Designing Targeted Educational Voucher Schemes for the Poor in Developing Countries

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March 2009

Abstract: Targeted educational voucher schemes [TEVS] are often proposed for poor children in developing countries. This article explores the design of an effective TEVS using three policy instruments: regulation, support services, and finance. The regulation design addresses the rules that must be adhered to by participating households, children, and schools. The support services design considers the complementary services for all participants and financial and political supporters. The finance design addresses the value of each voucher, total TEVS costs, and sources of finance. Overall, this article provides a foundation for evidence-based evaluations to support, modify, or oppose a particular TEVS.

Keywords: development; educational policy; international education; voucher

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1. INTRODUCTION

A key source of educational inequity in developing countries is that poor children have fewer educational choices than non-poor children (UNESCO, 2006). Specifically, the educational choices of poor children are limited to no schools, or some set combination of low-quality schools and high-cost quality schools; non-poor children's educational choices are larger as quality schools are affordable for them. A targeted educational voucher scheme [TEVS] is often proposed to remedy such educational inequities between poor and non-poor children (Levin, 2001; Patrinos, 2007). Essentially, a TEVS involves a voucher or certificate by which poor households are given the ability to pay tuition and fees at a participating public schools and non-public schools (including private schools, non-government organization [NGO] managed schools, and community-managed schools). The design feature of allowing poor households to choose non-public schools is common to all TEVS' and distinguishes TEVS' from other educational interventions (such as stipends and cash transfer for attending public schools).

TEVS advocates argue that a voucher scheme expands the poor's educational choice by including schools of high quality. Thus, advocates claim, a TEVS is an equitable intervention because it increases the educational choices of the poor relative to the non-poor. In addition, TEVS advocates contend that a TEVS makes it financially viable for non-public schools to operate schools for poor children. The arguments made by TEVS advocates are especially persuasive for urban slums and rural areas where governments have failed to provide public schools, and where non-public schools have not set up because of insufficient funds and weak financial incentives. TEVS advocates further argue that the introduction of a TEVS and the consequent competition for public funds will improve the quality of public schools. As evidence that TEVS' will work, advocates point to the rapid growth of low-cost

non-public schools for the poor in densely-populated urban slums and rural areas (Andrabi, Das, and Khwaja, 2008; Bangay, 2005; Jimenez and Sawada, 1999; Patrinos, 2006; Rose, 2005; Srivastava and Wolford, 2007; Tooley and Dixon, 2007; Nath, 2002; Nath, Sylva, and Grimes, 1999).

Despite the enthusiasm of TEVS advocates on the basis of present educational inequities and successes of certain non-public schooling initiatives, the evidence on TEVS' is limited and modest. Researchers have only documented TEVS experiences in Milwaukee, New York City, and Colombia, and evaluation results show that each achieved moderate success, with improvements in educational outcomes occurring within an ethnic group, subject, or grade. Though TEVS advocates would argue that the effectiveness of TEVS' was undermined by weak design, little is known on what constitutes a well-designed TEVS in a developing country setting.

This article explores the design of an effective TEVS in a developing country setting. The article's approach recognizes that a TEVS' design is malleable, and that there are valuable lessons to be learnt from Colombia's TEVS experience, TEVS experiences in industrialized countries (Milwaukee and New York City), and alternative educational interventions (such as conditional cash transfers and non-public initiatives).[1] Moreover, the article shall proceed as if there has been a decision to adopt a TEVS, and that the current task is to design an

[1] The TEVS' in Milwaukee, New York City and Colombia emerged in the 1990s, in response to the low quality of public education facing the urban poor; thus, the underlying basis for adopting a TEVS in all settings was to reduce educational inequities between poor and non-poor children. In terms of the size, the Milwaukee and New York City TEVs each issued less than 5000 vouchers (though Milwaukee now has around 15,000 voucher students); Colombia's TEVS issued 125,000 vouchers for secondary education, which covered about 1 percent of the secondary school age population. I focus on the conditional cash transfer schemes in Bangladesh (Food-for-Education), Mexico (PROGRESA, later renamed Opportunidades), and Brazil (Bolsa Escola, later renames Bolsa Familia); each provided poor mothers with cash or food in exchange for enrolling their children in school. The Mexican scheme has achieved much success in increasing school (Schultz, 2002); the Bangladeshi and Brazilian schemes have achieved relatively modest success in increasing school enrollment (Ravallion and Wodon, 1999; de Janvry, Finan, and Sadoulet, 2006). Different forms of these conditional cash transfer schemes continue to this present day.

effective TEVS. The framework of Levin (2002) is adopted, such that a TEVS is designed using three policy instruments: regulation, support services, and finance. Briefly, regulation refers to the rules that must be adhered to by households, children, and schools participating in a TEVS; support services refer to the complementary services for households, children, participating schools, and financial and political supporters; finance refers to the value of each voucher, total costs, and sources of finance.

