

Education Asymmetry: Brain v. Brawn in rural Communities

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ECON 6460 Agriculture and Sustainable Development

*Adapted from MIT's online "micro masters" Global Poverty course Economics 14.73x lectures by
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Presentation Summary

- Gender asymmetry in education achievement in rural India Bangladesh and Brazil: Girls outperform men...
- Now Worldwide trend
 - Why gender and rural urban education gap matter
 - Women's education affects migration, child health, fertility and marriage decisions...

Roy model of Brains vs Brawn ECON 6460 Spring 2017



Photo Credit: Banjee
& Duflo

Education and Agriculture

The World Development Report 2008: Agriculture for Development:

*“While land and water are critical assets in rural areas, **education is often the most valuable asset for rural people to pursue opportunities in the new agriculture, obtain skilled jobs, start businesses in the rural nonfarm economy, and migrate successfully**” (page 9).*

Cross Cutting Issue: Gender

- Educational attainment differences observed between men and women the “Brawn vs. brain” argument:
 - Men and women have different endowments (the Roy Model)
 - Different opportunity costs of pursuing education
 - Men → comparative advantage in brawn based occupations
 - Gender-specific occupation roles
 - Schooling has a high return from women

Experiment in India:

- Robert Jensen (2010). “Economic Opportunities and Gender Differences in Human Capital: Experimental Evidence for India,” NBER WP W1602
- For 3 years, recruiters recruited boys and girls who had English education for Business Process Outsourcing (BPO) centers.
 - BPO recruitment **increased** girls education
 - No overall effect on boys BUT unequal pattern:
 - Increased education for boys whose parents wanted to send them to the city
 - Decreased education for boys whose parents wanted them to farm
 - *Results show it is possible for girls to gain without first needing to change bargaining power, income or fertility.*

The Education Decision

- Sensitive to perceived returns to education
 - Jenson 2010 notes that parents make *“forward-looking decisions regarding their daughters based on some perceived increased future value of their human capital, i.e., that investment in girls will respond to increases in their future economic opportunities”*
- Increasing external employment opportunities may shift inequality in education in favor of girls

Bangladesh

Heath, Rachel and A. Mushfiq Mobarak (2015) Manufacturing growth and the lives of Bangladeshi women, *J of Development Economics*, 115, 1–15

- Exposure to garment factory jobs affects women's decision to pursue education significantly,
- Results show significant effects on:
 - Parents' propensity to keep younger girls in school
 - Older girls' likelihood of wage work outside the home...
 - Women's willingness and capacity to postpone marriage and childbearing

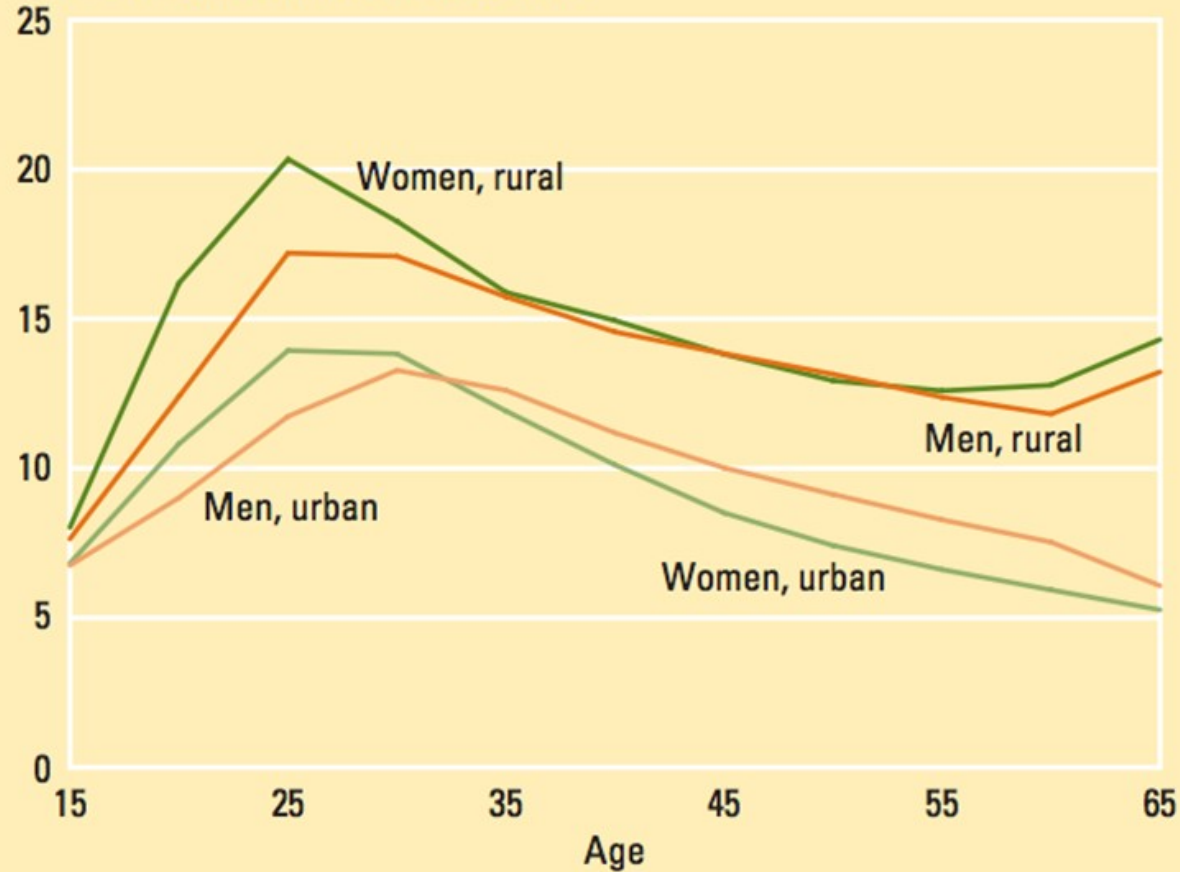
See also [Figure 4](#) for BDG from [Pitt et al. 2012](#)

