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Household vulnerability to income poverty

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Much attention has been given to the measurement and analysis of poverty. Official poverty statistics have been generated by the Philippine Statistical System since 1987 as sourced from income data from the *Family Income and Expenditure Survey* (FIES) and regularly released every three years. At the global front, the World Bank also comes up with its own estimates of consumption poverty. Nongovernment organizations (NGOs) such as the Social Weather Stations (SWS), meanwhile, monitor poverty on a quarterly basis by asking household heads' perception on their state (or nonstate) of poverty. All these statistics provide different dimensions of poverty.

Regardless of the measurement system, poverty is measured *ex post*. That is, poverty analysis focuses on households that are currently poor or were poor in the past. It is, however, just as important to be forward-looking and help households that are at risk of becoming poor and households that are already poor and likely to stay poor. Interventions should be provided to these households that are vulnerable to poverty so that the likelihood of their becoming poor in the future may be minimized and the impact of their possible falling into poverty be mitigated.

Measuring vulnerability

A number of attempts have been made to measure vulnerability, especially by looking into income or consumption changes in panel data where the same household or individual is surveyed at two or more points

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in time (Tabunda and Albert 2002, Reyes 2002, and NSCB 2005). Unfortunately, panel data are quite scarce due to difficulties in conducting these surveys.

A rather promising approach to measuring vulnerability based on an analysis of cross section data was developed by Chaudhuri (2000), which essentially identifies the vulnerability level of a household at some fixed time as the probability that said household will find itself poor at the next time period, and estimates this probability. Chaudhuri's approach also incorporates an assumption on how to model volatilities resulting from shocks that lead to different welfare levels for households.

While this methodology was originally developed for consumption data, this study applies it to income data sourced from the 1997 FIES in order to generate a profile of vulnerable households in the Philippines. The methodology was then validated by considering the poverty status of households that formed a panel in the 1997 FIES, the 1998 APIS, and the 1999 APIS.

After obtaining vulnerability estimates, our study used two thresholds, viz., the observed national poverty rate in the population and the threshold 50 percent, to be able to categorize households by their vulnerability status.

In employing a vulnerability threshold equal to the observed national poverty rate, we recognize that there are households that are more likely than the typical household to be poor in the next period. Any household whose vulnerability level lies above this threshold therefore faces a risk of poverty greater than the average risk in the entire household population.

Meanwhile, in choosing a threshold of 50 percent, we are cognizant of the fact that there are households that have an even chance of being poor in the next time period. This particular threshold indicates that a household whose vulnerability level exceeds 50 percent is more likely than not to end up being poor and can thus be considered to be highly vulnerable.

Using the above two thresholds, we therefore categorize households to be *vulnerable* if the predicted vulnerability level is greater than the national poverty rate; *highly vulnerable* if the vulnerability level is greater than 50 percent; and *relatively vulnerable* if the household is vulnerable but not highly vulnerable.

Vulnerability profile

The overall picture of income poverty and vulnerability based on the 1997 FIES is shown in Table 1. The proportion of poor households (28%) is less than the proportion of the vulnerable households (54%), which consists of the highly vulnerable (30%), and the relatively vulnerable (24%). Eighty five percent of poor households are vulnerable. A little more than 40 percent of

Table 1. Distribution of households by poverty status and vulnerability status (in percent)

Vulnerability Status	Poverty Status		
	Poor	Nonpoor	Total
Highly vulnerable	17.3	12.7	30.0
Relatively vulnerable	6.5	17.6	24.1
Nonvulnerable	4.2	41.7	45.9
Total	28.1	71.9	100.0

nonpoor households, meanwhile, are also vulnerable.

Regional estimates of household poverty and household vulnerability are illustrated in Figure 1. While the household poverty rate is only about 5 percent in Metro Manila, the proportion of vulnerable households is twice this figure. Regional disparities are also evident in terms of both poverty and vulnerability, with poverty and vulnerability rates (as well as shares) across the regions being highly correlated.

Such gross disparities in poverty and vulnerability between urban and rural areas, and across regions suggest the need for government to work not only on poverty policies for regional development but also on the varying vulnerability profiles across regions. At the same time, while government ought to improve the plight of people's living standards in rural areas, it also has to provide a number of social safety nets in urban areas such as Metro Manila.