Before proceeding, several points require clarification. First, this article recognizes that through its main emphasis on equity, a TEVS is but one type of an educational voucher scheme. Other types of voucher schemes (the designs of which are not explored in this article) place greater emphasis on other criteria such as freedom of choice, productive efficiency, or social cohesion (Levin, 2002).

A second point of clarification is that there is no one developing country, and that the design of an effective TEVS will vary significantly within and across developing countries. The only assumptions this article makes about developing countries are pervasive poverty, a large share of out-of-school children, limited or no educational choice, weak overall infrastructure, and severely constrained public education budgets.

Third, this article recognizes that the design of a TEVS for developing countries must expand beyond the public-private domain to remain relevant because schooling in developing countries is provided by not only public schools and private schools, but also NGO-run schools and community-run schools. Therefore, this article's focus is not strictly on educational privatization.

The last point of clarification is that this article's only goal is to examine a TEVS' design, and not to assess the arguments in favor and against a TEVS; for discussions on the merits and weaknesses of voucher schemes, see Belfield and Levin (2003), Carnoy (1996),

and West (1996). Nonetheless, it is useful to briefly describe the discussions on the merits and weaknesses of voucher schemes. Advocates claim that a TEVS provides greater freedom of choice and efficiency than the traditional system. In contrast, TEVS critics argue that the poor may not necessarily have greater freedom of choice, are unlikely to be efficient, and that a system of non-public schools undermines social cohesion. Colclough (1996) provides a general discussion on educational privatization in the developing countries. Belfield and Levin (2002) and Vawda and Gauri (2004) provide introductions to educational vouchers in developing countries. Chubb and Moe (1990), Friedman (1962; 1993), Henig (1994), Gill et al. (2001), Levin (2001), Neal (2002) give an overview of TEVS' in industrialized countries.

2. DESIGNING A TEVS

2.1 Regulations

Regulations refer to the rules or conditions that must be adhered to by households, children, and schools participating in a TEVS. A TEVS' effectiveness and sustainability depends on clear and manageable regulations. In Colombia, for example, vague and unmanageable regulations are cited as the main cause of prematurely ending the TEVS (Mayer, 2004). Similarly, a 2005 report cited widespread confusion over regulations in Brazil's conditional cash transfer scheme, Bolsa Escola (de Janvry, Finan, and Sadoulet, 2006).

Designing a TEVS using regulations initially involves determining the following: the distribution and collection of vouchers, and a TEVS' location and size. A TEVS's distribution regulations include the frequency of the distribution and the method of distribution. Regarding the frequency of distribution, Colombia's educational voucher scheme offered payments to schools three times a school year (King et al., 1997). A high frequency of distribution implies a greater effort on the part of participating households and

schools to provide evidence that all regulations are being met; thus, distributing between two and three times a year (depending on the number of semesters) is a reasonable arrangement. Another distribution issue is whether to provide the vouchers to households or schools. The advantage of providing to schools is lower cost, since the number of schools is less than the number of households; however, this arrangement would also require extensive efforts at collecting feedback from households on whether schools are effectively distributing the vouchers.

The location of a TEVS is of central concern because there may not be any public or private schools available and distant schools are not an option for households because of high transportation costs and safety risks. For example, in the urban slums of Lahore, Pakistan, local private schooling costs are high while there is no choice of local public schools because the government refuses to build schools in illegal residential areas (Shafiq, 2006). To date, major TEVS schemes in industrialized and developing countries have been restricted to urban areas—such as the TEVS' of Milwaukee, New York City, and Colombia. As discussed in the previous section, however, the poor in developing countries are responding to non-public educational interventions in densely-populated rural and urban areas. In sparsely populated areas, such as much of rural Sub-Saharan Africa and Central Asia, a TEVS' appropriateness depends on it attracting new non-public schools in those areas or if there are adequate transportation facilities for participating children to other villages with non-public schools.

