



**Investing in People by Investing in Data:
How Best to Incorporate the New MCA Eligibility Indicators**

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Executive Summary

This week the Board of Directors of the Millennium Challenge Corporation (MCC) will decide how to officially incorporate two new natural resources indicators—a Natural Resource Management Index (NRMI) and a Land Rights and Access indicator—into MCC’s eligibility criteria. The MCC will recommend that the Board adopt three main aspects of our earlier proposal for how best to add the new indicators by: (1) adding the Land indicator to Economic Freedom, (2) balancing the addition of the Land measure by combining the Days and Cost to Start a Business indicators in Economic Freedom (to retain six indicators in that category), and (3) adding the NRMI to Investing in People. Our earlier proposal also recommended adding a new education indicator to Investing in People to balance the category at an even number of indicators. After much research and consultation by the MCC, it emerged that no viable indicator that meets MCC’s criteria currently exists. As a result, these steps will lead to five Investing in People indicators—an awkward outcome given the MCC's rules that a country must pass half the indicators in each category."

Thus the focus of the Board’s decision this week will likely be on what to do with the Investing in People category given the unavailability of an appropriate education quality indicator. The Board has three basic options, none of which are ideal:

- **Option 1:** Expand the number of Investing in People indicators to six by adding an education enrollment indicator until a quality indicator exists.
- **Option 2:** Keep the number of Investing in People indicators at four by combining the two existing health indicators into a single index.
- **Option 3:** Accept five indicators in Investing in People as an interim step, but aggressively encourage the development of a viable educational quality indicator.

Because Options 1 and 2 offer somewhat skewed measurements of policy, Option 3 is the least-bad option and the best choice for now. As part of deciding on Option 3, the Board should require that the MCC:

- report which countries narrowly fail due to the three out of five requirement and consider those countries on a case by case basis,
- publish supplemental education indicators to help inform decision making around countries on the margin,

- take steps to vigorously stimulate the development of a viable education quality indicator and periodically report progress to the Board, and
- commit to reassessing the five-indicator IP in two years if credible progress is not being made on developing a new educational quality indicator.

Introduction

In September 2006 the Board of Directors of the Millennium Challenge Corporation (MCC) approved two new natural resources indicators for use in the selection of eligible countries. The new indicators, a Natural Resources Management Index (NRMI) and a Land Rights and Access Indicator were approved for use only as supplemental data in the FY2007 selection round with the intention to incorporate both fully in FY2008. Next week the Board will decide precisely how to incorporate the two new indicators. Our proposal for how best to add the new indicators has received broad support from the Board.¹ However, it envisaged adding a new education indicator alongside the two new natural resource indicators, and the lack of an appropriate education indicator creates a significant challenge for the Board. This note explores the issues and the options going forward for the Board.

We proposed a two step process. First, the MCC should place the Land Rights and Access indicator into the Economic Freedom basket and the NRMI into the Investing in People basket. That step alone would have led to seven Economic Freedom indicators and five Investing in People indicators—an awkward outcome since the MCC requires that countries pass half the indicators in each group. Thus we proposed a second step: combine two of the current Economic Freedom indicators—Days to Start a Business and Cost to Start a Business—into a single index, and add a new education indicator to the Investing in People (IP) category.

At the time, we were relatively confident that an appropriate indicator would emerge readily out of the MCC's consultations with the education community. In fact, after extensive consultation and much internal research by the MCC Development Policy team, no satisfying indicator was evident. What emerged was broad consensus that: 1) the MCC should aim to include a new measure as soon as possible, ideally one that measures educational *quality*, but 2) no viable quality indicator exists at present that meets the MCC's criteria. Unfortunately, the absence of an acceptable education indicator leaves only five indicators in the IP category—an awkward outcome given the MCC's rules that a country must pass half the indicators in each category.

The Board's Options

For this week's Board decision, the MCC will recommend that:

- The new Land Rights and Access indicator be included in the Economic Freedom category,
- The Days and Cost of Starting a Business indicators be combined into a single index,
- The new Natural Resource Management indicator (NRMI) be added to the IP basket, and
- Countries be required to pass three of the resulting five IP indicators.

¹ For more details on the discussion about introducing the new natural resource indicators, see *Expand and Enhance: A Proposal to Strengthen the MCA Eligibility Process When Adding the Natural Resources Indicators* by Steve Radelet, Sheila Herrling and Sarah Rose, Jan. 24, 2007 (<http://www.cgdev.org/content/publications/detail/12333>).