Meanwhile, Table 2 shows that larger-sized households are not just poorer (than those

Figure 1. Estimates of poverty and vulnerability incidence by region, 1997

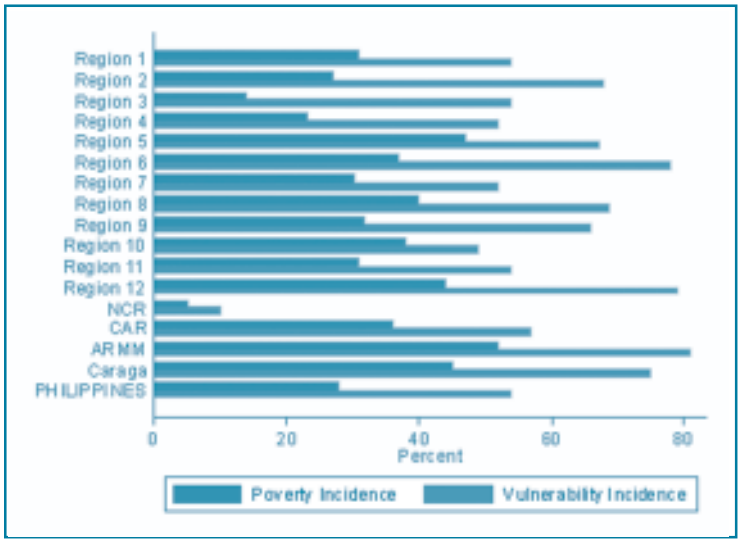


Table 2. Average household size by poverty status and vulnerability status

Vulnerability Status	Poverty Status		
	Poor	Nonpoor	Total
Highly vulnerable	6.27	5.13	5.79
Relatively vulnerable	5.78	5.11	5.29
Nonvulnerable	5.34	4.51	4.59
Total	6.01	4.77	5.12

with small sizes) but are also more vulnerable. Consequently, government needs to adopt vigorous population management policies that discourage families from having family sizes that are not within their means to support. Large-sized families have the tendency to experience difficulties in maximizing their human resource potentials because of limited financial capacities. They are typically unable to provide quality education for the young which further puts these families at risk of being poor.

There has been little attention given to population management in the Philippines despite the overwhelming evidence that supports the nexus between population and poverty (and now, vulnerability). A number of countries, especially in the East Asia and Pacific Region, have made substantial gains in reducing poverty through rapid economic growth coupled with population management. With modest economic growth in the Philippines and an absence of population policies from the government, it is not surprising why gains in poverty reduction have been lackluster (Reyes 2002).

Figure 2. Poverty and vulnerability estimates by level of education of household head

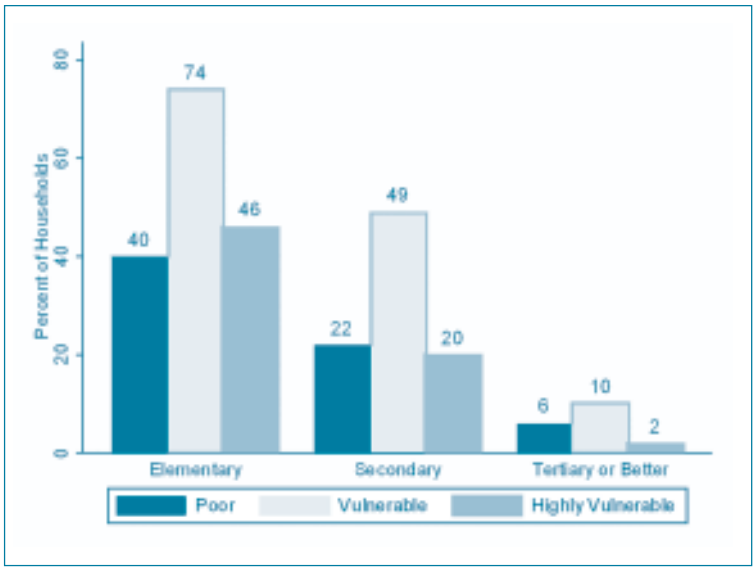
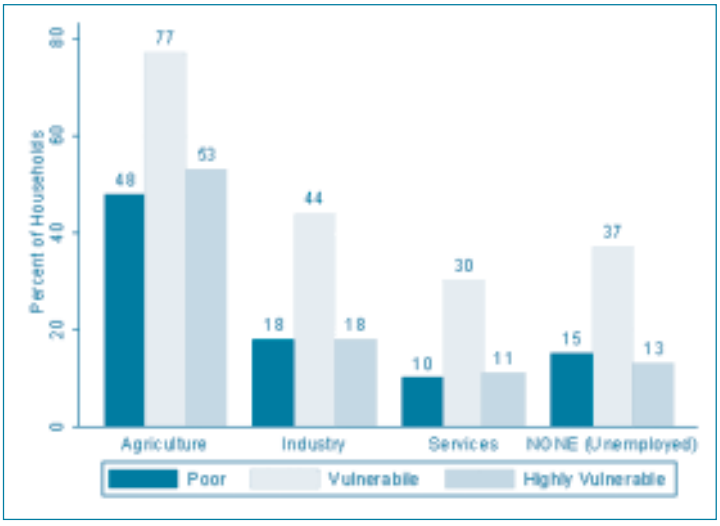


