

Escaping the Family Shadow: Intergenerational Mobility in Developing Countries

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A Multiple Choice Quiz: Which Country Has the Most Expensive Single Family Home in the World?

- France
- India
- USA
- Brazil
- Kuwait
- UK
- Argentina

The One

Bel Air House in Los
Angeles: \$250 million
(sold Recently \$141 m)



Antilia

Mumbai, India

\$1-2 billion



Dharavi
Mumbai
Largest
Slum



Inequality: The Big Picture

- **Last 50 Years, Impressive Reduction in Poverty**
- **But Increasing Inequality, Especially After the 1980s**
- **Income Inequality : Global Income Gini: 0.60 (1820), 0.72 (1910), 0.72 (2000)**
- **1980s an Important Turning Point: A Dramatic Increase in Within Country Inequality (from Dharavi to Antilia), Even Though Between Country Inequality Declined.**
- **Land Inequality Increased After the 1980s, Despite Attempts of Land Reform in Many Countries**

The Turning Point: Inequality vs. Incentives vs. Opportunities

- 1980s: The Decade of Market Liberalization
- Argument: Markets Provide Incentives to Use Resources Efficiently and Reward Talent and Effort
- But How Do We Know That Observed Inequality Reflects Primarily Rewards for Talent and Hard Work?
- Can you Infer My Parents' Economic Status from My Economic Status?
- The Central Question: Does Everyone Has the Same Economic Opportunities?
- Implications for Efficiency: The Lost Talent. Amartya Sen in a Parallel World
- John Roemer (1998): Children Should Not be Held Responsible for The Circumstances Inherited By Birth (You Cannot Choose Your Parents). Equality of Opportunity
- Intergenerational Mobility: Family Background Should not Matter for Your Life Chances

Markets and Mobility: A Long View

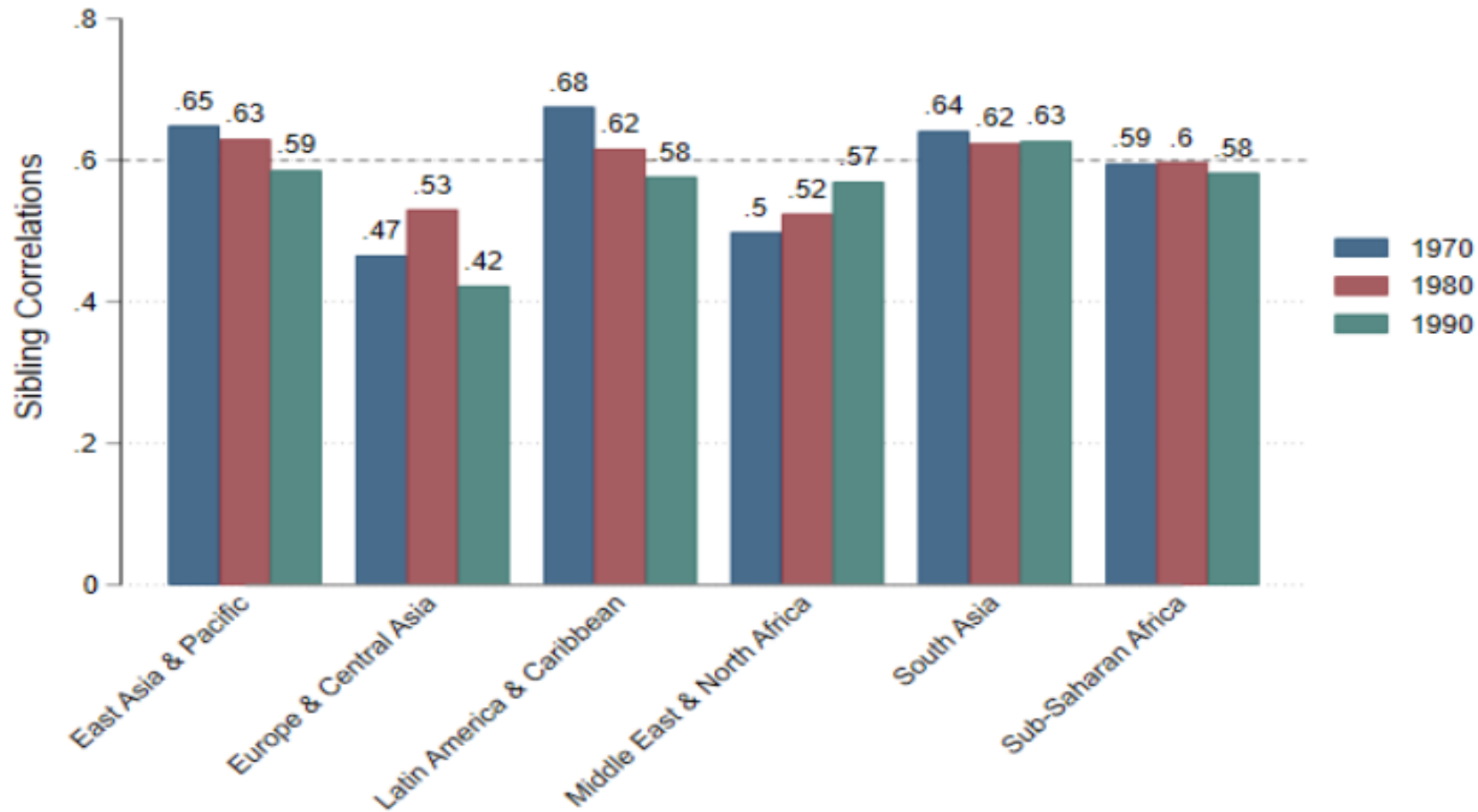
- Do markets Improve or Worsen Intergenerational Mobility?
- The Household Autarky Economy: No Markets. No Economic or Social Exchange. Within Household Division of Labor. Children Learn Only What Their Parents Can Teach (Occupational Dynasty), and Eat What Their Parents Cook. Extreme Persistence Across Generations.
- Introduction of Markets (or Social Exchange) Breaks this Dynastic Autarkic Economy. Education Market: You can Learn Math from Your Teacher Even Though Your Parents Do not Know Any Math. Farmer's Children Can Become Engineers and Economists if You Have the Talent.
- Complete Market Economy: Market for Everything. Most Importantly, Genetic Traits of a Child. Now the Top 1 percent of the World Can Design Their Children's Talent: a Child Who is Like Messi in Football (Soccer), Einstein in Physics, and Ken Arrow in Economics!! Homo Deus (Yuval Harari) of the Few.
- Inverted U-Shaped Relation Between Extent of Markets and Mobility: More Difficult to Know When You cross the Hump of the Curve. Measurement of Mobility and Understanding the Role of Policy Become Important

