

Infant Mortality in the World-System: The Cross-National Evidence

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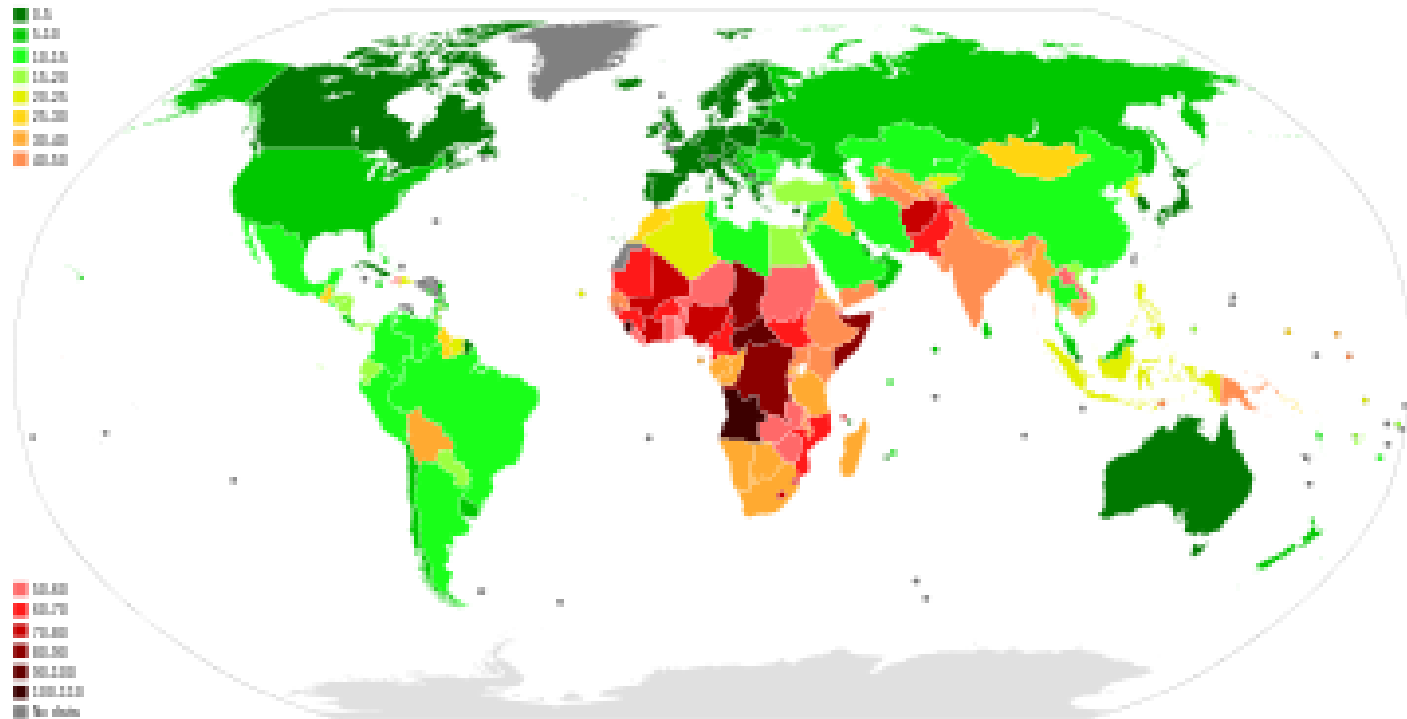
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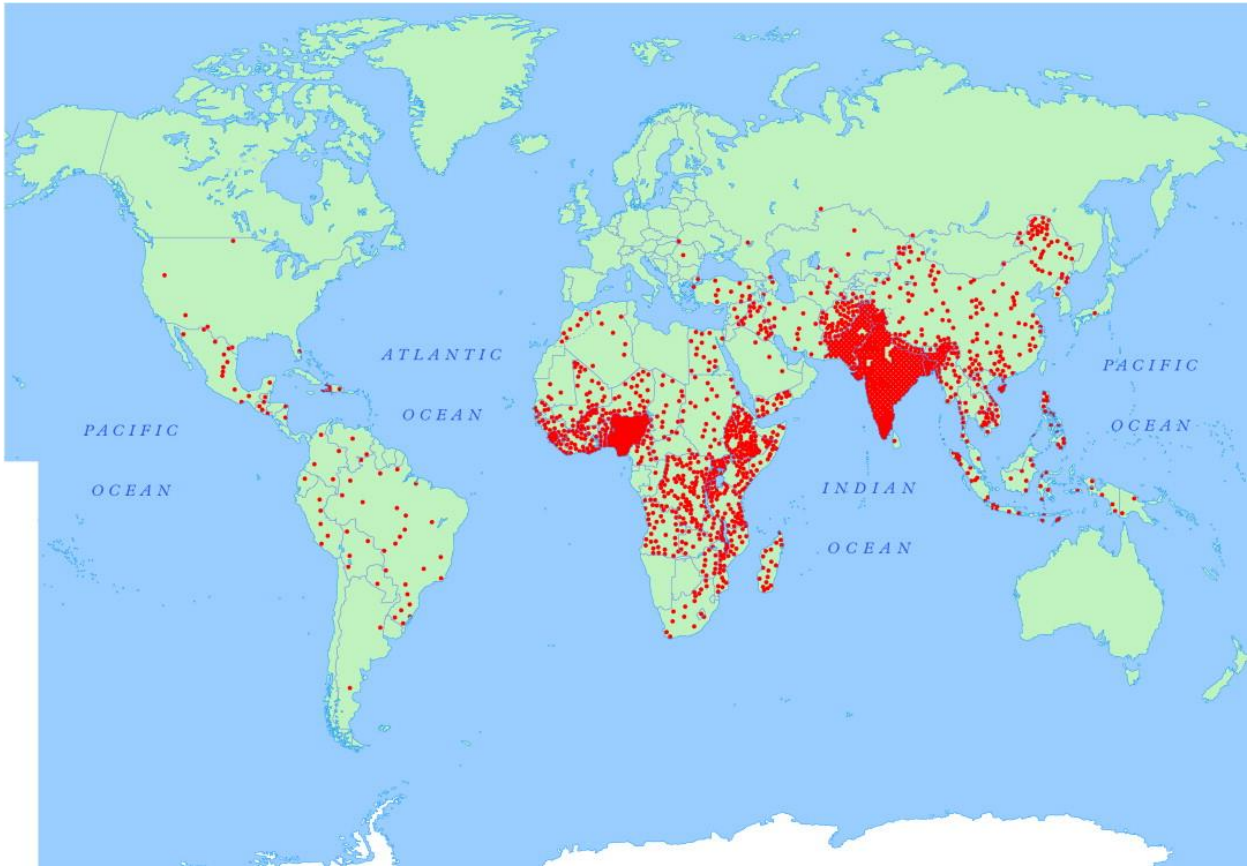
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Infant Mortality Rates, circa 2013