For the most part, these steps are straightforward and very sensible. However, the requirement to pass three of five IP indicators is problematic. Thus, the Board is likely to focus on this issue and on what to do with the IP category.

As we see it, there are three basic options, and unfortunately none are ideal:

Option 1: Expand the number of IP indicators to six: Despite the lack of an acceptable education *quality* indicator, the Board could add education *enrollment* indicator—the gross primary and lower secondary ratio being identified as the best option—until an education quality indicator exists.

Option 2: Reduce the number of IP indicators to four: Combine the two health indicators (immunization and spending) into one indicator, returning the category to two health and two education indicators (since the new NRMI includes health measures).

Option 3: Live with five IP indicators as an interim step, but aggressively encourage educational institutions to develop a new quality indicator. Several promising indicators exist, but they are two to five years from being fully ready.

We explore each of the options in more detail below. ***Our conclusion is that Option 3 is the least-bad of these options and the best choice at the moment, for four primary reasons:***

- It has the most potential to increase demand for and inspire efforts toward finding an educational quality indicator which would add value to both the MCA eligibility process and to international development and foreign assistance effectiveness more broadly—a real “MCA Effect.”
- High medians associated with Option 1—90% enrollment rates for lower income countries (LICs) and over 100% for lower-middle income countries (LMICs) —make it hard to justify enrollment as a priority for many countries; indeed, it may detract from efforts they are undertaking to improve the quality of the educational system.
- Option 2 would create a somewhat odd hybrid index which makes it harder for countries to understand what they need to do to improve their score. This option rests more on practical expediency than sensibility and reduces the incentives toward finding an educational quality indicator.
- Although requiring passage of three of five indicators is harder than the usual half, our initial analysis suggests this higher standard affects a relatively small number of countries, and these can be treated on a case-by-case basis.

As part of deciding on Option 3, the Board should require that the MCC (1) report which countries narrowly fail due to the three out of five requirement and consider those countries on a case by case basis, (2) publish supplemental education indicators to help inform decision making around countries on the margin, (3) take steps to vigorously stimulate the development of a viable education quality indicator and periodically report progress to the Board, and (4) commit to reassessing the five-indicator IP in two years if credible progress is not being made on developing a new educational quality indicator.

Option 1: Add an education enrollment indicator

The Appendix describes the MCC's process for attempting to find an acceptable indicator for educational quality and the emerging consensus that none were currently available. As a result, the MCC explored the option of adding an *enrollment* indicator to fill the gap and create six IP indicators on a temporary basis until a *quality* indicator is available.

The MCC's assessment of several enrollment indicators found that UNESCO's Gross Enrollment Ratio for Basic Education had the best potential.² In many respects an enrollment indicator would nicely complement the two current indicators—Public Spending on Primary Education, and the Girls' Primary Education Completion Rate. Enrollment is more actionable in the short term than completion rates, and countries with a legacy of low enrollment that make concerted efforts to get children into school can see those policy decisions reflected relatively quickly. Moreover, although enrollment obviously does not ensure quality education, it is a first step.

The main problem with the Gross Enrollment Ratio for Basic Education indicator is that the median scores are very high.³ Using 2007 data, the median for low-income countries (LICs) is 91% and the median for lower-middle income countries (LMICs) is 102%.⁴ The ratio is defined as children in the target grades divided by all children of the appropriate age, so scores over 100% are plausible if older children are in school or there are many grade-repeaters. However, it is also likely that enrollments are over-reported.

Thus it is conceivable that a country with over 100% gross enrollment could fail the indicator. Because of the way the ratio is measured, 100% does not necessarily imply full enrollment if there are many students who enter school late or repeat grades. But at high numbers of gross enrollment, it is hard to tease out what is happening on the ground. As countries make systemic improvements to their education system, grade repetitions and delayed entry into early grades may decline, which would lead to a reduction in the ratio. Thus systemic improvements could be associated with a declining score, possibly to the point of failing the indicator.

High median gross enrollment ratios also beg the question of the MCC's role in creating proper incentives for the best use of education resources. Does it really make sense for the MCC to push countries with relatively high gross enrollment ratios to put extra resources into getting that last 5-10% of children in school, or would the marginal impact per dollar of education expenditures be greater if spent on quality improvements? At the end of the day, it is going to be improved quality in the system that will affect parents' choices in sending their kids to school.

