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# The Impact of Financial Crises on Labor Markets, Household Incomes, and Poverty: A Review of Evidence

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*The 1990s have witnessed several financial crises, of which the East Asia and Mexico tequila crises are perhaps the most well known. What impact have these crises had on labor markets, household incomes, and poverty? Total employment fell by much less than production declines and even increased in some cases. However, these aggregates mask considerable churning in employment across sectors, employment status, and location. Economies that experienced the sharpest currency depreciations suffered the deepest cuts in real wages, though deeper cuts in real wages relative to GDP were associated with smaller rises in unemployment. To some extent, families smoothed their incomes through increased labor force participation and private transfers, though the limited evidence available suggests that wealthier families were better able to smooth consumption. The initial impact of the crises was on the urban corporate sector, but rural households were affected as well and in some instances suffered deeper losses than did urban families. School enrollment declined, especially among poorer families, as did use of health facilities, but the impact on children's nutrition levels appears to vary. Crises have typically proved short-lived, but whether households plunged into poverty during a crisis are able to recover as the economy does remains an open question.*

The East Asia crisis erupted with a massive speculative attack on the Thai baht during May 14–15, 1997. During the remainder of 1997 and through 1998, substantial short-term capital outflows accompanied sharp gross domestic product (GDP) declines in Indonesia, the Republic of Korea, Malaysia, and Thailand. Initial estimates for Korea and Malaysia indicate that GDP began to rise again early in 1999. Similar patterns—of short-term capital flight accompanied by declining incomes over a couple of years—were seen in Mexico and Argentina in 1995 and in Turkey in 1994 (table 1)<sup>1</sup> and began to emerge in Brazil in January 1999.

This article looks at how such crises affect labor market conditions, poverty, and income equality, drawing on evidence from these and other economic crises. Al-

**Table 1.** GDP Growth and Financial Account Balance before and after Crises

Country and crisis year	Year relative to crisis						
	-3	-2	-1	0	1	2	3
<i>GDP growth (percent)</i>							
Indonesia, 1998	8.2	7.8	4.9	-13.7	—	—	—
Korea, 1998	8.9	6.8	5.0	-5.8	—	—	—
Malaysia, 1998	9.4	8.6	7.7	-7.6	—	—	—
Thailand, 1997	8.6	8.8	5.5	-0.4	-10.2	—	—
Argentina, 1995	9.6	5.7	8.0	-4.0	4.8	8.6	4.2
Mexico, 1995	3.6	2.0	4.4	-6.2	5.2	6.7	4.8
Turkey, 1994	0.9	6.0	8.0	-5.5	7.2	7.0	7.5
<i>Financial account balance (US\$ billions)</i>							
Indonesia, 1998	10.3	10.8	-0.6	-10.3	—	—	—
Korea, 1998	17.3	23.9	-9.2	-8.4	—	—	—
Malaysia, 1998 <sup>a</sup>	1.0	4.1	-3.3	-5.4	—	—	—
Thailand, 1997	12.2	21.9	19.5	-16.9	-14.6	—	—
Argentina, 1995	7.8	20.3	11.1	4.4	11.5	16.7	18.9
Mexico, 1995	27.0	33.8	15.8	-10.5	6.1	19.3	17.3
Turkey, 1994	-2.4	3.6	9.0	-4.2	4.6	8.8	8.6

—, Not available.

<sup>a</sup>Net private short-term capital flows.

Source: World Bank data ; for Malaysia financial account balance, Ministry of Finance.

though financial crises may be short-lived, the associated drops in income have been substantial. Moreover, perceptions of these reversals are made worse by the prior experience of rapid growth in most instances examined.<sup>2</sup> Concerns about impacts on poverty during crises and over the longer run are therefore very real.

Placing the discussion in context is a brief review in the next section of stabilization and macroeconomic responses to recent crises. Labor market responses are then reviewed, followed by an examination of inequality, poverty, and basic needs. The article closes with a summary and some thoughts on policy lessons to be derived.

## Stabilization Efforts and Macroeconomic Responses

Countries hit by a crisis have not responded uniformly to falling incomes and capital flight. Despite efforts to cut or postpone government development spending, government consumption declined far more sharply than GDP in Indonesia, Malaysia, Mexico, and Turkey as revenue prospects tightened. Smaller cuts in government consumption occurred in Argentina and Thailand, and there was a marked decline in the growth of such spending in Korea. Despite spending cuts, budget surpluses turned

to deficits in Korea, Malaysia, Thailand, and Mexico, although they were only mildly expansionary relative to GDP. In Turkey, spending cuts were large enough that they reduced persistent deficits relative to GDP in both 1994 and 1995.

In Malaysia, Argentina (briefly), and Mexico the real supply of money and quasi-money was cut in response to the crisis; in Indonesia and Thailand the previous rapid growth in the money supply was sharply curtailed. In contrast, Korea and Turkey rapidly expanded the real money supply, but nominal interest rates rose. Nonetheless, local currencies underwent massive depreciations against the U.S. dollar, and these overwhelmed high interest rates, leaving dollar yields negative (except in Argentina, which maintained a currency board). In countries with the largest depreciations, consumer prices rose rapidly, led by tradables. In Mexico, Turkey, and Indonesia (in 1997), the combined effects were a one-year spike of high real interest rates for local consumers. Milder increases occurred elsewhere.

Consumption smoothing may have relieved the impact of declining incomes for some households, but the poor are significantly less able to smooth consumption than are higher income households (Alderman and Paxson 1994). But only in Indonesia did private consumption rise as a fraction of GDP during the crisis. In Malaysia and Mexico, the propensity to consume fell. Some of the decline may reflect rational responses to changes in prices with a currency devaluation. However, consumption smoothing also becomes more difficult when entire communities experience an income shock.

The combination of falling GDP and consumption, sharp devaluation, and rising interest rates was also typical of the economic crises of the 1980s, which were occasioned by macroeconomic imbalances and ensuing structural adjustments. In Latin America, these crises and responses were associated with greater inequality of incomes (World Bank 1999). Labor market adjustments played a key role in this widening inequality (Horton, Kanbur, and Mazumdar 1994).

## Labor Market Responses

How did labor markets respond to sharply falling aggregate demand and shifts in relative prices as local currencies depreciated? To answer this question it is useful to think in terms of two groups of employers. For producers of tradables, depreciation of the exchange rate boosts prices, offering an incentive to increase labor in these sectors. For producers of nontradables, the response depends on the extent to which the decline in aggregate demand is offset by a switch in demand toward nontradables as their relative price declines.

