



**International
Initiative for
Impact Evaluation**

Impact Evaluation Scoping Study

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This paper is a draft for discussion. The views expressed are solely those of the author and do not represent agreed findings or conclusions of the Evaluation Team. Comments are welcome.

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Acronyms and Abbreviations

ANOVA	Analysis of variance
CBA	Controlled Before and After Studies
CBR	Community Based Rehabilitation
CCT	Conditional Cash Transfer
CSP	Community Support Process
DAC	Development Assistance Committee
DFID	Department for International Development
DHS	Demographic and Health Survey
DPEP	District Primary Education Programme
ECD	Early Childhood Development
EFA	Education For All
EMIS	Education Management Information System
EQ	Enduring Questions
FFE	Food For Education
FSP	Female Stipend Program
FTI	Fast Track Initiative
GDP	Gross Domestic Product
GNP	Gross National Product
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IE	Impact Evaluation
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
ITS	Interrupted Times Series
J-PAL	MIT's Poverty Action Lab
LSMS	Living Standards Measurement Survey
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
NCAER	National Council for Applied Economic Research
NGO	Non-Governmental Organisation
OED	Operations Evaluation Department
PATH	Program of Advancement Through Health and Education
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper
PSM	Propensity Score Matching
PTR	Pupil-Teacher Ratio
RCT	Randomized Control Trial
SBM	School Based Management
ToR	Terms of Reference
UN	United Nations
UNESCO	United Nations Educational Scientific and Cultural Organisation
UPE	Universal Primary Education
WHO	World Health Organisation

1. Introduction

1.1 This is a background paper for the FTI mid-term evaluation. The ToR for the study (reproduced as Annex A of this report) state that this paper will:

- Briefly review existing impact studies of education programs in developing countries, assessing both knowledge and the state of the art regarding impact evaluation approaches. This review will inform the modelling strategy for the impact studies. This evidence is presented in section 3 of this paper.
- Review existing data sources in FTI countries (administrative data and household surveys), to assess the scope for impact studies in each country. Surveys which link household and school facility data are of particular importance. Information will be collected on planned surveys, including possible piggy-backing to enhance data collection. (This work will be coordinated with the Mid-Term Evaluation's work under the Data and M&E workstream). This paper contains information on existing surveys in section 6 (and Annex D)
- Explain the feasible approaches to impact evaluation for the FTI, setting out the advantages and disadvantages of the various alternatives, and present a detailed concept note for a single country case study, including an estimated budget for implementing the study. The paper discusses both the application of impact evaluation in the mid-term evaluation (section 4) and what an impact evaluation component of FTI might look like (section 5).
- Propose a short-list of 8-10 countries for the impact studies, in the expectation that eventual deep country case studies would be done in 5-6 of these countries. The list is presented in Section 6, and draft TOR for such a case study are at Annex E..

2. Rigorous impact evaluation

The two meanings of impact

2.1 Much confusion has arisen from the two meanings of impact in the evaluation literature.

2.2 The tradition in evaluation has been that ‘impact’ refers to the final level of the causal chain (or log frame), with impact differing from outcomes as the former refers to long-term effects. For example, the DAC definition of impact is ‘positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended’. Any evaluation which refers to impact (or often outcome) indicators is thus, by definition, an impact evaluation. Hence, for example, outcome monitoring can fall under the heading of impact evaluation. In addition, there are established fields of impact assessment, including participatory impact assessment, which rely largely or solely on qualitative approaches which also fall under the impact evaluation label since they are concerned with outcomes and impacts.

2.3 But this definition is not shared by many working on impact evaluation, for example in the World Bank. Impact is defined as the difference in the indicator of interest (Y) with the intervention (Y_1) and without the intervention (Y_0). That is, $\text{impact} = Y_1 - Y_0$ (e.g. Ravallion 2005).¹ An impact evaluation is a study which tackles the issue of attribution by identifying the counterfactual value of Y (Y_0) in a rigorous manner (what constitutes rigour is discussed below).

2.4 These are completely different definitions of impact, so the different definitions result in different types of study being labelled as impact evaluations. Since this is a purely semantic matter, neither side is right or wrong. The definitions are just different. No debate about methodology will be of any use unless we first agree which definition is being used.

2.5 Hence, many studies can be considered to be impact evaluations since they discuss outcome and impact indicators, whilst making no attempt to attribute changes in those indicators to the intervention. Indeed such studies often explicitly state that attribution is not possible. But this is most decidedly not an impact evaluation to someone for whom attribution is the defining characteristic. Many of the objections that you don’t necessarily need quantitative methods to do impact evaluations, are not methodological disagreements about the nature of causality, they are simply using a different definition of impact evaluation.

2.6 But in practice, discussions often conflate the two definitions, or move from one to the other without any clear distinction. The ToR for the FTI evaluation do this. At times the word impact refers to higher-level outcomes, for example, ‘development of a manageable set of indicators for tracking progress towards sustainable impact and baseline data from case study countries on those indicators’. But at others it refers to counterfactual analysis: ‘how has the

¹ Martin Ravallion (2005) ‘Evaluating Anti-Poverty Programs’, T Paul Schultz and John Strauss, *Handbook of Development Economics Volume 4*, Amsterdam, North-Holland.

FTI impacted government support for other EFA objectives?’ When talking about the latter, the ToR are clear that counterfactual analysis is not restricted to educational outcomes, but also to indicators lower down the causal chain; for example, ‘some criteria for impact evaluation might be changes in the human resource bases in FTI countries, and, at the global level, the long-term impact of FTI on donor effectiveness as defined throughout these terms of reference, including the impact of FTI as a global partnership designed to exemplify the new aid architecture’.

2.7 The useful terminology is to move away from ‘impact’ to distinguish between factual and counterfactual analysis. Factual analysis, that is documenting trends, in outcomes is a necessary and useful part of the study. Without a good quality factual, you can’t start to think about the counterfactual. The ToR’s request for a manageable set of indicators falls under this realm of the factual, as that it is what monitoring systems are concerned with. This report does touch on the construction of the factual, but its main concern is with the counterfactual, that is, tackling attribution.

Constructing the counterfactual: addressing attribution

2.8 The fundamental problem in impact evaluation is that we only observe the factual, that is what happens to the ‘treatment group’ once it is subject to the intervention. The impact is the difference between that factual, and what would have happened to the treatment group in the absence of the intervention, i.e. the counterfactual. This counterfactual cannot of course be observed. Instead it is estimated by either (or some combination of) before versus after analysis, and use of a control group.

2.9 Before versus after analysis attributes all changes in the outcome of interest to the intervention. So, for example, one could record the share of aid to basic education in, say, 2000 and 2007 and attribute the whole increase to FTI. This is rarely a valid approach since a wide range of other factors affect the outcome of interest. There are exceptions, e.g. to record the impact of school rehabilitation on school quality then before versus after *is* the most appropriate approach; to use a control group for this analysis – as some studies have done – is just plain silly. But in most cases of interest other ‘confounding’ factors will have played a role; so changes in aid to education reflect also national priorities, changing fashions amongst donors (which show signs of switching back to agriculture and infrastructure after a twenty year trend toward the social sectors), and other international influences such as PRSPs.

2.10 Some qualitative approaches, such as contribution analysis, Most Significant Change, and Scrivin’s General Elimination Methodology, discuss these other factors in an attempt to isolate the impact of the intervention. The alternative is to adopt experimental or quasi-experimental methods to have a control group to measure outcomes for the counterfactual. There is much debate as to which is the best or more appropriate approach. My view is that it is a matter of *n*, that is, the number of units over which the treatment is administered. When *n* is large then formal quantitative methods are best. But when *n* is small then such methods are not appropriate, and qualitative approaches to addressing the counterfactual must be used.

2.11 Much of the FTI evaluation is taken up with small n issues: the global influence of FTI, better aid management, better sector policies at the country level and so. Assessing these effects mostly requires a qualitative approach, and some guidelines for approaching such a qualitative counterfactual are addressed below.

2.12 But it should also be possible to evaluate some of the ‘better sector policies’ on the ground to build up the evidence base for the policies supported by FTI, such as those embodied in some of the indicators in the Indicative Framework (e.g. a pupil-teacher ratio of 40). For such a study it is necessary to utilize a control group. The challenge is that this control group – more properly called a comparison group as the evaluator in fact has little, if any, control over it - needs to be identical to the treatment group other than the fact that they are not subject to the intervention. There are problems in achieving this, which are addressed below.

2.13 Small n studies may utilize comparison groups, but usually without formal statistical analysis; for example it could be reported how many countries track learning outcomes comparing this figure (and preferably its change over time) in FTI and non-FTI countries. Considerable care should be exercised in making any causal statements based on such comparisons; indeed such statements should not be made unless backed up by a convincing argument as to FTI influence on the outcome of interest.

2.14 Getting a valid comparison group is subject to a number of challenges:

- *Allowing for confounding factors*: confounding factors are variables which affect the outcome of interest other than measures of the intervention. For example, school enrolments are affected by schooling costs and the nearness and quality of school facilities which are interventions of interest, but enrolments are also affected by confounding factors such as parental income and education, requirements for child labour in household enterprises and so on. These confounding factors are in principle taken care of by having a control group which is identical with respect to any confounders, and regression analysis can ‘wash out’ any remaining variation in confounders. However, some confounders may be unobserved. If such variables do not change over time then they can be eliminated by double differencing (i.e. combining before versus after with control group data).
- *Selection bias arising from the endogeneity of program placement*: the bias arises from either program placement (project communities, households, firms etc. are chosen by some systematic criteria) or self-selection (communities or people opt in or out of programs). Now, if the characteristics determining program participation are correlated with the outcomes of interest, comparison of outcomes between the participants (the treatment group) and a comparison group will result in a biased estimate of the changes brought about by the program. This is not an unlikely situation. If these selection characteristics can be measured, then they can be controlled for statistically. But if they cannot be measured (are unobservable) and change over time, then randomization, and only randomization, can produce

numerical estimates of impact which are free from bias (though, as critics correctly point out, even randomization may not do the trick).

- *Spillover effects*: an intervention may have either positive or negative spillover effects beyond the treatment group, so its impact is under or over-estimated. The problem is further complicated if spillover effects affect the control, which is one form of contamination.
- *Contamination of the control*: contamination can be exogenous, compensatory or self-contamination. Exogenous contamination occurs if another agency comes along and starts a project that affects the outcomes of interest; such a program may even be started to compensate for them being left out of the program being evaluated. Alternatively, the control can be contaminated by spillover effects from the treatment.
- *Impact heterogeneity*: impact can vary according to intervention design (deliberate or unintentional), beneficiary, and context. An average impact estimate can miss important variations in impact, which are of great policy relevance.

2.15 Each of these factors applies to both quantitative and qualitative analysis of FTI's impact, as summarized in Table 1.

Table 1 Problems in constructing a comparison group for FTI counterfactual analysis

	Qualitative analysis of FTI policy influence	Quantitative analysis of sector policies
Confounding factors	There are many factors affecting both education spending and policy and aid management.	Many factors affect educational outcomes such as enrolment and learning, not just education policies
Selection bias	Countries get into FTI because they have sounder education policies, so these countries would likely be better performers than non-FTI countries even in the absence of FTI	Selection issues generally arise in education evaluations because of (1) program placement is non-random, and (2) better pupils are ‘self-selected’ (by their parents) to access better facilities
Spillover effects	Negative: Aid resources are diverted away from non-FTI countries. Positive: non-FTI countries benefit from knowledge of better sector policies even if don’t join FTI.	Households may access improved facilities by travelling further or moving; innovations spread to other schools by word of mouth
Contamination of control	Also contamination from positive spillover effects.	Other agencies, or government itself, may introduce similar education initiatives to benefit the comparison group
Impact heterogeneity	Policy influence will vary from country to country, the political complexion of the party in power, and also depending on the policies being promoted.	Impact of policies will certainly vary by cultural and economic context of intervention

Designing quality-policy relevant impact studies

2.16 “Quality impact evaluations are technically relevant, and carry clear policy messages based on a deep understanding of context and implementation”: 3ie Principles for Impact Evaluation

2.17 Quality impact studies must be technically rigorous, which means that they address the issues raised above. For large n studies, randomization (experimental design) has come by many to be seen as an approach which best tackles these issues, though it is not without its critics. The expanding number of studies shows that randomization is possible in a development context, and there is scope for more such studies. Education is one of the sectors in which randomization has been most applied, as it proves relatively easy to randomize across schools. But it must also be recognized that there are limitations to when randomization can be used. And for most evaluations which are designed *ex post*, it is simply not an option. In such cases quasi-experimental approaches can be used, of which the strongest design is regression discontinuity (though questions may be asked about internal validity across the intervention), but propensity score matching (PSM) the most common.

The purpose of quasi-experimental designs is to generate a control group statistically. PSM does this by estimating an equation of ‘who participates’, regressing a dichotomous participation variable on a set of variables which are not affected by the intervention. The fitted value from this regression is the propensity score. Each participant is then matched to one (or several) non-participants with a similar propensity score. Regression discontinuity can be used when there is a threshold allocating people into a program, e.g. test scores for student scholarships, comparing outcomes for those who just got into the program (just above the threshold) with those who just did not make it (just below the threshold). Other regression-based approaches, including confounders as ‘control variables’, can also be used (though the sample should be restricted to those with similar characteristics to those in the treatment group).

2.18 But rigour does not ensure relevance, which usually requires a theory-based study design utilizing a deep contextualization based on a mixed-methods approach. Some impact studies simply report an impact estimate, at worst just saying ‘there is a significant impact on enrolment’. But such a ‘what works’ (or doesn’t) approach doesn’t help understand why, which is necessary to improve program design. Measuring impact may be relatively straightforward, but understanding it requires a different set of tools.

2.19 Studies which simply report impact estimates are sometimes called ‘black box’ approaches, the black box being where the transformation from inputs to outcomes occurs but we don’t see it. A theory-based approach unpacks the causal chain to understand how the inputs are used for what activities resulting in what outputs, and how these produce intermediate outcomes, which in turn deliver the final outcomes of interest. The lower reaches of the causal chain usually require good factual analysis, with the counterfactual mix increasing as we move toward outcomes. Hence impact estimates need to be embedded in an analysis of the underlying program theory, tracing impact through from inputs to impacts.

3. Review of existing studies

3.1 Rigorous impact evaluations are the exception rather than the norm, and the education sector is no exception. However, there are sufficient studies to draw some conclusions for some policies. These conclusions are outlined below. (See also the summaries at Annex B)

3.2 However, a note of caution must be sounded in drawing policy conclusions from these studies. The evaluations mostly concern interventions to improve school attendance and performance. For example, deworming has been shown to be a cost-effective intervention. But this does not mean that the whole education budget should be spent on such interventions. If there were no schools, there could be no school-level interventions to evaluate; if teachers had not been hired in the first place then there could be no interventions to improve their performance and reduce their absenteeism. Hence most impact evaluations are an adjunct to the school planning and management process. Few studies have focused on the basics of providing schools in the first place, or basic provisions such as books and teachers. There are exceptions – my own study of Ghana found positive impacts of both books and building on educational outcomes (OED, 2004), though Filmer’s paper argues that building schools is no guarantee of increasing enrolments. This discrepancy is best explained by the heterogeneity of impact across contexts. School building is not the answer for hard to reach groups such as nomadic populations and street children, or for girls kept out of school by cultural limitations. A J-PAL study in India shows the beneficial impact of adding an untrained volunteer to assist the teacher in the classroom. (The link between student performance and the pupil teacher ratio remains contentious in developed countries. My reading of the education production function literature is that the relationship is discontinuous, with little impact in the range 15 to 50; i.e. the ratio need to be less than 15 (certainly 20) for beneficial effects to be felt, but to get above 50 before negative effects start setting in).

Findings

- *Nutrition interventions, including school feeding, improve school attendance and learning outcomes:* J-PAL has carried out RCTs for deworming in Kenya and iron supplementation and deworming in India (participation rate up 6 percent), both of which showed positive impacts. Campbell school feeding systematic review: school feeding reduces days of school missed: “Children who were fed at school attended school more frequently than those in control groups; this finding translated to an average increase of 4 to 6 days a year per child [that is by about 2-3 percent]. For educational and cognitive outcomes, children who were fed at school gained more than controls on math achievement, and on some short-term cognitive tasks” (Kristjansson EA, et al. n.d.).
- *Absenteeism is rampant but can be reduced by a number of tested policies:* Teacher absenteeism is a substantial problem across the developing world, one which a study of Ghana shows to be increasing (OED, 2004). A set of studies by J-PAL found that incentives back up by external monitoring help reduced teacher absenteeism. Both

community and headteacher monitoring were found to be ineffective. Other studies have shown the importance of teacher living conditions to absenteeism, such as electricity in their home. The J-PAL studies and others show that lower absenteeism improves learning outcomes; for example Das et al's analysis of Zambian schools showed that "a 5-percent increase in teacher absence rate reduced learning by 4 to 8 percent of average gains over the year, for both Mathematics and English" (2005: 1).