For illustrative purposes, we examined the impact of adding the gross enrollment ratio to the FY2007 eligibility round.⁵ Taking the addition of Land Rights and Access and the combination

² Basic education includes primary and lower secondary education.

³ Net enrollment ratios do not have the problem of high medians, but they have much higher measurement error so are not recommended for use by the MCC.

⁴ 2008 data yields a median of 89.4% for LICs and 100.8% for LMICs.

⁵ The candidate countries and data from FY2007 were used for this experiment. Note that a different set of candidate countries and updated data for FY2008 may yield very different results.

of Days and Cost of Starting a Business in the Economic Freedom basket as given, adding the NRMI and the Gross Enrollment for Basic Education indicators changes the passing status for five LICs and two LMICs relative to the original IP basket. Of these, three LICs and two LMICs fail Option 1 that would have passed had no changes been made to IP, and two new LICs (no LMICs) pass. See the Appendix for detailed results of which countries are affected.

Option 2: No new education indicator; combine the two health indicators into one

This option entails combining the two existing health indicators: public spending on health and the immunization rate. However, this option would create a hybrid index that blurs performance on the individual components, making it more difficult to identify policy interventions for improvement. Passing scores may cover up low performance in one area, and for failing scores, the areas in need of improvement are less obvious. Indexes can be useful; indeed the MCA eligibility indicators now include a number of good composite indicators. However, to the extent that simplicity can be maintained in measurements, it should. Furthermore, there is a risk that the use of a combined health spending and immunization indicator could be construed as an MCC endorsement of such an indicator as a legitimate “health index” more broadly when it is really mainly an index of convenience.

Applying Option 2 to the FY2007 eligibility round (again, taking the Economic Freedom changes as given) would affect seven countries relative to making no changes to the IP basket. Two LICs and three LMICs that pass the original IP structure fail with Option 2 in place, and two LICs (no LMICs) that fail the original IP pass Option 2. See the Appendix for more detail.

Option 3: No new education indicator added until a quality indicator is found; countries must pass three of five indicators

An advantage of this option is that it requires the fewest changes to the indicators, and thus limits “changing the goalposts” for countries. In addition, the obvious gap in the category sends a strong signal that the MCC is looking for an education quality indicator as soon as possible which may accelerate efforts to develop a quality indicator. The major disadvantage is the requirement to pass three of five indicators, which provides countries with fewer opportunities to pass the indicators. In addition, this option entails the MCC taking a calculated risk that a new quality indicator will soon emerge.

In the past, the MCC’s interest in an indicator has created added incentive for improvements by the source organization. The International Finance Corporation’s Doing Business Survey expanded country coverage from 60 LICs in FY2005 to 73 in FY2007. The MCC has apparently secured commitments from WHO and UNICEF to increase their data collection for access to an improved water source (a component of the NRMI) from ten year cycles to three to five year cycles (which is a distinct improvement, but, in our opinion, still inadequate for MCC purposes). Columbia University’s Center for International Earth Science Information Network and the Yale Center for Environmental Law and Policy modified an existing index to create an indicator appropriate for MCC use. Freedom House published its sub-category scores for the first time which enabled better differentiation among MCC candidate countries. These examples

demonstrate that it is reasonable to believe that MCC pressure on the international education community will help expedite the development of a good quality indicator.

Applying Option 3 to the FY2007 eligibility round (assuming the changes to Economic Freedom are in place) would result in the failure of three LICs and three LMICs that would have passed with no changes to IP. No additional countries pass. See the Appendix for country-level detail.

Steps to Enhance the Viability of Option 3

The MCC should take steps to mitigate the difficulty of the three out of five standard, and aggressively create incentives to develop a viable education quality indicator.

Prepare a detailed analysis of the impact of the Investing in People category for the Board

Each year the MCC should provide the Board with a detailed analysis of the impact of the five-indicator construction on countries (in particular, which countries pass two indicators but fail three). The Board should consider those countries on a case-by-case basis, with particular attention paid to those that were not given the opportunity to pass a sixth indicator that otherwise might have. The MCC should be clear in its annual report to Congress on the selection process why countries that failed were chosen (a practice the MCC does quite well already) and, likewise, why countries that passed were not chosen (a practice that is technically included in the current annual report but should be given more precision).

Publish supplemental education data

In the absence of an education quality indicator, the MCC should track perhaps two other education indicators and use this data to help inform decision making around the countries that narrowly fail Investing in People. Although we are cognizant of the increased burden this places on the small staff at the MCC, we believe it is critical to keep the focus on the importance of additional education indicators. The MCC should make this supplemental education data publicly available on their website in conjunction with the eligibility indicators (as it did this year with the natural resource indicators).