Measuring The Role of Family Background

- **Developed Countries: How Children's Permanent Income depend on Parent's Permanent Income. Intergenerational Income Mobility**
- **Developing Countries: Few Studies on Income. China evidence: Intergenerational Income Mobility Declined After the Liberalization in 1978 (Fan et al. (2021))**
- **Most of the Developing Country Studies Focus on Education**
- **An Omnibus Measure: Sibling Correlation (SC).**
- **SC in Income, Education etc. SC Captures Much More Than Parental Effect. All Observed and Unobserved Family and Community factors Shared by Siblings When Growing Up**
- **Large Literature on developed Countries: Very Little on developing Countries. First Comparable Estimates of SC in Schooling for 53 Developing Countries by Ahsan, Emran, Jiang, Han, and Shilpi (2022) (see Reference at the End)**

SC in Schooling: 1960s to 1990s Cohorts

- Average for the 53 Developing Countries is 0.59. Compare with the Average of the Estimates for Developed Countries is 0.41
- Decade-Wise Birth Cohort Estimates



South Asia

- Sibling Correlation in Schooling

•	1970	1980	1990
• Bangladesh	0.673	0.614	0.609
• India	0.658	0.631	0.631
Nepal	0.638	0.618	0.588
Pakistan	0.595	0.633	0.679

From Parents to Children: The Intergenerational Transmission

- The SC estimates Above Useful for Cross-Country Comparison. But Do Not Tell Us Two Things: (1) How Important are the Parents?
(2) Do Poor Children Face Less Mobility in a Country?
- To Understand the Role of Parents, Most Studies Estimate The Linear Model:

$$E^C = \beta_0 + \beta_1 E^P + \epsilon$$

- The Slope Parameter is a Measure of Intergenerational Persistence (Called IGRC). Expected Gain in Schooling if You Were Born to a Father With 1 More Year of Schooling. Relative Mobility = 1 - Slope
- This linear Formulation Cannot Answer the Second Question Above
- Theoretical Reasons to Expect Concave or Convex Relations

Education Production Function

- Diminishing Returns vs. Complementarity

$$E^c = \delta_0 + \underbrace{\delta_1 I - \delta_2 I^2}_{\text{Investment}} + \underbrace{\delta_3 I \cdot E^p}_{\text{Interaction}} + \underbrace{\delta_4 E^p}_{\text{Non-financial Effects}}$$

- Optimal Investment Under Credit Constraint (Given Returns to Edu)

