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Dissertation Abstract: Essays in Human Capital Accumulation – Health and Education

My dissertation is an empirical examination of the two most important indicators of human capital, health and education. The first chapter of my dissertation characterizes the determinants of nutritional status among children using data from the three waves (1993, 1997, and 2000) of the Indonesian Family Life Survey (IFLS). I estimate a static conditional health demand function to capture the role played by child level, household level, and community level factors in determining child health. I find that it is parent's genetic endowments, household income, and the availability of community infrastructure that are important for improving child health. The results of this chapter suggest that government intervention in community-level-infrastructure development, regulation of prices of consumption goods, and access to credit can contribute towards improving children's health. The coefficient estimates reported are robust to econometric concerns such as measurement error in income data, correlation between household specific time-invariant observables and community specific time-invariant unobservables, and the correlation between community specific time-invariant unobservables and community infrastructure variables.

The second chapter addresses the question of whether individuals are able to recover from some of the deficits in health outcomes caused by childhood malnutrition. To address this question, a panel data set is constructed using data on children between the ages 3 and 59 months in 1993 who are then followed through the 1997 and 2000 waves of the IFLS. This paper estimates a dynamic conditional health demand function, where the coefficient on the one-period lagged health status captures the extent of recovery, if any, from childhood malnourishment. Variants of the IV/GMM estimation strategy are used to obtain unbiased and consistent coefficient estimates on the one-period lagged health status. The OLS coefficient estimate on the one-period lagged health status is 0.53, and reduces to 0.23 in a first-difference GMM framework, indicating an upward bias in the OLS parameter estimate. A coefficient of 0.23 on the one-period lagged health status indicates that childhood malnutrition will cause some, but not severe, retardation in the growth of future height. The presence of recovery from poor health outcomes from the past (even though small) suggests that efforts must be put on the part of households and policy makers towards improving children's nutritional status at all ages. The first-difference GMM strategy adopted here addresses biases arising from both omitted variables and measurement error in data. The first-difference GMM approach used here also relies on much weaker stochastic assumptions than earlier work in the literature.

In the third chapter of my dissertation, I examine the determinants of another important aspect of human capital, educational outcomes. This chapter focuses on outlining the socio-economic factors that explain for the huge improvements in schooling outcomes in rural Ethiopia during 1994-2004. I find using data from the three waves (1994, 1999 and 2004) of the Ethiopian Rural Household survey (ERHS), that, it is household income that has the most important role in determining schooling outcomes among children in rural Ethiopia. During 1994-2004, household income increased by over 25% and this increase has translated into a more than proportionate increase in schooling attainments. The

schooling literature has so far, only focused on current period determinants of schooling outcomes. However, schooling attainments today is not just a function of current resources; it is the history of school inputs and resources that determines the complete trajectory of future schooling outcomes. The second part of this chapter estimates a dynamic conditional schooling demand function to capture the impact of past schooling inputs in explaining current schooling attainment. I find that individual's past schooling enrollment and accumulated grades contribute towards one-third of the child's current schooling outcomes. The results obtained in this chapter are also robust to econometric concerns such as sample selection, measurement error, and endogeneity of the lagged dependent variable. The results suggests here that rural households are largely dependent on the household income for improving educational outcomes and hence efforts must be put on part of policy makers towards providing access to easy credit so that household's with low incomes today are not permanently constrained to invest in their child's future.