The MCC Effect: Quantifying Incentives for Policy Change in an Ex-Post Reward System
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Executive Summary

The Millennium Challenge Corporation (MCC) is a U.S. Government foreign aid agency using an ex-post rewards system to determine funding eligibility. When countries change policies to meet MCC eligibility requirements, this is the “MCC effect.” The performance of ex-post rewards for good governance has important policy implications beyond the agency itself for global development aid. The only two existing quantitative studies of the MCC effect are unpersuasive: one finds an effect, but the study is too early, the evidence sparse and inconsistent, and the finding statistically weak; the other analyzes the effect of only one eligibility criterion. Our report identifies and focuses on five unique, plausible “treatment groups”—countries we believe are most likely to exhibit an MCC effect. Using an original panel dataset, we conduct preliminary analyses to test our hypotheses and models. We then use three difference-in-differences regression models to analyze results by funding eligibility indicators, treatment groups, country income ranges, and time periods. We find no compelling evidence of an overall MCC incentive effect, but we do find signs of limited MCC effects for some eligibility indicators, country groups, and time periods. We conclude our report with a road map for future analyses of the MCC effect and recommendations about how to stimulate a stronger MCC effect.

Research Questions

1. Does rigorous quantitative analysis support MCC anecdotal evidence of an MCC effect?
2. What analytical and policy prescriptions do quantitative findings suggest for the agency?

Data

Drawing directly from the third-party sources the MCC itself uses, we compiled an original, single panel database with 20 funding eligibility indicators for 98 countries from 2002 through 2010. We chose this labor-intensive effort, rather than simply analyze data in the MCC dataset, to strengthen data accuracy: the third-party sources revise their historical data as new information becomes available.

Indicator Mobility

Indicator mobility refers to the relative speed of eligibility indicator change. We conjecture that policy can bring about visible change along some dimensions more quickly than along others; this has implications for responsiveness to MCC incentives. As each indicator has its own scale, we standardize “speed” by ranking indicator scores for the countries for each year and show how quickly the rank of each changes in a given period. Light yellow represents relatively fast changes, dark red represents slower changes.

MCC Ex-post Aid Criteria (2004-2010)

1. Countries must perform above the median score of their income peer group on at least half of all eligibility indicators.
2. Countries must perform above the median on the Control of Corruption indicator.

Test for Conjectures of Treatment Groups

To test if there is a quantitative basis for our treatment group conjectures, we compare each group to the group with qualitative evidence. We find such a basis.

Difference-in-Differences Models

Difference-in-differences models are relatively easy to implement, control for fixed effects, and are widely used to estimate causal relations. We specify three models:

1. Rate of Reform: We estimate the MCC effect on the rate of reform for each of 20 indicators for the five treatment groups.
2. Likelihood of Improvement: We use a probit regression model to estimate the probability of policy improvement for each of the 20 indicators for the five treatment groups.
3. Proportion of Indicators Improved: We calculate the proportion of the number of improved indicators as a fraction of all indicators in a given period. This allows us to see the aggregate MCC effect for all 20 indicators across all five treatment groups.

Formula: \( (Y_{t+2} - Y_t) / Y_t = \alpha + \beta \times \text{period} + \gamma \times \text{treatment} + c \times X_{it} + \delta \times (\text{treatment} \times \text{period}) \)

Main Findings

1. We find no compelling evidence of an overall MCC effect.
2. We do find signs of limited MCC effects for some eligibility indicators, country groups, and time periods: for example, a stronger effect in the poorest-income countries for democratic governance indicators and a steadily declining effect for these indicators in slightly less impoverished countries.

Improving Future Analyses

1. Run randomized samples in treatment groups to get an empirical distribution to check for false positives.
2. Reduce endogeneity by employing instruments or combining a regression discontinuity design with the difference-in-differences models.

Policy: Stimulating a Stronger MCC Effect

1. Inspire countries to pursue MCC funding.
2. Reduce endogeneity by employing instruments or combining a regression discontinuity design with the difference-in-differences models.
3. Set more distinct goals for countries based on income levels.