THE PROBLEM

- Infant mortality declined globally over the past six decades and the infant death rate declined across countries occupying very different positions in the world-system
- Considerable cross-national variation in infant mortality remains today and child mortality reduction goals under the UN's 2015 Millennium Development Goals will not be met

- In 2013 infant mortality rates varied from a low of 1.80 deaths per 1,000 births in Monaco to a high of 187.1 in Afghanistan (US Central Intelligence Agency, *World Factbook*, 2013, though UN figures for Afghanistan are lower)

THE PURPOSE

- Why does the infant mortality rate vary so dramatically across nations?
- Various explanations have been offered, but little attention has focused on examining the validity of these explanations simultaneously with recent data
- This gap in the literature was addressed in a cross-sectional analysis of the determinants of the infant mortality rate in 2010 for a large sample of developed and less developed countries

ALTERNATIVE EXPLANATIONS

- Modernization Theory
- Dependency and World-Systems Theory
- Gender Stratification Theory
- Development State Theory

Modernization Theory

- Proponents of modernization theory argue that economic development reduces infant mortality through improvements in health care, nutrition, and the like
- Existing cross-national research supports this contention

Dependency and World-Systems Theory

- Proponents contend that dependent relations between core and peripheral countries foster resource and surplus extraction that could be invested in health care, education, etc.
- Research results are contradictory on the link between various measures of dependence and infant mortality

Gender Stratification Theory

- Proponents argue that improvements in the status of women (especially education) foster better infant care and reduce infant deaths
- Existing research suggests strong support for a negative link between various forms of gender equity and the infant mortality rate

Development State Theory

- Proponents contend that strong states can act in ways that reduce the infant mortality rate, especially through investment in public health
- Results of the existing cross-national research are mixed

DATA AND METHOD

- Sample
- Infant Mortality Rate
- Independent Variables
- Control Variables
- Method of Analysis

Sample

- 144 developed and less developed countries were included in the analysis

Source of Data

United Nations. UNdata (Online database) at <http://data.un.org>.

Infant Mortality

- Number of children dying in the first year of life per 1,000 live births in 2010

Independent Variables

- GDP/capita in 2010 was used to assess the modernization argument
- Dependence on the export of primary products in 2010 (as a percent of merchandise exports) was used to assess the dependency/world-systems argument
- A number of other variables (investment dependence and trade dependence) were used in several analyses, but they are not reported here because they do not differ substantially from results to be reported

Independent Variables

Continued

- Female education in 2010 (measured as the combined primary, secondary, and tertiary gross enrollment ratio for females) was included as a measure of female equity
- Public health care as a percent of GDP in 2010 was used to assess state investment

Control Variables

- Several variables were included as controls (e.g., population growth, Sub-Saharan African status, political democracy), but only Sub-Saharan African status proved to be an important predictor
- Sub-Saharan African status was included as a dummy variable in the final analysis

