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Dorothee Bühler “Child labor and reduction in education -Coping mechanisms for income shocks“

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Summary

Problem statement and motivation

In my master Thesis I investigate how poor rural households in Vietnam change their attitude and behavior with regard to child labor and education if they are hit by income shocks. Despite many positive developments in recent years child labor and low levels of human capital investment are still present in Vietnam. For those households which are vulnerable to poverty or to remain poor in the future food security and future income perspectives are major issues. Generally, households face the following trade-off: On the one hand, investment into human capital formation through education leads to higher future income which benefits the whole family. On the other hand, when children are sent to school the household forgoes income which the individual could earn if it would spend the time working instead (Becker, 1965). In order to ameliorate the situation it is vital to understand which channels foster child labor or a reduced investment into human capital.

For poor rural households which depend largely on agriculture the investment into education is crucial to achieve higher income in the future. Yet, the manpower of children is often needed to secure the livelihood. Moreover, investment into education is difficult as capital markets are incomplete. The International Labour Organization (Rose, 1998) estimates that children contribute up to 20 percent of the household income in developing countries. Further, the majority of child labor incidences exists within the agricultural sector. Nearly all households in the dataset are engaged in agriculture and the descriptive statistics show that children typically carry out farm or household work on a regular basis.

Income or labor provided by children is especially important for those households engaged in subsistence farming as the labor costs are low and child labor is part of an intergenerational contract (Rosenzweig and Wolpin 1985). This contract is based on the assumption that children inherit their parent's land. Accordingly, they have an incentive to accumulate knowledge regarding its characteristics. Thus, family labor in conjunction with bequests is a Pareto efficient solution at the household level. This encourages the persistence of child labor especially for households that are prone to food insecurity. Indeed, the argument only holds for those children who inherit their parents land, meaning that it reflects the single child case. Even though child labor can be Pareto efficient at the household level it remains socially

inefficient if it reduces children's earning abilities as adults (Baland and Robinson, 2000). Households that struggle to meet their basic needs, such as caloric intake, will be more constrained to invest. Thus, households are trapped in poverty and it is difficult for them to escape the vicious circle which reinforces poverty.

Research objective

My overall aim was to investigate whether poor rural Vietnamese households use child labor and reduced investment into education as coping strategies against transitory consumption shocks.

For poor households the investment (education is seen as an investment good) and consumption decision are non-separable. Thus, I investigate whether households prone to food insecurity issues use child labor to counteract income and respectively consumption shocks. The identification of this coping strategy is important for future education and labor policies that should target the special situation of vulnerable households, who face food insecurities. Since education is crucial for an increase in future income it is vital to understand the household dynamics that hinder children to accumulate human capital.

Data

My thesis was written in the context of a broader research project on vulnerability to poverty in Southeast Asia financed by the German Research Foundation (DFG). The household survey was targeted at poor rural households that are mainly engaged in agriculture. Amongst others, the households were selected based on their income level. As the data shows, poor households in Vietnam frequently struggle to meet their food security needs. If households are hit by an unexpected income shock (and respectively a consumption shock) the situation with regard to food security deteriorates. In order to secure their livelihoods, households can decide to draw upon the labor force of all household members. Typically, children will be asked to take over household work, support field work or the gathering of firewood. In turn this affects children's time allocation with respect to schooling and work.

Due to unreliable weather events and changing climatic conditions these households experience various uncertainties which impact on their income and consumption levels. Most of them are prone to food insecurity as they live just above the subsistence level and a negative income shock affects their consumption. Thus, the decision regarding education and child labor is directly linked to the household's food security status as the basic need of nutrition has to be satisfied before investing into human capital development. I specifically focused on children's time allocation to work and schooling in households that are vulnerable to fall into poverty in the future.

Theoretical framework and Methodology

I employ an empirical strategy based on a theoretical economic model regarding the human capital investment decision under uncertainty by Jacoby and Skoufias (1997). According to the model children's educational attainment decreases if the wage for children increases or an adverse education productivity shock occurs. Under the complete market hypothesis, investment into human capital would remain unaffected by income shocks. Yet, shocks on an aggregate level would still have an effect on the decision. However, households in Vietnam are often credit constrained and the complete market hypothesis fails. Thus, school attendance and child labor do not only react to aggregate shocks but also to idiosyncratic ones.

In my empirical analysis I estimate the household's decision regarding consumption and schooling. As I mention above the central question of my thesis is whether households decide to draw upon their children's manpower when faced with a transitory decrease in consumption. However, as outlined in the theoretic model consumption and child labor are

interdependent and thus simple Ordinary Least Squares (OLS) estimates are biased as the exogeneity condition fails. One way to circumvent internal validity issues is to use exogenous consumption variation such as weather. Therefore, I use household data from the DFG panel data set and meteorological data on rainfall in Vietnam in conjunction. Rainfall is one of the most essential determinants of output levels for small scale agrarian producers. Farmers can neither influence the timing nor magnitude of its occurrence. The natural experiment rainfall is suitable to serve as an instrument to capture exogenous transitory consumption variation (Beegle et al., 2009). Since the majority of households in the sample is engaged in the agricultural sector I attempt to investigate the impact of rainfall shocks on household consumption and thus on the household's child labor decision, respectively. In order to establish a causal relation seasonal rainfall shocks instrument for transitory consumption variation. Notably, children under the age of 14 are legally restrained from working in Vietnam unless a number of conditions are fulfilled. As primary education is compulsory (Vietnamese Constitution, 1992), I rather concentrate on the age cohort of the 11 to 14-year-olds as parents are free to decide upon the level of human capital investment.

Empirical findings

I find that 80% of the 11 to 14-year-old children attend school on a regular basis. However, a considerable share is working at the same time. Roughly 10-13% of the teenagers are mainly engaged in working, either pursuing regular or occasional jobs.

Further, my results show that seasonal rainfall shocks which occur in the growing season are relevant and significant to explain a part of the transitory variation in household consumption. Using a Two Stage Least Squares (TSLS) estimation for panel data I find that transitory lagged consumption has a significant negative effect on the share of working teenagers per household. In particular if lagged consumption increases by 1 % the share of working teenagers per household decreases by 0.34 percentage points.

In sum, I find evidence that for poor rural households in Vietnam, who are frequently exposed to income shocks and thus their food security status is uncertain, child labor still serves as a coping mechanism to counteract income shocks.

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