. Very similar results were obtained when looking at the share of children in school last week, rather than the share of children no longer in school.[15]

Looking at labor force participation, we again find a range of standard (and large) influences on labor force participation: participation increases with age and education; men are much more likely to participate than women; and those in living in urban areas as well as those in large households with high dependency ratios are less likely to be in the labor force (Table A2). Contrary to our descriptive analysis, our regression results suggest a small overall reduction in participation in both August 2008 and February 2009 relative to February 2008. Column 2 of Table A2 confirms the earlier finding that the reduction in labor force participation is stronger for younger workers; and column 3 confirms that there is no difference in the rates of change of participation between male and female workers. Column 5 shows that rural participation fell by more than 2 percentage points in August 2008, but this was probably seasonal since there was no difference in the small overall reduction in participation between rural and urban areas by February 2009.

[15]Results are available on request.

Turning to unemployment, we find that the probability of being unemployed increases with household size and with education. Women are more likely to be unemployed than men, while older workers and households with a higher dependency ratio are less likely to be unemployed (Table A3). After accounting for these characteristics, we find that there is no statistically significant change in unemployment between February 2008 and either August 2008 or February 2009. When the age interaction term is included (column 2), we see a confirmation of the earlier finding that unemployment may have increased for younger workers, but declined for older workers. The gap between male and female unemployment increased in August 2008 but narrowed during the crisis. Also the gap in unemployment between people living in urban areas and those in rural areas closed both for August 2008 and February 2009, but this result is not significant.

Finally, looking at the reasons why people had left their previous work (Table A4), we find that a higher proportion of older workers left their previous work because they were made redundant or the firm in which they worked went bankrupt. Similarly, urban households, compared to rural ones, are significantly more likely to have ended their employment due to a fall in labor demand. Women and those who had achieved a higher level of education were less likely to cite these reasons. In terms of sectors people were more likely to cite they were made redundant or went bankrupt if they previously worked in industry or construction whereas those working in finance, transport, trade, or social services were less likely to cite these reasons. Our results also confirm that there was a significant increase in these two cited reasons for ending employment in February 2009 in comparison to August 2008. The only significant result of the interaction terms, which is perhaps unexpected, is that those working in the financial sector saw a decrease in the share of people citing that they were made redundant or went bankrupt.

Table 12. Comparing the Qualitative and Quantitative Results

	Qualitative (Feb 2009)	Quantitative (Feb-08, Aug-08, and Feb-09)
School enrollment/attendance	No change, but some arrears in payment	Generally no change or continued improvement for 13/14 year olds. But possible evidence for seasonal withdrawal in August for girls and 17 year olds. No sector specific changes.
Female labor participation	No change	No change
Child labor	No change	Significant falls in the participation of 12–17 year olds in the labor force
Unemployment	Increase for young migrant industrial workers; and workers associated with the rubber industry	Rising for 15–25 year olds; falling for 25–55 year olds
Hours of work	Reduced for contract workers	Virtually no significant changes by age or sector
Informality	Some suggestions of increased informality	Evidence for increased own business and casual nonagricultural work in 2008, but little overall change
Wages and Income	Large falls in take home pay for contract workers; reductions in income for local businesses	Significant and large increases in real wages for employees; but little change in incomes in the informal sector

Source: Fillaili et al. (2009) and the current study.

Comparing Qualitative and Quantitative Results

Finally, it is instructive to briefly compare the results which were obtained from the rapid qualitative study with the results that we obtain (Table 12). It is important to recognize that the qualitative study made no claims for national representativeness, so this exercise should in no way be considered a "verification" of its results. Its aim was to provide a rich and

informative portrait of what had happened in two specific locations and no Sakernas dataset is sufficiently detailed to provide meaningful results at the village level. However, given that the powerful stories provided by qualitative studies often inform the thinking of national policymakers, it is interesting to note the way in which the two approaches inform each other's work.

Three Features Strike Us about the Results of the Two Studies

First, despite the small, purposively selected sample for the qualitative study, the overall conclusions which are drawn about there being little change in both schooling and participation in the labor force are broadly similar to those obtained from the national data.

Second, the qualitative study highlighted the specific vulnerability of younger workers in an urban setting. This corresponds well with our results which show increasing unemployment and no increase in wages for workers under 25. The qualitative study also points to potential weaknesses in the way in which the labor force survey surveys migrant workers, which may explain why our results do not show a stronger negative impact for this group.