- *Conditional cash transfers have proved an effective means of increasing school enrolments, but evidence on learning outcomes is scarce. However, voucher schemes have been shown to positively affect learning outcomes:* CCTs have been popular in Latin America since the well-documented impact of Progressa, which was evaluated by a number of researchers in an effort coordinated by IFPRI (a summary is given in the policy brief <http://www.ifpri.org/pubs/ib/ib6.pdf>). Although differently named, stipend schemes, such as those for girls in Bangladesh and that in Côte d'Ivoire, are similar in design. A related intervention is that of vouchers, which affect school choice in favour of private schools rather than overall enrolment levels. This shift is associated with an improvement in learning outcomes.
- *Reducing the costs of education increases participation rates:* subsidising parental costs, such as uniforms, increases enrolments.
- *Better quality schools attract more students and they are less likely to drop out:* Higher school quality, both in terms of infrastructure and materials, increases enrolment and reduces drop outs. They may also improve learning outcomes, but this depends on context – textbook supply will not help if books are not used or are poorly used.
- *Class-size matters:* the regression-based education production function literature had not found a strong link between class size and pupil performance; but 'natural experiments' in countries where classes reaching a certain threshold are split into two smaller classes do find a positive impact, especially for poorer performers. This evidence is supported by other studies showing the benefits of an assistant teacher. But other evidence has shown that test scores need not fall as class size goes up if other inputs are being provided.
- *The impact of changes in school management cannot be asserted owing to a thin evidence base, and the time needed for these changes to take effect:* School management changes, notably decentralization and increased community involvement, have become increasingly common. However, there are few studies of these interventions, the evidence mixed (which is to be expected and why formal meta-analysis is needed). In addition evidence from the US show that it takes at least five years for the beneficial effects of school management reforms to be felt. (Borman et al., 2005).

- *Early child development programs have been found to have a positive impact on cognitive development, but more evidence is needed, especially on cost-effectiveness:* Pre-school interventions are not uniform in their design, and studies have not used common outcome indicators. Hence, despite positive findings from a number of studies, including high rates of return, strong conclusions cannot be drawn.

4. Applying impact evaluation concepts in the mid-term evaluation

4.1 The ToR for the evaluation take the view that it is premature to discuss the impact of FTI: ‘the Initiative has not been established long enough to allow for an evaluation of impact, but a comprehensive design for FTI monitoring and evaluation, including an evaluation of impact and relevant baseline data, should be one of this evaluation’s outputs’. But, although a rigorous quantitative IE is not possible, some of the principles of quality impact evaluation can still be applied. This section first discusses possible quantitative approaches, and then outlines some relevant principles which can be applied in qualitative analysis. Some of this discussion is then picked up when considering the future impact evaluation of FTI.

Quantitative analysis of FTI impact

4.2 Quantitative analysis could be either time-series analysis for a single country, or cross-section data for many countries (or a combination of the two as panel data).

4.3 A first decision regarding either approach is whether to adopt a black box methodology, or one which attempts to isolate more specific causal chains. The latter is preferable, but would require data either not amenable to, or not available, in the form required for statistical analysis. Hence a black box approach – that is using a FTI dummy – appears the feasible alternative, and is not without use if it does manage to pick up some impact. But if it is to be done it has to be in such a way as to meet the impact evaluation challenges discussed above,

4.4 The time series approach is almost certainly inappropriate. Modern time series analysis (cointegration) requires lengthy time series (25 years or more), and the final few years for which a structural break analysis would be required are short. This approach is ruled out by lack of data. But anyway, the approach would be rather like cracking a nut with a sledgehammer since we know certain major policy shifts, such as introduction of UPE, and a factual analysis of enrolments before or after is interesting in itself. When the response in enrolments is immediate and dramatic, as has apparently been the case in many countries, then before versus after can tell us something. In fact the major caveat concerns data – figures should not just be for the public sector since it is possible that there is substitution out of private schools. Indeed, it is elementary economics to expect such substitution in response to the change in relative prices, and [reference] has argued that in [which countries] the whole ‘increase’ is in fact substitution – it has been argued that there is in fact no net increase in enrolments in at least some countries, the whole reported increase being simply substitution from the private to public sectors.

4.5 What about cross-country analysis? An obvious dependent variable is enrolments: net enrolments is usually the preferred indicator, though the data are less reliable than those on gross enrolments. The dataset need include on the right hand side a range of plausible determinants of education, which would include PPP GDP per capita, adult literacy and demographic factors such as the proportion of the population of school-going age. Dummy variables can pick up otherwise unexplained variation for some groups of good or poor

performers, e.g. East Asia, Africa and Islamic countries. More difficult to get as a necessary explanatory variable is school access (proxied by urbanization, but a weak proxy) and school quality (at least PTR may be available); both of these may be proxied by education expenditure, the former as a percent of GNP, and the latter by US\$ expenditure per primary pupil. (See Colclough and Lewin, 1993, for regressions with this variable set). FTI would enter as a dummy.

4.6 The problem with the cross-country approach is that FTI participation is endogenous to sector performance, that is the sample selection issue discussed above. This problem is exactly the same as that of selection of poor performing countries into IMF stabilization programs, so the appropriate model is that proposed by Montiel and Goldstein (1984) to handle such analysis (the modified comparator group approach). The approach requires panel data, and for obviously for a broad range of countries, not just those in FTI. Such an analysis would be worth trying, though the heterogeneity of FTI will undermine the exercise. It is anyhow moving beyond the scope of the mid-term evaluation. It is advised to wait until the final evaluation, when an impact may more realistically be expected to be discerned. The advantage of the approach is that it gives some insight into policy changes. It would, however, need to be complemented by qualitative work, as such a quantitative analysis is weak on the channels of impact, unless it does prove possible to define, and collect data on, a range of policy variables. To get at these channels of impact requires deep country case studies. Some principles for qualitative analysis are now discussed.

Principles of qualitative impact analysis

4.7 Establish a clear program theory and related causal chains: FTI has a set of clearly stated goals, as laid out in the 2004 Framework document. The assumption is thus that the various activities undertaken by FTI will somehow help achieve these goals. Unpacking these assumptions, also referred to as the underlying program theory or unpacking the causal chain, is the starting point for theory-based evaluation. The Evaluation Framework maps out the program theory for the study, under five levels: 1. Inputs/Activities, 2. Immediate effects, 3. Outputs, 4. Outcomes and 5. Impacts (meant in the sense of final welfare outcomes). (The document also has L0 as the baseline level). A well-elaborated theory also identifies the critical bottlenecks in the sector, and how the program design seeks to address them.

4.8 Tell a story: see the wood for the trees: The evidence has to be assembled in such a way that the big picture emerges, and so it is possible to say with confidence that “FTI has made a significant contribution to the acceleration of progress toward the education MDGs,” or “Despite some marginal achievements, overall FTI has failed to make much difference toward progress on the education MDGs, and must be considered to have been a waste of resources that would have been better spent elsewhere.” The failure to come up with such clear messages is why most reports sink without trace. Of course, if you come up with the former the donors will be happy, but it has to be very compelling not to be written off as just another favourable donor report. If you come up with the latter, you will attract more attention, but again you need to be rigorous to withstand the flack you will get from the donors.

4.9 Distinguish factual versus counterfactual statements: Be clear when a statement is a factual statement and when it is a counterfactual one. L0 statements and questions are all factual, the blend between factual and counterfactual shifting as one moves toward L4, which is all counterfactual.

4.10 It is probably the case that L1 should also be all factual. Some counterfactual questions listed under L1 do not really fit under there but L2 and 3. For example:

- How effective were the reviews? (L1.1)
- What role did the indicative framework of FTI play in shaping country policy? (L1.1)
- How have regional advisory groups for EPDF influenced the CD assessment, its planning, implementation processes? (L1.4)

4.11 Factual statements are important to establish what happened, and L0 to serve as a baseline for L3 and L4 (so there should be a mapping of indicators from later levels back to L0), and need to be properly documented. But counterfactual statements require an explicit argument related to causation. Without that there is always a danger of positive bias, attributing all changes to the intervention.

4.12 Avoid positive bias in the evaluation design and implementation: The design might be seen as biased in that the wording of the overall hypotheses read as saying things were bad before FTI and FTI made them better. The approach can be defended as saying that it is usual to have a hypothesis to be tested (though it is usual to test the null of no effect).

4.13 Interviews should not be unduly focused on the FTI, at least initially. If you go into an interview as being about FTI and you ask how FTI contributed to outcomes this creates a positive bias. The interview should be about trends in education strategy and performance in the last 10-15 years, and what have been the major factors behind these. No explicit mention should be made of FTI – if it never comes up in an hour or more of interviewing that it can be introduced and discussed (if the respondent has heard of it). It is certainly not the case that respondents should be asked about FTI's contribution to final outcomes; the questions should be directed lower down the causal chain at the level at which FTI engages.

4.14 Be more comprehensive in your coverage: In most countries education has always been a contentious issue, and you need to expand your scope to capture all these threads. Many countries have had many education commissions, usually entirely domestic processes with no donor involvement. The budget and budget debates are of course crucial. And a content analysis of newspapers would be useful if possible. To get at this broader picture it is necessary to go beyond the 'usual suspects' who talk the donor talk. Interview parliamentarians, officials of the teachers' union and religious leaders to get this wider view.

4.15 You also need a more comprehensive picture of what is going on in educational planning, and what was going on in the years prior to FTI. For example, what was the education statistical system like before EMIS (possibly the same and it has just been

renamed). A possibly related issue is that of how planning was done for school expansion – though mapping, on demand from communities, in response to political pressures etc.? Have curriculum development and testing been affected; if so how, etc.

5. Planning impact evaluation of FTI

Overview

5.1 The first question to ask is whether ‘an impact evaluation of FTI’ is a sensible undertaking or not. The answer is yes and no. FTI has goals, and resources are being spent toward achieving those goals. Hence it is sensible to ask if these resources have made any contribution toward the achievement of these goals – and this is a counterfactual statement, i.e. an impact analysis. Has FTI made any difference to the resources devoted to education, how aid resources are managed, and national education policies? All of these would need to be addressed in an impact evaluation of FTI. But when it comes to the country-level, once the education strategy is in place, there are no ‘FTI policies’ being implemented. Rather there are education policies – such as subsidised fees, voucher systems, policies to increase female enrolment or enrol children of hard to reach groups. It is these policies and programs which should be evaluated. To the extent that FTI has supported the adoption of these programs (which has to be demonstrated) then some part of the impact can be claimed by FTI. However, since FTI may influence a country’s education sector in various ways, such ‘on the ground’ impact studies would not answer the question of the full impact of FTI-related activities.

5.2 Hence an impact evaluation of the FTI would be broken down into several components. It would combine qualitative analysis of policy influence with quantitative analysis of the drivers of change in educational outcomes in selected countries. It would also draw on meta-analyses of what works in education, but it may also include an original impact analysis, or sets of analyses, for several FTI countries. The study design can be elaborated around the causal chain.

The causal chain

5.3 At its most aggregated, the causal chain for FTI has two steps:

1. That FTI influences policy and resource allocations at the international level and in developing countries; and
2. That the policy changes have a beneficial impact on educational outcomes

5.4 The former requires a qualitative approach, although, in principle, the modified comparator group approach described above isolates the variables determining participation in FTI. And if policy measures are available it can also capture the role FTI has played in bringing about policy changes (though I am not optimistic that this would be possible). The latter requires a quantitative approach, and it is that which is dealt with first here.

Understanding what works in education (and where and why)

5.5 There are two stages to this analysis. The first is to marshal existing evidence. Reviews do already exist, the 2005 EFA monitoring report reviewed evidence from rigorous impact studies, 3ie has prepared a series of ‘EQ briefs’ (Annex C), and commissioned a synthetic review of impact studies of programs to increase primary enrolments. Authors associated

with J-PAL and IPA have produced a few reviews summarizing studies on different interventions. Hence what should be prepared is a ‘review of the reviews’, which would benchmark good practice with respect to education policy. This review would serve two purposes. First it would help guide any original empirical work undertaken as part of the impact study. Second, it can help assess the relevance of FTI, insofar as it promotes and supports policies and programs with proven impact.

5.6 Turning to new quantitative work at the country level there are two possible approaches (which are not mutually exclusive): ‘targeted impact studies’ of selected policies or program design features, or analysis of determinants of educational trends.

5.7 The targeted approach would proceed in two phases. The first phase is a more comprehensive review of what is known about what works. For a start at this the reader is referred to the “EQ briefs” prepared by 3ie (Annex C). To follow on from this, a formal synthetic on what works in primary education has been commissioned by 3ie, with preliminary results to be presented at the Cairo impact evaluation conference in April 2009. Such a review identifies gaps in knowledge.

5.8 Given the gaps in knowledge, and the sort of policies promoted by FTI, an impact evaluation of FTI could incorporate quality impact evaluations of a select set of policies in the case study countries (or at least four of those countries). These would be policies to increase enrolments or improve school performance. The selection of policies would be the outcome of the qualitative analysis of what policy changes FTI has actually supported and made a significant contribution to their introduction. It should be clear that these policies, and their impact, are not being exclusively assigned to FTI, as this would clearly not be the case. Understanding the sort of policy changes promoted by FTI, combined with knowledge of what works, allows a discussion of relevance: are the policies which are being supported one for which there is a good evidence base (the debate around the indicative framework is also of relevance here).

5.9 Such an analysis would almost certainly require original data collection, preferably with an ex ante evaluation design (unless there are existing data which can serve as a baseline). This means that such a multi country study will cost in excess of US\$ 1 million (that is a lower limit), and take years rather than months.² The study team would need specialized expertise required for quality impact evaluation. However, the common design across several countries means that local researchers with technical support coming through international expertise advising on the overall design. Team workshops would develop the approach, and build capacity. Although costly, such design component would make a substantial contribution to knowledge about what works in basic education, so that a strong case should be made for it. There are several donors (notably UK and Netherlands) who are likely to be

² More specifically: if only existing data sources are used then a study can be completed in six months at a cost of US\$20-50,000. If the baseline can be reconstructed, but endline data need be collected, the cost rises to around US\$300-400,000 per country with an 18 month timeline (there are some cost savings if the same design is applied in multiple countries); the budget is less, but the time line longer, if a planned survey can be piggy backed for the endline). If both baseline and endline data need be collected the budget increases to US\$500-600,000 per country over a two-three year period (or more).

willing to provide additional funds for such an undertaking, with 3ie as another possible source of finance.

5.10 The second approach is more conventional econometric modeling of the determinants of the drivers of change in educational outcomes, which is most readily done for enrolments. Both DHS and LSMS data allow for analysis of the determinants of enrolment. Where several datasets are available across time, then changes in enrolments can be linked to trends in their determinants (and changes in response to those determinants, that is a Oaxaca decomposition).³ Three reservations must be expressed regarding such an approach:

- First, such datasets rarely have data on school quality (though there may be access variable); studies which do have such data show that it does matter for enrolments and is clearly of great policy relevance. Hence, the availability of datasets including such data is a factor in country choice. An alternative is to combine household survey data with EMIS data, which would yield a much richer data set by including school facility data such as the PTR, textbook availability and so on.
- Second, the approach does not pass muster as impact evaluation by today's standards (which have changed considerably in the last five years with far greater attention now given to issues of endogeneity of program placement). But this caveat does not mean a rejection of the approach. Rather, full model specification is required – an approach which is the same basic philosophy as theory-based evaluation – to arrive at a credible identification strategy, possibly based on instrumental variables; though where possible propensity score matching should be used.
- Finally, it is not immediately obvious how the approach will capture the impact of FTI. Where repeated cross section data are used then one approach would be to look for a structural shift, but the argument is not that convincing. A better approach is to include variables which reflect FTI-supported policy or program changes. But, as already indicated, this does not mean that the impact study captures policies solely attributable to FTI (there will be no such policies), or that it captures the full range of effects of FTI. This approach is far nearer to impact evaluation, and so there is the need to take care for endogeneity.

5.11 Despite the potential shortcomings of this approach it should be included in the final FTI evaluation. Most large datasets are underexploited, so that systematic, high quality analysis, even at the descriptive level, of what these data can tell us about trends in education will be valuable. The OED Ghana study reversed the official view on enrolment trends, partly as it highlights the growing role of the private sector, which the FTI evaluation cannot afford to ignore.

³ This was the approach used in the OED study of MCH in Bangladesh (OED, 2005). It has also been used by Masset and White (2003) to explain why performance differs between geographical region (in their case Indian states, but the same approach could be applied to countries).

5.12 This approach is cheaper than new impact evaluations since it relies on existing datasets. A budget of US\$100,000-200,000 would be sufficient to cover 4-5 countries. Although a common approach to existing datasets means that a single team could do the analysis – especially using DHS data which are highly standardized between countries – the recommendation would be to use in-country teams, supplemented with international expertise. The rationale for this approach is threefold: stronger contextualization, capacity building and greater influence at the country level from findings.

Analyzing policy influence

5.13 A descriptive (factual) analysis of education policies across the whole portfolio of FTI countries is a useful starting point, and context, for the analysis. Of course many other factors affect these trends, such as changing political orientation, the appeal of UPE as a policy in democratic countries, the political role of teachers and so on. In addition, external agencies have been promoting primary education for some years preceding FTI.

5.14 The case of Kenya provides a good example of the complexity. Kenya was formulating a sectoral policy prior to FTI, and thus took the existence of that policy as an opportunity to access FTI funds. But it can be claimed that the discussions with FTI helped shape the policy or helped ensure implementation. Causation is thus not straightforward.

5.15 Any analysis has to map out the possible channels for influence from FTI on domestic policy, which are both direct and indirect (i.e. through other agents). Table 2 summarizes these channels.

