

## Concerning Inequality, Technology Adoption, and Structural Change

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Empirical evidence suggests that there has been a divergence over time in income distributions across countries and within countries. There is strong evidence to suggest an emergence of “twin-peaks” in cross-sectional world income distributions, and also this type of polarization is present in income distributions within countries (Quah, *Journal of Economic Growth*, 1997; Sala-i-Martin, *Quarterly Journal of Economics*, 2006). Furthermore, developing economies show a great deal of diversity in their growth patterns during the process of economic development. For example, some of these countries converge rapidly on the leaders, while others stagnate or even experience reversals and declines in their growth processes.

In this paper, we study a simple two-period, overlapping-generations model of endogenous growth with household specific costs of technology adoption, and income and wealth heterogeneity which is consistent with these stylized facts. In particular, our model has some features in common with the models used in the literature on barriers to technology adoption (Khan and Ravikumar, *Review of Economic Dynamics*, 2002; Greenwood and Jovanovic, *Journal of Political Economy*, 1990). The model of Khan and Ravikumar (2002), uses an “AK” specification for technologies used, and has a fixed cost associated with adopting more productive technologies. Furthermore, we also allow for variability in adoption costs across households and over time. We find that in a special case of our model, with costs associated with the adoption of more productive technologies fixed across households, inequalities in wealth and income may increase over time, tending to delay the convergence in international income differences.

The model is also capable of explaining some of the observed diversity in the growth pattern of transitional economies. According to the model, this diversity may

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be the result of variability in adoption costs over time, or the relative position of a transitional economy in the world income distribution. In the more general case of the model with household specific adoption costs, negative growth rates during the transitional process are also possible. The model's prediction that inequality has a negative impact on technology adoption is supported by empirical evidence based on a cross country data set.