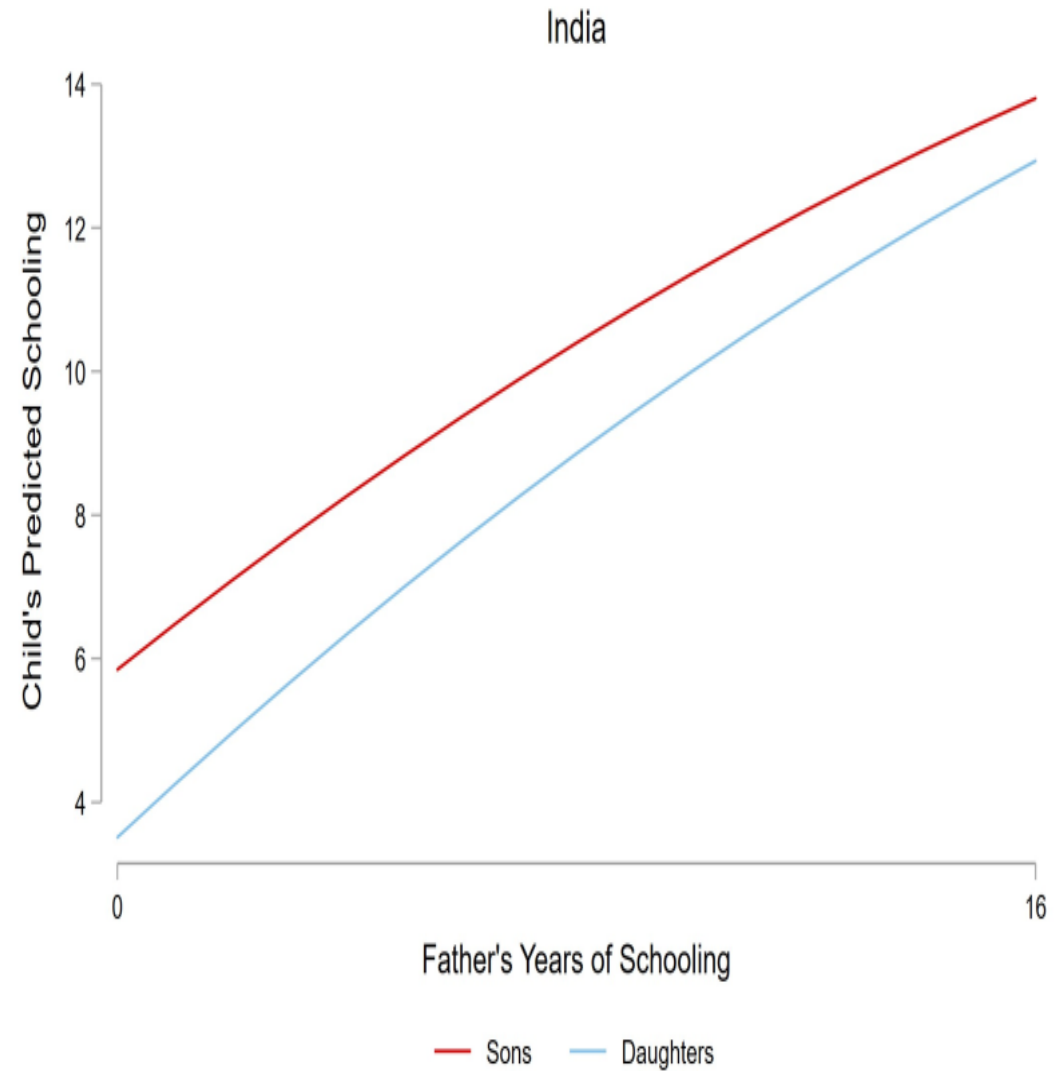
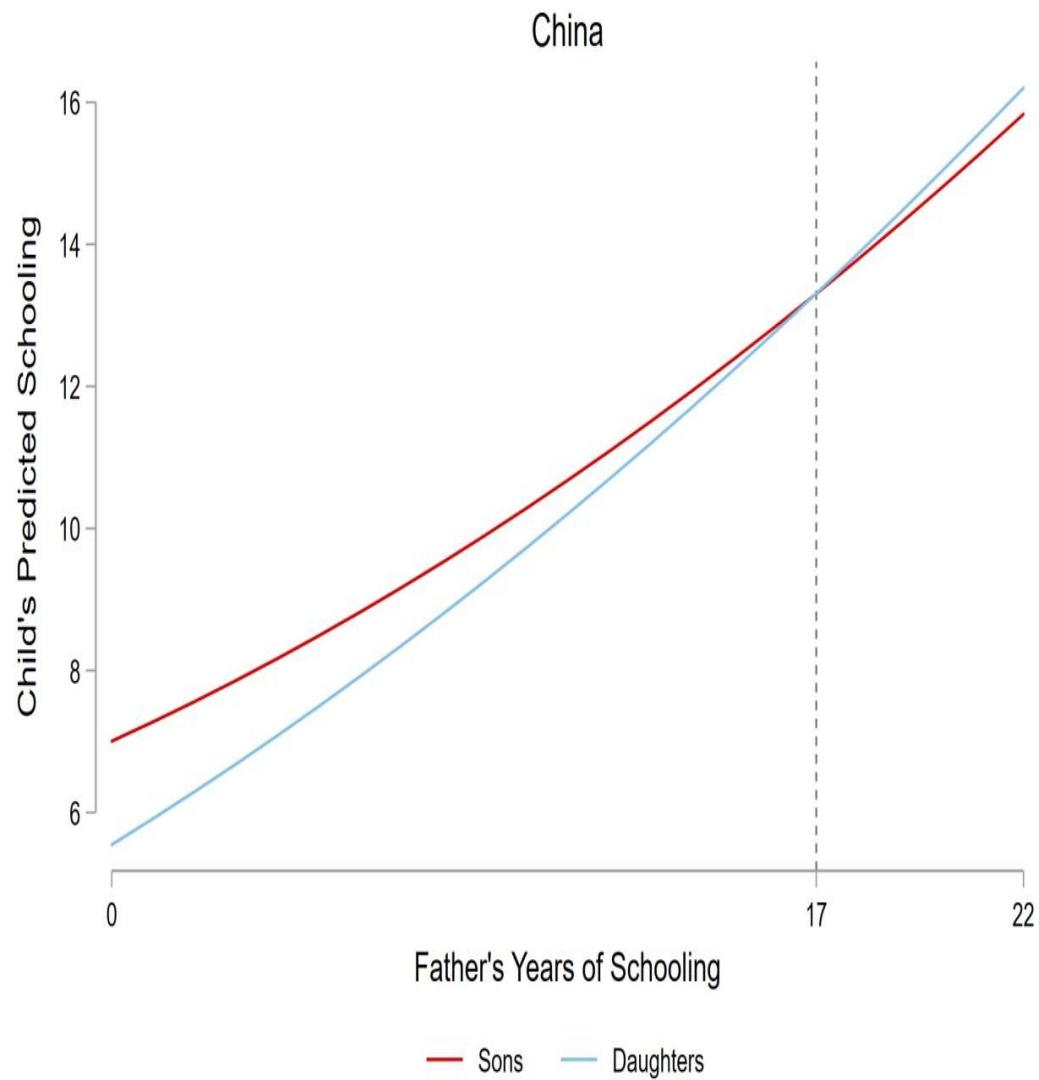
$$I^* = \theta_0 + \theta_1 E^p$$

