# Gender, Age Structure and Economic Growth:
## Report on an ICRW Study

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# Reference

Based on a paper by Jeffrey Edmeades, Janna McDougall, Anju Malhotra & Margaret Greene, “Gender Equality and the Demographic Dividend,” presented at the PAA Meeting, New Orleans, April 17-19, 2008

# Research Design

- Country-level growth regressions that build on the Bloom-Canning-Malaney (2000) model
- Hypothesis is that gender inequality in education (a) slows economic growth, and (b) reduces the positive effects of a favorable age structure on growth
- Reasoning is that inequality represents lost human capital and productivity

# Data

- Data for 82 countries covering six five-year periods,1965-1999 (N = 470) – Ghana & S. Africa removed as “outliers”
- All data time-varying with independent variables measured in the base year for each period
- Dependent variable is the logged annual average percentage growth of real GDP per capita measured in PPPs

# Data, continued

- Gender inequality is measured as the ratio of female to male years of completed secondary schooling in the population 15+ years of age (model also includes “total schooling” as stock measure)
- Inequality is treated as a dummy variable classification:
  1. Female/male > 1.0
  2. .75 = or < Female/male = or <1.0
  3. Female/male < .75
- Reason for this choice is not discussed in the paper

# Models

- Basic model predicts growth from age structure (log [15-64/N]), base-year GDP, tropics dummy, landlocked dummy, quality of institutions, openness of economy, total schooling, growth in total population, % of GDP from agriculture, and period dummies
- Second model adds the educational inequality dummies
- Third model adds the interaction between base-year GDP and age structure (I'll ignore this model)
- Final model adds interaction terms for (a) gender inequality & age structure, (b) gender inequality & base-year GDP, and (c) gender inequality & pop growth
- They also run separate models within each of the three gender inequality groups

# Selected Results 1

| **Variable** | **Model 1** | **Model 2** | **Model 4** |
|---|---|---|---|
| Age structure | 6.8** | 6.7** | 2.3 |
| F ed > m ed | -- | 0.5 | 0.7 |
| F ed = m ed | -- | 0.6* | 0.9*** |
| F>m * age str | -- | -- | 26.5*** |
| F=m * age str | -- | -- | 10.6*** |

# Selected Results 2

| **Variable** | **F<M** | **F=M** | **F>M** |
|---|---|---|---|
| Age structure | 1.9 | 13.2*** | 14.1*** |
| Initial GDP | -2.4*** | -2.9*** | -3.6*** |
| Age * Int GDP | -7.7*** | -2.9 | -3.0 |

# Questions

- What would results look like if there were fewer interactions in the models?
- How did the “outliers” affect the results – and why did removing only 12 observations out of 482 change the results substantially?
- Is gender inequality in education what is driving these results or is it some other correlated variable?