Employers in contracting sectors have at least three margins along which they may adjust: they can cut wages, employment, or hours. When rapid inflation accompanies the crisis, nominal wages are quickly undercut unless employers offer compen-

satory pay increments; with less inflation, stickiness in wages can provide some defense for those who manage to remain employed. Employers are usually reluctant to lay off skilled and professional workers during a downturn, especially if the shock is expected to be short-lived. Indeed, implicit contracts between employers and employees (particularly skilled workers and civil servants) may place most of the adjustment burden on employers, as can explicit contracts resulting from collective bargaining. Voluntary or legally mandated severance agreements may also curtail layoffs. However, bankruptcies can render implicit or even explicit understandings moot.

Several factors may constrain employers in tradable sectors from expanding. Hiring is unlikely to take place if the price increase is expected to be temporary. The need to train new employees may favor expanded hours for existing workers. There may be constraints on capacity expansion, including difficulty obtaining trade credit and working capital during a banking crisis. When contagion leads to regional collapse (as in East Asia), competitor countries also devalue, lowering world prices and regional demand, making export expansion difficult. Meanwhile, employment of unpaid family labor is likely to expand to the extent that the opportunity cost of such employment falls. However, this effect may be offset in nontradable sectors by declining demand.

As some sectors expand and others contract, the ability of workers to move into expanding sectors can be critical to the employment situation. Where mobility involves migration, the costs of relocation may be significant. Still, it may be cheaper for members of rural families who moved to town to return to the village if they lose their jobs because of the fixed costs in living separately and lower living costs in rural areas. Decisions on participation and mobility depend to some extent on perceptions of the depth and permanence of the crisis. But although high unemployment rates may discourage labor force participation, family needs to defend declining incomes tend to encourage greater participation. In countries with a significant immigrant workforce, encouraging the return migration of foreign workers offers another mechanism for adjusting the size of the labor force.

With this stylized picture in mind, what does the evidence show about employment, unemployment, and wages and earnings?<sup>3</sup>

### *Employment*

Of the seven crises identified in table 1, only in Korea did employment fall commensurately with GDP (table 2). Indeed, total employment continued to rise through the crises in Indonesia, Mexico, and Turkey, whereas the decline in employment was less than 3 percent in Argentina, Malaysia, and Thailand.

However, these comparatively small changes in total employment hide some important changes in the composition of employment. The direct and induced effects of crises on sectors and regions can vary widely too. Some workers who are laid off find jobs (often at lower pay) in another sector or location, rather than joining the

ranks of the openly unemployed. Pressures on displaced workers to accept work at reduced pay rather than remain unemployed depend on the ability of their family to support them and perceptions about how long the crisis will last. In low-income countries, even short spells of unemployment can impose a harsh penalty on households, with the result that open unemployment is normally low even in severe crises.

Which sectors manage to absorb laid-off workers? Two types of evidence exist: one on which sectors expanded during a crisis and one on employment transitions among individuals during a crisis. The mere fact that employment expands in certain sectors is no guarantee that these sectors are absorbing individuals laid off elsewhere, because labor force participation can expand during a crisis as a strategy for maintaining family earnings as the wages of some members fall. For instance, since the advent of the recent crisis, labor force participation rates have risen in Indonesia among adults ages 15–24 as school enrollment rates have declined (Poppele, Sumarto, and Pritchett 1999). In contrast, in Thailand, labor force participation declined from 1997 to 1998 in both rural and urban areas and for both men and women (Siamwalla 1998). Nonetheless, any sectors with employment expansion are helping reabsorb displaced workers either directly or indirectly by reducing slack in the overall labor market.

*Sectoral changes and employment status.* In each country listed in table 2 (except Turkey), employment in construction fell as confidence, credit, and investment levels dropped. Manufacturing employment shrank as the corporate sector was hit by the higher costs of imported materials, difficulties obtaining credit, and the rising burden of debt in foreign currency–denominated instruments. Nonetheless, employment in manufacturing shrank less than proportionately to the decline in manufacturing production (except in Korea). Similarly, despite cuts in government consumption spending, employment was cut little (if at all) in government services, public administration and defense, and community, social, and personal services (see table 2).

Employment in agriculture expanded in several cases. In Indonesia, agriculture employment grew more than 13 percent in 1998, from an already high 40 percent of total employment in 1997. Such expansion would be consistent with a sharp depreciation of the real exchange rate, which raises the relative price of tradable agricultural products.<sup>4</sup> How quickly farmers adjust production to these new price incentives depends on the crop cycle, as well as on other external factors.

For nontradable service sectors, the employment consequences of crises appear to be mixed. Services with strong links to the industrial sector, such as transport and the financial sector, appear to be hurt badly. Some nontradable consumer goods and services gain, and some lose. Urban expenditure levels decline precipitously, but some substitution may occur from increasingly high priced imports to domestic goods and services. Perhaps as a result of this ambiguity, only in Mexico does a clear pattern emerge of an increase in employment in other services through the 1995 crisis.

**Table 2. Employment Structure and Growth before and after Crises**  
(percent)

Country and crisis year	Sector	Employment share	Employment growth in years relative to crisis										
			-3	-2	-1	0	1	2	3	4			
Indonesia, 1998	Total		2.4	4.5	1.8	2.7	—	—	—	—	—	—	—
	Manufacturing	12.9	7.0	-0.6	4.1	-9.8	—	—	—	—	—	—	—
	Agriculture	40.7	7.5	-0.4	-4.7	13.3	—	—	—	—	—	—	—
	Construction	4.9	-5.6	6.7	10.7	-15.8	—	—	—	—	—	—	—
	Community services	14.7	-11.3	9.1	8.0	-1.4	—	—	—	—	—	—	—
Korea, 1998	Other	26.8	0.9	14.0	6.8	-1.9	—	—	—	—	—	—	—
	Total		2.7	1.9	1.4	-5.3	1.4	—	—	—	—	—	—
	Manufacturing	21.3	1.7	-2.0	-4.3	-13.0	2.8	—	—	—	—	—	—
	Agriculture	10.5	-6.3	-5.2	-3.6	4.0	-5.3	—	—	—	—	—	—
	Construction	9.5	6.7	3.8	1.8	-26.4	—	—	—	—	—	—	—
Malaysia, 1998	Public administration	3.1	1.7	-1.1	1.6	—	—	—	—	—	—	—	—
	Other <sup>a</sup>	55.6	4.9	5.1	4.7	-4.3	2.3	—	—	—	—	—	—
	Total		4.1	5.3	4.6	-2.5	1.7	—	—	—	—	—	—
	Manufacturing	26.9	—	10.0	6.5	-4.1	4.0	—	—	—	—	—	—
	Agriculture	16.7	—	-0.1	-1.6	-4.6	-0.1	—	—	—	—	—	—
Thailand, 1997	Construction	9.9	—	11.0	10.1	-7.6	-0.7	—	—	—	—	—	—
	Government Services	9.9	—	0.2	0.2	0.2	0.2	—	—	—	—	—	—
	Other	36.6	—	5.0	6.2	0.3	1.8	—	—	—	—	—	—
	Total		-0.2	1.3	-0.9	2.9	2.8	—	—	—	—	—	—
	Manufacturing	13.4	-2.8	13.7	-1.0	-1.0	-2.4	—	—	—	—	—	—
Other <sup>a</sup>	Agriculture	50.0	-1.6	-5.7	-4.7	3.5	—	—	—	—	—	—	—
	Construction	6.7	15.1	8.7	17.7	-7.0	—	—	—	—	—	—	—
	Community services	12.7	5.2	6.8	-0.7	6.1	—	—	—	—	—	—	—
	Other <sup>a</sup>	17.1	-1.6	10.9	5.1	5.7	-2.4	—	—	—	—	—	—

