

Layperson Summary

The issue of poverty persists to the present day. Many developing countries are combatting hunger and rapidly growing populations, illustrating the early stages of the existential danger as predicted by economist Thomas Malthus, in which such populations would ultimately outgrow food production. This issue has proven to be so prevalent that the World Bank and United Nations declared the elimination of poverty by 2030 as a key strategic goal in 2014 ("Poverty's", 2015). Neoclassical economics counters the threat of a Malthusian catastrophe with the Solow growth model, which identifies technological progress as one of the conditions for increased productivity and long-run economic growth (Mankiw). In fact, the United Nations Food and Agriculture Organization has shown that investments in improving agricultural productivity effectively reduce poverty five times more than in any other sector ("What, 2015). The purpose of this study is to identify the determinants of the technological progress that the Solow growth model takes as extrinsically determined in its model of economic growth.

The first research objective is to identify the variables that determine the rate of agricultural total factor productivity (TFP) by countries around the world over the past decade with statistical significance. The dependent variable, agricultural TFP, observes the rate at which total agricultural output grows with inputs in farm production ("International, 2014). A variety of independent variables, which include measures such as gross national income per capita and spending on research and development, will be collected from 1991 through 2011 in an effort to gain insight into trends in TFP in the agricultural sector over the past two decades. Finally, an analysis of the relationship between development and the dependent variable remains a key focus in the cross-national analysis.

References

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