UNESCO's Gross Enrollment Ratio for Basic Education indicator seems a logical immediate supplemental data point. The World Economic Forum's "Quality of Public Schools" may be a reasonable second choice given its promising features (discussed in the Appendix). It attempts to measure perceptions of quality, even though it currently falls short of acceptable standards. The Gallup poll is also a potentially promising measure; regrettably the surveys are not public and even the MCC does not have access to the data. Perhaps Gallup would allow the MCC access for use as supplemental data which, if adopted as a full measure, would be made public with pressure from the international community (particularly developing countries).

Report to the Board on progress toward finding an education quality indicator

Each year the MCC should provide the Board with a report detailing efforts by various organizations to design and expand coverage of an education quality indicator. If, after two years, credible progress is not occurring, the Board should reconsider the three of five requirement for the IP category and consider other options to fill the gap.

Offer an “advanced purchase commitment” for a viable education quality indicator

Knowing that the MCC is ready to include a measure of education quality in its selection process provides an incentive for education and statistical organizations to work toward creating, testing and expanding the coverage of nascent indicators. The MCC has the means to compound its incentive effect by offering a financial reward for the development of a viable education quality indicator. The MCC currently has \$5 million reserved for statistical capacity building, which to date have been untouched. The MCC could launch an ***“advanced purchase commitment” initiative*** with this reserve and seek matching grants from other partners—e.g., Google.org, the William and Flora Hewlett Foundation, and the Bill and Melinda Gates Foundation—that are interested in supporting statistical capacity building and monitoring and evaluation initiatives for development programs.

To date, the MCC has refrained from providing resources for data collection over concerns that it be perceived as tainting the independence of the data. The MCC is also concerned of a “Pandora’s box” effect—if it provides incentives for the search for one indicator, why not another, and why not pay the institutions that provide existing indicators? Nevertheless, we think the development of a strong educational quality indicator is important enough for the MCC to consider this option.

Appendix: The Search for the Education Indicator

The MCC's search for an appropriate education indicator was, by all accounts, diligent and thorough. They explored in detail no fewer than 23 indicators measuring educational inputs, outputs and quality from over half a dozen independent sources, and consulted broadly with education stakeholders. The primary consensus that emerged from the consultation was that the MCC should adopt an indicator that measures educational quality. The current education indicators—Government Expenditure on Primary Education and Girls' Primary Education Completion Rate—measure education inputs and outputs, but do not capture learning outcomes.

The problem is that no vetted quality indicator that meets the MCC's standards of country coverage, regularity of updates, cross-country comparability, analytical rigor, and relationship to government policy currently exists. This is sad and shocking considering the education and development community has spent decades focusing on the relationship between education and poverty reduction without systematically measuring educational quality. Learning outcomes are arguably the most critical link between schooling and increased earnings.

There are a handful of quality indicators in their nascent stages that show potential for meeting the MCC's criteria, however most education experts estimate that it will be at least three to five years before any of these are fully tested and with broad enough coverage to be a viable MCA indicator. Those that currently show significant potential include the following.

- There are several pilot programs that employ basic literacy testing to determine students' ability to comprehend what they read relative to a grade-appropriate standard. This offers a direct, relatively low cost measure of learning outcomes.
- The World Bank is developing an indicator that proxies educational quality by measuring governments' commitment to quality. This measure will assess whether or not countries participate in learning assessments (on a national, regional or international level) and how they use the information to influence educational policy. This is a unique use of testing that does not create incentives for cheating because it focuses on the use of testing rather than on test outcomes themselves.
- The World Economic Forum's "Quality of Public Schools" measures the extent to which businesspeople think that public schools are of high quality. It has good country coverage, is updated annually and directly measures educational quality. One of its weaknesses—good identification of high and low performers but poor differentiation among middle outcomes—could be improved with sufficient attention.
- Gallup's "Citizen Satisfaction with Education System" is a household survey that measures citizen satisfaction with the quality of and access to the public education system. It has good coverage, is updated annually and creates incentives for governments to respond to its citizens. Yet it is relatively little known in the education community and initial concern was expressed over it being a perceptions indicator (although so are some of the current governance indicators). The fact that the surveys are not public is a problem, and there are serious concerns as to whether Gallup would change its policy.