Brazil

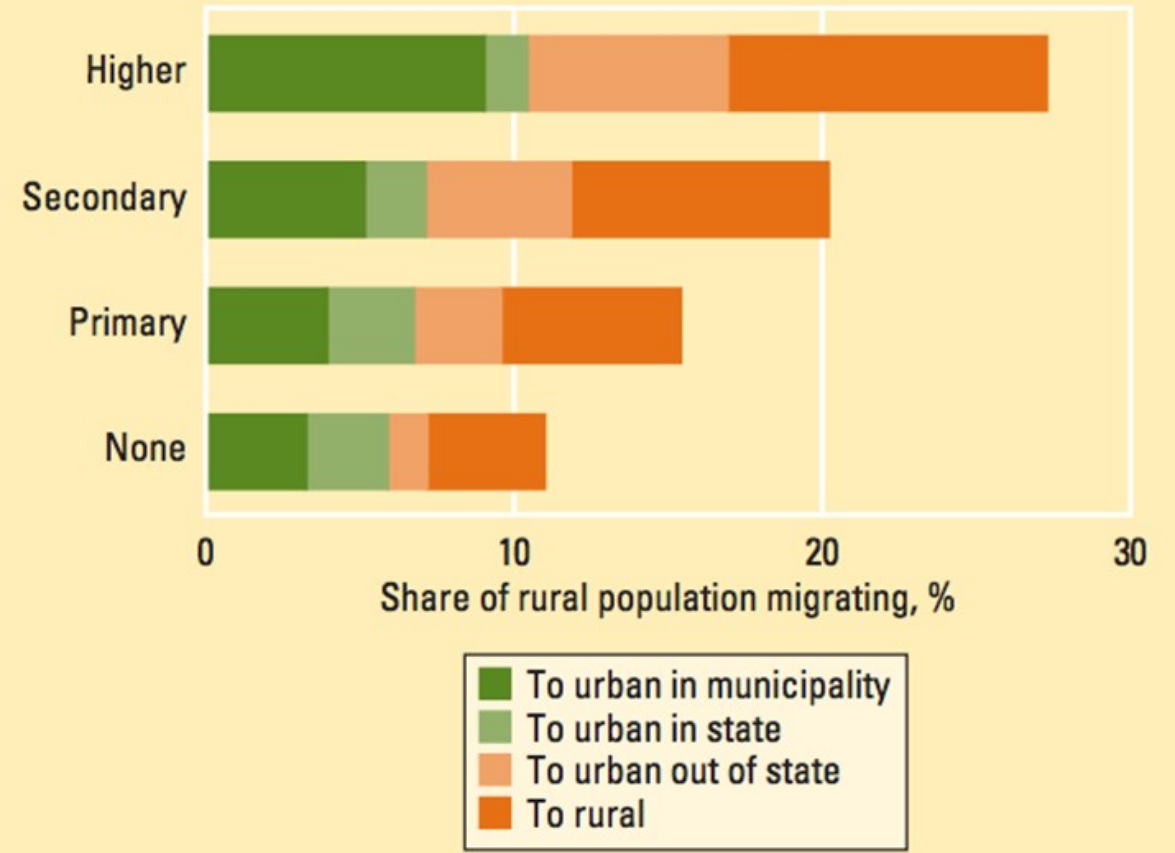
Source: WDR 2007

Young Brazilian women migrate more than young men—and the less educated migrate less

Share of migrants in each category, %



Education level



Source: Buck and others 2007; Lopez-Calva 2007; from information available in Brazil's 2000 census on residence in 1995.