Quadratic Intergenerational Educational Mobility Equation

- Intergenerational Mobility Equation

$$E^c = \psi_0 + \psi_1 E^p + \psi_2 (E^p)^2$$

- Theory: Becker et al. (2015, 2018), Emran et al. (2021), Ahsan et al. (2022)
- Different Models of Credit Market Imperfections
- Evidence from India, China, and Indonesia: In Most Cases, Mobility Equation is Either Concave (India, Indonesia Older Cohorts) or Convex (China, Indonesia Younger Cohorts)

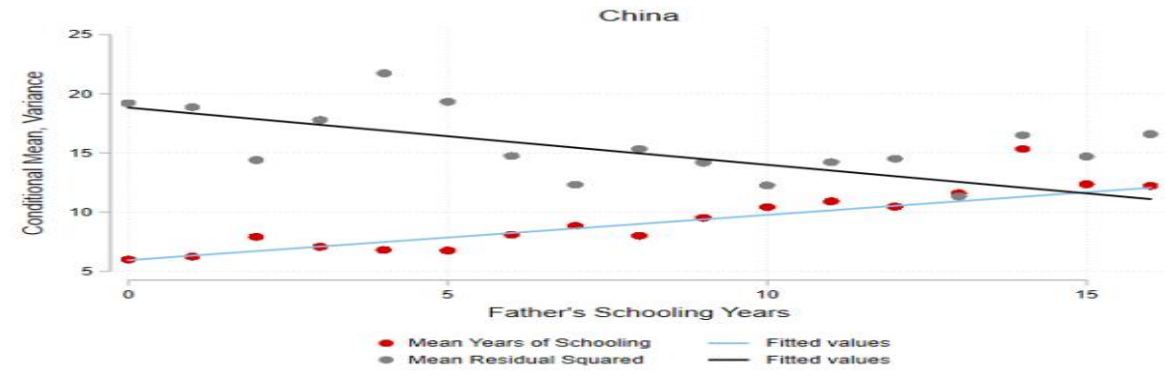


The Role of Risk:

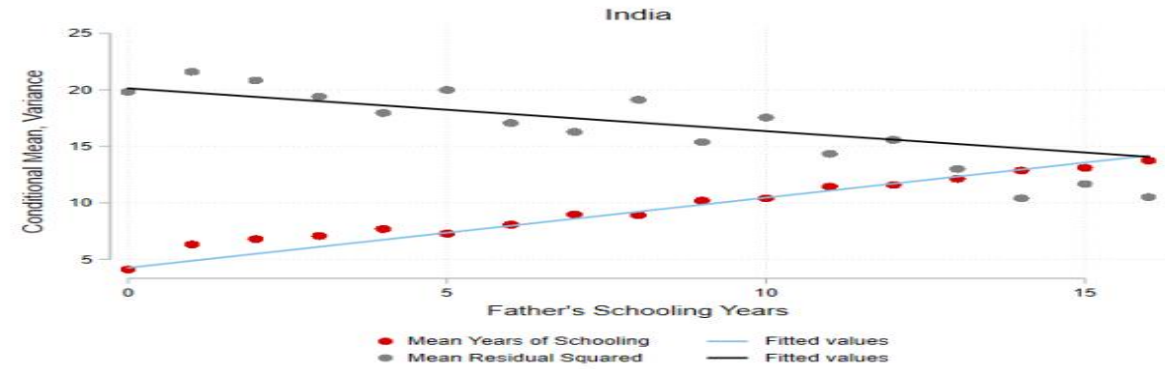
Are We Underestimating The Disadvantages of the Poor Children?