Table 2 Channels of influence

	Direct	Indirect
Through government	Participation in FTI activities, e.g. FTI meetings, declarations, reporting	FTI influences external agencies which affects their engagement in the country
	Government awareness of primary education issues is raised	FTI puts education higher on international agenda, increasing education focus of international community
Through other channels	NGOs involved in FTI increase their primary education activities	The existence of FTI creates a basis for rights-based claims for education access through NGOs and the population as a whole

5.16 Analysis of these channels clearly requires a stakeholder analysis at the country level, and in the upper echelons of major donor agencies. There are some important rules in conducting such analyses:

1. *Carry out detailed document analysis prior to fieldwork.* It is a waste of everyone's time (and unprofessional) to spend time asking senior government officials for factual information readily available in documents – it is the information on policy processes

that is not readily available that you are after (who actually wrote document X? does it actually reflect government priorities and so on).

2. *Do not bias interviews in favour of FTI.* This point was mentioned above in relation to the mid-term evaluation. Leading off an interview as being about FTI and asking about FTI will bias the results in FTI's favour (unless it is really bad or irrelevant). The more appropriate approach is to enquire about education policy change and the forces behind it (domestic and external). Only if after an hour of probing no mention is made of FTI, then direct question on its role can be introduced. It is possible that FTI has no footprint if its influence is largely indirect, but these indirect channels should be identifiable.
3. *Analyze qualitative data in a systematic manner.* Do not cherry pick examples where an influence is identified but report on in how many cases such influence was or was not identified, and what were the other factors. It is very likely that FTI has had more influence in certain contexts, and good data analysis will pick this up.
4. *The findings need be specific to inform analysis of the impact of FTI-supported policy changes.* Impact analysis of FTI on education outcomes requires specific data on its policy effects, which can vary from country to country. The stakeholder analysis has to come to specific conclusions on which policies were assisted by the existence of FTI (and how).

5.17 Practice in other evaluations has to be develop a 'toolkit', which is not a questionnaire, but a list of information to be collected by teams during country fieldwork.

6. Monitoring, data sources and country selection

FTI monitoring system

6.1 The monitoring system should be built around the theory-chain by which FTI activities are intended to help attain the six FTI goals. The FTI framework does not provide such a theory, and the Annual Reports do not report progress in a systematic way around a set of common indicators. Thus it appears that this monitoring framework is still to be put in place. The Evaluation Framework document has produced a program theory for each goal and a set of proposed indicators. One should be wary of indicator proliferation; management is generally not assisted by hundreds of indicators. Better to have a small number of well-defined, commonly agreed, and well-measured indicators, than many poorly measured ones.

6.2 Since ownership matters, what is recommended is a process, taking the evaluation framework as a starting point to generate a well-defined set of relevant indicators. As a general principle, the selected indicators should be based on existing data collection efforts, so national monitoring systems (these days usually the EMIS) for country-level goals, and reporting through DAC and for the Paris Declaration for international goals.

6.3 A second principle is to build on what is already there, which means using the indicative framework, though there is some debate over whether the benchmarking has produced meaningful ‘target’ levels of the selected indicators. Nonetheless, the indicators in themselves are sensible ones. The one missing area is that of learning outcomes. Whether international tests, which give some notion of comparability, should be used, or national systems is controversial (see Hill, 2009). FTI need not necessarily take a stand on this issue, but encourage the systematic collection of learning outcome data according to whatever criteria the government deems most appropriate. But in general effort should be focused on improving domestic data systems to ensure the production of higher quality, comparable data. There are known shortcomings in both administrative and survey data (see White, 2005, and Hill, 2009), which are best addressed rather than ignored.

6.4 The data for the indicative framework should of course come from national systems, which thus form the basis for FTI-monitoring at the country-level. It is not thought sensible at this level to distinguish between monitoring of the performance of the education sector and ‘FTI’ monitoring. The extent to which FTI is present in sector performance is collected through policy-related process indicators.

Data for impact analysis

6.5 However, this monitoring deals with the factual. Impact evaluation requires a counterfactual, which needs richer data than an EMIS and the supplementary process indicators can provide. Most developing countries now have regular household surveys containing education data: an income and expenditure survey (some variant of LSMS) and the Demographic and Health Surveys (DHS) being the most common. The data in these studies is rather thin, typically covering only current educational status and highest level achieved for all household members. There is often also a self-assessed literacy measure, but

this is subject to systematic bias. In rare cases there has been a linked educational module, the most valuable surveys being those which make it possible to link children to the school they have attended.

6.6 Annex D lists the availability of these surveys in the FTI countries. Hill (2009) should be consulted for further lists. There are also some surveys not listed, most notably UNICEF's Multi-Income Cluster Survey (MICS); and the Young Lives survey which covers Ethiopia, India (Andhra Pradesh), Vietnam and Peru. There are also some country-specific datasets, if which the Indonesian Family Life Survey is the most relevant, combining facility and learning outcome data in a household dataset.

6.7 The work required in accessing and analyzing a data set should not be under-estimated, so careful screening is needed to ensure that the data available are suitable to analyze the intervention in question.

Country selection

6.8 Country selection is based on both data availability and the country's engagement with FTI, it making sense to include those countries which have had the longest engagement (i.e. those whose sector plans were endorsed in 2002 to 2004), and which have received substantial funding from FTI trust funds (Annex J2 of the Evaluation Framework provides these data in detail). The latter consideration suggests: the Gambia, Ghana, Guyana, Mauritania, Nicaragua, Niger and Yemen. Kenya and Madagascar were not endorsed until 2005, but have since received considerable FTI resources. Consideration also need be given to regional balance. The latter consideration puts Nicaragua as a very strong candidate for inclusion, as data availability is also good. Both South and East Asia are largely outside of FTI, suggesting including Vietnam despite its late endorsement and lack of resources (Mongolia is the alternative, but data are likely to be scarce). Ghana is an appealing case with good data availability, which could be supplemented by Kenya, for which the data are less good, but the FTI engagement has been high profile. To complete a balance across Africa, Madagascar can also be included (high resources and good data). This leaves Yemen as the final clear choice, but data will be a struggle. If a ECA country is also wanted Moldova is a good choice despite relatively late endorsement as data are good and there has been a reasonable resource flow.

Annex A: Terms of reference

Background and Time Schedule

1. A consortium of Cambridge Education, Mokoro and Oxford Policy Management is undertaking the Mid-Term Evaluation of the EFA Fast Track Initiative (FTI). The overall TOR for the evaluation include specific requirements on the subject of impact evaluation:

Additionally, the evaluation will develop a comprehensive framework for monitoring and evaluation of the FTI, building on the evaluation framework created for this evaluation, which will help frame future monitoring and evaluation efforts, including the assessment of FTI impact. The comprehensive framework should indicate baseline data needed for the evaluation of FTI impact, much of which will be collected during this evaluation. (TOR, ¶15)

2. The overall approach and methodology for the evaluation is set out in a revised Evaluation Framework, which provides the background for the scoping study described in the present TOR. The scoping study will be closely coordinated with the work of the Data and M&E Workstream of the Evaluation.

3. The scoping study will contribute to the first stage of the evaluation, and feed into its Preliminary Report. This means that:

- A first draft of the Scoping Study should be delivered no later than 23 January 2009.
- Its principal author should attend the Evaluation Team's workshop in Cambridge on 13 February 2009
- The final draft of the Scoping Study, incorporating responses to comments on the first draft, should be delivered by 20 February 2009.

Proposed Scoping Paper

4. Impact evaluation of FTI could proceed in two possible ways.

- One would be a cross-country analysis, comparing progress on FTI-indicators in FTI countries and non FTI countries. However, such an approach would face many deep conceptual problems, and would be unlikely to pass current external peer review standards. The possibilities and limits of such an approach will be reviewed separately under the Data and M&E workstream. They do not form part of the proposed scoping study, but the scoping study author will review and comment on this work.
- The second approach to analyzing the impact of FTI, deep country case studies, is a far more promising approach. The scoping paper will set out the possibilities of such an approach, set out a template for conducting such evaluations, and identify a selection of countries where the prospects for such evaluations are most promising. It will also spell out the implications of such work for the overall M&E strategy of the FTI (e.g. the requirements for establishing baseline data and adapting future surveys).

5. The country-level impact studies would adopt a theory-based approach which traces effects of the FTI through from inputs to educational outcomes in FTI countries. Each country case study would therefore be heavily contextualized, taking account of the political economy of education programs in developing countries as a means of identifying the role of the FTI in changing policies and programs, including resourcing levels. Having identified the changes in education policies and outputs sought by the FTI, the studies would model their impacts on outcomes, allowing for possible

endogeneity in program placement. The programme theory embodied in the Evaluation Framework will be the starting point in identifying elements that are susceptible to rigorous impact evaluation.

6. The scoping study report will:
 - Briefly review existing impact studies of education programs in developing countries, assessing both knowledge and the state of the art regarding impact evaluation approaches. This review will inform the modelling strategy for the impact studies.
 - Review existing data sources in FTI countries (administrative data and household surveys), to assess the scope for impact studies in each country. Surveys which link household and school facility data are of particular importance. Information will be collected on planned surveys, including possible piggy-backing to enhance data collection. (This work will be coordinated with the Mid-Term Evaluation's work under the Data and M&E workstream.)
 - Explain the feasible approaches to impact evaluation for the FTI, setting out the advantages and disadvantages of the various alternatives, and present a detailed concept note for a single country case study, including an estimated budget for implementing the study.
 - Propose a short-list of 8-10 countries for the impact studies, in the expectation that eventual deep country case studies would be done in 5-6 of these countries.
7. The report will consist of a concise main text supported by more detailed annexes. It will include an Executive Summary.

Oversight and Coordination

8. The Team Leader for the Mid-Term Evaluation of the FTI is Stephen Lister. He will oversee the study and any variation in the proposed work will require his approval. The consultant should also liaise with Roy Carr-Hill as leader for the Data and M&E workstream, Georgina Rawle (workstream leader for Education Financing), Luca Pellerano (impact evaluation specialist) and Anthea Sims Williams (research coordinator). Study outputs will also be reviewed by the evaluation team's quality assurance panel and the Evaluation Oversight Committee.

Deliverables

9. Deliverables for this study are:
 - Comments on the draft Workstream Paper on Data and M&E (late January 2009)
 - Draft Scoping Paper on Impact Evaluation for the FTI (23 January 2009)⁴
 - Participation in the evaluation team workshop on 13 February 2009
 - Final draft Scoping Paper on Impact Evaluation (20 February 2009)

Follow-up

10. Possible further inputs during Stage 2 of the overall evaluation will be negotiated separately.

⁴ Members of the evaluation team will also provide informal comments on a working draft of the scoping paper as soon as it is available.

Annex B Summary of Studies

Studies	Countries	Method	Main Findings
Banerjee, Abhijit and Esther Duflo (2006) 'Addressing Absence' <i>Journal of Economic Perspectives</i> 20(1) 117-132	India, Kenya	Literature Review	Absent providers are a major problem both for public health facilities and primary schools in many developing countries. For example, in India, absence rates for teachers are over 24 percent, and for health providers they are over 40 percent. This paper presents evidence on a number of innovative strategies to reduce absenteeism in government- and nongovernmental organization-run schools and health facilities. These strategies were implemented in Kenya and India over the past few years and have been evaluated using the randomized evaluation methodology. The strategies involved alternative levers to fight absence. Some tried to improve incentives for providers, either through rewards and punishments implemented by external monitors, or through facilitating a more active involvement of those who expect to benefit from the service. Others are based on the idea that the providers are discouraged by the lack of interest among the potential beneficiaries in what they are being offered; these strategies aim at increasing the demand for the services as a way of putting more pressure on the providers. The results of these efforts, taken together, shed light not only on ways to address the problem of absence in the public sector, but also on the underlying reasons for this phenomenon.

Studies	Countries	Method	Main Findings
Hammer, Jeffrey S. and Nazmul Chaudhury, "Ghost Doctors: Absenteeism in Bangladeshi Health Facilities." <i>World Bank Economic Review</i> 18: 423-441, 2004	Bangladesh	Reduced form Modeling of Discrete Choice (Multinomial Logit)	The authors report on a study in which unannounced visits were made to health clinics in Bangladesh with the intention of discovering what fraction of medical professionals were present at their assigned post. This survey represents the first attempt to quantify the extent of the problem on a nationally representative scale. Nationwide the average number of vacancies over all types of providers in rural health centers is 26 percent. Regionally, vacancy rates (unfilled posts) are generally higher in the poorer parts of the country. Absentee rates at over 40 percent are particularly high for doctors. When separated into level of facility, the absentee rate for doctors at the larger clinics is 40 percent, but at the smaller sub-centers with a single doctor, the rate is 74 percent. Even though the primary purpose of this survey is to document the extent of the problem among medical staff, the authors also explore the determinants of staff absenteeism. Whether the medical provider lives near the health facility, access to a road, and rural electrification are important determinants of the rate and pattern of staff absentee rates.
Woods, Robert and Ray V. Montago (1997) 'Determining the negative effect of teacher attendance on student achievement' <i>Education</i> 118(2)	USA	OLS Regression and ANOVA	The effect of teacher absenteeism on student performance is examined in this empirical study. A sample of students and teachers from two school districts, Gillette, Wyoming and Elkhart, Indiana, was obtained. For the students, third and fourth grade Iowa Test of Basic Skills data were obtained. Matching teacher attendance data for the same period were then used as predictors of student grade equivalency change scores. As hypothesized, students with teachers who had fewer absences were found to have had significantly larger improvements in grade equivalency. Implications of teacher absence behavior are discussed.
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Bobonis, G., Miguel, E. and Sharma, C., <i>Iron Deficiency Anemia and School Participation, Poverty Action Lab Paper No.7, J-PAL: Cambridge, MA, 2004</i>	India	Randomized Control Trial (RCT)	Iron-deficiency anemia is among the world's most widespread health problems, especially for children, but it is rarely studied by economists. This paper evaluates the impact of a health intervention delivering iron supplementation and deworming drugs to 2-6 year old children through an existing pre-school network in the slums of Delhi, India. At baseline 69 percent of sample children were anemic and 30 percent had intestinal worm infections. Sample pre-schools were randomly divided into groups and gradually phased into treatment. Weight increased significantly among assisted children, and pre-school participation rates rose sharply by 5.8 percentage points – a reduction of one-fifth in school absenteeism – in the first five

Studies	Countries	Method	Main Findings
Moock, P.R. and Leslie, J., 'Childhood Malnutrition and Schooling in the Terai Region of Nepal', <i>Journal of Development Economics</i> , Vol.20, pages 33-52, 1986	Nepal	OLS Regression	Data on 350 primary school age children from subsistence farm households in the Terai (southern plains) region of Nepal are analyzed to assess the relationship between nutritional status and school participation. Only fifteen percent reported attending school; nutritional status, particularly as measured by percent of median height-for-age, was found to be a significant determinant of both enrollment in school and age-adjusted grade attainment. It is concluded that local interventions or national policies designed to improved child nutritional status could have important educational as well as health benefits.
Taras, H., 'Nutrition and Student Performance in School', <i>Journal of School Health</i> Vol.75, No.6, pages 199-213, 2005	USA	Literature Review consisting of studies in the US	This article reviews research from published studies on the association between nutrition among school-aged children and their performance in school and on tests of cognitive functioning. Each reviewed article is accompanied by a brief description of its research methodology and outcomes. Articles are separated into 4 categories: food insufficiency, iron deficiency and supplementation, deficiency and supplementation of micronutrients, and the importance of breakfast. Research shows that children with iron deficiencies sufficient to cause anemia are at a disadvantage academically. Their cognitive performance seems to improve with iron therapy. A similar association and improvement with therapy is not found with either zinc or iodine deficiency, according to the reviewed articles. There is no evidence that population-wide vitamin and mineral supplementation will lead to improved academic performance. Food insufficiency is a serious problem affecting children's ability to learn, but its relevance to US populations needs to be better understood. Research indicates that school breakfast programs seem to improve attendance rates and decrease tardiness. Among severely undernourished populations, school breakfast programs seem to improve academic performance and cognitive functioning.
Angrist, J.D., Bettinger, E., Bloom, E., King, E. and Kremer, M., 'Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment', <i>American Economic Review</i> Vol.92, No.5, pages 1535-1559, 2002	Columbia	Reduced Form Models: OLS and IV Regressions	Colombia used lotteries to distribute vouchers which partially covered the cost of private secondary school for students who maintained satisfactory academic progress. Three years after the lotteries, winners were about 10 percentage points more likely to have finished 8th grade, primarily because they were less likely to repeat grades, and scored 0.2 standard deviations higher on achievement tests. There is some evidence that winners worked less than losers and were less likely to marry or cohabit as teenagers. Benefits to participants likely exceeded the \$24 per winner additional cost to the government of supplying vouchers instead of public-school places.

Studies	Countries	Method	Main Findings
Angrist, J.D., Bettinger E., and Kremer, M., 'Long-Term Educational Consequences of Secondary School Vouchers: Evidence from Administrative Records in Colombia', <i>American Economic Review</i> Vol.96, pages 847-862, 2006	Columbia	Reduced Form Models: OLS and IV Regressions	Colombia's PACES program provided over 125,000 poor children with vouchers that covered the cost of private secondary school. The vouchers were renewable annually conditional on adequate academic progress. Since many vouchers were assigned by lottery, program effects can reliably be assessed by comparing lottery winners and losers. Estimates using administrative records suggest the PACES program increases secondary school completion rates by 15 to 20 percent. Correcting for the greater percentage of lottery winners taking college admissions tests, the program increased test scores by two-tenths of a standard deviation in the distribution of potential test scores.
Gauri, V. and Vawda, A., 'Vouchers for Basic Education in Developing Economies: An Accountability Perspective', <i>The World Bank Research Observer</i> Vol.19, No.2, pages 259-280, 2004	Bangladesh, Chile, Colombia, Côte d'Ivoire, and the Czech Republic	Literature Review of Voucher programs using the Principal Agent framework	Advocates argue that voucher programs can correct the incentive problems of education systems in developing economies. An accountability perspective, based on a principal-agent framework, was developed to clarify the arguments for and against education vouchers. An assessment of findings on voucher programs in industrial countries and a review of voucher or quasi-voucher experiences in Bangladesh, Chile, Colombia, Côte d'Ivoire, and the Czech Republic support the usefulness of the analytic framework. The assessment concludes that the policy relevance of voucher programs for developing economies remains uncertain. Major voucher initiatives have been attempted only in countries with a well-developed institutional infrastructure. Some studies find favorable benefits for at least some population groups, but others find limited effects and evidence of increasing social stratification in schools. Whether vouchers lead to better outcomes or greater stratification appears related to specific contexts, institutional variables, and program designs.