Argentina, 1995	Total	2.7	0.7	-1.2	-1.7	1.9	—	—
	Manufacturing	0.8	-11.6	6.6	-6.9	-0.1	—	—
	Agriculture and mining	-21.0	38.6	-13.4	2.2	16.0	—	—
	Construction	-7.5	-4.5	25.4	-8.8	3.8	—	—
	Public administration	12.8	-16.8	5.8	9.4	6.4	—	—
	Other	3.7	6.3	-6.1	-0.9	1.2	—	—
Mexico, 1995	Total	4.2	4.1	—	1.6	4.0	5.9	—
	Manufacturing	—	2.8	—	0.9	11.8	8.9	—
	Agriculture	—	3.7	—	-4.0	-2.9	13.8	—
	Construction	—	0.2	—	-1.6	-1.2	-1.8	—
	Public administration	—	-0.5	—	0.0	22.9	0.8	—
	Other	—	5.0	—	5.4	3.9	2.7	—
Turkey, 1994	Total	-2.5	2.6	-0.3	2.5	4.8	1.5	-4.1
	Manufacturing	-7.8	20.4	-8.6	-0.6	-1.2	6.3	14.9
	Agriculture	-1.1	-3.7	-3.0	4.4	13.3	-2.6	-17.5
	Construction	5.9	8.7	8.3	4.4	0.3	9.4	-2.0
	Community services	-4.4	-6.3	6.1	-0.8	-2.9	6.7	2.6
	Other	-2.5	8.1	6.1	1.9	-2.5	2.9	7.2

—, Not available.

<sup>a</sup>In Korea in 1998 and 1999 and in Thailand in 1998; Other refers to total minus manufacturing and agriculture only.

Source: ILO various years; World Bank data.



In addition to changes in the sectoral mix of employment, the change in total employment may mask other shifts in employment status. Thailand Labor Force Survey data show almost no change in overall self-employment or unpaid family work in urban or rural areas from 1996 to 1998. In rural areas, a slight rise in both categories of employment among men was offset by a commensurate decline among women (Siamwalla 1998). Similarly, the National Urban Employment Survey in Mexico records only small absolute increases in self-employed workers and unpaid family workers from 1994 to 1995—though these represent large proportional expansions from a small base. In Korea, too, the number of unpaid family workers appears to have risen from 1997 to 1998, though the magnitude is unclear (Atinc and Walton 1999).

In Indonesia, the male wage employment rate fell from 1997 to 1998 in urban and rural areas, while self-employment and unpaid family work increased, though from a low base in 1997. However, total employment rates of men fell during 1998 (see table 3). Among women residing in urban areas in 1998 the overall employment rate was lower in 1998 than in 1997, as both wage employment and self-employment declined, though family work expanded. In rural areas, however, the employment rate (and labor force participation) rose as both self-employment and family work expanded among rural women. Presumably much of this expansion in employment among rural women was in agriculture, and this adaptation played an important role in smoothing rural household incomes.

*Employment transitions by individuals.* The second, more direct type of evidence concerns the employment transition of individuals during a crisis. Such evidence is comparatively rare, and some of the turnover in employment status in any panel or recall data may simply reflect errors in measurement. However, because there is no reason why errors in measurement should be correlated with the state of the economy, comparisons of employment churning in downturn and upturn phases (as is done with Mexican data below) can be particularly informative.

**Table 3.** Employment Status in Indonesia before and after the 1997 Crisis

	Employment rate in 1997				Growth in employment rate, 1997–98			
	Any work	Wage sector	Self-employed	Family worker	Any work	Wage sector	Self-employed	Family worker
<i>Urban</i>								
Male	71.9	42.6	27.2	2.1	-3.1	-8.9	4.0	19.0
Female	37.7	19.8	12.5	5.4	-1.9	-5.1	-2.4	9.3
<i>Rural</i>								
Male	85.0	27.9	49.8	7.3	-1.2	-12.5	3.4	11.0
Female	51.7	11.2	18.6	21.9	5.6	0.9	7.0	6.8

Source: Smith and others (1999).



Two rounds of the Indonesia Family Life Survey provide insights into the initial impact of the 1998 crisis.<sup>5</sup> An estimated 75 percent of workers who lost their jobs in construction between 1997 and 1998 had found employment in another sector by 1998; half of those who lost jobs in government, finance, or tourism sectors; and 40 percent of those in agriculture. Despite the low rate of reemployment for those losing employment in agriculture, agriculture was the main absorbing sector (as is apparent from table 2). In general, more churning occurred in employment status in rural than urban areas, and shifts between wage employment and self-employment were more common among women than men (Smith and others 1999:table 7). Only 41 percent of men and 50 percent of women who resided in rural areas and were not working in 1997 reported not working in 1998; most of the remaining women in this group became unpaid family workers or self-employed, whereas most men became wage workers.

Using two panel surveys for Mexico from the third quarters of 1994 to 1995 and from 1996 to 1997, Licona (1999) also records significant churning between wage and self-employment in urban areas. As the crisis intensified from 1994 to 1995, job retention was much higher among protected workers (those with social security coverage or in government employment) than unprotected workers (table 4). Still, only 77 percent of those reporting having a job in 1994 reported having one in 1995, some 5 percentage points lower than the retention rate among protected workers in the upswing from 1996 to 1997.

Although transitions from protected to unprotected jobs proved easier than from unprotected to protected, switches in both directions represented a greater fraction

**Table 4.** Employment Status Transitions in Mexico, 1994 and 1996

<i>Initial employment status</i>	<i>Employment status one year later (percent)</i>				
	<i>Out of labor force</i>	<i>Unemployed</i>	<i>Protected wage worker</i>	<i>Unprotected wage worker</i>	<i>Self-employed</i>
<i>1994</i>					
Unemployed	26.1	19.4	22.5	21.5	10.6
Protected	5.9	4.5	76.6	8.6	4.4
Unprotected	14.9	7.4	16.6	46.8	14.3
Self-employed	16.4	3.6	5.6	12.4	62.1
<i>1996</i>					
Unemployed	21.3	12.7	25.4	28.4	11.9
Protected	5.3	1.9	81.6	7.9	3.1
Unprotected	15.3	3.2	21.0	46.7	13.6
Self-employed	15.1	1.4	6.2	13.8	63.2

*Note:* Protected means having a government job or a job with social security coverage.

