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Discussion Paper 142

Social Capital and Coping with Economic Shocks: An Analysis of Stunting of South African Children

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This paper explores three questions: (1) Which households cope with economic shocks? (2) Is it more difficult for households to cope with covariant or idiosyncratic shocks? (3) Does "social capital" enable households to cope with either type of shock?

Growth of Young Children Indicates Coping Capacity

We investigate the effect of shocks on a long-term indicator of human capital, child height-for-age Z-scores, exploiting research in the nutritional sciences that indicates that malnutrition occurring from the prenatal period to age 3 permanently affects children's growth. Thus, economic losses that destabilize household consumption and result in malnutrition of children can be captured by nutritional status measures. This approach provides a conservative test of consumption smoothing, since households are likely, if they can, to protect the nutritional status of their young children. In addition, since declines in nutritional status for young children translate into loss of human capital and economic development in the future, it is also a measure of the persistent effects of failures of consumption-smoothing efforts.

Our methodology is to match retrospective information on household losses and gains during the previous five years to the period of vulnerability for each child less than 5 years of age in 1998. For each child, we characterize the environment of positive and negative events during the susceptible period. A child aged 1 in 1998 was vulnerable in 1997 and 1998, so we associate the average annual loss or gain of the child's household for 1997–1998 with that child. His older sibling, aged 5 in 1998, was most vulnerable during an earlier period, 1993–1996. These differential exposure periods within the same households enable us to control for all time-invariant household-level factors in the estimation.

The Data and Methodology

The KwaZulu-Natal Income Dynamics Study. The first round of the KwaZulu-Natal Income Dynamics Study (KIDS) panel survey was undertaken in 1993, with households resurveyed in 1998. The sample, representative at the provincial level, measured demographic structure, household income and expenditures, and anthropometric measures for children age 6 and under. The 1998 survey contained sections on shocks: households reported whether any of a set of events had occurred "by surprise" during 1993–1998 and to assign a value to the loss.

The Magnitude and Stochastic Structure of Economic Vulnerability. While there is a tendency to describe economic shocks as idiosyncratic or covariant, the line between the two is quickly blurred in real-world economies. Using measures of own and neighbors' shocks, we first explore both the magnitude of risk confronting households as well as the covariance between their shocks and those of their neighbors who potentially stand ready to help them in times of need.

We calculated total economic losses for each household, and its neighbors, for the three years before the 1998 survey and converted them into a monthly income equivalent. The overall mean loss is equivalent to a monthly income reduction of about $20 in 1998, a figure that represents 5 percent of 1993 real average monthly expenditures. For only those households that experienced a loss, the average impact is nearly 10 percent.

To get a sense whether such losses might push households into sacrificing child nutrition, we calculated a subsistence cushion for each household, finding that there is a 7 percent probability of an economic loss that would reduce current income below subsistence needs. For a household at the second quintile, that probability increases to about 15 percent, while households in the lower 30 percent of the distribution have a greater than 50 percent chance that an economic loss will cut into their ability to meet subsistence needs. While it is hard to know at what level a household may be forced to cut into child nutrition, these figures suggest that the households in the KIDS sample face a fairly high risk of such an event. Furthermore, the results show the importance of covariant risk: expected losses increase by R0.33 for every R1 increase in the average loss experienced by one's neighbors.

Households in communities with more groups, our proxy for social capital, weather idiosyncratic shocks more easily.

Social Capital and the Capacity to Cope with Idiosyncratic and Covariant Economic Shocks

KwaZulu-Natal households appear to be vulnerable to economic losses that could challenge their subsistence-level well-being. Therefore, even when protecting child nutritional status is of the highest priority, unforeseen losses may overwhelm a household's capacity to do so. At

the same time, other households may face a minimal probability of subsistence shocks.

Coping with Economic Losses. Comparing children less than age 3 in both 1993 and 1998 from the KIDS sample, we find that there is an increase in mean height-for-age Z-scores of nearly one-half of a standard deviation, possibly as a result of public investments in health infrastructure. Children who were in their vulnerable years during periods of losses in the household are nutritionally worse-off than those who were not. Conversely, children who were living in households that saw significant gains during their vulnerable years benefited from those gains.

Because of the possibility of self-insurance for wealthier individuals, we expect that the roles of both losses and gains might be weakened somewhat for better-off households. While there is no evidence of a differential effect on child nutritional status of losses by initial logarithmic per capita expenditures, there is a strong interaction between initial logarithmic per capita expenditures and the size of the gain—the effect is smaller for wealthier households.

Social Capital and Coping With Shocks. One approach to exploring the social-capital hypothesis is to measure how well integrated various communities are and then explore whether the effects of shocks differ in areas that are more or less integrated. In related research, it has been shown that an important determinant of household welfare is household membership in groups, a proxy for social capital. We explore whether the initial number of groups and informal associations in communities in 1993 conditions the effect of losses at the household level.

Our hypothesis is that for households suffering a loss, the effect of that loss is greater when they live in communities where their neighbors are suffering large losses at the same time, as local support networks would be strained. Indeed, we find that the damage to child nutritional status from household-level losses is exacerbated in communities that experienced large losses, consistent with the existence of informal sharing mechanisms.

We also examine whether this relationship between household and community losses depends on the depth of linkages. Households that suffered a loss were better able to absorb it if they were in communities with a larger number of groups in 1993. This capacity, however, is weakened in communities where the neighbor losses were large. There is little evidence, then, of the bridging sort of social capital that would allow shocks to be absorbed across communities. Taken together, the results are consistent with households being better able to diversify away their idiosyncratic risk in communities that suffered smaller numbers of aggregate negative shocks or in communities where there appears to be more social capital.

Other Risk-Coping Mechanisms

In KwaZulu-Natal, some households seem unable to insure against idiosyncratic risk. When asked about various coping mechanisms, only 20 percent of households reported receiving help from other household members during shocks, and 40 percent were unable to identify any nonhousehold members who might have helped.

That households in KwaZulu-Natal are operating in somewhat narrow networks resonates with the finding that some households are unable to cope with idiosyncratic risks. When aggregate shocks and a proxy measure for social capital are introduced, however, there is a partial rescue of the informal insurance model. Households in communities with large losses are less able to cope with their own loss, consistent with informal support mechanisms being strained. Furthermore, households in communities with more groups, our proxy for social capital, are able to weather idiosyncratic shock more easily.

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