Studies	Countries	Method	Main Findings
Filmer, Deon (2008) “Disability, Poverty, and Schooling in Developing Countries: Results from 14 Household Surveys” The World Bank Economic Review	Burundi, Mongolia, Cambodia, Indonesia, Mozambique, South Africa, Zambia	OLS Regressions, Discrete Choice models of Schooling Participation	Analysis of 14 household surveys from 13 developing countries suggests that 1–2 percent of the population have disabilities. Adults with disabilities typically live in poorer than average households: disability is associated with about a 10 percentage point increase in the probability of falling in the two poorest quintiles. Much of the association appears to reflect lower educational attainment among adults with disabilities. People of ages 6–17 with disabilities do not live in systematically wealthier or poorer households than other people of their age, although in all countries studied they are significantly less likely to start school or to be enrolled at the time of the survey. The order of magnitude of the school participation deficit associated with disability—which is as high as 50 percentage points in 3 of the 13 countries—is often larger than deficits related to other characteristics, such as gender, rural residence, or economic status differentials. The results suggest a worrisome vicious cycle of low schooling attainment and subsequent poverty among people with disabilities in developing countries.
Birdsall, N., R. Levine, and A. Ibrahim (2006) “Toward Universal Primary Education: UN Millennium Project Report on Education and Gender Equality” Global Urban Development	Mexico, Bangladesh, Brazil, Jamaica, Uganda, Tanzania, Malawi, Egypt, Indonesia, and 27 other DC nations	Summaries	Two major strategies are suggested to address challenges of increasing educational attainment: getting out-of-school children into school and creating better institutions and more favorable incentives. The first strategy involves overcoming both demand- and supply-side constraints to enrollment and retention. The second requires successfully addressing serious and pervasive institutional shortcomings, many of which are linked to dysfunctional incentives for administrators and teachers.

Studies	Countries	Method	Main Findings
Cobbold, C. (2006), 'Attracting and retaining rural teachers in Ghana: the premise and promise of a district sponsorship scheme', <i>Journal of Education for Teaching</i> , Vol. 32, No. 4, pp. 453-469.	Ghana	Descriptive analysis using a case study of Ghana	Recruiting and retaining qualified teachers for schools in rural communities is both an issue and a problem in many countries. The very nature of rural communities and perceptions of teaching in such environments tend to discourage qualified experienced and new teachers from taking appointments there. Education jurisdictions, therefore, use various strategies either to compel or entice candidates to accept rural teaching appointments. This paper describes a district sponsorship scheme to attract candidates for teacher training and subsequent appointment in rural schools in Ghana. The paper describes how the scheme operates and assesses its potential to attract and retain teachers, using data obtained through analysis of documents, interviews with key education officers and focus group with teachers. Though the district sponsorship scheme is not new in many education jurisdictions, it is the first of its kind in Ghana. Suggestions for improving the scheme's effectiveness are offered, drawing attention to the need to complement financial incentives with non-monetary measures in rural teacher recruitment and retention policies. District sponsorship of teacher trainees is appended.
Glewwe, P. and Kremer, M. (2005), 'Schools, Teachers, and Education Outcomes in Developing Countries', Working Paper No. 122, Cambridge: Center for International Development, Harvard University.	Developing nations in general	Literature review that examines various methodological approaches, measurement issues, and quality of empirical results.	About 80% of the world's children live in developing countries. Their well-being as adults depends heavily on the education they receive. School enrollment rates have increased dramatically in developing countries since 1960, but many children still leave school at a young age and often learn little while in school. This chapter reviews recent research on the impact of education and other policies on the quantity and quality of education obtained by children in developing countries. The policies considered include not only provision of basic inputs but also policies that change the way that schools are organized. While much has been learned about how to raise enrollment rates, less is known about how to increase learning. Randomized studies offer the most promise for understanding the impact of policies on learning.

Studies	Countries	Method	Main Findings
Towse, P., Kent, D., Osaki, F. And Kirua, N. (2002), 'Non-graduate teacher recruitment and retention: some factors affecting teacher effectiveness in Tanzania', Teaching and Teacher Education, Vol. 18, pp. 637-652.	Tanzania	Survey Analysis, OLS regression on correlates between career choice as teacher and student characteristics	Examined prospective Tanzanian teachers' reasons for choosing teaching as a career, perceptions of the job, and future aspirations. Data from student surveys indicated that few respondents considered teaching their chosen career. However, although many of the respondents initially regarded teaching as a last resort, low-status, low-paying job, the majority intended to become classroom teachers. (SM)
Fwu, B. J. And Wang, H. H. (2007), 'In pursuit of teacher quality in diversity: A study of the selection mechanisms of new secondary teacher education programmes in Taiwan', Vol. 27, No. 2, pp. 166-181.	Taiwan	Meta Analysis	This study examines the degree of diversity and selectivity of the selection mechanisms of these programmes. Data from 48 programmes, including institutional documents, telephone inquiries and governmental reports, were collected and analyzed. The results show that the selection mechanisms of these programmes are diverse enough to reflect a variety of characteristics of teacher quality, and rigorous enough to ensure a certain level of quality. Related issues on teacher selection are further discussed.
Gasparini, L. (2000), 'The Cuban Education System: Lessons and Dilemmas', Country Studies: Education Reform and Management Publication Series, Vol. 1, No. 5	Cuba	Case study with some descriptive analysis , and tables on enrollment,	article discusses the high performance of the Cuban educational system. Such high levels of performance are particularly striking in reference to the severe resource constraints of the past decade. The article suggests that it is the continuity in education strategies, sustained high levels of investments in education, and a comprehensive and carefully structured system,
Deininger, K. (2003), 'Does cost of schooling effect enrolment by the poor? Universal primary education in Uganda', Economics of Education Review, Vol. 22, pp. 291-305.	Uganda	Reduced form econometric model using OLS	The paper evaluates the impact of Uganda's program of "Universal Primary Education" which, starting from 1997, dispensed with fees for primary enrollment. We find that the program was associated with a dramatic increase in primary school attendance, that inequalities in attendance related to gender, income, and region, were substantially reduced, and that school fees paid by parents decreased at the primary but not at the secondary level. At the same time, the general decline in the quality of education suggests that, in order to lead to sustained improvements in attendance and to transform these into higher levels of human capital, the policy needs to be complemented by improvements in school quality and accessibility of secondary education.

Studies	Countries	Method	Main Findings
Glick, P. (2008), 'What Policies will Reduce Gender Schooling Gaps in Developing Countries: Evidence and Interpretation', World Development, Vol. 36, No. 9, pp. 1623-1646.	Various countries in South Asia, Africa, Latin America	Literature review with a discussion of evidence on improving access for boys and girls	This paper considers evidence for the effects of policies on gender gaps in education, distinguishing between policies that are ostensibly gender neutral and those that explicitly target girls. The demand for girls' schooling is often more responsive than boys' to gender neutral changes in school distance, price, and quality, patterns which can be explained in a human capital investment model through assumptions about girls' and boys' schooling costs and returns. Among policies that target girls' enrollments, price incentives to households or schools and the provision of female teachers appear to be effective. Other interventions hold promise but have not been the subject of rigorous evaluation, pointing to an important agenda for future research.
Grogan, L. (2008), 'Universal Primary Education and School Entry in Uganda', Journal of African Economies.	Uganda	Reduced form econometric models of discrete choice that examines probabilities of beginning school before age 9	This paper examines the initial effects of the introduction of Universal Primary Education (UPE) in January 1997 on school entry in Uganda. Given that advanced age at school entry has historically been associated with primary school dropout, the paper focuses on the effects of fee elimination on the age at which a child enters school. Data from the 2000 Uganda Demographic and Health Survey and 2001 Education Data Survey are employed to examine the effects of UPE on the probability that a child begins attending school before age nine. School fee elimination under UPE is found to cause a 3% increase in this probability on average. Effects are found to be particularly pronounced for girls and children living in rural areas.
Ravallion, M. and Wodon, Q. (2000), 'Does Child Labour Displace Schooling? Evidence on Behavioral Responses to an Enrollment Subsidy', The Economic Journal, Vol. 110, pp. 158-175.	Bangladesh	Reduced Form econometric model of discrete choice, where the dependent variable is the child's decision to stay in the workforce	It is often argued that child labor comes at the expense of schooling and so perpetuates poverty for children from poor families. To test this claim we study the effects on children's labor force participation and school enrollments of the pure school-price change induced by a targeted enrollment subsidy in rural Bangladesh. Our theoretical model predicts that the subsidy increases schooling, but its effect on child labor is ambiguous. Our empirical model indicates that the subsidy increased schooling by far more than it reduced child labor. Substitution effects helped protect current incomes from the higher school attendance induced by the subsidy.

Studies	Countries	Method	Main Findings
Raynor, J. And Wesson, K. (2006), 'The Girls' Stipend Program in Bangladesh', Journal of Education for International Development, Vol. 2, No. 2.	Bangladesh	Desk Study of pre-existing studies	The Female Stipend Program (FSP) was created in 1982 in Bangladesh to help increase the enrolment and retention of girls in secondary schools. Implemented initially in six areas only, the program was so successful that it was extended in 1994. This paper, based on a desk study of the FSP for the Bangladesh office of the Department for International Development to evaluate the program's effects, is particularly pertinent for other developing countries seeking to support girls' education as part of the effort to meet EFA and Millennium Development Goals
Schultz, T. P. (2004), 'School subsidies for the poor: evaluating the Mexican Progresa poverty program', Journal of Development Economics, Vol. 74, No. 1, pp. 199-250.	Mexico	Double Difference-in-Difference, and econometrics of discrete choice with enrollment status of child as the dependent variable	This paper evaluates how the Progresa program, which provides poor mothers in rural Mexico with education grants, has affected enrollment. Poor children who reside in communities randomly selected to participate in the initial phase of the Progresa are compared to those who reside in other (control) communities. Pre-program comparisons check the randomized design, and double-difference estimators of the program's effect on the treated are calculated by grade and sex. Probit models are also estimated for the probability that a child is enrolled, controlling for additional characteristics of the child, their parents, local schools, and community, and for sample attrition, to evaluate the sensitivity of the program estimates. These estimates of program short-run effects on enrollment are extrapolated to the lifetime schooling and the earnings of adults to approximate the internal rate of return on the public schooling subsidies as they increase expected private wages.
Kim, J., Alderman, H. and Orazem, P. F. (1999a), 'Can Private School Subsidies Increase Enrollment for the Poor? The Quetta Urban Fellowship Program', The World Bank Economic Review, Vol. 13, No. 3, pp. 443-465.	Pakistan	Average Treatment Impacts using the randomized design of the intervention. Difference in differences and reduced form models of discrete choice on the probability of enrollment	This study evaluates a program designed to stimulate girls' schooling through the creation of private girls' schools in poor urban neighborhoods of Quetta, Pakistan. Enrollment growth in these randomly selected neighborhoods is compared to enrollment growth in otherwise similar neighborhoods that were randomly assigned to a control group. The analysis indicates that the program increased girls' enrollment around 33 percentage points. Boys' enrollment rose as well, partly because boys were allowed to attend the new schools and partly because parents would not send their girls to school without also educating their boys. This outcome suggests that programs targeted at girls can also induce parents to invest more in their boys. The success of the program varied across neighborhoods, although success was not clearly related to the relative wealth of a neighborhood or to parents' level of education. Thus the program offers tremendous promise for increasing enrollment rates in other poor urban areas.

Studies	Countries	Method	Main Findings
Babu, S. and Hallam, J. A. (1989), 'Socioeconomic impacts of school feeding programmes – Empirical evidence from a South Indian village, Food Policy, Vol. 14, No. 1, pp. 58-66.	India	Reduced from OLS regressions	his article evaluates the school feeding programme of the government of Tamil Nadu, South India, in terms of reduction in rural poverty and inequality. Various nutritional policies are analyzed to study changes in expenditure patterns for food, non-food and cereal items for three groups of rural households. The impact of school food on children's education is also examined. Results indicate that food from school feeding programmes enables the households to increase expenditures on non-calorie food and non-food items; school attendance also increases. School nutritional policies could improve the general socioeconomic conditions of rural communities beyond the educational and nutritional benefits to participant
Bourguignon, F., Ferreira, F. H. G. and Lule, P. G. (2003), 'Conditional Cash Transfers, Schooling, and Child Labour', The World Bank Economic Review, Vol. 17, No. 2, pp. 229, 254.	Brazil	Micro-simulation	Cash transfers targeted to poor people, but conditional on some behavior on their part, such as school attendance or regular visits to health care facilities, are being adopted in a growing number of developing countries. Even where ex-post impact evaluations have been conducted, a number of policy-relevant counterfactual questions have remained unanswered. These are questions about the potential impact of changes in program design, such as benefit levels or the choice of the means-test, on both the current welfare and the behavioral response of household members. This paper proposes a method to simulate the effects of those alternative program designs on welfare and behavior, based on micro-econometrically estimated models of household behavior. In an application to Brazil's recently introduced federal Bolsa Escola program, we find a surprisingly strong effect of the conditionality on school attendance, but a muted impact of the transfers on the reduction of current poverty and inequality levels.
Cueto, S. and Chinen, M. (2008), 'Educational impact of a school feeding programme in rural Peru', International Journal of Educational Development, Vol. 28, pp. 132-148.	Peru	Hierarchical Linear Modeling Regression	In this paper, we present data from an evaluation of the educational impact of a school breakfast programme implemented in rural schools in Peru. The results showed positive effects on school attendance and dropout rates, and a differential effect of the breakfast programme on multiple-grade and full-grade schools. Particularly in multiple-grade schools the programme shows a significant and positive effect on short-term memory, arithmetic and reading comprehension. The evaluation also showed an unexpected negative consequence: students in the breakfast group reduced their time in the classroom with their teachers and increased the time in recess (when they consumed the breakfast).

Studies	Countries	Method	Main Findings
de Janvry, A., Finan, F., Sadoulet, E. and Vakis, R. (2006), 'Can conditional cash transfer programs serve as safety nets in keeping children at school and from working when exposed to shocks?', <i>Journal of Development Economics</i> , Vol. 79, pp. 349-373.	Mexico	Dynamic Panel Data regression of school enrollment	Income shocks on poor households are known to induce parents to take their children out of school and send them to work when other risk-coping instruments are insufficient. State dependence in school attendance further implies that these responses to short-run shocks have long-term consequences on children's human capital development. Conditional cash transfer (CCT) programs, where the condition is on school attendance, have been shown to be effective in increasing educational achievements and reducing child work. We ask the question here of whether or not children who benefit from conditional transfers are protected from the impacts of shocks on school enrollment and work. We develop a model of a household's decision regarding child school and work under conditions of a school re-entry cost, conditional transfers, and exposure to shocks. We take model predictions to the data using a panel from Mexico's Progresá experience with randomized treatment. Results show that there is strong state dependence in school enrollment. We find that the conditional transfers helped protect enrollment, but did not refrain parents from increasing child work in response to shocks. These results reveal that CCT programs can provide an additional benefit to recipients in acting as safety nets for the schooling of the poor.
Lavy, V. (1996), 'School supply constraints and children's educational outcomes in rural Ghana', <i>Journal of Development Economics</i> , Vol. 51, No. 2, pp. 291-314.	Ghana	Simultaneous Equation modeling	Studies of school attainment often fail to acknowledge the possibility that prices for all schooling levels affect the decision to attend any one schooling level. In developing countries the assumption that schooling costs are constant throughout the education cycle is manifestly untrue. This paper concentrates on the empirical implications of introducing schooling costs that increase with schooling level. The results suggest that the cost of advanced levels of education influences decisions at the primary-school level. The relative magnitude of the cross-price elasticities suggests that cross-price effects should not be ignored when designing educational user fees.
Lloyd, M., Mench, B. and Clark, W. H. (2000), 'The Effects of Primary School Quality on School Dropout among Kenyan Girls and Boys', <i>Comparative Education Review</i> , Vol. 44, No. 2, pp. 113-147.	Kenya	Qualitative analysis consisting of structured interviews	Studies of 36 rural elementary schools in Kenya and interviews with 774 adolescents in the schools' attendance areas found that dropping out was significantly related to individual and family variables, with many stronger effects for girls than boys, and that girls' remaining in school was discouraged by nonsupportive classroom environments, unequal treatment of boys and girls, and harassment.