- The Focus of the Literature on the Mean (Average) Education of Children Given Parental Education
- But Conditional Variance of Children's Education May Vary with Parental Education Level.
- The First Analysis by Ahsan, Emran, Jiang, and Shilpi (2022)
- Data From China, India, Indonesia
- Conditional Variance (Risk) in Schooling is Much Higher for the Poor (Low Educated Parents) children, and Declines with Father's Education
- Children of Uneducated Parents Face Double Disadvantages: Lower Mean and Higher Risk. Especially Important Because of Vulnerability to Climate Change and Other Natural (and Manmade like Armed Conflict) Disasters

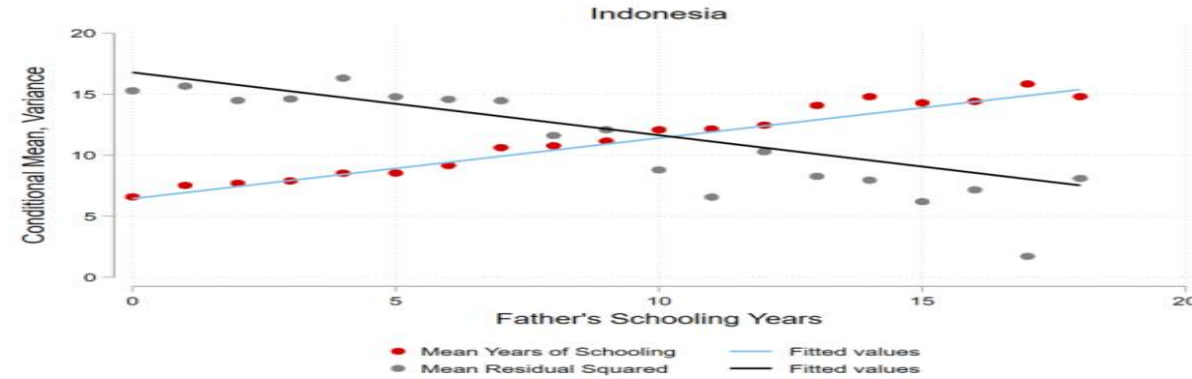
Figure 1. Conditional Mean and Variance of Child's Schooling Against Father's Schooli