*Source:* Derived from Licona (1999).

of those changing status in the upswing than in the downswing. Finding wage employment of either variety was difficult in 1994–95. By 1995, less than two-thirds of those reporting an unprotected wage job in 1994 reported having any wage employment by 1995. Approximately the same share of those changing status reported entering some form of self-employment in both periods. However, workers leaving unprotected jobs were more likely to enter self-employment than were those leaving protected jobs. Nonetheless, the net expansion in self-employment does not appear to have been large. In both the downswing and upswing, some 25–30 percent of both protected and unprotected workers who were changing status reported leaving the workforce. However, the share entering unemployment in the downswing were about double the share in the upswing, with protected workers more likely to become unemployed, given job separation (see also Lucas and Verry 1999).

### *Migration*

Expanding activities may not be located close to the homes of laid-off workers, so willingness to migrate can be critical to employment transitions. Workers displaced from urban jobs must typically relocate to the rural sector to take advantage of any expansion in agricultural employment and associated activities (unless they were previously commuting to town). Displaced urban workers may well elect to rejoin their kin in the villages if only to avoid the additional costs of living in town. There is, however, little systematic evidence on internal migration in response to economic crises.

In Thailand, the crisis is known to have diminished migration to Bangkok by unskilled workers from rural areas, though not by the educated. There are also some indications of substantial reverse migration (Siamwalla 1998; Mahmood 1999). The Indonesia Family Life Survey data indicate that some 6 percent of all prime-age adults moved from urban to rural areas in just one year from 1997 to 1998; just half that number moved in the opposite direction.<sup>6</sup> Thus, net migration to rural areas in response to the crisis was massive.

In Malaysia, the labor market impacts of the crisis were apparently mitigated in part by the nonrenewal of work permits for foreign documented employees, many of whom were previously employed in construction (Pillai 1998). Korea responded to the crisis by repatriating illegal foreign workers (Park 1998). For Indonesia, a major supplier of migrant workers, especially to Malaysia, their mass return undoubtedly exacerbated the downturn in the labor market (Ananta and others 1998).

### *Unemployment*

Despite the fact that the decline in total employment has generally been muted relative to the downturn in manufacturing production, open unemployment rose in the year of crisis in each case in table 5, except in Turkey. It took four years to return to

**Table 5.** Open Unemployment Rates before and after Crises

Country and crisis year	Years relative to crisis								
	-3	-2	-1	0	1	2	3	4	5
Indonesia, 1998	—	4.1	4.7	5.4	—	—	—	—	—
Korea, 1998	2.0	2.0	2.6	6.8	6.3	—	—	—	—
Malaysia, 1998	3.1	2.5	2.5	3.2	—	—	—	—	—
Thailand, 1998	1.1	1.1	0.9	3.7	5.2	—	—	—	—
Argentina, 1995	7.2	9.1	11.7	15.9	16.3	—	—	—	—
Mexico, 1995	2.8	2.4	3.7	4.7	3.7	2.7	—	—	—
Turkey, 1994	8.4	8.0	8.0	7.6	6.6	5.8	6.9	—	—

—, Not available.

Source: ILO (various years) and World Bank data. For Indonesia in 1997 and 1998, Islam (1999).

prerecession levels following the 1985 recession in Malaysia, but only two years following the 1982 debt crisis in Mexico. In Chile unemployment returned to precrisis levels within three years of the high unemployment episode of 1982.

Open unemployment rates rose with the financial crises of the 1990s, but the absolute rise was substantial only in Argentina and Korea. Helping keep unemployment increases small were reductions in working hours from 1997 to 1998 among both men and women and in rural and urban areas. In Thailand, the largest impact was on short-time work among urban women (Siamwalla 1998).

### *Wages and Earnings*

Despite these adjustments, the main crisis in labor markets was in wages, not employment or unemployment (table 6).<sup>7</sup> In Indonesia and Turkey, inflation dramatically undermined manufacturing wages: real wages fell 44 percent in Indonesia and 31 percent in Turkey in a single year. In Malaysia, real wages declined only slightly in 1998 (as in the recession in 1985), but the effect was intensified because the decline followed a period of very high real wage growth.

Simple ratios of total employment change to GDP change and of real wage change to GDP change in the crisis year show that the impact on total employment was smaller in countries that suffered the deepest wage cuts relative to the decline in GDP (figure 1). Though the number of observations is far too small to generalize, the pattern is suggestive of a potentially important tradeoff that could have significant implications for distributional impacts of crises.<sup>8</sup> Such a tradeoff makes sense intuitively: deeper wage cuts offset the shift in labor demand. It is also clear that countries with the greatest currency depreciations had the largest cuts in real manufacturing wages (figure 2).

The employment cuts reviewed here cover total employment, whereas the wage cuts cover manufacturing alone. How indicative are wage cuts in manufacturing of

**Table 6.** Growth of Real Consumption Wages in Manufacturing before and after the Crises

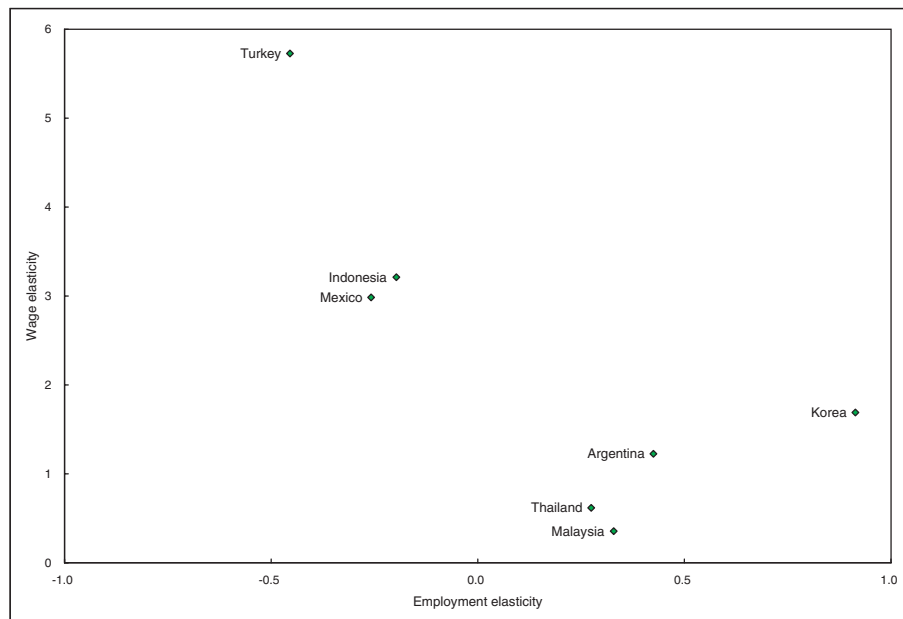
Country and crisis year	Year relative to crisis							
	-3	-2	-1	0	1	2	3	4
Indonesia, 1998,			11.1	-44.0	—	—	—	—
Korea, <sup>a</sup> 1998	5.2	7.0	0.7	-9.8	—	—	—	—
Malaysia, 1998	20.9	4.4	5.9	-2.7	—	—	—	—
Thailand, 1998	10.3	-5.8	8.6	-6.3	—	—	—	—
Argentina, 1995	4.3	0.9	2.9	-4.9	1.0	—	—	—
Mexico, 1995	1.6	-1.1	-0.8	-18.5	-9.9	-1.2	3.1	—
Turkey, 1994	21.4	-15.9	-7.6	-31.5		16.8	—	—