Studies	Countries	Method	Main Findings
Miguel, E. and Kremer, M. (2004), 'Worms: Identifying impacts on education and health in the presence of treatment externalities', <i>Econometrica</i> , Vol. 72, No. 1, pp. 159-217.	Kenya	Average treatment effects using OLS and discrete choice regression models	The paper evaluates a Kenyan project in which school-based mass treatment with deworming drugs was randomly phased into schools, rather than to individuals, allowing estimation of overall program effects. The program reduced school absenteeism in treatment schools by one-quarter, and was far cheaper than alternative ways of boosting school participation. Deworming substantially improved health and school participation among untreated children in both treatment schools and neighboring schools, and these externalities are large enough to justify fully subsidizing treatment. Yet we do not find evidence that deworming improved academic test scores.
Reinikka, R. And Svensson, J. (2005), 'Fighting Corruption to Improve Schooling: Evidence from a Newspaper Campaign in Uganda', <i>Journal of European Economic Association</i> , Vol. 3, No. 2-3., pp. 1-9.	Uganda	OLS Regression model using a Difference-in-Difference framework	We argue that innovations in governance of social services may yield the highest return since social service delivery in developing countries is often plagued by inefficiencies and corruption. We illustrate this by using data from an unusual policy experiment. A newspaper campaign in Uganda aimed at reducing capture of public funds by providing schools (parents) with information to monitor local officials' handling of a large education grant program. The campaign was highly successful and the reduction in capture had a positive effect on enrollment and student learning.
Robert Sparrow, 2007. "Protecting Education for the Poor in Times of Crisis: An Evaluation of a Scholarship Programme in Indonesia," <i>Oxford Bulletin of Economics and Statistics</i> , Department of Economics, University of Oxford, vol. 69(1), pages 99-122, 02	Indonesia	OLS Regression using Instrumental regression	This paper analyses the impact of an Indonesian scholarship programme, which was implemented in 1998 to preserve access to education for the poor during the economic crisis. Scholarships were targeted pro-poor and the allocation process followed a decentralized design, involving both geographic and individual targeting. The identification strategy exploits this decentralized structure, relying on instrumental variables constructed from regional mistargeting at the initial phase of allocation. The programme has increased enrolment, especially for primary school-aged children from poor rural households. Moreover, the scholarships seem to have assisted households in smoothing consumption during the crisis, relieving pressure on households' investments in education and utilization of child labour.

Studies	Countries	Method	Main Findings
Jalan, J. and Elena Glinksya (2002) "Improving primary school education in India: An impact assessment of DPEP-Phase I", Working paper	India	Propensity Score Matching	We evaluate Phase I of the DPEP, in terms of three specific outcome indicators: enrollment rates, completion rates and progression to higher levels of education. Program districts show a "small" improvement in outcome indicators. However, most of the benefit accrued to male children and primarily in the state of Madhya Pradesh where concurrent to the DPEP two substantial state level primary school programs were also initiated. Impacts on the scheduled caste group were also noticeable. Finally, contrary to the program's goals, there has been virtually no impact on girl's primary school education or on children belonging to the scheduled tribe
Galiani, S., & Schargrofsky, E. (2002). Evaluating the impact of school decentralization on educational quality. <i>Economía</i> , 275.	Argentina	Dynamic panel data regression using a difference-in-difference framework	The decentralization of education services from the federal government to the provincial governments was an important component of the major fiscal and structural reforms undertaken in Argentina in the early 1990s. The theoretical literature is not conclusive about the absolute superiority of either centralization or decentralization in the provision of public services. In this paper, we evaluate empirically the effect of the decentralization of secondary schools on education quality. Our results suggest that, on average, decentralization improved the performance of public school students in test scores. We also assess whether the effect of decentralization depends on province characteristics. We find that the higher the provincial fiscal deficits, the smaller the positive impact of decentralization.
Jimenez, E., & Sawada, Y. (1999). Do community-managed schools work? An evaluation of El Salvador's EDUCO program. <i>World Bank Econ Rev</i> , 13(3), 415-441. doi:10.1093/wber/13.3.415	El Salvador	OLS regression using an IV approach	This article examines how decentralizing educational responsibility to communities and schools affects student outcomes. It uses the example of El Salvador's Community-Managed Schools Program (<i>Education con Participación de la Comunidad</i> , EDUCO), which was designed to expand rural education rapidly following El Salvador's civil war. Achievement on standardized tests and attendance are compared for students in EDUCO schools and students in traditional schools. The analysis controls for student characteristics, school and classroom inputs, and endogeneity, using the proportion of EDUCO schools and traditional schools in a municipality as identifying instrumental variables. The article finds that enhanced community and parental involvement in EDUCO schools has improved students' language skills and diminished student absences, which may have long-term effects on achievement.

Studies	Countries	Method	Main Findings
Cameron, Lisa A. ,An Analysis of the Role of Social Safety Net Scholarships in Reducing School Drop-Out During the Indonesian Economic Crisis(August 28, 2000).	Indonesia	Discrete choice models and Matching estimators	This paper uses regression and matching techniques to evaluate Indonesia's Social Safety Net Scholarships Program. The scholarships program was developed to try and prevent large numbers of children from dropping out of school as a result of the Asian crisis. The expectation was that many families would find it difficult to keep their children in school and drop out rates would be high like they were during the 1980s recession. Drop-outs however have not increased markedly and enrollment rates have remained relatively steady. This paper examines the role played by the scholarship program in producing this result. The scholarships were found to have been effective in reducing dropouts at the lower secondary school level by about 2.4 percentage points but had no discernible impact at the primary and upper secondary school levels. We also examine how well the program adhered to its documented targeting design and how effective this design was in reaching the poor. The targeting criteria appear to have been followed quite closely but this did not prevent some households with high reported per capita expenditures receiving the scholarship.

ANNEX C Enduring question briefs

(1)

The International Initiative for Impact Evaluation (3ie)



Enduring Question Brief

Better Studies, Bigger Impact

EQ briefs are an information analysis of current policy issues and developments related to impact evaluation. It aims to guide policy makers, development practitioners and help researchers to apply for a research grant. Created by the International Initiative for Impact Evaluation 3ie, EQ brief were set up with the support of....

Investing from early childhood (need a better title)

Enduring Question: What is the current state of knowledge about Early Childhood Development (ECD) interventions with respect to costs, long-term outcomes, social/private rates of return, efficiency, and cost-benefit ratios?

Overview

Existing evidence: There exists evidence, mainly from developed countries, about the societal and individual benefit of early childhood programmes, and their high benefit compared to actual programme costs. However, especially with respect to developing countries, there is a lack of data on the cost-benefit and cost-effectiveness of ECD programmes, as well as the long-term impacts of such interventions.

Key research question: What are the long-term outcomes and the cost-effectiveness of ECD interventions?

Date: February 2009

Theme: Early Childhood Development

Sector: Education

Geographical area: Global

Mind the Gap

Early childhood development (ECD) programmes, addressing the causes of improper child development, have been shown to improve learning outcomes in primary school and later on (Engle et al., 2007; Van der Gaag, Jacques & Tan, 1997). ECD programmes that focus on disadvantaged children, commence before age three, have a long duration, and are high in intensity, have a significant beneficial effect on children's cognitive development. (can we refer to human rights?)

ECD programmes are programmes of choice (what does it mean?) in developing and developed countries alike (with an implementation in more than 60 different countries, ranging from Canada, the US, to Kenya and Uganda; for a list of projects supported by the World Bank, please refer to World Bank,

2003). (are ECD programmes only funded by the WB? How much investment are we talking about?)The World Bank is currently supporting Impact Evaluations on ECD programmes in the Dominican Republic, India, Indonesia, Madagascar, Mexico, and Senegal.

Lessons learned

A recent comprehensive review of the available evidence of the impact of ECD programmes has revealed that while the evidence for the beneficial overall effects of ECD programmes on child (cognitive) development is strong (Engle et al., 2007). Specific data on resource costs, long term outcomes, measurement areas and issues of cost benefit and cost effectiveness are only addressed by very few ECD evaluations, making it therefore hard to draw ‘systematic’ conclusions. What worsens the situation is the fact that there are no globally accepted sets of child development indicators, which would facilitate the evaluation and comparison of ECD programmes. In summarizing the existing evidence, Behrman et al. conclude that: ‘there [... is] very little systematic evidence to support that the impacts of ECD programmes are large or, more importantly, that the benefit-to-cost ratios of ECD interventions are high – particularly in light of the heterogeneous market, policy, and cultural contexts across developing countries that may limit the transferability of inferences from one context to another.’(Behrman et al., 2007)

The costs of ECD programmes are highly context dependent. In an effort to compare the costs of various ECD programmes in Latin America, Waiser was not able to compare costs between programmes, due to various administrative bodies, programme intensities, salary structures, and project architectures (Waiser, 1998). Waiser therefore suggests that both the costs and the cost-benefit ratio should be programme specific, unless there will be a standard procedure to estimate costs, to identify appropriate indicators for monitoring and assessment, and to arrive at a proper design for the evaluation process.

Unfortunately, rigorous evidence - based on randomized trials or matched comparison, effectiveness and programme evaluations - on the long-term outcomes of ECD programmes is very scarce. Of all the 19 evaluations reviewed in Engle et al., only two studies in Guatemala and Brazil focused on long term outcomes, and only one study focused on national data sets, whereas all other evaluations examined the effects of ECD programmes in 10 communities or less, with the study sample size ranging from 130 to 6693 participants. The Guatemalan study showed that supplementation before age 3 had positive effects on schooling, reading, and IQ tests during ages 25 – 41. [An analysis of the Guatemalan and the Brazilian longitudinal data sets showed that given 90% coverage, ‘an increase of one standard deviation in pre-school cognitive skills is associated with an aggregate benefit of around two-thirds to more than one grade of additional schooling Can we pls translate what this means in terms of impact?]. Therefore, preschool participation contributes to an increase of around 5 to 10 per cent in lifetime labour income.’ (Reviewed in Engle et al., 2007). [we should only make a reference to those longitudinal studies if we highlight the findings...There are other longitudinal household data sets of ECD programmes, that show the benefits of ECD programmes on long term health or development outcomes – but due to study design, respective data strength and variability in outcome measures, these studies cannot be ‘systematically’ combined⁵.]

⁵ Behrman et al. lists the following examples of ECD evaluations with longitudinal data sets: ‘the Cebu (Philippines) Longitudinal Health and Nutrition data of births in 1983 with the last follow-up in 2005 when the children were up to 20-22 years old and their mothers were from 35 to 69 years old; the Pelotas Brazilian data on the birth cohort of 1982 with the last follow-up in 2004-5 when the children were up to 25 years of age; the NCAER rural Indian data starting in 1969-71 with follow-up until 2002; the Bangladeshi nutritional data with follow-up after over two decades; the ICRISAT village-level study (VLS)

The social and private rates of return for ECD programmes very much depend on the environment, though it has been positive in most existing evaluations. A study conducted by Barnett studying various development environments on the effect of economic achievement, concludes that the benefit-to-cost ratios of early childhood interventions targeted at disadvantaged children, can be as high as 8.74 [out of 10? Pls explain](Barnett, 1993). The earlier and the more intense the intervention is, the higher the return will be, and the lower will be the need for later interventions, such as pupil teacher ratios, public job training, convict rehabilitation programs, tuition subsidies, or expenditure on police (Heckman, 2006).

According to Engle et al., most ECD studies either do not have the design or the sample size so that individual programme components can be tested, or that the components can be tested for synergistic effects, with respect to efficiency. Also, in a review of the costs of ECD programmes in Latin America, only one single study in Chile had looked at the cost-effectiveness of the intervention, despite the fact that ECD programmes had been implemented for over 30 years in Latin America at the time of the study (Waiser, 1998).

The most recent evidence has shown that the benefit of providing early childhood interventions outweigh the costs, both in developed and developing countries (Behrman, 2004; Heckman, 2006). However, given the methods used in the cost benefit analyses today, the results of one study do not (easily) carry over to other countries, regions or target groups (Van der Gaag, Jacques & Tan, 1997; Waiser, 1998).

Closing the evaluation gap

Areas need further investigation on: longitudinal and cost-effectiveness by using a common set of outcome measures. Due to the dependency on context, benefit-to-cost ratios are programme specific. Comparisons between programmes and countries will almost be impossible. Therefore, in order to establish a meaningful evidence base on the impact of Early Childhood Development interventions that can be applied and systematically reviewed, it is important to conduct long-term impact studies, as well as rigorous cost-effectiveness analysis.

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data starting in 1975 with follow-up ongoing to the present. There are many more longitudinal data sets that cover shorter, but important, segments of the life-cycle stages noted above. A few examples include: The Mexican *PROGRESA* data for 1997-2003; a number of the Demographic Health Survey (DHS) data sets; the Vietnam Living Standard Measurement Survey; the Bolivian PIDI evaluation data; the Malawian Diffusion and Ideation Change Project Data for 1998-2006; the Kenyan school-based sample; the Colombian *Familias en Acción* sample for 2002-6; the Philippines Early Childhood Development Survey for 2001-6; the Mexican Family Life Survey; the Indonesian Family Life Survey.’ (Behrman, Glewwe, & Miguel, 2007)

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Credits

This brief was written by ...with inputs from...



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The International Initiative for Impact Evaluation (3ie)

Enduring Question Brief

Better Studies, Bigger Impact

EQ briefs are an information analysis of current policy issues and developments related to impact evaluation. It aims to guide policy makers, development practitioners and help researchers to apply for a research grant. Created by the International Initiative for Impact Evaluation 3ie, EQ brief were set up with the support of....

Primary education for All

Enduring question: How can we achieve 100% enrolment, retention and transition rates in primary schools?

Overview

Existing evidence: There are a number of high quality evaluations of Conditional Cash Transfer programmes, but there are fewer impact evaluations of other interventions, such as the elimination of school fees, school feeding programmes, school based health programmes, and interventions to improve the quality of education and decentralisation.

Key research questions: Has intervention x been effective in improving primary school enrolment, retention and transition rates? Why? Why not? Comparing at least two different types of intervention: What is the most effective - including cost-effective - way of increasing enrolment, retention and transition rates?

Date: February 2009

Theme: Education sector management

Sector: Education

Geographical area: Global

Mind the gap

Lack of education is one of the many dimensions of poverty. Achieving universal primary education is not only a goal in itself, but is also a contributing factor to achieving other development goals, such as reduced rates of HIV/Aids, better resource management, lower poverty and inequality and sustained economic growth (Bruns et al., 2003). Despite progress towards universal primary education, 73 million primary school aged children were still out of school in 2006 (UN, 2008). To reach the goal of universal primary education by 2015 policymakers need to take urgent actions.

Lack of enrolment, high levels of dropout and repetition rates all contribute to low educational attainment (Birdsall et al., 2005). While there has been an increase in school enrolment, low completion rates remain a problem. Thus, while many countries in Latin America have achieved almost universal, completion rates are low because of high drop-out and repetition rates. Research suggest there is a minimum

threshold of five to six years of schooling for benefits to be realised. It also highlights the importance of improving primary school retention and transition rates, in addition to primary school access (Bruns et al., 2003). In all countries children from the poorest families are more likely to not complete primary school, which stresses the importance of interventions targeting this group.

Lessons learned

A number of interventions have been implemented in an attempt to increase enrolment, retention and transition rates in primary schools.

A number of developing countries, especially in Latin America, have introduced Conditional Cash Transfer (CCT) programmes to achieve a range of policy goals, including universal primary education (Schady and Araujo, 2006). While the designs of these programmes vary, they commonly include a cash transfer to poor households conditional on compliance with certain conditions, such as school enrolment and attendance of school aged children. As many of these programmes have integrated evaluation into the programme implementation, there is a large number of high quality, quantitative impact evaluations (eg: Attanasio et al., 2005; Behrman et al., 2001; de Janvry et al., 2006; Dubois et al., 2003; Glewwe and Kassouf, n.d.; Glewwe and Olinto, 2004; Maluccio and Flores, 2004; Rawlings and Rubio, 2005; Schady and Araujo, 2006; Schultz, 2004). All these publications evaluate the impact of CCTs on primary education. A new report published by the World Bank provides a review of CCTs and includes an even longer list of evaluations (Fiszbein and Schady, 2009).

The overall conclusions of these evaluations are positive and show that CCTs can have significant positive impacts on school enrolment, retention and transition. For instance, various evaluations of Mexico's PROGRESA programme, provide evidence that programme participation has led to higher levels of enrolment; less grade repetition and better transition rates; lower dropout rates and higher re-entry rates for those who dropped out; and reduced drop outs in the transition from primary school to secondary school (Behrman et al., 2001; Dubois et al., 2003; Schultz, 2004). Moreover, one study also found the programme was effective in protecting children's education in the event of shocks, such as illness, unemployment and natural disasters (Janvry et al., 2006).

Evaluations from other countries have showed similar impacts. For instance, an evaluation of Nicaragua's Red de Proteccion Social found that the programme had induced a significant increase of net enrolment of 17.7 percentage points among children between 7-13 years who had not yet completed 4th grade (Maluccio and Flores, 2004) Can we explain further this result? . This study also found that the programme had led to improved retention rates and that largest impacts tended to be among children from the poorer households. However, an evaluation of a CCT in Colombia showed the programme had been effective in increasing overall enrolment, but that it seemed to have no effect on primary school enrolment (Rawlings and Rubio, 2005). While evaluations have showed positive impacts of CCT programmes, one should not assume that they will work well in all country contexts, especially not in areas with limited administrative capacity and supply of health and education facilities (ibid).

