

# **Dissertation Abstract: Essays in Development and Labor Economics**

## **Isaac M. Mbiti**

### **1. Moving Women: Household Composition, Labor demand and Crop Choice in India**

This paper estimates effect of increases in the relative value of female labor induced by rainfall shocks on the gender composition of rural agricultural households in India. Much of the previous literature in this vein has focused exclusively on the gender composition of young children due to excess female mortality. Using a unique panel dataset from India, I focus instead on the changes in the gender composition of prime aged adults. Rice production is known to be more intensive in female labor than wheat production, and is more dependent on rainfall. I compare how rice and wheat households adjust the composition of their adult membership in response to rainfall shocks that differentially raise the relative marginal products of female labor, controlling for farm and household-level heterogeneity. Consistent with a model of household composition and crop choice in the presence of imperfect labor markets, I find that positive rainfall shocks are associated with an increase in the relative number of prime age females in rice households. Timing of marriage of daughter's of household heads is one of the main mechanisms adjusting the gender composition of prime aged adults in these households. I find that a one standard deviation increase in rainfall decreases the rate of marriage among young adult females in rice households by approximately 10 percent relative to wheat households. Dowries paid out by rice households also decline by a similar magnitude, indicating a rise in the value of female labor.

### **2. An Empirical Analysis of Black-White Employment Differences over the Business Cycle (Joint with Y. Soner Baskaya)**

Previous research on the US labor market has shown that unemployment rates of blacks have not only been substantially higher than that of whites over the last four decades, but also these differences have been amplified during recessions. However, the extent to which these differences reflect unobserved skill and productivity or other factors such as discrimination remains a matter of some debate. We propose the use of wages earned in the previous year as a measure of a worker's skill and productivity. Using the Current Population Survey March Supplement and the National Longitudinal Survey of Youth, in each year from 1976 to 2003, we compare the employment outcomes of black and white workers who earned the same wage in the previous year. After adjusting for worker skill and productivity in this way, we find that the unexplained gap in unemployment between blacks and white falls slightly, consistent with the view that some of the difference arises from unmeasured skill and productivity difference between the races. Nevertheless, the gap remains large and significant, and the pattern of larger gaps during recessions is unaffected. Consistent with previous work, we find that these differences do not exist for individuals in the highest part of the skill distribution. Our results improve upon the existing literature on the sources of black-white differences in employment outcomes by mitigating the problems related to unobserved individual productivity and skills. Under general assumptions about labor supply changes over the business cycle, supported by behavior of reported reservation wages of black and white youth, these results may indicate discrimination against blacks.

### **3. School Quality and Student Achievement in Kenya: A Regression Discontinuity Approach**

I utilize data from the Kenyan secondary school system to obtain causal estimates of the effects of school quality on student achievement. Whereas most studies on the effects of school quality on student achievement generally face difficulties in obtaining unbiased estimates due to the non-random selection of students into schools, the placement of students into government secondary schools in Kenya is based solely on national primary schools test scores and district quotas. I utilize the random variation induced

by this quota system to isolate the treatment effect of school quality on subsequent student performance in the national high school examination. Using a unique data set containing high school test scores, primary school test scores, district of origin and school level information for every high school exam taker in the country, I compare the high school examination outcomes of students from the same district who had very similar primary school test scores but were assigned to different schools due to the quota system. I extend the analysis further to examine whether peer effects or school inputs have greater effect on student achievement in secondary schools in Kenya.