**Appendix: Countries that pass the indicators test, four versions*
(Based on FY 2007 data)**

| <i>Countries that pass based on the original 16 indicators</i> | <i>Changes to Economic Freedom only: Land Rights and Access added and Days and Cost of Starting a Business Combined; no change to Investing in People</i> | Including changes to the Economic Freedom category described in the second column | | |
|--|---|--|--|---|
| | | Option 1 | Option 2 | Option 3 |
| | | <i>Gross Enrollment Ratio for Basic Education added to Investing in People (6 total IP indicators)</i> | <i>Health Expenditures and Immunization combined (4 total IP indicators)</i> | <i>NRM added to Investing in People (5 total IP indicators)</i> |

LICs

| | | | | |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Armenia ^{E,C} | Armenia ^{E,C} | Armenia ^{E,C} | Armenia ^{E,C} | Armenia ^{E,C} |
| Bhutan | Bhutan | Bhutan | Bhutan | Bhutan |
| Bolivia ^E | Bolivia ^E | Bolivia ^E | Bolivia ^E | Bolivia ^E |
| Burkina Faso ^{E,T} | Burkina Faso ^{E,T} | Burkina Faso ^{E,T} | Burkina Faso ^{E,T} | Burkina Faso ^{E,T} |
| East Timor ^{E,T} | Egypt | Egypt | Egypt | Egypt |
| Egypt | Georgia ^{E,C} | Georgia ^{E,C} | Georgia ^{E,C} | Georgia ^{E,C} |
| The Gambia | Ghana ^{E,C} | Ghana ^{E,C} | Ghana ^{E,C} | Ghana ^{E,C} |
| Georgia ^{E,C} | Guyana ^T | Guyana ^T | Guyana ^T | Guyana ^T |
| Honduras ^{E,C} | Honduras ^{E,C} | Honduras ^{E,C} | Honduras ^{E,C} | Honduras ^{E,C} |
| Kiribati | Lesotho ^{E,C} | Lesotho ^{E,C} | Lesotho ^{E,C} | Lesotho ^{E,C} |
| Lesotho ^{E,C} | Mali ^{E,C} | Mali ^{E,C} | Mali ^{E,C} | Mali ^{E,C} |
| Mali ^{E,C} | Mauritania | Moldova ^{E,T} | Moldova ^{E,T} | Moldova ^{E,T} |
| Moldova ^{E,T} | Moldova ^{E,T} | Mongolia ^E | Mongolia ^E | Mongolia ^E |
| Mongolia ^E | Mongolia ^E | Nicaragua ^{E,C} | Nicaragua ^{E,C} | Nicaragua ^{E,C} |
| Mozambique ^{E,C} | Mozambique ^{E,C} | Philippines ^T | Philippines ^T | Tanzania ^{E,T} |
| Nicaragua ^{E,C} | Nicaragua ^{E,C} | Sri Lanka ^E | Solomon Islands | Ukraine ^{E,T} |
| Solomon Islands | Solomon Islands | Tanzania ^{E,T} | Sri Lanka ^E | Vanuatu ^{E,C} |
| Tanzania ^{E,T} | Tanzania ^{E,T} | Ukraine ^{E,T} | Tanzania ^{E,T} | Vietnam |
| Ukraine ^{E,T} | Ukraine ^{E,T} | Vanuatu ^{E,C} | Ukraine ^{E,T} | |
| Vanuatu ^{E,C} | Vanuatu ^{E,C} | Vietnam | Vanuatu ^{E,C} | |
| Vietnam | Vietnam | | Vietnam | |

LMICs

| | | | | |
|----------------------------|----------------------------|----------------------------|----------|----------|
| Brazil | Brazil | Brazil | Brazil | Brazil |
| Bulgaria | Bulgaria | Bulgaria | Bulgaria | Bulgaria |
| El Salvador ^{E,C} | El Salvador ^{E,C} | El Salvador ^{E,C} | Maldives | Maldives |
| Jordan ^{E,T} | Maldives | Maldives | Tunisia | Tunisia |
| Maldives | Namibia ^E | Tunisia | | |
| Namibia ^E | Samoa | | | |
| Samoa | Tunisia | | | |
| Tunisia | | | | |

E=Eligible, C=Compact, T=Threshold

*The information provided in this table uses FY2007 candidate countries and data in order to assess the effect of different changes on country performance *had any of these rules been applied last year*. The updated list of candidate countries and data that will be used for the FY2008 selection may yield very different results.