Elimination of school fees

A number of countries have eliminated school fees for primary education in an effort to achieve universal primary education. Malawi eliminated school fees for primary education in 1994, Uganda in 1997, Tanzania in 2000 and Cameroon, Ghana, Burundi, Rwanda and Kenya in 2003 (Grogan, 2008). While there was a substantial increase in school enrolment after the elimination of fees in all of these countries,

there are few quantitative impact evaluations of these policies (ibid). There are a few exceptions however (eg: Deiniger, 2003; Grogan, 2008; Nishimura et al, 2003). For instance, Deininger (2003) provides a study of the elimination of fees for primary education in Uganda and looked at data from household surveys before and after the intervention and used regression analysis to assess the impacts of the intervention. He found that the programme led to a significant increase in primary school enrolment and attendance and that it increased access to education for the poor. However, the study also found that the programme led to high student/ teacher ratios and that around a quarter of students failed their final primary school examinations in 1999, highlighting the need for attention to the quality of education. Another evaluation of the same programme (Nishimura et al., 2003) uses data from 940 households surveyed in 2003 and compares pre-and post intervention cohorts to evaluate the impact of the programme. Using regression analysis they also found that the programme had positive impact on access to education among the poor. However, while their results suggest the programme also improved completion rates, this effect was only significant for girls up to 5th grade and boys up to 4th grade. No impact evaluations using experimental or quasi experimental design have been identified.

School feeding programmes

There are a number of evaluations of school feeding programmes, however, a number of these suffer from methodological weaknesses or does not look at primary education (eg: Babu and Hallam, 1989; Vermeersch, 2003). Nevertheless, Cueto and Chinen (2008) use quasi-experimental methodology in an evaluation of a school breakfast programme in primary schools in rural Peru and found a lower drop-out rate for the treatment group, but no effect on primary school enrolment (Cueto and Chinen, 2008). Similarly, Ahmed and del Ninno (2002) conducted a quasi-experimental evaluation of the 'Food for Education Programme' in Bangladesh and found it had increased enrolment and attendance, in addition to reducing drop-outs. The programme targeted poor households, who were provided with a free monthly ration of wheat or rice if their children attended primary school. A multivariate analysis of the data suggests that in 2000, the programme increased the probability of children going to school by 8.4 per cent. Likewise, an evaluation of World Food Programme supported food for education (FFE) programmes found that during the first year of FFE absolute enrolment rates increased by 28 per cent for girls and 22 per cent for boys (WFP, 2006). However, this evaluation does suffer from some methodological weaknesses.

School health programmes

Most evaluations of school health programmes assess their impact on attendance and do not use enrolment, retention, transition or completion rates as an outcome variable (eg: Borbonis et al., 2006; Miguel and Kremer, 2004). However, the results of Miguel and Kremer's (2004) evaluation of a school based programme involving mass de-worming treatment suggest the programme led to higher participation rates and substantially fewer drop outs.

School quality

A number of studies indicate that improved school quality has a positive impact on enrolments (eg: Handa, 2002; Lavy, 1996; Lloyd et al, 2000; White, 2004). For instance, White (2004) finds that factors such as student/ teacher ratio, adequate number of classrooms and availability of materials such as chalk and desks are important determinants of school enrolment and retention, and that 4 per cent of the increase in school enrolments in Ghana between 1988-2003 can be attributed to improved school facilities, as well as reduced distance to school. Many evaluations of school quality look at the impact of quality improvements on learning outcomes and test scores, but no impact evaluation assessing impact on enrolment, retention or transition rates using experimental data was identified.

Decentralisation

There are very few high quality quantitative evaluations looking at the impact of decentralisation of education on primary school enrolment, retention and transition rates. The few evaluations that do exist suffer from methodological weaknesses and only make tentative conclusions. Garcia and Rajkumar (2008) provide an evaluation of the effects of decentralisation on delivery of basic services in Ethiopia. While primary school enrolment has increased since the implementation of the policy of decentralisation, they note that as decentralisation was part of a package of various government policies and actions it is difficult to attribute any improvement directly to decentralisation. However, their results from using survey data and regression analysis, suggest decentralisation contributed to the narrowing of gaps between lagging and better off regions, with enrolments catching up in lagging regions. King and Guerra (2005) look at the effects of decentralisation of education on the distribution of educational expenditure and other basic indicators. However, this study suffers from methodological weaknesses, and while it is suggested the reforms led to both positive and negative effects, the authors argue it is difficult to isolate the impacts of decentralisation from other changes in education and economic policy. Skoufias and Shapiro (2006) evaluate the impact of Mexico's Quality Schools Programme (PEC) on rates of drop-out, repetition and failure. The PEC included increased resources to schools and decentralisation of decision-making to the school level. The study use data from a panel of 74,700 schools and applies regression analysis and propensity score matching to evaluate the impact of the programme. While no impact was found in indigenous schools, the results found the PEC led to a 6 to 8 per cent reduction of drop-out, repetition and failure rates compared to baseline.

Interventions targeting specific groups

Targeting and improving access to education for disadvantaged groups is essential for achieving universal primary education (Birdsall et al., 2005), however the evidence on these interventions will be reviewed in separate briefings (reference to include).

Closing the evaluation gap

For some type of interventions, such as school feeding programmes, school based health programmes, decentralisation, elimination of school fees and interventions to improve school quality, there is a need for more high quality quantitative impact evaluations. These evaluations should try to assess not just whether an intervention is effective, but why, and should also include cost-effectiveness estimates. A study providing a comparison of the effectiveness, including, but not limited to, cost-effectiveness of different interventions would also be useful. While there are quite a few good impact evaluations of Conditional Cash Transfers, studies that provide more information on why these programmes have been successful in improving enrolment, retention and transition rates would be useful in order to better understand in which contexts this type of programme is appropriate. This should include an evaluation of the role of institutional and administrative capacity.

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Credits

(3)



The International Initiative for Impact Evaluation (3ie)

Enduring Question Brief Better Studies, Bigger Impact

EQ briefs are an information analysis of current policy issues and developments related to impact evaluation. The aim is to help policy makers and development practitioners improve development impact through better evidence.

February 2009

Special needs education: It does take a village Alternatives: We All have the rights to education/ For a more inclusive education

Overview

Lack of credible data on children with disabilities in developing nations, which presents an obstacle for rigorous research evaluation of policy interventions.

Key questions: How to create capacity among developing nations in building data on children with special needs? How to improve partnership between parents, schools, NGOs, community groups in assessing the impact of promoting inclusive educational practices? Are popular conditional cash transfers (CCT) programmes appropriate for aiding students with special needs?

Key words: Education, disabilities

Mind the gap

Enrolment rates and educational attainment of disabled children lag far behind those of their non-disabled peers. The school enrolment rate for children with disabilities is estimated to be some 2 to 5 percent in developing countries, a deficit that far exceeds those of other high-risk groups such as girls, children from rural areas, or from low-income families (Filmer 2008).

The issue of education for students with special needs is mainly about inclusion, wherein children and young people with disabilities have access to the same schools than children without special needs. However, lack of support services, relevant materials and support personnel, government apathy are major stumbling blocks for implementation of integration in these countries (Peters 2003).

Advocates of special education have suggested the use Community Based Rehabilitation programmes, where the family is the primary trainer, and the community as a whole can be mobilized for support, as an alternative. The applicability of this approach to the developing countries' context remains bedevilled by lack of reliable baseline data on enrolment and identification of children with special needs (Peters 2003). Rigorous evaluations with data collection efforts on Special Educational Need Children are needed to assess the sustainability of Community Based Rehabilitation interventions in the long run.

Lessons learned

According to the World Health Organization (WHO), a Community Based Rehabilitation (CBR) is a strategy within general community development for rehabilitation, equalization of opportunities and social inclusion of all children and adults with disabilities.

CBR interventions have shown a positive impact in giving access to certain services to people with special needs. However, there are few actual rigorous Impact Evaluations of CBRs partly due to the multi-sectoral nature of CBR interventions, but also because of qualitative data related to overcoming cultural prejudices toward both Special Educational Needs groups (Peters 2003).

In Kenya, the role of women's groups at the grassroots in helping overcome barriers faced by children with communications disabilities are being evaluated by a DFID funded study. The results from the Randomized Control Trials are currently being collected and will be posted at the DFID knowledge and research website.

Longer-term, the main constraint of such educational initiatives is the lack of social safety nets like in-kind and Conditional Cash Transfers that succeeded in increasing enrolments among low-income families.

Jamaica's 2001 Program of Advancement through Health and Education or PATH, is among the few that provide allowances for students with disabilities (Mitra 2006). Under the scheme, students whose disabilities prevent regular school attendance do not forfeit their financial assistance. Cost-benefit studies of adapting existing programmes to include Special Educational Needs children need to consider the associated impact of enhanced human capital accumulated through longer school enrolment for such groups (Lynch 1994).

An additional constraint is the absence of qualified special education teachers, educational facilities and lack of government capacity in maintaining oversight. A three-year programme begun in 2005 by the Panamanian government to include students with special needs in the regular school system is expected to yield important data on the size and scope of the problem, and provide a basis for rigorous Impact Evaluation on inclusive education (Birdsall 2006).

Closing the evaluation gap

Areas need further investigation on: (i) Pair qualitative approaches incorporating childrens' perspective and experiences with studies on cost-effectiveness of strategies for improving partnership between parents, schools, NGOs, community groups and assessing the impact of inclusive educational practices; (ii) cost-benefits analysis of adapting Conditional Cash Transfer programmes to assist students with special needs; and (iii) assessments of changes in disability classification criteria for validity and relevance.

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The International Initiative for Impact Evaluation (3ie)

Enduring Question Brief Better Studies, Bigger Impact

EQ briefs are an information analysis of current policy issues and developments related to impact evaluation. The aim is to help policy makers and development practitioners improve development impact through better evidence.

We all need more education: What can be done to reduce teachers' absenteeism?

Overview

There is a small existing evidence base, with clear gains from expanding that base across a broader range of feasible interventions in different settings

Key words: Quality education for All

Mind the gap

Available evidence suggests that teacher absenteeism is a substantial and growing problem in developing countries (OED, 2004). The benefits from the growing success in getting children in school are thus undermined as learning time is reduced. However, there has been little rigorous analysis of the determinants of absenteeism and few impact evaluations of measures designed specifically to reduce it.

The evidence linking teacher absenteeism to student outcomes is also thin, even for developed countries (Woods and Montago, 1997). As an exception, the study of Zambian schools shows “a 5 percent increase in teacher absence rate reduced learning by 4 to 8 percent of average gains over the year, for both Mathematics and English” (Das et al, 2005). An evaluation in India found that reduced absenteeism meant students learn more (Duflo et, 2008). There is also some evidence in the country studies of the World Bank’s recent absenteeism project (Rogers, 2006).

Lessons learned

There are reports documenting the scale of teacher absenteeism and identifying the causes by using more qualitative approaches. A report on basic education in Ghana (OED, 2004) used data on absenteeism based on head teacher’s assessment for 1989 and this measure plus teacher self-assessment for 2003. A linear regression analysis using Ordinary Least Squares examined the correlates of absenteeism.

The first rigorous analysis of absenteeism was conducted amongst health workers in Bangladesh (Hanmer and Chaudhury, 2004), where absenteeism was measured on the basis of surprise visits. More recently this approach has been extended to Ecuador, India, Indonesia, and Peru (Rogers, 2006). These studies confirm that rural, especially remote, locations suffered more from absenteeism. Services, including electrification,

make it more likely for workers to be present. Private schools have lower absenteeism rates compared to public ones. However, none of these studies address specific interventions designed to reduce absenteeism.

Five Randomized Control Trials (RCTs) carried out in collaboration with MIT's Poverty Action Lab (J-PAL) have assessed different interventions in Kenya and India (Banerjee and Duflo, 2006). The analysis shows that monitoring alone does not work and incentives can require some independent verification or objective monitoring. In Kenya for instance, headmaster administered incentives were given to all teachers although the data showed no improvement in attendance.

In addition, there is an on-going study under the World Bank's Africa Impact Evaluation Initiative addressing teacher absenteeism in Ghana. The study uses a randomized design to compare the impact of parent council monitoring of teacher absenteeism with stronger reporting mechanisms at district level.

Closing the evaluation gap

Areas need further investigation on: the impact and cost effectiveness of different measures to reduce teacher absenteeism. Research proposal should establish a more complete list of measures such as parent monitoring, teacher incentives, and improved teacher housing.

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Credit

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The International Initiative for Impact Evaluation (3ie)

Enduring Question Brief

Better Studies, Bigger Impact

EQ briefs are an information analysis of current policy issues and developments related to impact evaluation. It aims to guide policy makers, development practitioners and help researchers to apply for a research grant. Created by the International Initiative for Impact Evaluation 3ie, EQ brief were set up with the support of...

Bringing schools closer to the people (title to be reviewed)

Enduring Questions: What is the impact of community mobilization and community engagement with schools on children's learning outcomes? Do community-based school management committees improve school performance? Are there other, more cost effective, forms of parental feedback?

Mind the gap

1 out of 5 child in the developing world lacks access to proper education (Source?). Approximately 113 million children do not have proper schooling, among which 94 per cent live in the developing world. 880 million adults are illiterate in the world (World Bank, 2002). In developing countries, female education rates are low, and every fourth child drops out of school before completing five years of education or obtaining adequate literacy. By 2015, it is projected that over 100 million children at school age will not be in primary school (World Bank, 2002). Lack of education is a strong predictor of poverty.

Strategies to address these abysmal circumstances have focused heavily on the decentralisation of power. It was argued that communities know best what is good for them, hence conferring educational decision making power would empower them to improve the education system and thereby, the learning outcomes (Gunnarsson, Orazem, Sánchez, & Verdisco, 2004).

Decentralisation of education has assumed many different models all over the world, and one model often applied is known as 'school based management'(SBM). While some forms of SBM programmes transfer decision making authority to teachers and principals only, other forms involve the community and parents, often in the form of school councils or parent-teacher associations that have authority on school staff, facilities, school calendar, instructional materials, and infrastructure improvement (Gertler, Rubio-Codina, & Patrinos, 2008).

Lessons learned

Empirical analysis have shown a wide range of impacts of community involvement on education quality. However, not many of these analysis relied on robust study design. In a review of the

available studies on School Based Management, Santibañez et al. identified only 13 evaluations that could be included in the review, based on lack of rigor in other studies. Only 5 of these studies used randomization or regression discontinuity design (World Bank Education Human Development Network, 2007)⁶. Of these 5 studies, only 1 showed an overall positive impact on learning outcomes, and 4 showed an increase in attendance or a decrease in dropout rates.

In a study of the PROHECO programme in Honduras, di Gropello et al. were missing values on parent-school interaction and thus were unable to analyze the effect of parent participation on learning outcomes (di Gropello, 2006). King et al. postulated that parental involvement had a negative effect on student achievement (King & Özler, 1998). In contrast, Jimenez and Sawada (1999) were able to show that due to El Salvador's EDUCO programme, students were less likely to miss school based on their parents' participation and enthusiasm for the programme (Jimenez & Sawada, 1999). However, there was no assessment whether parents' involvement was associated with higher learning outcomes. In a subsequent analysis of the EDUCO programme, Jimenez et al. concluded that community participation was largely responsible for the positive effect of the EDUCO programme on learning outcomes (Jimenez & Sawada, 2003). Gunnarsson et al.'s study corroborates these results, as their randomized study suggested that 'parental participation has a significant positive effect on school outcomes whether or not parental effort is treated as exogenous or endogenous' (Gunnarsson et al., 2004).

Other, less rigorous studies also assessed the impact of parental involvement: White (2004) found that parental involvement mattered, but also noted that parents who are members of Parent Teacher Associations often did not hold credentials in education (White, 2004). Filmer and Eskeland (2002) found that the participation significantly increased primary test scores in Argentina (Filmer & Eskeland, 2002).

By modeling the impacts of decentralizing school management in Mexico, Skoufias et al. came to the conclusion that a mixture between an increase in resources and local management can lead to better learning outcomes, but not in the poorest communities (Skoufias & Shapiro, 2006). However, Eskeland and Filmer find that, 'the autonomy of teachers, principals, and parents to make organizational and pedagogical decisions and the participation of parents in schools significantly increase primary school test scores in Argentina' (Filmer & Eskeland, 2002; Skoufias & Shapiro, 2006). Kremer et al. found that decentralization of the school system in Kenya gave an incentive to build too many small schools, and to set school fees so that many students weren't able to attend school (Kremer, Moulin, & Namunyu, 2003).

The often-diverging results on the impact of community involvement were explained by contextual factors, the assets of the community, and the provisions made in the reform design. Several authors independently noted that decentralization and community programmes had positive effects in wealthier communities, whereas poorer communities saw themselves at a disadvantage and were negatively affected due to lack of central support (Banerjee, Banerji, Duflo, & Khemani, 2008; di Gropello, 2006; Galiani & Schargrodsky, 2002; White, 2004)

⁶ For a review of the overall results, please refer to the brief on school based management

Banerjee et al., in their study of 3 different community participation programmes in India, found that only 1 of the interventions, where participants had the highest expectation, had a positive impact on the learning outcomes of children (Banerjee et al., 2008). But the study also showed that citizens, even if eager to help, face serious constraints in participating in community programmes, leading the authors to the conclusion that ‘Whatever the explanation, it seems clear that the current faith in participation as a panacea for the problems of service delivery is unwarranted.’ (Banerjee et al., 2008).

Closing the evaluation gap

More randomized evaluations are needed to further determine the impact of community and parental involvement on learning outcomes. Current evidence strongly suggests that differences of communities within countries are stronger than differences in communities between countries, and therefore, the study of community and parent participation must factor in contextual aspects – in particular, the wealth of communities. Also, there has been no cost-effectiveness analysis comparing different kinds of community participation and their effects on learning outcomes. In particular, there is a lack of studies on the effectiveness of community based management committees, and more studies need to rigorously analyse the impact of parental involvement on learning outcomes.