Finally, studies (whether qualitative or quantitative) which purposively select areas which are likely to have been negatively affected by a shock, inevitably tend to miss potential gainers from that shock. None of the many interviews and discussions carried out in the two selected villages gave any indication of large real wage increases for employees. This may well be because this did not happen in these two locations as a result of the larger shock that they received; however, the national data provide strong evidence for such increases.

We, therefore, find the approaches quite complementary. Each approach helps to identify gaps in the other as well as to identify hypotheses which can be better explored with the other approach.

VI. SUMMARY AND CONCLUSIONS

Indonesia has weathered the financial crisis of 2008/2009 reasonably well. The macroeconomic shock it suffered was much less than those of neighboring countries and merely served to slow its already respectable growth rate. Nonetheless, the nature of the shock—acting through dramatically reduced exports and large declines in commodity prices—would lead us to expect some strong localized effects. In fact, we find very little evidence of subgroups which have been particularly badly affected. The share of children dropping out of school stayed the same or continued to improve, with only small differences by gender, age, and rural/urban location. Labor force participation fell, particularly for children; it would seem that parents kept children in school as the labor market deteriorated for younger workers. But, as unemployment rose for workers between 18 and 25, it continued to fall for workers above this age. Average hours worked remained roughly the same and there was no evidence for significant sectoral shifts in employment. While it is clear that labor demand reductions have become a much more important reason for ending or changing job, the continued fall in aggregate unemployment suggests that these redundancies have been absorbed within normal labor turnover and the crisis does not seem to have altered the share of workers in the informal sector.

The big surprise from our analysis is what has happened to real wages for employees. In a reversal of the experience of the 1997/98 crisis, where adjustment was achieved through a substantial fall in real wages, the period between August 2008 and February 2009 saw large increases in real wages for employees over 25. Although real wages in mining fell, reflecting

the collapse in commodity prices, wages in industry, construction, and transport and communications increased quickly. However, it was employees that primarily gained; workers in the informal sector, whether operating single-handed enterprises or casual workers, did not see significant increases.

There are a number of reasons why Indonesia may have come out of this financial crisis reasonably well. The first is structural. Indonesia, as a large country, is much less dependent on international trade than many other countries in Southeast Asia. The large drop in exports and imports, therefore, had a commensurately smaller effect on the domestic economy. In addition, the government's macroeconomic management of this crisis appears to have been good. Arrangements were made rapidly to provide confidence to the market, limiting the fall in the value of the currency, and hastening its early recovery. This minimized the impact on import-dependent firms and avoided major shifts in resources between the tradeable and nontradeable sectors.

The nature of our data, however, can say little about the welfare impact of the crisis. The large increase in real wages may have protected employees during the highly volatile period between August 2008 and February 2009, but the informal sector was less well-protected. Moreover, our data cannot identify the impact of the various government social programs—put in place in response to the crisis—which may have ameliorated the situation for selected groups. Ongoing qualitative and quantitative research should shed light on these issues (Hastuti et al., 2010; World Bank, 2010).

Notwithstanding these limitations, the Indonesian experience may have some useful broader lessons about the impact of the crisis. First, the nature of the shock was relatively narrowly focused on export sectors, particularly commodities and manufacturing. This poses a policy challenge, since it was engagement with the world market in these sectors that was driving growth prior to the crisis. Countries with large domestic markets, such as Indonesia, may be able to reduce their vulnerability to such shocks through boosting domestic demand, but this is not an option for smaller developing countries. Second, Indonesia's policy environment and responses to the crisis would appear to provide a positive example of how to deal with such shocks. Careful monetary management prevented a long-lasting shock to the exchange rate, while a long period of prudential budget management had created the fiscal space for Indonesia to respond. At the same time, relatively flexible labor markets meant that affected firms could shed temporary labor rapidly, preventing widespread corporate failures as occurred during the East Asian crisis.

Third, Indonesia's experience suggests some priorities which have also emerged from studies of the impact of the crisis in other countries (e.g., Oxfam, 2010). These include the importance of food prices, the impact on migrant workers, and the need to understand the informal sector better. The qualitative work strongly suggests that the persistence of high food prices is the single most important influence on the welfare of the poor, and that therefore the run-up in food prices during 2008 may have had a much stronger impact than the financial crisis itself. The disconnect between the qualitative findings of strong negative impacts on migrant workers and the lack of major negative impact on workers in our dataset highlight the fact that labor force surveys often omit precisely the group that may be most negatively affected. Similarly, the difference between the fortunes of formal sector workers and those in the informal sector points to the need to understand much better the ways in which the informal sector is affected by such crises. Developing the tools to improve our understanding of these issues could enable governments to provide better responses to future crises.