2.1.1 Regulations for households and students

For children and households, TEVS regulations include determining the eligibility based on socioeconomics status, age, grade level, schooling history, gender, academic

standards, and special education needs. Though a TEVS is an intervention designed for poor children and households, clear regulations are necessary to determine what "poor" is. The task of identifying the poor is relatively simple in a poor area, such as an urban slum. Identifying the poor becomes challenging if the poor reside in the same areas as the non-poor, such as most cities; in such cases, the collection of socioeconomic data from all households is arguably a necessary and costly step. One alternative to data collection for determining socioeconomic status is for TEVS planners to assume that children that previously attended private schools belong to a higher socioeconomic group, and should therefore be excluded; though Colombia's former TEVS followed this approach (King et al. 1997), it is advisable to not exclude children who have attended private schools which cater to the poor.

Among poor households, the education of girls and children with special needs is frequently neglected in the developing world (UNICEF, 2005). In a recent report, Lewis and Lockheed (2006) estimate that poverty and other cultural, religious and social barriers are responsible for sixty million girls not being in school. To address pro-male gender gaps in education, a TEVS' design can include a regulation to provide more vouchers for girls than boys.

Given a TEVS' inherent emphasis on equity, it is natural to include regulations that allow the participation on children with mental and physical disabilities. For example, court orders required that the Milwaukee and New York City provide vouchers to poor children with special needs. Since special education is prohibitively expensive for poor households, a TEVS can make a significant difference in increasing enrollment rates among poor children with special needs. Accordingly, TEVS staff will have to initiate collaborations with special education centers.

A central child regulation of TEVS participation is the age-group of participating children. Determining the ages of participating children is likely to problematic because poor households may not have birth certificates and may be unable to recall birth dates; in such cases, TEVS staff may have to accept the testaments of parents. To avoid household data collection and cut total costs of interviewing households, a TEVS can delegate the verification duties to participating schools.

The effectiveness of a TEVS depends on increased enrollment rates of poor children, and that these children meet the academic standards at schools. Thus, a TEVS should include minimum attendance and performance regulations for TEVS children; the renewal of vouchers to TEVS children would be conditional on the children meeting these minimum standards. It is important to not penalize schools if TEVS children do not meet minimum standards; otherwise, schools will have the incentive to refuse entry or (if enrolled) inflate the performance of poorly-performing TEVS children. Likewise, punishing TEVS children who do not meet performance standards is inequitable because the poorest are most likely to fail.

A TEVS design should include a regulation for cases where the number of voucher applicants exceeds the number of available vouchers. The regulation could call for randomly accepting applicants; the advantage of this approach is that the costs of administering the lotteries are low; the disadvantage of a lottery is that it may deny vouchers to the neediest children. Alternatively, a TEVS can give priority to girls, children from the poorest households, or placing limited on vouchers per household; however, there are administrative costs associated with this criteria-based approach.

Finally, a regulation on voucher no tradability prevents voucher participants from selling the vouchers in the black market. In addition to clearly communicating the regulation on non-tradability to participants, each voucher should include features such as an official

seal, the participating child's photograph, and a laminated cover.

2.1.2 Regulations for schools

For schools, TEVS regulations include determining quality standards, curriculum, and religious affiliation. Since a central goal of a TEVS is to provide poor households with better quality educational choices, a TEVS requires a regulation on the quality of participating schools. Such regulations for participating schools can include the provision of ventilated class rooms, protection from the weather, latrines, seating, supplies, and qualified teachers. There is evidence that poor households reject TEVS participation if the quality of participating schools is inadequate. In the Milwaukee TEVS, for example, approximately 30 percent of the choice students left the participating private schools each year partly because of dissatisfaction with participating private schools (Witte, 2001). To check that schools are following TEVS quality regulations, TEVS staff can perform unannounced inspections to schools.