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The International Initiative for Impact Evaluation (3ie)

Enduring Question Brief

Better Studies, Bigger Impact

EQ briefs are an information analysis of current policy issues and developments related to impact evaluation. It aims to guide policy makers, development practitioners and help researchers to apply for a research grant. Created by the International Initiative for Impact Evaluation 3ie, EQ brief were set up with the support of....

Better teaching for our teachers (title to be reviewed)

Enduring questions: Which incentives should governments provide to recruit, retain and motivate teachers in the public sector? How do we attract some of the best high school graduates to become teachers, especially in the public sector? Which procedures are valid and efficient to evaluate teachers performance?

Overview

Existing evidence: The evidence base is very slim and there is a lack of rigorous impact evaluations focusing on how to recruit, retain and motivate teachers.

Key research questions: What are the impacts of different incentives on teacher recruitment, retention and motivation? What are the impacts of different incentives aiming to attract suitable candidates to teacher education programs? How can teachers be evaluated in an adequate and efficient way in a context of financial and administrative constraints?

Date: February 2009

Theme: teacher performance

Sector: education

Geographical area: Global

Mind the gap

One of the conditions for reaching the goal of universal primary education by 2015 and to improve the access and quality of education more broadly is to have a sufficient supply of qualified teachers (UNESCO Institute for Statistics, 2006). While there are enough teachers globally, there are large regional variations, with some regions, including the Arab states, South and West Asia and sub-Saharan Africa, facing dramatic shortfalls in the supply of teachers. For instance, it is estimated that

sub-Saharan Africa needs an additional 1.6 million teachers. When accounting for attrition rates the number of new teachers required is much higher.

While there is little systematic evidence of teachers' satisfaction with incentives and their level of motivation, it has been suggested that in many developing countries teachers' job satisfaction and motivation levels are low (Bennell and Akyeamong, 2007). In addition, teachers often face difficult working conditions and in many countries salaries for teaching remain low (UNESCO, 2008). Nevertheless, teachers' salaries make up a large proportion of education expenditure in developing countries (Glewwe and Kremer, 2005). This coupled with the importance of good teachers for improving the quality of education and students' learning outcomes (Hanushek, 2004) stress the importance of effective systems for evaluating teachers.

Lessons learned

Despite the importance of having enough qualified teachers and the widespread use of incentives to improve the quality of teaching and recruit and retain good teachers, there is surprisingly little research evaluating the effectiveness of these interventions. The few studies that do exist rely on qualitative and descriptive evidence (e.g: Bennell and Akyeamong, 2007; Cobbold, 2006; Fwu and Wang, 2002; Gasperini, 2006; Towse et al.,2002) or evaluate the effectiveness of teachers' incentives in reducing absence or improving student performance⁷. In fact, no rigorous studies evaluating the effectiveness of incentives aimed at increasing teachers' motivation and recruiting and retaining good teachers have been identified. A recent review of empirical studies in the US focusing on strategies promoting the recruitment and retention of teachers revealed that it is not only for developing countries the evidence base is limited (Guarino et al, 2006). While this lack of systematic empirical evidence was highlighted by McEwan (1999) a decade ago, it appears little have been done to rectify this.

While this is clearly an area with little research, there are a couple of recent papers that can provide useful starting points and suggestions for the type of policies and interventions that could be considered for implementation and rigorous evaluation (e.g: Bennell and Akyeamong, 2007; UNESCO Institute for Statistics, 2006; UNESCO, 2008; Vegas and Umansky, 2005). For instance, the report by Vegas and Umansky (2005)⁸ provides an extensive bibliography on recent publications on effective incentives. Bennell and Akyeamong (2007) is a synthesis report of an international research project on teachers' motivation and incentives in sub-Saharan Africa and South Asia. This research included case studies from 12 countries, largely using qualitative data. While this is not an evaluation of specific interventions or policies, it provides information about teachers' motivation and incentives that can be potentially useful when designing future experimental impact evaluations.

A range of different policies is required to attract and retain qualified people into teaching and to motivate them to do a good job (Vegas and Umansky, 2005). Examples of incentives suggested in the literature are: scholarship programmes for teacher training for talented students, pensions, good working conditions, job stability, opportunities for professional growth, increased pay, recognition

⁷ See briefings on teacher absenteeism and improved learning outcomes and school quality.

⁸ See also Vegas (2005). This book includes the report by Vegas and Umansky, in addition to a number of case studies from Latin America.

and prestige and adequate infrastructure and teaching materials, recruitment of teachers from underrepresented groups, devolved recruitment authority, quotas and fee waivers for students from underserved areas conditional on serving an agreed period in their local area, housing, bonuses for rural postings (Bennell and Akyeampong, 2007; UNESCO, 2008; Vegas and Umansky, 2005). Given the lack of evidence, it has been suggested experimentation with various alternative incentive schemes is the most feasible approach (Hanushek, 2004).

No evaluations of the validity and efficiency of different systems of evaluating teachers were identified. The lack of research on school supervision in developing countries was highlighted in the Education for All Global Monitoring Report (UNESCO, 2008). However, it suggests there is anecdotal evidence indicating they are overstretched. Amin and Chaudhry (2008) also note there are few studies looking at the role and impact of teachers (2008).

Closing the evaluation gap

It is recommended that studies evaluating the impact and cost effectiveness of different measures to recruit, retain and motivate teachers should be undertaken in a range of different countries. Studies in countries facing significant shortages of teachers should be prioritised. Evaluations of incentives to attract suitable candidates to teach education programmes should also be undertaken. Following McEwans (1999), it could be useful to assess whether non-monetary incentives such as housing can be more cost effective than monetary incentives, such as bonuses for taking up posts in rural areas. A range of incentives is cited above and choice of type of intervention or policy to evaluate will depend on context and resources. Evaluations of the effectiveness of systems evaluating teachers should include their impacts on quality of schooling and students' learning outcomes.

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The International Initiative for Impact Evaluation (3ie)

Enduring Question Brief

Better Studies, Bigger Impact

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Getting girls into school: a development benefit for All

Enduring questions: What is effective in increasing school enrolment, participation and completion rates among girls in middle and low income countries? What is the local economic impact of girls' education?

Overview

Existing evidence: Apart from evaluations of interventions providing financial incentives for girls' education, there are very few rigorous quantitative impact evaluations of policies and interventions aiming to increase and/or improve girl's education. The existing evidence on the economic impact of education mostly consists of macroeconomic cross-country comparisons and very few of these focus specifically on the economic impact of girl's education.

Key research questions: Has intervention x improved school enrolment, participation and completion rates among girls? Why? Why not? Comparing at least two different types of intervention: What is the most effective (including cost-effective) way of reducing gender inequalities in access to education?

Date: February 2009

Theme: Gender and Education (can we say girl's education instead?)

Sector: Education

Geographical area: Global

Mind the gap

While there have been recent improvements towards gender parity in education (to what extent?), girls still make up a disproportionate share of children out of school in many developing regions (UN, 2008). (Can we highlight some stats?)

Improving girls' school enrolment, participation and completion rates is an important development goal in itself and it also contributes to the achievement of other Millennium Development Goals. Girl's education has also a direct impact on women empowerment and gender equality, reduced fertility and child mortality rates, higher productivity and reduced child malnutrition (e.g.: Bruns et al., 2003; Herz, 2006; Klasen, 2002; Sen, 1999; Smith and Haddad, 1999). (can we illustrate this with some stats?)

Lessons learned

In reviewing the existing evidence on policies and interventions it is useful to distinguish between those that are gender neutral (i.e.: do not target girls) and those that are gender targeted (Glick, 2008).

Some interventions and policies that are gender neutral have had disproportionate positive impacts on girls' education⁹. For instance, a number of evaluations using survey data and regression analysis to assess the impact of the elimination of school fees for primary education in Uganda have found that the programme's positive effects on access to education were especially pronounced for girls (Deininger, 2003; Grogan, 2008; Nishimura et al., 2005).

The evidence on the effects of school based feeding programmes is limited and mixed. Ahmed and del Ninno (2002) found that the Food for Education program in Bangladesh led to larger increases in enrolment for girls than for boys. However, Ravallion and Wodon (2000), using regression analysis and survey data, found that the programme had similar positive effects on enrolment for both boys and girls. An evaluation of the World Food Programme supported food for education (FFE) programmes also found that enrolment rates increases were higher for girls than for boys during the first year the programmes, but this study does suffer from some methodological weaknesses (WFP, 2006).

Conditional cash transfer programmes have been implemented in a number of developing countries and there are a range of good quality impact evaluations of these programmes. The extent to which they have different impacts on girls seems to differ between countries. Schultz's (2004) evaluation of the PROGRESA programme in Mexico found that it tended to have a larger positive impact on girls' enrolment rates - the average effect on enrolment at secondary level being 9.2 percentage points for girls as oppose to 6.2 percentage points for boys. (is this a significant impact? To what extent? Can we translate those findings?) However, evaluations of similar programmes in other countries have not found large differences in impact across gender (Barrera-Osorio et al., 2008; Maluccio and Flores, 2004; Schady and Araujo, 2008).

Evans and Kremer (2005) evaluated a programme distributing uniforms to primary school children in poor communities in Kenya and found that school attendance was significantly increased by the programme, with this effect being especially pronounced for girls.

Gender targeted programmes that use financial incentives to promote girls education have been implemented in a number of countries. These programmes commonly provide subsidies directly to the

⁹ Many of these studies are cited in the briefing on primary education and more detailed descriptions of the studies can be found there.

school and/or pay a cash stipend to the girls or the family on the condition that they enrol and attend school. There are very few rigorous evaluations of these programmes, nevertheless, a couple of exceptions exist. For instance, Kremer et al. (2004) provide a randomised evaluation of a merit scholarship programme for girls in primary schools in rural Kenya and they found that both test scores and attendance increased in programme schools.

Kim et al (1999a) also used randomised evaluation to assess the impact of the Quetta Urban Fellowship Programme in Quetta Pakistan. The programme aimed to increase girls' access to local schools by encouraging NGO's to build primary schools in poor areas, paying a subsidy for each girl enrolled. Boys were also allowed to enrol at the schools and the enrolment of both girls and boys were found to have increased as a result of the programme, with most of the estimates showing larger gains for girls. A quasi-experimental evaluation of a pilot to extend this programme to rural areas found that the programme increased enrolment of girls, but in some villages boys' enrolment fell (1999b). However the largest increases for girls were in villages where also boys' enrolment increased.

The Female Stipend Programme in Bangladesh aimed to increase secondary school enrolment and completion rates in addition to increase age at marriage among girls in rural areas (Khandker et al, 2003). The girls' school fees were paid for and in addition participants were given a stipend to cover other costs, such as fees and uniforms. Fuwa (2006) and Khandker et al. (2003) use survey data and regression analysis to evaluate the impact of the programme. Both studies found the programme led to an increase in girls' secondary education. A quasi-experimental evaluation of a scholarship programme targeting girls in rural Guatemala found that the programme appeared to have increased attendance and lowered drop-outs, but found no effect on completion rates (Liang and Marble, 1996).

Filmer and Schady (2006) use a quasi-experimental design to evaluate the impact of a scholarship programme in Cambodia which aimed to increase girls' enrolment in secondary schools. As the authors note, while this programme is known as a scholarship programme, it does not directly subsidise school fees, but involves a cash transfer to households on the condition that their daughter is enrolled in school, attends regularly and achieves a passing grade, and is thus really a Conditional Cash Transfer programme. Ordinary Least Square estimates suggest that the programme increased enrolment and attendance at the participating schools by around 30 percentage points. (How does it translate in economic terms?) Additionally, Chaudhury and Parajuli (2006) use school level census data and various statistical techniques, such as difference-and-difference, triple differencing and regression-discontinuity to evaluate the impact of a Conditional Cash Transfer programme in Pakistan. Their results suggest the programme was effective in increasing female enrolment in public secondary schools.(how effective?)

Kim et al. (1998) provide a quasi-experimental evaluation the Community Support Process (CSP), a programme set up to increase girls' enrolment by establishing public segregated girls' community primary schools staffed by local female teachers in rural areas in Balochistan, Pakistan. They found that on average girls' enrolment was increased by 22 per cent and boys enrolment was increased by an average of 13 per cent.

Iqbal and Riad (2004) evaluate the Education Enhancement Program in Egypt. The programme increased the number of schools in remote areas to reduce girls' travel distance to school and used community awareness campaigns and a stipend programme to increase parental demand for girls' education. There was an increase of girls' gross enrolment to primary school from around 9 per cent in 1996/1997 to around 103 per cent in 2002/2003. Regression analysis of survey and programme data suggests the number of schools and the existence of awareness campaigns both were statistically significant determinants of increases in girls' enrolment.

Additionally, there is an ongoing research project on menstruation and education in Nepal (PovertyActionLab, n.d). The project involves randomised distribution of menstrual cups to girls and their mothers in a sample of four schools in Chitwan, Nepal. One of the aims of the project is to look at the effects of the distribution of menstrual cups on the school attendance, attainment and health of adolescent girls. The results of this evaluation are not available yet, but the methodology and results of an available draft paper on determinants of adoption could prove useful guidance for similar projects (Oster and Thornton, 2008).

Despite a wide range of interventions aiming to achieve gender parity in education, existing quantitative evaluations largely look at impacts of interventions providing financial incentives and are concentrated in a few countries. There are surprisingly few high quality quantitative evaluations of other interventions. As Glick (2008) notes in his review of policies to reduce gender gaps in education, there is a range of literature on policy and strategies and a large number of assessments, but these are less formal and contain little rigorous statistical evidence (e.g.: Amin and Sedgh, 1998; Herz and Sperling, 2004; Phuyal et al., 2002; Raynor and Wesson, 2006; Sutherland-Addy, 2002; Sutherland-Addy, 2008; Tembon and Fort, 2008). There is also a range of studies using survey data and regression analysis to estimate determinants of school participation, rather than evaluations of specific interventions. While these studies are useful and can inform the design of policies and interventions, there is a need for more rigorous quantitative impact evaluations.

What is the local economic impact of girls' education? There are a number of studies attempting to measure the impact of education on economic growth, but these are largely macroeconomic studies using cross-country regressions (Glewwe et al., 2007). Glewwe et al. (2007) review many of these studies and conclude that they vary in their conclusions from findings indicating a positive effect on economic growth to a negative or little effect. Few of these studies explicitly consider gender aspects of education and the effect on economic growth. One exception is Klasen (2002), who used cross country regression to estimate the impact of gender inequality in education on economic growth. He found that by lowering human capital gender bias it directly reduces economic growth (to what extent?). No impact evaluations of the local economic impact of girls' education have been identified.

Female education also effect aspects of economic growth and social well-being that is not always captured by the market, for instance rising women's productivity in the home, improved health and education for children and reduced fertility (Hill and King, 1995; Klasen). A large share of female economic activity, such as subsistence farming, domestic work, reproductive activities and work in the informal economy is not recorded and is therefore difficult to measure (ibid).

Closing the evaluation gap

Studies looking at interventions and policies aiming to increase school enrolment, participation and completion rates among girls could include impact evaluations of both gender neutral and gender targeted policies. There are a range of policies and interventions suggested in the literature that would be suitable for experimental evaluations, such as: improved sanitation facilities, female teachers, community schools, campaigns, community and parental participation, interventions to reduce girls domestic work burden, various financial incentives, flexible timetable, improved quality of education and improvements of teacher training. Evaluations could include impact of interventions on primary and secondary school enrolment, participation, completion and learning outcomes, in addition to transition between primary and secondary school. As Conditional Cash Transfer and scholarship programmes both targeted and gender neutral can be expensive to run, studies looking at the effects of combining means testing and gender targeting could be useful. It might be more meaningful to measure the local impact of girls' education by using other variables than economic growth, such as fertility and mortality rates, child nutrition and food security.

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The International Initiative for Impact Evaluation (3ie)

Enduring Questions Brief Better Studies, Bigger Impact

Number ?

March 2009

Food for thought: Are school feeding programmes effective in improving educational outcomes?

Overview

Existing evidence: School feeding leads to better educational outcomes, though results are more positive for school enrolment and attendance than for cognitive performance.

Key words: Education, School feeding, Enrolment

Mind the gap

The Millennium Development Goal of Education for All by 2015 will only be achieved in full if enrolment rates are complemented by primary and secondary school completion rates, particularly in sub-Saharan Africa and South Asia. However, poverty and hunger coupled with socio-cultural norms and supply constraints impede progress.

Early malnutrition or micronutrient deficiencies can adversely affect physical, mental and social aspects of child health. They have been linked not only to lower enrolment and completion rates but also to poorer cognitive functioning in those children attending school (Harbison & Hanushek, 1992; Glewwe & Jacoby, 1994; Moock & Leslie, 1986). Direct causal impacts of nutrition on educational performance are harder to come by. Glewwe et al. (2001) find that better-nourished children both start school earlier and repeat fewer grades. In rural Pakistan, Alderman et al. (2001) find that malnutrition decreases the probability of ever attending school, particularly for girls. An improvement in nutrition was found to increase school initiation by 4 per cent for boys but 19 per cent for girls. As the average girl (boy) in the villages studied who begins school competes 6.3 (7.6) years of schooling, improvements in nutrition would have a significant effect on schooling attainment.