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APPENDICES

Table A1: Determinants of Being No Longer in School

MARGINAL EFFECT (DP/DX)

Independent Variables	Wave	Wave (age)	Wave (gender)	Wave (sector)	Wave (urban)
age	0.0890***	0.0879***	0.0890***	0.0889***	0.0890***
	(0.00444)	(0.00445)	(0.00444)	(0.00444)	(0.00444)
age squared	-0.00177***	-0.00178***	-0.00177***	-0.00177***	-0.00177***
	(0.000159)	(0.000159)	(0.000159)	(0.000159)	(0.000159)
female	-0.00551***	-0.00549***	-0.00549***	-0.00975***	-0.00549***
	(0.00115)	(0.00115)	(0.00115)	(0.00226)	(0.00115)
urban/rural	0.0182***	0.0182***	0.0182***	0.0182***	0.0147***
	(0.00438)	(0.00438)	(0.00438)	(0.00438)	(0.00515)
hhsize	0.00270***	0.00270***	0.00270***	0.00270***	0.00271***
	(0.000393)	(0.000392)	(0.000393)	(0.000392)	(0.000392)
dependency ratio	0.0142***	0.0141***	0.0142***	0.0142***	0.0142***
	(0.00111)	(0.00111)	(0.00111)	(0.00111)	(0.00111)
household head characteristics					
own business	0.00223	0.00224	0.00224	0.00220	0.00221
	(0.00227)	(0.00226)	(0.00227)	(0.00227)	(0.00227)
bus nonperm/unpaid wrkers	0.00265	0.00263	0.00266	0.00263	0.00265
	(0.00227)	(0.00226)	(0.00227)	(0.00227)	(0.00227)
bus perm/paid wrkers	0.00248	0.00253	0.00253	0.00248	0.00254
	(0.00361)	(0.00361)	(0.00361)	(0.00361)	(0.00361)
cas work agric	0.0336***	0.0335***	0.0336***	0.0335***	0.0336***
	(0.00446)	(0.00446)	(0.00447)	(0.00446)	(0.00446)
cas wrk non agric	0.0162***	0.0163***	0.0162***	0.0163***	0.0162***
	(0.00369)	(0.00369)	(0.00368)	(0.00369)	(0.00368)
unpaid work	-0.00159	-0.00161	-0.00173	-0.00159	-0.00172
	(0.00686)	(0.00685)	(0.00686)	(0.00686)	(0.00685)
Mining	0.00881	0.00873	0.00460	0.00877	0.00884
	(0.00544)	(0.00543)	(0.0114)	(0.00543)	(0.00545)
Industry	-0.000820	-0.000795	-0.000416	-0.000855	-0.000867
	(0.00267)	(0.00267)	(0.00470)	(0.00267)	(0.00266)
Electricty,Gas & Wat	0.000173	0.000325	0.00235	0.000146	0.000276
	(0.0131)	(0.0131)	(0.0241)	(0.0130)	(0.0131)
Construction	-0.00875***	-0.00876***	-0.0120***	-0.00873***	-0.00869***
	(0.00269)	(0.00268)	(0.00424)	(0.00269)	(0.00269)
Fin~cl Inst, Real Est	-0.0101***	-0.0100***	-0.0129***	-0.0101***	-0.0100***
	(0.00188)	(0.00188)	(0.00329)	(0.00188)	(0.00188)
Transprt, Stor. & Comm	-0.0120***	-0.0119***	-0.0169***	-0.0120***	-0.0119***
	(0.00239)	(0.00239)	(0.00383)	(0.00239)	(0.00239)
Trade, Hotel, & Restaurant	-0.0168***	-0.0168***	-0.0212**	-0.0168***	-0.0168***
	(0.00518)	(0.00518)	(0.0102)	(0.00519)	(0.00519)
Social Services	-0.0184***	-0.0184***	-0.0198***	-0.0184***	-0.0184***
	(0.00236)	(0.00235)	(0.00376)	(0.00235)	(0.00236)
female	0.00946***	0.00945***	0.00944***	0.00945***	0.00948***
	(0.00253)	(0.00253)	(0.00253)	(0.00253)	(0.00253)
never been to school	0.0312***	0.0312***	0.0312***	0.0313***	0.0312***
	(0.00372)	(0.00372)	(0.00372)	(0.00373)	(0.00372)
attending primary	0.0151***	0.0151***	0.0151***	0.0151***	0.0152***
	(0.00187)	(0.00186)	(0.00187)	(0.00187)	(0.00187)
junior school (SMP)	-0.0257***	-0.0256***	-0.0257***	-0.0257***	-0.0256***
	(0.00148)	(0.00147)	(0.00148)	(0.00148)	(0.00148)
secondary school (SMU/SMA)	-0.0362***	-0.0361***	-0.0362***	-0.0361***	-0.0362***
	(0.00173)	(0.00173)	(0.00173)	(0.00173)	(0.00173)
SMK	-0.0413***	-0.0412***	-0.0412***	-0.0413***	-0.0412***
	(0.00182)	(0.00182)	(0.00182)	(0.00182)	(0.00182)
diploma I-II	-0.0444***	-0.0443***	-0.0443***	-0.0444***	-0.0444***
	(0.00370)	(0.00369)	(0.00371)	(0.00370)	(0.00369)
diploma III	-0.0336***	-0.0335***	-0.0335***	-0.0336***	-0.0335***
	(0.00400)	(0.00400)	(0.00402)	(0.00400)	(0.00401)
university	-0.0238***	-0.0237***	-0.0237***	-0.0237***	-0.0237***
	(0.00315)	(0.00315)	(0.00315)	(0.00315)	(0.00315)