Panel A. China

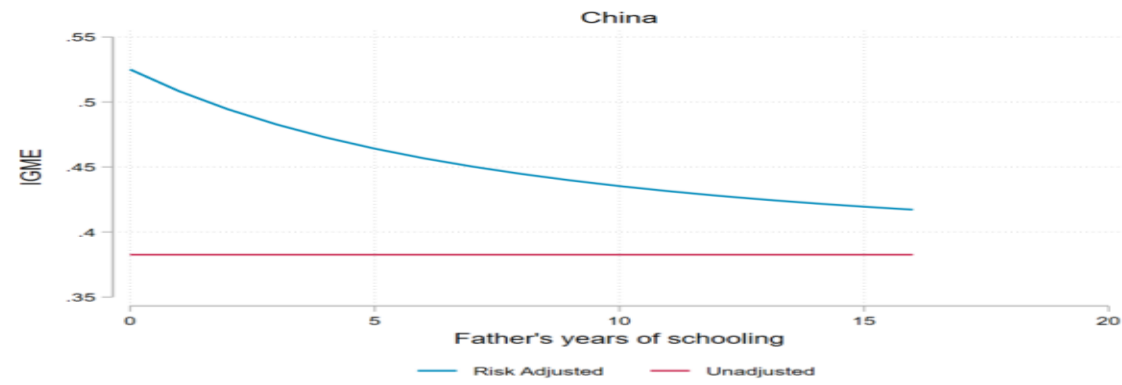


Panel B. India

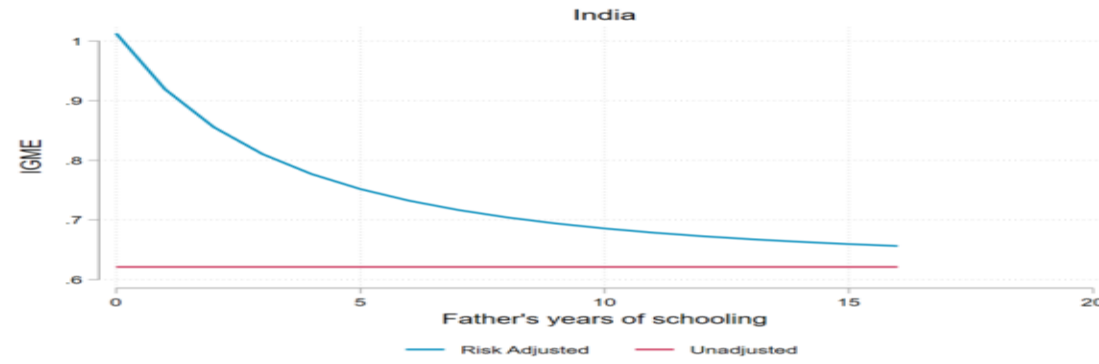


Panel C. Indonesia

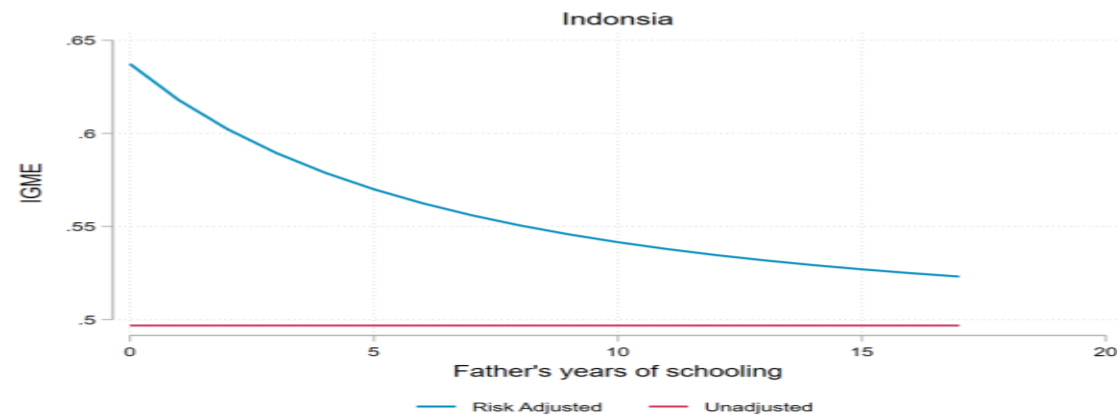
Figure 2. Risk Adjusted and Linear Relative Mobility



Panel A. China



Panel B. India



Panel C. Indonesia

Policy: School Access and School Quality

- **Market Liberalization + School Expansion + Improved School Quality**
- **Market Incentives May Create Inequality, But Access to Good Schools (especially Free Public Schools) Level the Playing Field for the Children from Uneducated Households. Chetty et al. (2014): In USA, Zip Codes with Good Primary Schools Have Higher Income Mobility (Correlation, No Causal Evidence)**
- **Policy Evaluation Usually Focuses on Average Effects Across Different Households. For Example, How Much Do New Schools Increase Enrollment Rate?**
- **A Focus on Intergenerational Mobility: Does A Policy Weaken the Parental Impact on Children's Schooling? Do New Schools Reduce Intergenerational Persistence?**
- **Is A Policy Complementary to (Crowding In) or Substitute of (Crowding Out) Parental Investments?**

**School Access and Intergenerational Mobility:
Evidence from Indonesia (Ahsan, Emran Shilpi (2022)
(The First Causal Evidence in the Literature)**

- **61,000 Public Primary Schools Constructed in the Early 1970s Under INPRES Program. Originally Studied by Esther Duflo (2001, AER)**
- **We Use Full Count Census Data 2000**
- **Primary Completion: New Schools Improved Relative Mobility of the Children of the Low Educated Fathers (Both Boys and Girls), But Also Strengthened the Advantages of the Children of the College Educated Fathers (Lower Relative Mobility at the Top).**
- **Completed Years of Schooling: No Longer Any Significant Effect of New Schools on Girl's Relative Mobility!!**
- **Unintended Consequences: Gender-Based Crowding-Out at the Secondary High School Level. Probability of Completing Higher Secondary Declined by 8.5 Percentage Points for Girls, But Increased by 7.7 Percentage Points for Boys. Crowding out of Girls Does not Depend on Family Background**

**School Quality and Intergenerational Mobility:
Evidence From Indonesia (Ahsan, Emran, Shilpi (2021))**

- **Rural Schools Have Low Quality. School Quality Improvements is a Major Policy Promoted in Many Countries**
- **Effects of Quality Improvements Depend on the Nature of Interaction: Whether School Quality is Complementary to or Substitutes to Parental Investments in Children's Schooling**
- **We Develop a Theory-Based Approach to Estimate the Parameters of Education Production Function Determining the Nature of Interaction**
- **Measure of School Quality: Pupil-Teacher Ratio Adjusted for Teacher Quality (Qualifications) and Absenteeism**

