LONG-RUN IMPACTS OF RAINFALL DURING SCHOOL AGE

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Abstract: Economic productivity shocks have been found to reduce child schooling, at least in the short-run. This study finds that shocks during school age can permanently harm completed schooling and adult income. In addition, I document a "double burden" from productivity variance, a novel finding whereby schooling is reduced when productivity is relatively low (compared to the norm) and also when it is relatively high. I use the Indonesian Family Life Survey and examine rainfall variation in an agriculture dependent setting. I find both low and high levels of annual rainfall during school age have permanent negative consequences: both have a marginal impact of 0.2 less years of completed schooling and a decrease of 5-6% on adult annual income. I use data on agricultural output and annual income to confirm that low (high) annual rainfall constitutes a negative (positive) productivity shock. As secondary school is very costly in Indonesia, this suggests after years of low rainfall households are less able to afford school. When rainfall is high I find evidence for a labor substitution effect, in which children attend fewer hours of school and work more. High costs of schooling and use of child labor is common across the developing world, suggesting broad relevance for these findings.