Independent Variables	Wave	Wave (age)	Wave (gender)	Wave (sector)	Wave (urban)
			spouse's education		
never been to school	0.0268***	0.0268***	0.0269***	0.0268***	0.0270***
	(0.00361)	(0.00360)	(0.00361)	(0.00360)	(0.00361)
attending primary	0.0144***	0.0144***	0.0144***	0.0144***	0.0144***
	(0.00191)	(0.00191)	(0.00191)	(0.00191)	(0.00191)
junior school (SMP)	-0.0285***	-0.0285***	-0.0285***	-0.0285***	-0.0285***
	(0.00159)	(0.00158)	(0.00159)	(0.00158)	(0.00158)
secondary school (SMU/SMA)	-0.0369***	-0.0369***	-0.0369***	-0.0369***	-0.0369***
	(0.00188)	(0.00188)	(0.00188)	(0.00188)	(0.00188)
SMK	-0.0445***	-0.0445***	-0.0445***	-0.0445***	-0.0446***
	(0.00200)	(0.00200)	(0.00200)	(0.00200)	(0.00200)
diploma I-II	-0.0394***	-0.0394***	-0.0394***	-0.0394***	-0.0394***
	(0.00377)	(0.00376)	(0.00377)	(0.00378)	(0.00377)
diploma III	-0.0110*	-0.0110*	-0.0112*	-0.0110*	-0.0111*
	(0.00637)	(0.00636)	(0.00634)	(0.00638)	(0.00636)
university	-0.0132***	-0.0132***	-0.0132***	-0.0132***	-0.0133***
	(0.00430)	(0.00429)	(0.00429)	(0.00430)	(0.00429)
Aug2008	-0.000846	-0.0361***	-0.00268	-0.00482**	-0.00166
	(0.00164)	(0.0102)	(0.00215)	(0.00198)	(0.00201)
Feb2009	-0.00383*	-0.0254**	-0.00592**	-0.00562**	-0.00601**
	(0.00197)	(0.0128)	(0.00260)	(0.00242)	(0.00239)
Aug2008 (Mining)			0.0107		
			(0.0137)		
Aug2008 (Industry)			-0.00255		
			(0.00508)		
Aug2008 (Electrcity)			0.00249		
			(0.0299)		
Aug2008 (Constrctn)			0.00791		
			(0.00600)		
Aug2008 (Finance)			0.00430		
			(0.00460)		
Aug2008 (Transpt, Stor, & Comm)			0.0110*		
			(0.00653)		
Aug2008 (Trade, Htl, & Rest)			0.00711		
			(0.0196)		
Aug2008 (Social srvce)			-9.23e-05		
			(0.00530)		
Feb2009 (Mining)			0.000191		
			(0.0137)		
Feb2009 (Industry)			0.00149		
			(0.00682)		
Feb2009 (Electrcity)			-0.00969		
			(0.0288)		
Feb2009 (Constrctn)			0.00305		
			(0.00712)		
Feb2009 (Finance)			0.00547		
			(0.00567)		
Feb2009 (Transpt, Stor, & Comm)			0.00834		
			(0.00787)		
Feb2009 (Trade, Htl, & Rest)			0.0123		
			(0.0236)		
Feb2009 (Socialsrvce)			0.00548		
			(0.00685)		
Aug2008 (age)		0.00250***			
		(0.000774)			
Feb2009 (age)		0.00152			
		(0.000940)			
Aug2008 (female)				0.00892***	
				(0.00287)	
Feb2009 (female)				0.00398	
				(0.00338)	
Aug2008 (urban)					0.00269
					(0.00357)
Feb2009 (urban)					0.00741
					(0.00461)
Observations	246591	246591	246591	246591	246591