Facing a fixed and limited budget but large numbers of out-of-school children, a TEVS' design has to prioritize by grade-level. Schools charge more for secondary education than primary education, which (if a TEVS' budget is fixed) implies that the tradeoff of issuing vouchers for secondary education is much fewer vouchers for primary education. Given that the policy urgency on raising enrollments in primary education in developing countries (UNESCO, 2006), a TEVS' design may prioritize issuing vouchers for primary education; if there are leftover funds, then vouchers for secondary education may be issued.

Several scholars have addressed the social cohesion implications of non-public schools (Arnove, 1997; Samoff, 1990). In the case of a TEVS, the concern would be that participating non-public schools may not prepare students for participation in the social,

political, and economic institutions of society (Belfield and Levin, 2002). To support the social cohesion purposes of education, a TEVS may require that participating private schools' curriculum include mathematics, sciences, language, history, and perhaps moral or religious studies. To remain socially relevant, a TEVS may also encourage participating private schools to tailor curriculums for the circumstances facing the targeted children. For example, TEVS schools catering to urban slum children may place greater emphasis on sex education because urban slum children face greater vulnerability to coercion into sexual activity (Mugish, 2006). Similarly, TEVS schools in rural areas may offer lessons in agricultural education. Since poor populations rarely have access to clean water, curriculums incorporating health education, such as handwashing and point-of-use water treatment may reduce diarrhea and improve TEVS participation (Zwane and Kremer, 2007).

Regulation on the participation of religious schools is a sensitive issue because of concerns over social cohesion. In the Milwaukee and New York City TEVS', for example, only secular private schools were initially allowed to participate; eventually, court orders allowed religious schools to participate (Rouse, 1998). In pre-dominantly Muslim countries, allowing the participation of religious schools is certain to raise serious social cohesion concerns (Hefner and Zaman, 2007). If Islamic schools are allowed to participate, a TEVS may struggle to find political and financial support, especially from international donors and organizations. In secular democracies, a TEVS can perhaps include religious schools provided that the schools meet all other regulations (especially curriculum regulations), support services, and finance design aspects, and not proselytize students.

A potentially distressing scenario is when a TEVS school hikes up its tuition and fees after enrolling a TEVS child. If the hike is such that the new tuition and fees are significantly greater than a voucher's value, then many TEVS households and children will be forced to

drop out. To avoid such a scenario, a TEVS can require all participating to schools to not raise tuition and fees during an academic year. Under exceptional and legitimate circumstances, a TEVS can prevent a tuition and fee hike by offering grants or loans to the troubled schools.

Since the poorest children are typically less-able and costliest to educate, TEVS schools—particularly profit-maximizing schools—have an incentive to only select able applicants and reject the rest. Aside from the profit-maximization incentive, concerns of negative peer-effect or biases from the parents of non-TEVS-students may pressure participating schools to reject poor children. In addition to setting regulations against the discrimination of children from the poorest households and marginalized groups, a TEVS may offer financial bonuses to schools that serve the children from the poorest households and marginalized populations.

2.2 Support Services

Designing a TEVS using support services involves the provision of services that enable all households, children, and schools to participate fully in a TEVS. Specific support services include the provision of supplies, transportation, information, outreach, and evaluation.

Since participating households are especially poor, a TEVS may consider the provision of learning-related inputs such as textbooks, workbooks, writing supplies, and uniforms to participating households. Textbooks, in particular, are recognized as a highly cost-effective method of improving student achievement in developing countries (Farrell, 1993). A TEVS can designate to schools the ordering and distribution of the inputs to schools because requirements vary for each school. Periodically, a TEVS may collect and

check the receipts of purchase and distribution records from schools.

In addition to providing the familiar provisions, experiences from Mexico's conditional cash transfer program and Kenya's school site de-worming services indicates that the periodic provision of very basic health services can have an enormous impact on children's TEVS participation (Gertler, 2004; Miguel and Kremer, 2004). These treatments, along with basic vaccinations and nutrients are highly cost-effective methods of improving enrollments, attendance, and performance of TEVS children.

A particularly desirable support service is the provision of transportation. TEVS experiences from the developing and developed worlds indicate that transportation costs discourage poor households from TEVS participation (Belfield and Levin, 2002). For example, even former TEVS households in New York City—an area with impressive and affordable public transportation systems—have cited transportation costs as a main reason for dropping out of the TEVS. Given the worldwide teacher shortage problems in poor areas (Siniscalco, 2002), a TEVS in a developing country can also offer transportation to teachers and school staff. The specific transportation arrangement for students and teachers can either involve providing participating schools additional funds to arrange for transportation services, or contracting with a transportation company to serve TEVS participants.