—, Not available.

<sup>a</sup>Industrial sector.

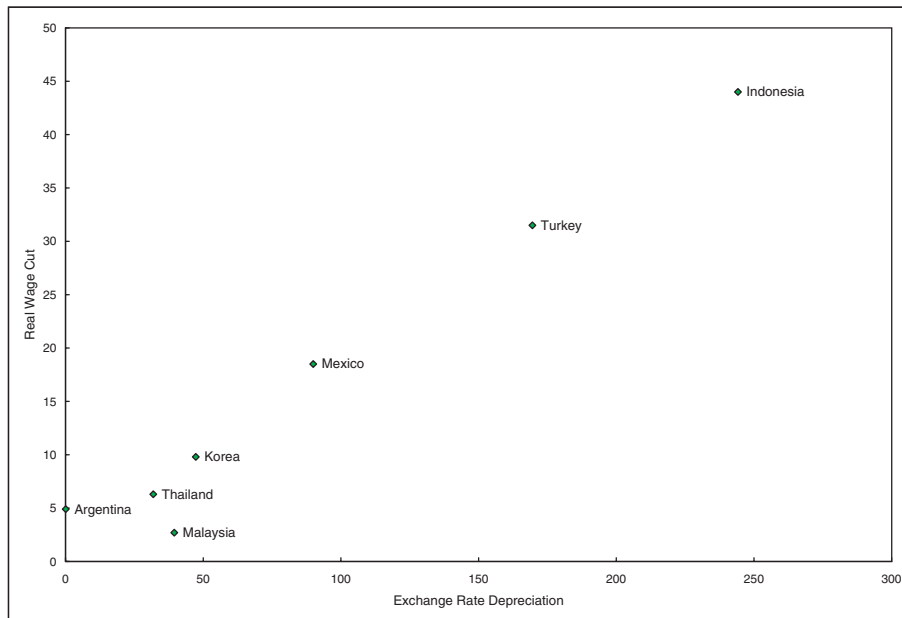
Source: ILO (various years) and World Bank data; for Indonesia, Islam (1999); for Malaysia, Ministry of Finance, Economic Report.

**Figure 1.** Employment and Wage Elasticities Relative to GDP for Selected Crisis Countries



Source: Authors' calculations (tables 1, 2, 6).

**Figure 2.** Currency Depreciation and Real Wage Cuts for Selected Crisis Countries (percent)



Source: Authors' calculations (table 6) and World Bank data.

those in other sectors of the economy during crises, and what happens to the distribution of wages? Little information seems to be available on this question.

In Indonesia, real wages per hour fell from 1997 to 1998 for men and women, in rural and urban areas. Smith and others (1999), using a nonparametric representation of the wage distribution, find a decline from 1997 to 1998 in the portion of men and women at all wage levels above their respective previous-year medians; the opposite holds for all levels below the medians. Taken together, these indicate wide-sweeping wage cuts beyond the manufacturing sector. Among male wage earners, Smith and others (1999:13) found that wage declines were slightly higher in urban areas, largest for the youngest, and uniformly distributed across education groups. Among women, they found that those in the middle of the education distribution suffered the largest declines, along with younger women. The Indonesia Family Life Survey data showed that the relative decline in urban over rural wages was greater for men and women whose wage levels in 1997 were lower. Rural and urban declines were approximately equal for those with higher initial wages.

Given the massive exodus to rural areas already noted and the agricultural base of most of the wage earnings of less-skilled workers in rural areas, the relatively small decline in unskilled wages in rural areas presumably speaks to the expansionary ef-

fects of the exchange rate depreciation on agriculture. Still, the real wages of unskilled workers in rural Indonesia did decline, while the self-employment earnings of men in rural areas (again largely in agriculture) remained largely unaffected in real terms at all levels of earnings (Smith and others 1999). This combination of declining earnings for unskilled agriculture laborers and rising earnings for self-employed farmers (especially net sellers of rice) has strong implications for poverty and income distribution effects (see following discussion). Self-employment earnings fell overall, however, as competition in the urban labor market, presumably combined with declining demand, reduced self-employment earnings in urban areas.

Similarly, in urban Mexico, Licona (1999) records a drop in real monthly earnings from the third quarter of 1994 to the same quarter in 1995. His results suggest some overlap between cuts for wage earners and for the self-employed. Workers in small family businesses fared better than unprotected workers, but less well than protected workers. Single self-employed workers suffered most.

## Household Incomes, Poverty, and Social Spending

What were the effects of the crisis on household income and distribution and on social spending?

### *Poverty and Inequality*

Changes in overall inequality from 1997 to 1998 appear to have been minor in East Asia (table 7). This seems a surprising finding, given the magnitude of changes that occurred and the shifts in inequality other countries experienced during economic crises and subsequent structural adjustment. Inequality in Latin America clearly increased during the crises of the 1980s, though the changes there were measured over longer intervals than the one-year changes reported in table 7.

There may be good reasons to expect different income distribution effects in middle-income than lower-income countries. Bourguignon, de Melo, and Suwa (1991:359) find, from simulations, that “in the standard adjustment package, inequality increased significantly for the Latin American archetype but decreased significantly for the African archetype.” Among the reasons: greater formal sector real wage rigidity and hence higher unemployment in the Latin American archetype exacerbates inequality, whereas the incentives provided to agriculture and the dependence of the poor on agriculture in the African archetype narrows income inequalities.