Source: Sakernas data for respective years.
Note: Standard errors in parentheses.
*10% significance level, **5% significance level, ***1% significance level.

Table A2. Determinants of Labor Force Participation

MARGINAL EFFECT (DP/DX)

Independent Variables	wave	Wave (age)	Wave (gender)	Wave (urban)
age	0.0734***	0.0731***	0.0734***	0.0734***
	(0.000312)	(0.000328)	(0.000312)	(0.000312)
age squared	-0.000830***	-0.000831***	-0.000830***	-0.000831***
	(4.06e-06)	(4.05e-06)	(4.06e-06)	(4.05e-06)
female	-0.393***	-0.393***	-0.394***	-0.393***
	(0.00188)	(0.00188)	(0.00329)	(0.00188)
urban/rural	-0.212***	-0.212***	-0.212***	-0.225***
	(0.0136)	(0.0135)	(0.0135)	(0.0141)
household size	-0.00375***	-0.00374***	-0.00375***	-0.00375***
	(0.000724)	(0.000725)	(0.000724)	(0.000724)
dependency ratio	-0.0329***	-0.0330***	-0.0329***	-0.0330***
	(0.00166)	(0.00166)	(0.00166)	(0.00165)
highest education				
never been to school	0.00632	0.00599	0.00631	0.00635
	(0.00485)	(0.00486)	(0.00485)	(0.00484)
attending primary	-0.0887***	-0.0892***	-0.0887***	-0.0887***
	(0.00248)	(0.00248)	(0.00247)	(0.00248)
junior school (SMP)	-0.0180***	-0.0182***	-0.0180***	-0.0181***
	(0.00236)	(0.00236)	(0.00236)	(0.00236)
secondary school (SMU/SMA)	0.0411***	0.0410***	0.0411***	0.0410***
	(0.00311)	(0.00312)	(0.00311)	(0.00311)
SMK	0.111***	0.111***	0.111***	0.111***
	(0.00364)	(0.00364)	(0.00364)	(0.00364)
diploma I-II	0.170***	0.170***	0.170***	0.170***
	(0.00627)	(0.00628)	(0.00627)	(0.00628)
diploma III	0.148***	0.148***	0.148***	0.149***
	(0.00611)	(0.00611)	(0.00611)	(0.00611)
university	0.185***	0.185***	0.185***	0.185***
	(0.00425)	(0.00426)	(0.00425)	(0.00425)
Aug2008	-0.00351	-0.00606	-0.00398	-0.0168***
	(0.00294)	(0.00552)	(0.00321)	(0.00410)
Feb2009	0.00342	-0.0266***	0.00125	-0.00106
	(0.00351)	(0.00677)	(0.00385)	(0.00499)
Aug2008 (age)		7.59e-05		
		(0.000150)		
Feb2009 (age)		0.000902***		
		(0.000181)		
Aug2008 (female)			0.000782	
			(0.00425)	
Feb2009 (female)			0.00366	
			(0.00506)	
Aug2008 (urban)				0.0291***
				(0.00569)
Feb2009 (urban)				0.00992
				(0.00693)
Observations	1346553	1346553	1346553	1346553

Source: Sakernas data for respective years.
Note: Standard errors in parentheses.
*10% significance level, **5% significance level, ***1% significance level.