Figure 2R: School Quality and Parental Inputs: Rural Areas

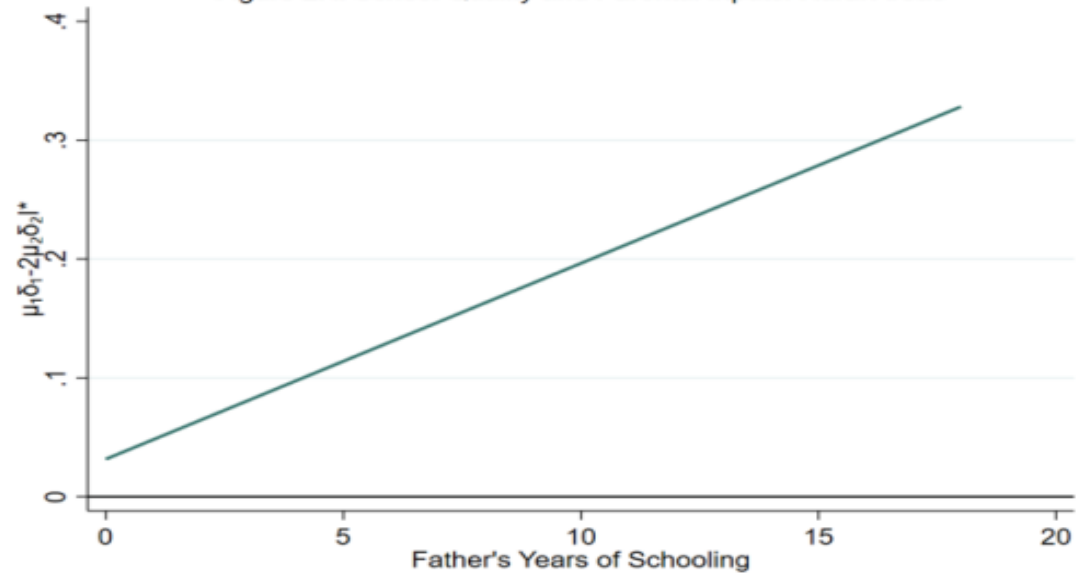


Figure 2U: School Quality and Parental Inputs: Urban Areas

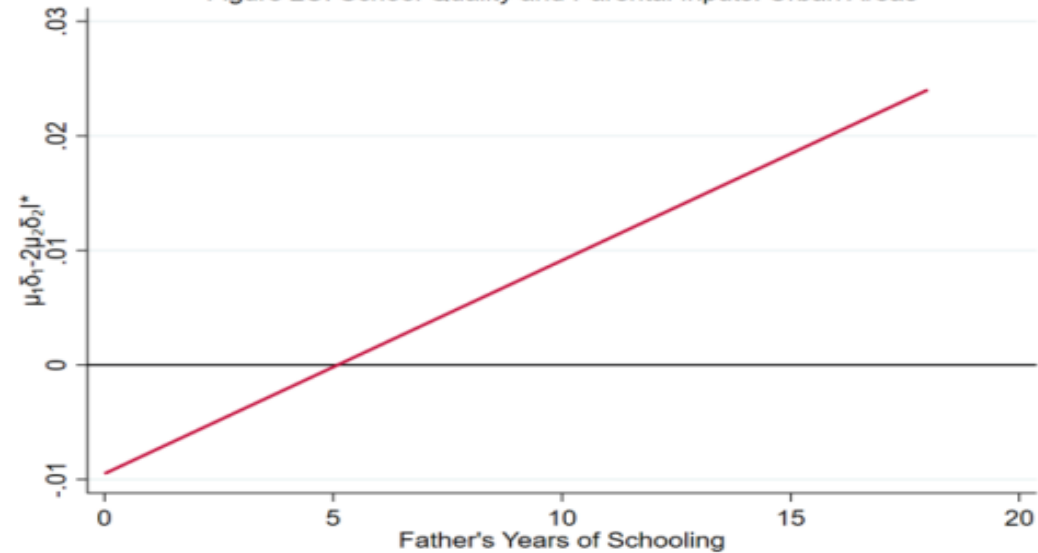


Figure 3R: Expected Children's Years of Education in Rural Areas

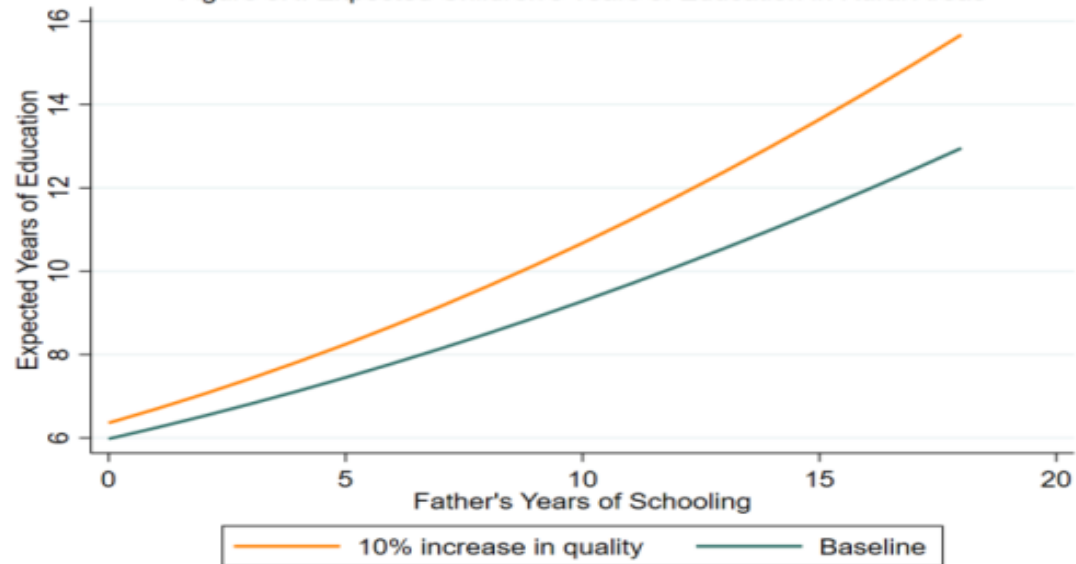
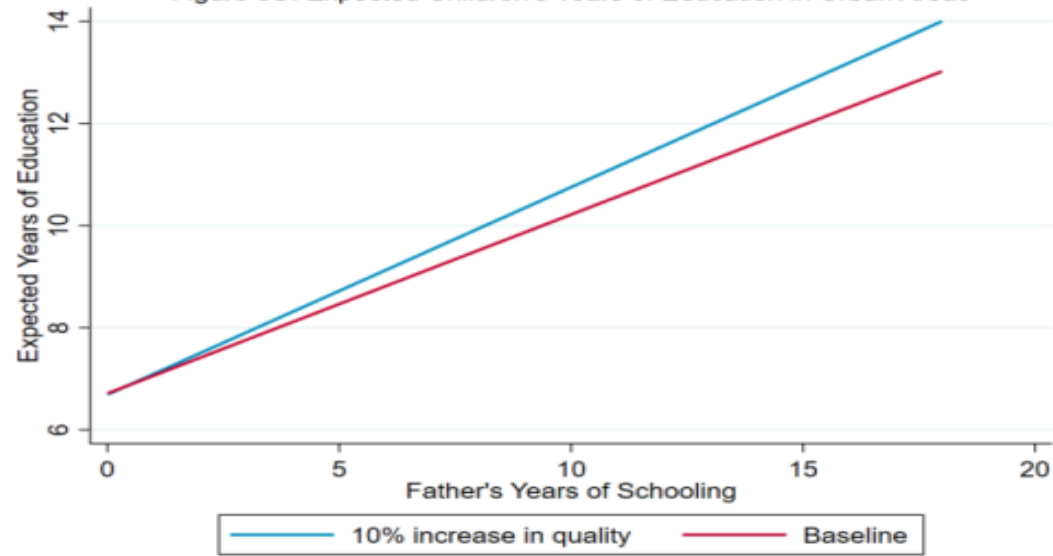