All of a TEVS' design and effectiveness hinges on the extent to which a TEVS provides clear and easily accessible information to participating households and schools. The information should regulations, other support services, and finance (to be discussed). Providing information to households, however, is challenging because participants are often illiterate and may not own radios and televisions. Accordingly, a TEVS must appoint counselors to explain all the relevant information to households. Counselors may also settle conflicts between participating households and schools. For example, households may

complain of unfair dismissal, discrimination against their children. Also, households may also complain about teachers withholding instruction to ensure a demand for after-hours private tutoring services (Bray, 1999). Schools may complain of lack of cooperation from households. A TEVS must therefore provide conflict resolution services so that mutually beneficial arrangements are made and participating children succeed in school.

The provision of information to schools is also necessary. Since large shares of children in the developing world are not in school, a TEVS would require new private schools to enter and existing schools to expand in order to accommodate the increased enrolment. Accordingly, a TEVS must provide new and existing schools with information on regulations, other support services, and finance. Information can be provided to participating schools though workshops and manuals. In addition, a TEVS must make formal arrangements with local governments to facilitate the entry of new schools and expansion efforts of existing schools.

The sustainability of a TEVS depends on outreach, funding, and evaluation efforts. To garner political and financial support, a TEVS must have an outreach staff and fundraising staff dedicated to building liaisons and raising funds. These efforts will have to be directed at the public education system, public teacher unions, and the sources of finance: the central government, local government, NGOs, international organizations, donors, and local businesses. Presumably, the public education system and teacher unions will discourage all support for a TEVS on the grounds that funds will be diverted away from public schools. Resistance from the public education system and unions can persist even if new funds are introduced, if it is argued that TEVS funds can instead be used to improve the quality of public schools and create interventions that increase demand for public education. For example, the conditional cash transfer schemes of Mexico and Bangladesh attracted political

and financial support during expansion because the schemes supported the public education system and teachers. In contrast, the large Chilean voucher scheme (targeting all households and children, regardless of socioeconomic status) was able to incorporate private schools because its then-dictator General Pinochet dismantled and abolished powerful public teacher unions. A small TEVS, however, need not require the support from the public education system and teacher union because the stakes are low. For example, New York City's TEVS of fewer than 5000 vouchers was financed by private sources, and hardly a threat to the public education system and public school teachers. Overall, the more ambitious the size and features of a TEVS, the greater the perceived threat to the public education system and teacher unions, and the stronger and costlier the necessary outreach and fundraising efforts.

Periodic scientific evaluations of a TEVS are valuable to identify problems in a TEVS' design. Evaluations also allow cost-effectiveness comparisons between a TEVS and alternative educational interventions. Positive evaluation results are useful for convincing present and perspective funding sources. Indeed, systematic and objective scientific evaluations are increasingly becoming the basis for financial and political support (Duflo, 2004). For credibility, the evaluation should be carried out by a non-partisan group with an understanding of sophisticated evaluation methods, such as researchers from local universities.

2.3 Finance

Designing a TEVS using finance involves determining the following: the monetary value of each voucher; the total monetary value of all vouchers taken up in a TEVS; all costs associated with regulating and supporting a TEVS; and the sources of finance. A TEVS' total costs is the sum of the monetary value of all vouchers issued (the average monetary value of

each voucher multiplied by the number of vouchers that are taken up by households) and the costs of regulating and supporting a TEVS. The specifics of finance design are discussed in the remainder of this section.

The main purpose of a TEVS is to compensate the direct costs of schooling for the poor. A larger compensation for direct costs (such as tuition, fees, books, and supplies) implies a larger value of each voucher. Research shows that the value of each voucher is a key determinant of participation in a TEVS. Specifically, poor households avoid TEVS participation if the voucher value is less than the typical direct cost of available schooling (Belfield and Levin, 2002). Thus, a TEVS' voucher should cover the average direct costs of schooling facing poor households; at the very least, the average voucher value should be such that households are able to afford the cheapest available schooling option. A larger voucher value implies greater choice of schools for poor children and households. If a TEVS is designed for multiple regions, then the issue of educational cost differences across regions will arise. It can be argued, for example, that voucher values should be greater in urban areas than rural areas because urban schools are costlier. A TEVS may therefore vary the value of a voucher by region. Lastly, the value of the voucher will have to be periodically updated to account for inflation.