On this stylized basis, the deep wage cuts in Indonesia, Mexico, and Turkey combined with relatively stable employment should have helped sustain equality through the crisis. In contrast, the relatively high rates of additional unemployment and small wage cuts in Argentina, Korea, and Thailand might have exacerbated inequality. In

**Table 7.** Poverty Incidence and Gini Coefficients before and after the Crises in Four Southeast Asian Countries

Country and crisis year	Poverty headcount			Gini coefficient
	Overall	Urban	Rural	
<i>Indonesia</i>				
1997	11.0	9.2	12.4	38.0
1998	13.8	12.0	15.2	37.0
1998 <sup>a</sup>	19.9	15.8	23.0	
<i>Korea</i>				
1997	2.6	7.5		27.9
1998	7.3	10.0		28.5
		22.9 <sup>b</sup>		
<i>Malaysia</i>				
1997	8.2			49.6
1998	10.4			49.8
<i>Thailand</i>				
1997	9.8	1.2	11.8	47.7
1998	12.9	1.5	17.2	48.1

<sup>a</sup>Deflation according to price data from Indonesia Family Life Survey 2+.

<sup>b</sup>Fourth quarter; other urban data for Korea in 1997 and 1998 are for first quarter.

Source: For Indonesia, poverty: Frankenberg, Thomas, and Beegle (1999); for Gini: World Bank staff calculations; for Korea, Kakwani and Prescott (1999); for Malaysia, World Bank staff calculations; for Thailand, Kakwani (1999).

four of the seven crisis countries considered here—Indonesia, Mexico, Thailand, and Turkey—agriculture accounts for more than 25 percent of total employment (see table 2); in Malaysia agriculture accounts for nearly 17 percent. In all these countries, agriculture is important economically, and the poor are heavily dependent on agriculture. Bourguignon, de Melo, and Suwa's (1991) stylization of low-income agricultural economies suggests that currency depreciations would narrow income inequality in these countries.

Indonesia meets both criteria for movement toward greater equality, an outcome supported by the Indonesia Family Life Survey data though not by the Gini coefficients reported in table 7. Thomas and others (1999) derive a Lorenz curve of per capita expenditures for 1998 that is everywhere significantly closer to the diagonal than in 1997. Nonetheless, they estimate that both the top and bottom household quartiles suffered more than households in the middle in declining per capita expenditure from 1997 to 1998. In the bottom quartile, the poorest lost most. In contrast,



in Thailand there is evidence of at least a weak redistribution of incomes from the middle classes to the rich.<sup>9</sup>

Some households seem to have smoothed their incomes during the shock through increased labor force participation or reliance on transfers. In Indonesia, women increased their labor force participation, including unpaid family work. Smith and others (1999) estimate that from 1997 to 1999, the contribution of unpaid family workers to household incomes increased significantly. Quantile regressions on these changes reveal important differences in these effects by income class. In urban areas, upper-income classes benefited from these changes; in rural areas, the poor benefited. Frankenberg, Thomas, and Beegle (1999) note that informal assistance from friends and family members was also important in Indonesia during 1998, with about a quarter of households receiving such assistance. Its median value was considerably higher than that of assistance from formal services. It seems unlikely that most of these transfers came from urban areas because return migration to villages appears to have been the principal strategy of urban migrants from rural areas. Rather, the Family Life Survey data show that per capita expenditure has declined least in communities that are relatively better off (Frankenberg, Thomas, and Beegle 1999). This finding may reflect consumption smoothing within better-off communities, presumably resulting in greater inequality across communities.

Evidence from other contexts indicates that the poor may be less able to smooth consumption. To the extent that interest rates rise during crises, borrowing to smooth consumption becomes more expensive. Many families turn to less formal sources for borrowing funds, though there is little evidence on the impact of crises on such borrowing. A recent survey found that deposits to microfinance institutions continued to rise during the recent East Asian crisis (Atinc and Walton 1999), possibly because they were sounder institutions and rural savers were shifting out of smaller rural banks. This could imply easier access to credit from such sources during a crisis, though recent evidence raises serious questions about whether microcredit institutions actually lend to poorer households (Rai, Topa, and Amin 1999).

It is not surprising to find that the incidence of poverty rose significantly during the crises, though there is no simple association between the severity of declines in GDP and the rise in poverty among the four East Asian countries in table 7. In Indonesia, the increase in overall poverty from 1997 to 1998 and that in urban and rural areas prove very sensitive to the inflation measure adopted. When the increase in the official cost of living is used to deflate expenditures, the overall rise in poverty is not very dramatic and urban poverty rises more than rural poverty. Price data collected in association with the Indonesia Family Life Survey suggest a much higher rate of overall inflation and a sharper rise in poverty.

Thailand experienced wide regional disparities in the poverty impacts of the crisis. The poverty rate dropped from 10.2 percent in 1997 to 9.2 percent in 1998 in

the northern region, while rising dramatically from about 15 percent to 23.2 percent in the northeastern region and from 8.6 percent to 14.8 percent in the southern region (perhaps partially reflecting the fall in world rubber prices). Large regional differences in changes in per capita expenditure emerged in Indonesia as well. Whether the region was a net exporter of rice, and hence benefited from the currency depreciation, seems to have been one factor. Another was the drought of 1997–98, which hurt some regions far more than others.

The impact of currency depreciation on rural areas has generally been mixed. Among self-employed farmers, net sellers of food can be expected to gain as food crop prices rise, while net buyers may well be hurt. The rise in crop prices may translate into greater demand for labor, though labor supply typically increases both through higher participation rates and reduced urban migration. The rising cost of food also erodes agricultural wages.

The Indonesia Family Life Survey data indicate a greater rise in poverty in rural than in urban areas.<sup>10</sup> The same was true in Thailand. In Indonesia, poverty rose more in rural areas despite the sustained real earnings of self-employed men, not only at the mean of self-employment earnings but across the board and despite a greater decline in real urban wages. The explanation may be that a larger portion of rural households was just above the poverty line than before the crisis. In Thailand, Siamwalla (1998) argues that there are not many landless laborers and that the poorest decile of rural households in 1996 derived more of their income from farming than from wage labor. Net buyers of rice and the few households that were more dependent on wage incomes likely bore the brunt of the increase in poverty.

### *Social Spending and Safety Nets*

Although the East Asian countries abandoned relative fiscal austerity for counter-recessionary measures and postponed public investment expenditures, real government consumption spending fell or slowed in each of the financial crises considered. Because government-related employment fell little if at all (see table 2), this raises concerns about social spending, public safety nets, and basic needs more generally.

*Health and nutrition.* Public expenditure on health changed little relative to GDP in the four East Asian crisis countries of Indonesia, Korea, Malaysia, and Thailand, which means that it fell in absolute terms (table 8). In Mexico, public spending on health and labor declined 11.6 percent in real terms in 1995 and by a further 5 percent in 1996, though these cuts were less deep than overall cuts in social spending (Lustig 1998).