Figure 3U: Expected Children's Years of Education in Urban Areas



Lessons for Policy Analysts and Policymakers

- **Objective of Policy: Not Only Standard Average Outcomes (Economists Favorite ATT, ATE etc.). Equally Important: the Impact of a Policy on Relative Mobility (Intergenerational Transmission).**
- **The Same Policy Can Improve Mobility of Some Households, While Worsening Mobility of Others. Needed Complementary Policies. The Linear Model is Inappropriate for Mobility Analysis in Most of the Cases.**
- **Need to Take into Account the Risk Faced By Poor Children. Risk-Adjusted Measures of Mobility.**
- **Appropriate Policies Depend on the Shape of the Mobility Curve. Persistence at the Bottom (Concave) vs. Persistence at the Top (Convex).**
- **Downstream Effects are Important. Intervention at a Certain Level can Create Bottleneck in the Following Level. Unintended Consequences: Weaker Segments of the Society (Girls, Lower Caste, Immigrants) May be Crowded Out.**

Thank You!

Please Send Comments, Questions, and Afterthoughts to:

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References Cited In the Following Page

REFERENCES AND ADDITIONAL READINGS

Ahsan, Md. Nazmul & Emran, M. Shahe & Jiang, Hanchen & Han, Qingyang & Shilpi, Forhad, 2022. "Growing Up Together: Sibling Correlation, Parental Influence, and Intergenerational Educational Mobility in Developing Countries," GLO Discussion Paper Series 1123, Global Labor Organization (GLO).

Ahsan, Md Nazmul & Shilpi, Forhad & Emran, Shahe, 2022. "Unintended bottleneck and essential nonlinearity: Understanding the effects of public primary school expansion on intergenerational educational mobility," MPRA Paper 113047, University Library of Munich, Germany.

Ahsan, Md. Nazmul & Emran, M. Shahe & Jiang, Hanchen & Shilpi, Forhad J., 2022. "What the Mean Measures of Mobility Miss: Learning About Intergenerational Mobility from Conditional Variance," Policy Research Working Paper Series 10074, The World Bank.

Emran, M. Shahe & Jiang, Hanchen & Shilpi, Forhad, 2021. "Is Gender Destiny? Gender Bias and Intergenerational Educational Mobility in India," GLO Discussion Paper Series 807, Global Labor Organization (GLO).

Ahsan, Nazmul & Emran, M. Shahe & Shilpi, Forhad, 2021. "Complementarities and Intergenerational Educational Mobility: Theory and Evidence from Indonesia," MPRA Paper 111125, University Library of Munich, Germany.

M. Shahe Emran & Forhad Shilpi, 2019. "Economic approach to intergenerational mobility: Measures, methods, and challenges in developing countries," WIDER Working Paper Series wp-2019-98, World Institute for Development Economic Research (UNU-WIDER).

M. Shahe Emran & William Greene & Forhad Shilpi, 2018. "When Measure Matters: Coresidency, Truncation Bias, and Intergenerational Mobility in Developing Countries," *Journal of Human Resources*, University of Wisconsin Press, vol. 53(3), pages 589-607.

Emran, M. Shahe & Shilpi, Forhad, 2015. "Gender, Geography, and Generations: Intergenerational Educational Mobility in Post-Reform India," *World Development*, Elsevier, vol. 72(C), pages 362-380.

M. Shahe Emran & Forhad Shilpi, 2011. "Intergenerational Occupational Mobility in Rural Economy: Evidence from Nepal and Vietnam," *Journal of Human Resources*, University of Wisconsin Press, vol. 46(2), pages 427-458.

OPEN ACCESS BOOK:

Iversen, Vegard, Anirudh Krishna, and Kunal Sen. *Social Mobility in Developing Countries: Concepts, Methods, and Determinants*. Oxford University Press, 2021.