Table A3. Determinants of Unemployment

	MARGINAL EFFECT (DP/DX)			
Independent Variables	**Wave**	**Wave (age)**	**Wave (gender)**	**Wave (urban)**
age	-0.00625***	-0.00578***	-0.00625***	-0.00626***
	(0.000170)	(0.000185)	(0.000170)	(0.000170)
age squared	3.57e-05***	3.47e-05***	3.57e-05***	3.57e-05***
	(2.28e-06)	(2.28e-06)	(2.28e-06)	(2.28e-06)
female	0.0109***	0.0108***	0.0116***	0.0109***
	(0.000714)	(0.000709)	(0.00141)	(0.000714)
household size	0.00309***	0.00306***	0.00309***	0.00309***
	(0.000214)	(0.000213)	(0.000214)	(0.000214)
dependency ratio	-0.0132***	-0.0130***	-0.0131***	-0.0131***
	(0.000798)	(0.000794)	(0.000797)	(0.000798)
highest education				
never been to school	-0.0189***	-0.0189***	-0.0189***	-0.0189***
	(0.00205)	(0.00203)	(0.00205)	(0.00205)
attending primary	-0.0111***	-0.0110***	-0.0111***	-0.0111***
	(0.00127)	(0.00126)	(0.00127)	(0.00127)
junior school (SMP)	0.0127***	0.0126***	0.0127***	0.0127***
	(0.00115)	(0.00115)	(0.00115)	(0.00115)
secondary school (SMU/SMA)	0.0417***	0.0412***	0.0416***	0.0416***
	(0.00160)	(0.00159)	(0.00160)	(0.00160)
SMK	0.0554***	0.0549***	0.0554***	0.0554***
	(0.00227)	(0.00225)	(0.00227)	(0.00227)
diploma I-II	0.0772***	0.0768***	0.0771***	0.0772***
	(0.00528)	(0.00526)	(0.00528)	(0.00528)
diploma III	0.0519***	0.0517***	0.0519***	0.0519***
	(0.00392)	(0.00391)	(0.00392)	(0.00392)
university	0.0726***	0.0723***	0.0726***	0.0726***
	(0.00333)	(0.00331)	(0.00333)	(0.00333)
urban/rural	0.00836***	0.00838***	0.00836***	0.0102***
	(0.00189)	(0.00189)	(0.00189)	(0.00251)
Aug2008	-0.00151	0.0188***	-0.00189	-0.000226
	(0.000996)	(0.00282)	(0.00119)	(0.00150)
Feb2009	-0.00192	0.0129***	-0.000671	-0.000419
	(0.00120)	(0.00330)	(0.00145)	(0.00186)
Aug2008 (age)		-0.000698***		
		(7.92e-05)		
Feb2009 (age)		-0.000514***		
		(9.47e-05)		
Aug2008 (female)			0.000882	
			(0.00158)	
Feb2009 (female)			-0.00301*	
			(0.00181)	
Aug2008 (urban)				-0.00239
				(0.00195)
Feb2009 (urban)				-0.00281
				(0.00235)
Observations	812473	812473	812473	812473

Source: Sakernas data for respective years.
Note: Standard errors in parentheses.
*10% significance level, **5% significance level, ***1% significance level.

Table A4. Determinants of Changing/Losing Job for Labor Demand Reasons of Those that Lost/Changed Their Job

MARGINAL EFFECT (DP/DX)