In Indonesia, use of health facilities by adults and children fell dramatically between 1997 and 1998 as prices on inputs to private facilities rose sharply and stock shortages became common at public facilities (Frankenberg, Thomas, and Beegle 1999).

**Table 8. Public Expenditure on Health and Education before and after the 1997 Crises**  
(percent)

	Public expenditure on health										Public expenditure on education				
	1994-95	1995-96	1996-97	1997-98	1998-99	1994-95	1995-96	1996-97	1997-98	1998-99	1994-95	1995-96	1996-97	1997-98	1998-99
<i>As share of GDP</i>															
Indonesia	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.4	1.2	1.4	0.7	0.7
Korea	0.5	0.5	0.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	5.0	5.0	5.1	4.3	4.0
Malaysia	1.3	1.3	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	5.3	4.9	4.0	4.7	4.3
Thailand	1.1	1.1	1.2	1.4	1.3	1.3	1.3	1.3	1.3	3.4	3.3	3.1	3.1	3.4	4.2
<i>As share of total public expenditure</i>															
Indonesia	3.2	3.4	3.3	3.1	2.8	3.1	3.1	2.8	2.8	6.7	6.7	7.7	7.7	3.9	5.2
Korea	2.0	1.8	2.1	2.2	2.1	2.2	2.2	2.1	2.1	19.3	19.2	18.5	18.5	15.6	14.4
Malaysia	5.5	5.5	5.9	6.2	5.6	6.2	6.2	5.6	5.6	20.0	21.8	20.9	20.9	21.4	21.3
Thailand	4.4	4.7	4.8	4.9	5.8	4.9	4.9	5.8	5.8	14.4	14.4	13.9	13.9	13.9	17.5

Source: World Bank staff calculations.

In Thailand, the long-term implications of health spending cuts for the AIDS epidemic has raised concerns (Siamwalla 1998).

There is less evidence on changes in household spending on health care during crises, though the Indonesia Family Life Survey indicates a small cut from 1997 to 1998 in the fraction of household budgets spent on health care in both rural and urban areas. The price of health care rose, implying a real decline in private spending on health care.

But what ultimately matters is whether changes in health spending and nutrition result in greater morbidity or mortality rates. In Indonesia, the changes in health and nutrition status between 1997 and 1998 present a mixed picture. Self-reported health status improved among adults and children, with little difference across income classes or between rural and urban areas. However, self-reported health status can be misleading. More direct measures, such as height for age and weight among children, did not change significantly, and the proportion of children whose weight for height was more than two standard deviations below the median fell. There was, however, a significant decline in mean body mass index among adults and in the proportion of adults in a body mass range considered unhealthy. To Frankenberg, Thomas, and Beegle (1999), this decline coupled with the improvement at the low end of the nutritional spectrum in weight-for-height of children suggests that adults bore a greater share of the nutritional burden imposed by the crisis, through reduced intake or increased energy output (working harder).<sup>11</sup>

The limited evidence on the health and nutritional impacts of crises is mixed. Public and private spending on health care seem to decline, and where food prices increase sharply, nutrition levels may fall sharply as well. The evidence on whether families react by trying to protect the nutritional levels of their children is mixed, despite the potential long-term damage from childhood malnutrition. Where adults absorb most of the nutritional cutbacks, their capacity to work may be affected (see, for example, Thomas and Strauss 1997). However, the evidence from Indonesia indicates no apparent short-term health effects of these changes for adults or children.

*Education.* In Mexico, government spending on education was cut 9.7 percent in real terms during 1995, though further cuts in education spending were avoided during 1996. In East Asia, public education expenditures also fell relative to GDP in Indonesia, Korea, and Malaysia but rose in Thailand (see table 8). The implications of spending cuts for delivery of education requires more detailed information on which inputs are cut (new school building, number of teachers, materials, university scholarships) and on educational outcomes.

The Indonesia Family Life Survey offers some interesting insights into the impact on outcomes. From 1997 to 1998, enrollment rates declined and dropout rates increased among children ages 7–12 and even more so among youths ages 13–19. Gender differences in these changes were slight. Among children ages 7–12 the

changes in enrollment and dropout rates occurred in rural areas. Among youths ages 13–19, the largest absolute declines in enrollment and increases in dropout rates occurred in urban areas, though after differences in household consumption levels are controlled for, any differences between urban and rural areas are not statistically significant. The decline in enrollment rates was much larger among households in the lowest quartile of per capita consumption as of 1997, and this quartile accounted for almost all of the additional dropout (Frankenberg, Thomas, and Beegle 1999).

Such impacts of crises as decreased enrollment and increased dropout rates are not always observed. In Mexico during the 1982 crisis, high school dropout rates increased slightly while primary school dropout rates fell. Both changes were part of longer-term trends throughout the 1980s (Lustig 1992).

More important than the increase in dropout rates is whether students later return to continue their education. Similarly, a decline in enrollment may reflect delayed entry rather than a failure to ever attend school. Both dropping out temporarily and postponing entry can impose significant costs on lifetime earnings, though this cost is much lower than the impact of permanent withdrawal.

*Social safety nets.* In Mexico, social spending fell 12 percent in real terms in 1995 and another 15 percent in 1996. The government shifted resources out of other anti-poverty programs to a short-term employment program in 1995, creating an estimated half a million jobs. Some 70 percent of these jobs were in rural areas and paid 80 percent of the minimum wage (Lustig 1998).

The East Asian governments significantly increased the budgetary share of safety net spending in response to the crisis. But overall budgetary spending fell, and absolute spending on safety nets was low relative to GDP. Korea had the largest proportional increase in safety net spending, from nearly 0 to 5 percent of the budget. Since 1998 the Korean government has expanded the coverage and budget allocation of its livelihood program. Though the real value of benefits has been maintained for original beneficiaries, only 7 percent of the new poor appear to be covered. Thus the portion of the poor covered fell from 32 percent in 1997 to 17.3 percent in 1998. A public workfare program was also introduced, offering a wage rate below the going market rate. Applications have risen along with the unemployment rate, but eligibility conditions ruled out many who were willing to accept the lower wage (Subbarao 1999). In Indonesia, where public spending on safety nets rose from nearly 0 to 3.6 percent of the budget, ongoing programs frequently pay more than the local going wage (Atinc and Walton 1999). In Malaysia, the safety net has held steady at 0.16 percent of the budget.

To some extent cuts in public social spending may be offset by increased private transfers. However, the limited available evidence suggests that increases in private

transfers are far from sufficient to compensate for public cuts, even in normal times (Cox and Jimenez 1992). Moreover, during a crisis, urban migrants are hardly well placed to increase their remittances to offset declining government transfer programs.