Method of Analysis

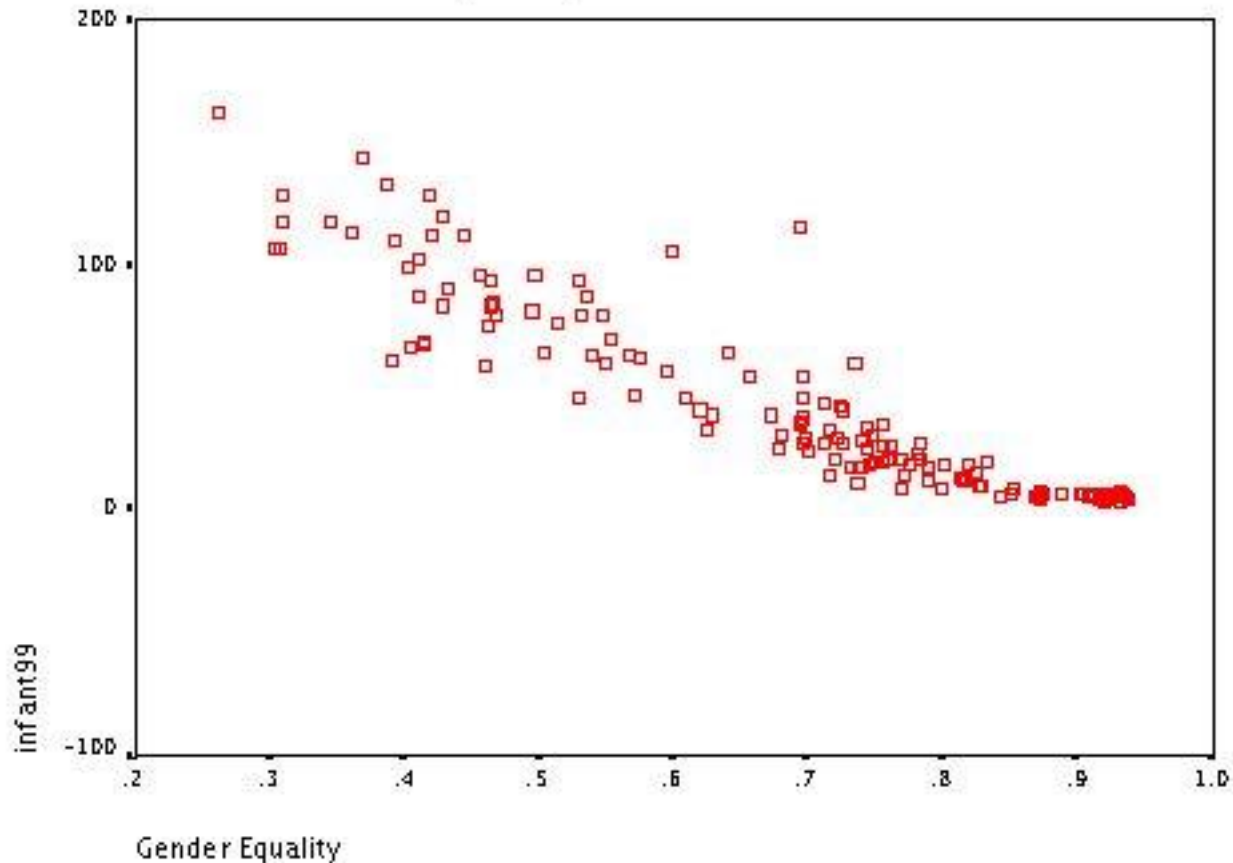
- Ordinary least-squares regression was used to make estimates
- Several diagnostic procedures and robust estimation techniques were used to assess the stability of estimates
- Estimates were not compromised by either collinearity or unusual observations.

OLS RESULTS

Variables	Unstandardized Coefficients (Standard Errors)
Intercept	73.8380* (9.890)
GDP/capita	-0.5766* (0.153)
Primary Exports	0.0836 (0.070)
Female Education	-0.6320* (0.149)
Public Health	-0.5480 (1.191)
Sub-Saharan Africa	36.1990* (6.526)
Adjusted R-Square	0.792

Gender Equality and Infant Mortality

Figure 1. Regression of Infant Mortality Rate on Gender Equality



CONCLUSIONS

1. Results suggest strong support for the gender stratification and the modernization perspectives, but little support for the other two perspectives
2. Sub-Saharan African status proved to be a significant predictor of the infant mortality rate
3. Increasing gender equality appears to be the best single and most rational means for reducing infant mortality

4. Future researchers should identify those characteristics of Sub-Saharan African countries that may contribute to high infant mortality rates:

- Environmental conditions such as access to clean water and basic sanitation
- Structural Adjustment policies of the World Bank
- The legacy of colonialism and the slave trade
- The HIV/AIDS epidemic
- Political instability and violence
- The resource curse and its adverse consequences
- Rapid urbanization and subsequent over-urbanization and the attendant growth of slum settlements in many of these countries

QUESTIONS?



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