School feeding programmes providing breakfast, lunch, snacks or take-home rations are sometimes combined with micronutrient supplementation and have been implemented in most of the developing world, representing a huge investment of resource.

Lessons learned

Many studies evaluating the educational outcomes of school feeding programmes are limited by post-programme data collection, despite the relative ease of establishing control groups and using enrolment and attendance rates with test scores to determine impacts. The Campbell review on school feeding (Kristjansson et al., 2007) is the most comprehensive and rigorous review of impact evaluations to date. It comprises 18 studies, 9 from lower income countries and 9 from higher income countries. Amongst the 18 studies, 7 used randomised controlled trials (RCTs), 9 controlled before and after studies (CBAs) and 2 interrupted time series (ITS). In low income countries, children who were fed at school attended school more frequently 4 to 6 days a year per child as opposed to the children in control groups. Children who were fed at school also did better than those in control groups on math achievement tests, consistently so in lower income countries, and on some tasks requiring rational psychological processing of information). There is also evidence that school meals may have small physical, psychological and social benefits for disadvantaged children.

Kristjansson et al. (2007) note that other reviews of the educational outcomes of school feeding programmes report mixed results. Overall they indicate school-feeding programmes increase attendance, particularly in rural low-income schools in developing countries, and improve cognitive performance at least in the short term (Grantham-McGregor, 2005; Levinger 1986). But most reviews are limited in scope, often poorly designed and non-systematic (Kristjansson et al., 2007).

An analysis from the World Food Programme's Food for Education programmes, which provided food to 21.7 million children in 74 countries in 2005 (WFP, 2006), finds a 14 per cent yearly increase in school enrolment for both boys and girls in 4,175 WFP-assisted schools in 32 sub-Saharan African countries (Gelli, 2006). The study used a cross-sectional quantitative analysis.

40 per cent of WFP-assisted programmes also provided micronutrient supplementation to children, most commonly to correct Vitamin A, iodine or iron deficiencies known to impair cognitive function and school achievement (WFP, 2006). Taras (2005) reviews research on micronutrient supplementation, finding iron therapy appears to improve cognitive performance whereas zinc and iodine therapy does not, and there is no evidence population-wide vitamin and mineral supplementation leads to improved academic performance. Ahmed (2004) uses a mixed cross-sectional survey and a retrospective CBA to evaluate Bangladesh's School Feeding Programme, which provides a mid-morning snack of fortified wheat biscuits to one million children. School enrolment was boosted by 14.2 per cent, attendance increased by about 1.3 days a month, and the probability of dropping out was reduced by 7.5 per cent. Academic performance also improved, with test scores boosted by 15.7 per cent points. Participating students do especially well in mathematics, scoring 28.5 per cent more than those in the control group. Bobonis et al. (2004) establish through randomised trials that a deworming and iron supplementation programme in India reduced pre-school absenteeism by one-fifth.

Closing the evaluation gap

Areas that need further investigation include what kinds of school feeding programmes are most effective, with comprehensive reviews similar in design to Kristjansson et al. (2007). They could also evaluate micronutrient supplementation programmes, expanding to include interventions that could have an impact on educational outcomes, such as those outlined in WFP's Essential Package interventions for school children (WFP, 2006).

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Credit

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The International Initiative for Impact Evaluation (3ie)

Enduring Questions Brief Better Studies, Bigger Impact

Number ?
**March
2009**

Vouchers for better education: A solution?

Overview

Existing evidence: there are few 'true' voucher schemes in developing countries, and rigorous Impact Evaluations are not always available. Overall, voucher systems improve educational outcomes. More rigorous evaluations are needed in developing countries, including quasi-voucher schemes where true voucher schemes are not available

Key words: Quality education for All, School enrolment, attendance, completion

Mind the gap

Though social demand for education is strong in developing countries, neither the coverage nor quality of public schools is adequate (Kitaev, 1999). It is not clear whether state provision of more schools, more teachers and textbooks will result in higher enrolment, attendance and student achievement (Contreras, 2002). The decision to send a child to school depends primarily on a household's socio-economic condition rather than the services available. Gaps in enrolment rates between the poorest and the richest remain high (Patrinos, 2002).

Private education could help fill the gap. In low-income countries, the average enrolment share of private schools was 15 per cent at the primary level and 40 per cent at the secondary level in 2003 (Orazem & King, 2007). In the absence of equalising state interventions higher quality private institutions are not accessible to more disadvantaged groups (Kitaev, 1999), mostly because they charge tuition fees and public schools often do not. Thus, financing for private schools whereby public funds are used to subsidise demand for education, could be a solution. Public financing with private provision of education may be the best way to combine universal access with systemic responsiveness (Gauri & Vawda, 2003).

Interventions to improve schooling in terms of higher enrolments, attendance completion and achievement, particularly for disadvantaged groups, as well as an improvement in choice and quality of schools, efficiency gains and cost-effectiveness. They can take the form of stipends including scholarships and conditional cash transfers, bursaries, student loans, community grants and voucher systems (Patrinos, 2002). Voucher systems operate via cash payments or equivalents given directly to families, who can choose to send their children to public and private schools; or where schools receive funding proportional to their enrolment rates.

Lessons learned

The impact of vouchers on educational outcomes appears to be related to specific contexts, institutional variables and programme design (Gauri & Vawda, 2004). Many programmes lack proper baseline data or control groups, and it is difficult to compare programmes. The more comprehensive voucher schemes in industrialised countries appear to have boosted the number of private schools, private school enrolment and competition between private and public schools. However some studies claim middle-class students use vouchers to move to private schools, leaving behind increasing proportions of poorer minority students in public schools of declining quality (Braun-Munzinger, 2005; Gauri & Vawda, 2003).

The best and most rigorously examined voucher schemes are in Chile and Colombia. Chile's nation-wide voucher system has contributed to an increase in total private enrolment from 15 per cent in the early 1980s to about one half of students today; most of Chilean schooling is now voucher-financed (Braun-Munzinger, 2005). Overall, research on the Chilean voucher programme suggests students achieve better academic results in private voucher schools than in public schools. Though this may only be true for students from a higher socio-economic background.

Competition from private voucher schools does improve overall achievement at the district level. Though it is mirrored by a decline in public schools, which signify a zero-sum game at national level compounded by a lack of private schools in rural areas (Braun-Munzinger, 2005). The mixed results are also a consequence of methodology. Hsieh and Urquiola (2002) claim Chile's reforms have not yielded positive results. However, Contreras (2002) contests their methodology, finding that even when one accounts for the possibility that some children may be sent to voucher schools because it is perceived the effort is justified (because of characteristics of the children in question such as good academic ability), positive outcomes are stronger in voucher schools. Hoxby (2003), however, maintains convincing results will not be available because studies rely on post-programme data.

Colombia's PACES programme issues private school vouchers to urban youths in poor neighbourhoods. The use of lotteries by some participating municipalities served as a counterfactual for Angrist et al. (2002). Lottery winners outscored their peers who did not receive the vouchers by the equivalent of a full academic year. Secondary school enrolment increased from 55 per cent to 65 per cent between 1992 and 1997, over and beyond national trends (Braun-Munzinger, 2005). Angrist et al. (2006) report a positive effect on secondary school completion rates of 15 to 20 per cent. School choice was improved, but not ideally, as only about 50 per cent of private schools in the treatment areas, predominantly of average quality, participated in the programme. Patrinos (2002) notes the programme was not cheap but was a cost-effective way to obtain higher school completion rates and quality for participants. Such programmes are best suited to countries with weak public school systems, a well-developed private education sector, and strong demand for schooling.

Schemes in Bangladesh and Cote d'Ivoire can be labelled 'quasi-voucher' (Gauri & Vawda, 2003) because they involve government payments to private schools that are at least loosely linked to enrolments.

Bangladesh's Female Secondary School Assistance Project sought to increase female

secondary school enrolment through a combination of tuition subsidies and stipends. Between 1994 and 2000, the number of participating students increased from 187,320 to almost 900,000 (Braun-Munzinger, 2005). But only 54 per cent of the participants who took the secondary school certificate exams received a passing grade, matching the national rate (Patrinos, 2002). Subsidy transfers were weakly enforced and the quality of secondary education remains inadequate (Gauri & Vawda, 2003).

Evidence is not available for Cote d'Ivoire, where Gauri & Vawda (2003) note the process involved was not transparent, and test scores among fifth graders remained low in comparison to several other Francophone sub-Saharan countries (Michaelowa, 2001).

Closing the evaluation gap

The policy relevance of voucher programmes for developing countries is uncertain, as major initiatives have only been attempted in countries with a well-developed institutional structure, with mixed results (Patrinos, 2002). Impact Evaluations with adequate baseline data and monitoring mechanisms should encompass quasi-voucher schemes with at least an element of government subsidy linked to enrolment, rather than limit research to the few true voucher programmes currently running in the developing world.

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Annex D Overview of DHS and LSMS data

Country	DHS	DHS	DHS	DHS	DHS	LSMS	LSMS	LSMS	LSMS
Afghanistan									
Albania						2002	2003	2004	2005
Angola									
Bangladesh	2004	1999/00	1996/97	1993/94					
Benin	2006	2001	1996						
Bhutan									
Burkina Faso	2003	1998/99	1992/93						
Burundi	1987								
Cambodia	2005	2000							
Cameroon	2004								
Cameroon	1998	1991							
Central African									
Chad	2004	1996/97							
Comoros									
Congo Democratic Republic	2007								
Cote d'Ivoire	1998/99	1994							
Djibouti									
Eritrea	2002	1995							
Ethiopia	2005	2000							
Georgia									
Ghana	2003	1998	1993	1988		1987	1988	1991	1998
Guinea	2009	2005	2004						
Guinea-Bissau									
Guyana						1992			
Haiti	2005/06	2000	1994/95						

Country	DHS	DHS	DHS	DHS	DHS	LSMS	LSMS	LSMS	LSMS
Honduras	2005								
India	2005/06	1998/99	1992/93						
Indonesia	2002/03	1997	1994	1991	1987				
Kenya	2003	1998	1993	1989					
Kiribati									
Kyrgyz Republic	1997					1993	1996	1997	1998
Lesotho	2004								
Liberia	2007								
Liberia	1986								
Madagascar	2003/04	1997	1992						
Malawi									
Mali	2006	2001	1995/96	1987					
Mauritania	2000/01								
Moldova	2005								
Mongolia									
Mozambique	2003	1997							
Myanmar									
Nepal	2006	2001	1996			1996	2003		
Nicaragua	2001	1997/98							
Niger	2006	1998	1992						
Nigeria	2003	1999	1990						
Pakistan	2006/07	1990/91							
Papua Guinea									
Rwanda	1992	2005	2000			2001			
Sao Tome and Principe									
Senegal	2005	1999	1997	1992/93	1986				
Sierra Leone									
Solomon Islands									

Country	DHS	DHS	DHS	DHS	DHS	LSMS	LSMS	LSMS	LSMS
Somalia									
Sri Lanka	1987								
Sudan	1990								
Tajikistan						1999	2003		
Tanzania	2004	1996	1992						
The Gambia									
Timor-Leste							2001		
Togo	1998	1988							
Tonga									
Uganda	2006	2000/01	1995	1988					
Vanuatu									
Vietnam	2002	1997					1992	1997	
Yemen	1997	1991/92							
Zambia	2001/02	1996	1992						
Zimbabwe	2005/06	1999	1994	1988					

ANNEX E TERMS OF REFERENCE FOR IMPACT STUDY

Study period

The study start date should precede the start of FTI by some years in order to capture historical context and existing trends prior to FTI. The start date is (1) country specific, and (2) not a barrier as some knowledge of broader historical context. Having said that, the mid-90s may be taken as an approximate guide. In the case of the Ghana study important education reforms were initiated in 1987, and the household survey used as the baseline took place in 1998/89, so the start date was 'the late eighties'. However, research was carried out on education policies since independence to provide context, even if little of this appears in the report (the most important point was that the reforms had been first proposed by an education commission in 1971 and an unsuccessful attempt at implementation made some years earlier).

The study end date should be current date at the time of undertaking the fieldwork.

Preparation for study

A collection should be made of all available published material (books, journal articles etc.), official documents (Acts, sector policy statements), and available grey material (government and donor). The search should be extended to general policy documents which have bearing on education, such as national development plans and PRSPs. A review of the importance attached to education in the annual budget speech would be a useful exercise.

Useful tasks in organizing this material are:

- A bibliography, preferably with brief annotation
- A time line of education policy and major interventions
- A statement of the structure of the education system (including any changes over time).

A dataset should be compiled of all available data from international (and, if available, national) data source of main education trends. These data sets should include series from household surveys, such as DHS, which capture school attendance. Both national and disaggregated data should be recorded (e.g. by sex and region). It is recognized that the different data sources may not be consistent. Possible sources of these inconsistencies should be discussed (as should any issues of coverage such as nomadic populations and the private sector), resulting in a 'best guess' estimate of available trends.

The documentation and data should be used to prepare a short narrative review of the sector over the study period. Outstanding issues, or questions needing answering, may be indicated in this document.

Time required: RA for document and data collection 6-8 weeks, senior researcher 2 weeks

Identification of the scope of quantitative work

The quantitative work is potentially of four kinds:

1. Construction of factual trend analysis for main indicators

2. Analysis of the determinants of selected education outcomes, such as enrolments
3. Impact analysis of general education sector investments
4. Impact analysis of specific interventions

A first task for the study team is to define the scope of quantitative work to be undertaken.

The first two of these analyses should be undertaken for all countries. Putting together ‘best guess’ time series of sector performance measures is a contribution in its own right. This analysis should use national data, and the EMIS data (or its predecessor) where available. (Time required: Core team RA 4 weeks, in-country RA 2-3 weeks, senior researcher 2 weeks). Household datasets such as DHS have already been reviewed in the preparatory desk work (see above), and that analysis should inform the choice of dataset for this analysis.

The second piece of analysis should use an available household survey dataset, or preferably series of datasets, such as successive LSMS or DHS. However, the strength of the analysis is considerably increased by having facility data. Hence the availability of a facility survey, or at the very least a community survey, should be considered in selecting the dataset. Serious consideration should be given to the possibility of linking the EMIS to the survey data (this is a task Macro International have at least considered in some countries, so they could be consulted both on where this has been done, and the issues which have arisen in doing it). At worst district-level education measures can be used, as has been done, in some studies, which is a straightforward data merging exercise. But there is greater value in making these links at the community level, which is a more time-consuming task requiring time inputs for the agency responsible for implementing the household survey, and possibly EMIS managers. (Time required: researcher 6-8 weeks, if linking to EMIS add one week, plus 2 weeks in-country assistance).

There is an existing literature on the determinants of education outcomes, which can be drawn upon. However, attention must be paid to possible endogeneity issues for the study to be credible. The most common problem is that of program placement – schools or school improvements are put in particular areas. But also household location cannot be treated as exogenous since families may move, or send their children to relatives, in order to attend better schools, though this is more of an issue for secondary schools it should not be ruled out for basic education. If learning outcomes are modeled then there is a problem that more gifted children do better, but are also likely to get better teaching (be placed in better schools, or with better teachers, or get more attention from teachers).

The second stage of the analysis can be utilized in a way to determine the impact of selected school investments, such as school building and improvement and teacher training. Doing this requires clear identification of school location and quality in the dataset created for the preceding analysis of determinants. This analysis needs to be pushed further in terms of quantifying incremental changes in the outcome per unit change in the ‘input’, combined with cost data on providing that input, thus allowing cost effectiveness calculations. Unit cost data are not readily available, though some may be available from MDG costings and school planning exercises or if there has been a PETS, or indeed as part of the FTI-related activities. The data are best collected through a locally-commission report allowing 4 weeks, plus 2 week of researcher time for supervision and utilization of the cost data.

A fourth piece of analysis is an impact evaluation of a specific policy or program in the country, such as capitation grants or a stipend program. It is unlikely that existing general household datasets are suitable for this purpose, although this possibility should be considered. Hence such an impact evaluation will require original data collection. The time span required is 12-18 months, with a full time RA, survey team and 3-4 months of researcher time. Survey costs are US\$150-250,00 depending on country and coverage.

In summary, the study team should first define the scope of work. Options 1 and 2 are to be part of any study, and 3 should be included if at all possible. The fourth stage, which is a stand alone piece of work, should be undertaken if such a study fits into national priorities and funding is available. If the work is thought useful, the study team should first develop a proposal.

In country-qualitative fieldwork of policy influence

Senior researcher: 2 weeks, local researcher: 3 weeks, RA: 4 weeks.

Report writing

Senior researcher: 4 weeks, researcher: 3 weeks; local researcher : 1 week, RA: 4 weeks

Budget

The above work, excluding the stand-alone impact evaluation, is around US\$125,000 per country.

	RA	Researcher	Senior researcher	Total
Preparation for study	25	10	5	40
Trend analysis	50	10	10	70
Drivers of change	10	40	10	60
Linking to EMIS	15	5	0	20
Cost analysis	20	10	0	30
In country qual. f/work	50	15	10	75
Report writing	20	20	20	60
Total	190	110	55	355
Cost per day (US\$)	200	400	700	1300
Total	38,000	44,000	38,500	120,500
Total plus contingency at 5%				126,525

The stand-alone impact study of education interventions will cost around another US\$35,000 per country is using existing data, but at least US\$150,000 if new data collection is required. (The latter figure varies greatly by country).

Hence a four country package costs US\$0.5 million excluding the stand alone impact studies, around US\$0.6 million including it if existing data are used, and over US\$1 million (and very possibly quite higher) if new data collection is involved.