## Summary and Conclusions

The dominant labor market effect of the financial crises of the 1990s was a cut in real consumption wages, rather than in employment or hours of work, though unemployment did emerge. Urban self-employment pay seems to have fallen along with wages. Cross-country experience reveals strong positive associations between depreciation of the exchange rate and the cut in real wages and between the cut in real wages relative to the decline in GDP and loss in employment. Allowing high levels of unemployment during a crisis may prove regressive, widening the income distribution. The price of avoiding this may be the acceptance of currency devaluation and the associated loss in real wages.

In a few cases, total employment increased during the crisis, and in others the overall decline in employment was small relative to the decline in GDP. But this does not mean that the changes in employment were negligible. A great deal of turnover in employment accompanied the crises, with movement across sectors and across formal wage jobs, more casual wage employment, and self-employment. This churning was critical to the ability to sustain or even expand overall employment, revealing a considerable degree of flexibility in labor markets. This flexibility may have been particularly high among less-skilled workers, who presumably lowered reservation wages in response to pressures to maintain family incomes.

The initial impact of the crises was on the corporate sectors, especially manufacturing and construction employment. Unpaid family employment expanded, as the need to sustain family incomes rose. Expansion in agricultural employment, with return migration to the villages, also played a significant role in sustaining total employment.

Families smoothed incomes by increasing labor force participation (by women in particular) and private transfers. Only in Indonesia was consumption smoothing observed in the aggregate; indeed, the propensity to consume actually declined during the crises in some cases. Even in Indonesia, consumption smoothing seems to have been concentrated in communities that were better off before the crisis. Poor families are far less able to smooth consumption during idiosyncratic shocks, and this pattern may well be reinforced when entire communities are in shock. Tightening monetary policy to raise interest rates and defend the exchange rate raises the cost of borrowing to smooth consumption, although by increasing expectations of financial defaults and of declining future output, tight monetary policies may



instead weaken the exchange rate (World Bank 1999). To the extent that the poor borrow, it is from informal sources. There is some evidence that loss of confidence in the formal banking sector led to significant transfers of funds to less formal institutions, but the links between formal and informal credit markets during crises remain largely undocumented.

Although the initial impact of financial crises is on the urban corporate sector, some evidence indicates that the incidence of poverty increases more in rural than in urban areas, though there are wide regional disparities within countries. Where agricultural employment is significant, the poor are concentrated in rural areas and depend on agriculture for their livelihoods. Currency depreciation raises the prices of tradables, including food crops, and there is evidence that small farmers can benefit. However, two groups among the rural poor can be hurt by these price increments: net buyers of food crops and landless agricultural laborers.

Despite mildly rising budget deficits and attempts to sustain government consumption spending, real social spending fell, reflecting in part the political infeasibility of cutting public sector employment. In Indonesia, use of health facilities declined markedly with the cuts in health spending, but no increase in self-reported illness occurred, and there was no worsening of nutrition-related problems among children. In Indonesia, adults appear to have borne the brunt of any nutrition-related problems, whereas in Mexico during the crises of the 1980s, girls may have been particularly deprived. Cuts in education spending in Indonesia combined with increased pressures to earn resulted in lower school enrollments, especially among the poorest families, and increased dropout rates, despite new public programs to avoid this.

Most countries introduced a wide range of programs to alleviate poverty. Potentially high startup costs and the brevity of most crises suggest a review of the cost-effectiveness of some of these programs would be warranted. Targeting the new poor is made difficult by an apparent lack of regional correlation between precrisis poverty and additional poverty. Public works programs may be a more cost-effective mechanism, though some new programs offered wages that were above crisis levels or imposed eligibility criteria that precluded participation by newly laid-off workers (Datt and Ravallion 1994). If poverty relief programs are shown to be cost-effective, they should be established during normal periods to avoid the startup costs incurred during the initial phases of a crisis.

Most crises are short. Nonetheless, there are at least three reasons why the short-term poverty impacts of economic crises may have long-term implications even after the economy recovers. First, some workers who lose their jobs during a crisis may not be reemployed in the same field during the recovery. Second, families forced to liquidate assets to smooth consumption may be unable to regain their former livelihood. Third, any declines in nutrition, health, and continuity of schooling may have long-term consequences for labor productivity. Such threats of long-run poverty traps from even a short-lived crisis are in urgent need of further study.



## Notes

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1. The precise year of crisis ought not to be interpreted too strictly in table 1 or subsequent tables, because much can depend on timing of events within a year.

2. Note also that the short-run nature of crises is not irrelevant to production within a year or two. If a comparison is made between an economy that grows steadily at 5 percent a year versus one that suffers a 5 percent decline for two years then returns to 5 percent growth, the latter has a level of production that is permanently 22 percent lower.

3. Most of the evidence on the impact of crises compares measures before and after the crisis. However, some care needs to be taken in interpreting these changes when other elements, besides the direct consequences of the crisis, may blur the picture. For instance, Indonesia suffered from the impact of El Niño simultaneously with the financial crisis (see Datt and Ravallion 1997).

4. In contrast, lack of credit and access to imported materials often seem to constrain the ability of manufacturers to respond quickly to devaluation of the currency. In East Asia in 1998, this effect has been exacerbated by the simultaneous collapse in regional markets.

5. Results in this paragraph are based on a private communication from Duncan Thomas, for which the authors are most grateful.

6. Private communication from Duncan Thomas, for which we are most grateful.

7. Note, however, that mean wages in manufacturing may present a biased picture of the change in wage of employees. For example if, during a recession, low-paid workers are laid off first, then the average wage of those in work may decline by less than the real wage of a typical worker. See Levy and Newman (1989).

8. In a simple hyperbolic regression of the wage elasticity, from table 7, on a constant and one over the employment elasticity, the  $t$ -statistic for the coefficient on employment elasticity is  $-2.59$ , which is statistically significant at the 95 percent level.

9. There appears to be almost no direct evidence on the distributional consequences of windfall losses and gains to owners of property in declining and expanding sectors during an economic crisis. Given that organized industry typically suffers the major impact we can expect the principal losses in property incomes to fall on the urban elite. However, middle-income groups with property in small-scale urban retail and other service activities may also lose. To the extent that agriculture expands, rural land owners may however prove to be major gainers

10. The Indonesia Family Life Survey also provides an opportunity to examine poverty transitions during the 1998 crisis because a panel of households was interviewed before and after the crisis. Even during the crisis, many households transition into and out of poverty; for example two-thirds of the poor exited poverty in 1997–98.

11. In contrast, Teruel (1998) relates household expenditures to household composition in four separate years from 1984 to 1994 in Mexico and concludes that during the crisis years women and children (especially girls) were deprived.

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