Independent Variables	Wave	Wave (age)	Wave (gender)	Wave (sector)	Wave (urban)
age	0.0163***	0.0161***	0.0163***	0.0163***	0.0163***
	(0.00138)	(0.00138)	(0.00138)	(0.00138)	(0.00138)
age squared	-0.000173***	-0.000173***	-0.000173***	-0.000173***	-0.000173***
	(1.69e-05)	(1.69e-05)	(1.69e-05)	(1.68e-05)	(1.68e-05)
female	-0.0348***	-0.0349***	-0.0401***	-0.0344***	-0.0348***
	(0.00693)	(0.00692)	(0.00817)	(0.00694)	(0.00693)
highest education					
never been to school	0.0127	0.0125	0.0126	0.0130	0.0119
	(0.0200)	(0.0200)	(0.0200)	(0.0201)	(0.0200)
attending primary	0.0254**	0.0253**	0.0253**	0.0255**	0.0250**
	(0.0119)	(0.0119)	(0.0119)	(0.0119)	(0.0119)
junior school (SMP)	-0.00112	-0.00114	-0.00118	-0.00131	-0.00158
	(0.00926)	(0.00926)	(0.00926)	(0.00928)	(0.00927)
secondary school (SMU/SMA)	-0.0388***	-0.0389***	-0.0389***	-0.0379***	-0.0390***
	(0.00998)	(0.00997)	(0.00997)	(0.01000)	(0.00997)
SMK	-0.0395***	-0.0395***	-0.0395***	-0.0392***	-0.0397***
	(0.0114)	(0.0114)	(0.0114)	(0.0114)	(0.0114)
diploma I-II	-0.131***	-0.131***	-0.131***	-0.132***	-0.131***
	(0.0179)	(0.0179)	(0.0179)	(0.0178)	(0.0178)
diploma III	-0.102***	-0.102***	-0.102***	-0.102***	-0.102***
	(0.0183)	(0.0183)	(0.0183)	(0.0182)	(0.0182)
university	-0.0856***	-0.0857***	-0.0856***	-0.0855***	-0.0856***
	(0.0166)	(0.0166)	(0.0166)	(0.0166)	(0.0166)
urban/rural	0.0304*	0.0304*	0.0304*	0.0303*	0.0477***
	(0.0160)	(0.0160)	(0.0160)	(0.0160)	(0.0176)
hhsize	0.000430	0.000442	0.000430	0.000322	0.000379
	(0.00216)	(0.00216)	(0.00216)	(0.00216)	(0.00217)
dependency ratio	0.00763	0.00759	0.00763	0.00781	0.00757
	(0.00631)	(0.00631)	(0.00631)	(0.00632)	(0.00632)
previous sector of work					
Mining	-0.0407	-0.0408	-0.0406	-0.0870***	-0.0413
	(0.0299)	(0.0299)	(0.0299)	(0.0233)	(0.0298)
Industry	0.0692***	0.0692***	0.0692***	0.0610***	0.0692***
	(0.0161)	(0.0161)	(0.0161)	(0.0179)	(0.0162)
Electricty, Gas & Wat	-0.0705	-0.0704	-0.0705	-0.0683	-0.0706
	(0.0569)	(0.0570)	(0.0569)	(0.0896)	(0.0571)
Construction	0.0524***	0.0523***	0.0526***	0.0630***	0.0519***
	(0.0157)	(0.0157)	(0.0157)	(0.0224)	(0.0157)
Fin~cl Inst, Real Est	-0.0429***	-0.0430***	-0.0430***	-0.0205	-0.0432***
	(0.0128)	(0.0128)	(0.0128)	(0.0157)	(0.0128)
Transprt,,Stor. & Comm	-0.0642***	-0.0643***	-0.0642***	-0.0729***	-0.0643***
	(0.0139)	(0.0139)	(0.0139)	(0.0147)	(0.0139)
Trade, Hotel, & Restaurnt,	-0.0779***	-0.0779***	-0.0778***	-0.0775***	-0.0779***
	(0.0186)	(0.0186)	(0.0186)	(0.0210)	(0.0186)
Social Services	-0.106***	-0.106***	-0.106***	-0.118***	-0.106***
	(0.0115)	(0.0115)	(0.0115)	(0.0126)	(0.0115)

Independent Variables	Wave	Wave (age)	Wave (gender)	Wave (sector)	Wave (urban)
			interaction terms		
Feb2009	0.0385***	0.0276	0.0354***	0.0350*	0.0514***
	(0.00911)	(0.0191)	(0.00959)	(0.0210)	(0.0135)
Feb2009 (Mining)				0.104	
				(0.0789)	
Feb2009 (Industry)				0.0116	
				(0.0259)	
Feb2008 (Electrcity)				0.00662	
				(0.15727)	
Feb2008 (Constrctn)				0.0269	
				(0.0283)	
Feb2009 (Finance)				-0.0395*	
				(0.0224)	
Feb2009 (Transpt, Stor, & Comm)				0.0208	
				(0.0362)	
Feb2009 (Trade, Htl, & Rest)				-0.000911	
				(0.0479)	
Feb2009 (Socialsrvce)				0.0312	
				(0.0319)	
Feb2009 (age)		0.000320			
		(0.000516)			
Feb2009 (female)			0.00908		
			(0.0129)		
Feb2009 (urban)					-0.0276
					(0.0171)
Observations	34870	34870	34870	34870	34870

Source: Sakernas data for respective years.
Note: Standard errors in parentheses.
*10% significance level, **5% significance level, ***1% significance level.