Photo Credit: Banjeree & Duflo

Worldwide Rural Education:

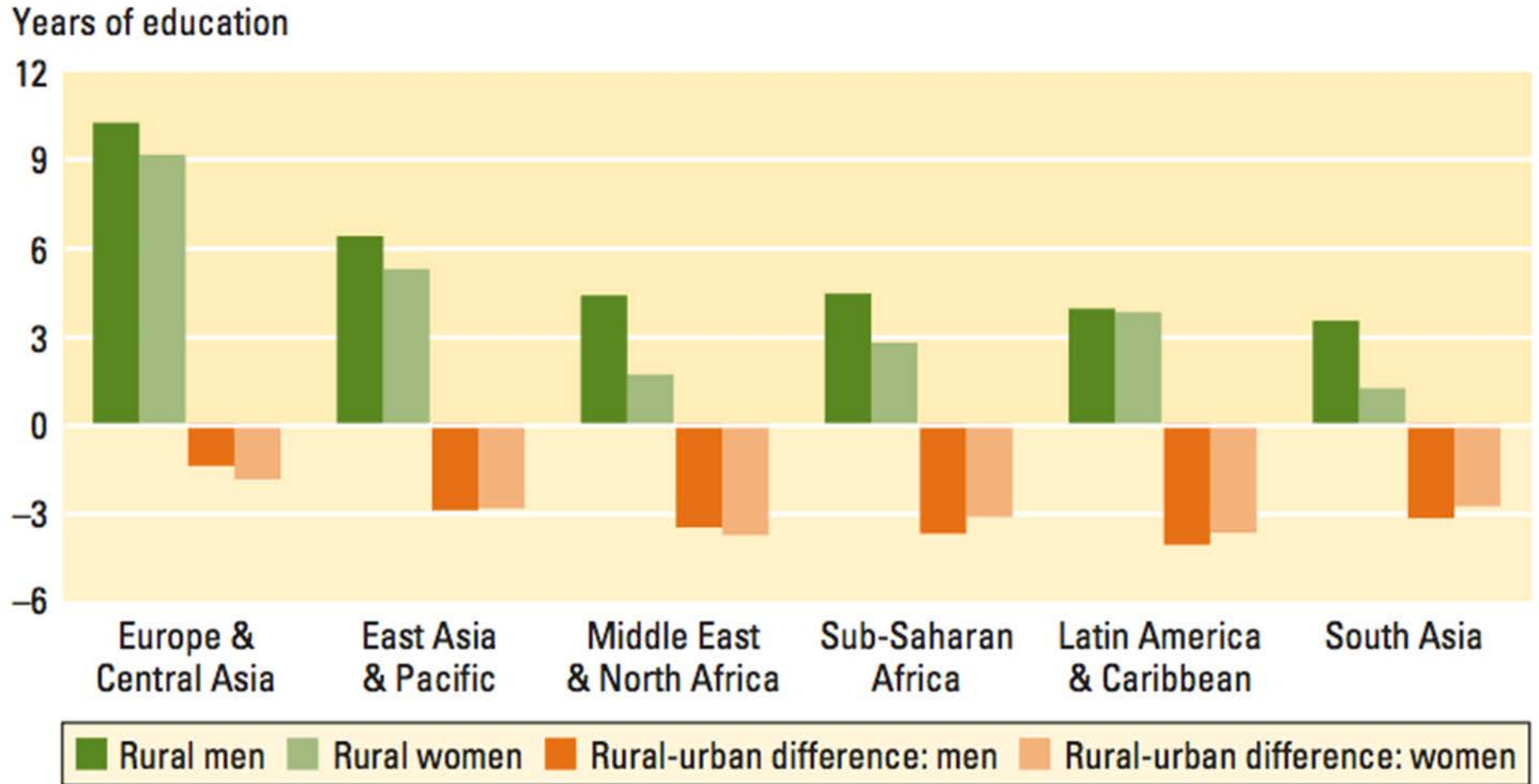
Number of children of school age not in school worldwide:

- 103 million in 1999
- 73 million in 2006

Rural-Urban school gap

Source: WDR 2008

Figure 3.5 Rural-urban gaps in educational attainment are large



Source: WDR 2008 team.

Note: Average education levels for adult populations, 25–64 years old, for countries in each region. Calculations based on 58 countries (excluding China and India) with recent household survey data with information on years of education, weighted by 2000 population. See Background Note by WDR 2008 team (2007) for details.

Why it matters

- The World Development Report 2008, Chapter 5 notes that:
 - Educational achievement affects:
 - A person's potential to engage in high-value nonfarm jobs
 - The returns on agriculture
 - Fertility rate directly via birth rate and indirectly via falling U5MR
 - Education facilitates learning and adopting new technologies → improved farm productivity

Conclusion

- Roy model predicts asymmetry in Education
 - Brazil Bangladesh and India
 - Now a Worldwide Trend, more girls in schools
- Capabilities Approach
 - Access to education → adds to choices → freedom, gender autonomy...
 - Opportunity costs based on gender distort freedoms ???



References

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- **Roy AD (1951) Some Thoughts on the Distribution of Earnings. *Oxford Economic Papers*, 3:135-146.
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**added by D. McLeod