Figure 2 shows that households where the head has little or no schooling are poorer and more vulnerable than those with more education. Government therefore has to focus its long-term strategies around educational programs both for poverty reduction and vulnerability mitigation purposes. Increasing access to education provides a means for people to get better paying jobs that will not put them at risk of being poor. But while there have seemingly been some gains in improving universal access to education in the country over the past several decades, there are questions on whether or not low-income families have been and/or are being given improved access to quality education, especially in higher education.

Figure 3. Poverty and vulnerability estimates by employment sector of household head



Household vulnerability by sector of employment of the household head is likewise shown as gleaned in Figure 3. While poverty rates for households with unemployed heads are rather low, vulnerability rates for such households are much higher. This suggests the need for some formal mechanisms such as publicly provided insurance for households with heads who are unem-

ployed. There have been some suggestions that a number of the unemployed in the Philippines may be unemployed by choice because they may have other income sources like remittances from overseas. Still, there appears to be a need to help such households mitigate the impact of falling into future poverty. Heads of poor and vulnerable households are predominantly in the agriculture sector, suggesting that more program and policy interventions must be directed toward helping this sector. Declines in income are likely to be devastating for households with heads in the agriculture sector because they are likely to have few assets or to have no or little access to insurance or credit that will allow them to hedge against income shocks resulting from bad harvests or bad weather (Tabunda and Albert 2002).

Although the Philippines has launched a number of agriculture-related programs like agrarian reform and agricultural modernization, the results suggest that such programs may have had minimal impact on helping farmers reap the fruits of their labor.

A cross check with the 1997 FIES-1998 APIS-1999 APIS panel households tagged as vulnerable suggests that the methodology we used has a very strong predictive power of identifying what households are likely to be poor in the near future. Among the panel households that were poor in 1998, in 1999, or in at least one of the two years, about 70 percent were tagged as vulnerable by the methodology.

Implications: learning from the vulnerability profile

Because the vulnerability profile shows that more than half of the vulnerable households are not currently poor, it is therefore not enough to use current income poverty status as a proxy for vulnerability. Moreover, poverty reduction strategies need to incorporate *not just alleviation efforts but also prevention*.

Regions with the highest poverty incidences also appear to be those with the highest estimates of vulnerability. Vulnerability patterns, however, vary across regions, suggesting that interventions would also have to vary. While rural vulnerability is higher than urban poverty, the gap in estimates of vulnerability is much lower than those pertaining to poverty. This suggests that government should not merely focus on rural poverty reduction but also on policies and programs that protect vulnerable households in urban areas.

Meanwhile, vulnerability rates of households with unemployed heads are much higher than their corresponding poverty rates. Government should thus consider developing social protection mechanisms beyond job generation such as publicly provided insurance for unemployed heads and improved access to credit. Vulnerable households also have, on average, much larger family sizes than their nonvulnerable counterparts, suggesting that government ought to seriously pay attention to population

management to enable households to minimize their risks of becoming poor. Households whose heads have more schooling are less likely to be poor implying that government should vigorously increase access to education, especially higher education.

While the vulnerability model used as basis for this study is limited by the available information from the FIES regarding household characteristics that make these households vulnerable, the validation exercise on panel households indicates that the vulnerability estimation methodology employed here has a strong predictive power in identifying households that are likely to be poor in the future (at least for the available panel data).

The results of this study suggest the usefulness of coming up with a profile of vulnerability in the Philippines. Given that APIS has more nonincome indicators than the FIES such as membership in cooperatives, among others, it seems useful to develop vulnerable estimates from the APIS. It is important to institutionalize vulnerability measurement and measure trends in vulnerability in the Philippines, aside from addressing current limitations in the official poverty measurement system, for purposes of guiding policy on poverty concerns.

The conditions that vulnerable households face may permanently damage their long-term welfare or lead these vulnerable households to further risk-induced poverty traps that may offer some stability but low returns. Government will thus have to manage social risks by designing and implementing interventions that can strengthen informal, market-based or public arrangements that contribute to reducing the risk of households becoming income poor and/or assisting them in coping with poverty's dire consequences.

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