The direct costs of some schooling choices will exceed the voucher value. To accommodate TEVS households that prefer costlier schools, a TEVS can include an add-on feature that allows households to pay the balance if the costs exceed the voucher value; without an add-on feature, choice is restricted to schools that charge an amount that is equal or less than the voucher value. The advantage of an add-on feature is that it permits households to choose schools where the tuition and fees exceed the voucher value—thereby increasing the choice of schools. The main disadvantage of an add-on feature is that greater

educational choices only apply to less-poor households; the poorest households cannot afford to add-on and therefore have the least educational choice. Another disadvantage of an add-on feature is that it creates an incentive for private schools to raise tuition and fees, which increases the financial burden for TEVS households.

An ambitious TEVS may consider compensating for both the direct costs and the indirect costs of schooling (that is, foregone child labor earnings) because poor households struggle to survive without child labor earnings. No TEVS' have attempted to provide compensation for indirect costs, either because of child labor is uncommon (as in the case of developed countries). The great challenge in providing indirect cost compensation is that indirect costs are significantly greater than direct costs (Bennell, 1996); for example, the ratio of indirect costs to direct costs in rural Bangladesh is 11:1 (Shafiq, 2007). Thus, a TEVS that is designed to provide full compensation for indirect costs can raise total costs enough to seriously compromise the size of a TEVS. One solution is for TEVS' to offer partial compensation for indirect costs, following the design of Bangladesh's and Mexico's conditional cash transfer schemes. Evaluation results from rural Bangladesh suggest indirect cost compensation encourages school enrollment, but have little effect on child labor practices (Ravallion and Wodon, 2001). In rural Mexico, however, indirect cost compensation reduces child labor (Schultz, 2004).

A key dilemma in designing a TEVS is that the costs associated with an effective design jeopardizes its size. Regulations on all participants are costly to support and enforce. Indeed, excessive regulations increases the operating costs for schools forces them to raise tuition and fees; consequently, a TEVS will have to readjust the voucher value to cover the increased direct costs, resulting in even higher total TEVS costs and fewer vouchers. In particular, the provision of special education will result in drastically fewer vouchers because

the per-child costs of special education are considerably greater than the cost of non-special education (these costs are even larger if rural children with special needs are compensated with room and board for attending urban special education schools). Similarly, generous provision of support services such as supplies, transportation, schools-site health care, information, conflict resolution, and outreach and fundraising activities raise costs. Finally, from a finance perspective, greater compensation of indirect and direct costs raises a TEVS' total costs.

The twin issues of effectiveness and costs draw attention to a TEVS' cost-effectiveness relative to the existing educational system and alternative educational interventions (such as conditional cash transfer schemes, scholarships, and building and improving public schools). Indeed, the sustainability and growth of a TEVS depends on its ability to main cost-effectiveness relative to the existing and alternative arrangements. In a simulation exercise, Levin and Driver (1997) suggest that the costs and effectiveness of a voucher system may not always be superior to the existing educational system. Regardless of a TEVS' educational effect, a shift from the prevalent system of state finance and governance of education to one based upon educational vouchers will require profound transformation of institutions required to support the school system, therefore resulting in large initial costs. Levin and Driver indicate that the real issue is not costs, but whether the benefits of a TEVS relative to the existing system (in terms of educational results) are justified by the additional costs. Unfortunately, this issue cannot be addressed because cost-effectiveness studies of TEVS, existing educational systems, and alternative educational interventions in developing countries are rare (Levin and McEwan, 2001).

The financing of a TEVS can come from one or more of the following sources: the central government, local governments, NGOs, community organizations, local businesses,

and international donors and organizations.[2] A smaller TEVS, such as the New York City TEVS of 5000 vouchers, can be supported by private donors. In a developing country, where most children are poor and governments are severely constrained, a TEVS must aggressively seek financing from multiple sources. This brings us to the final design element of a TEVS: its size (in terms of the number of vouchers issued). Since the objective is an effective TEVS, its size depends on the corresponding costs (of regulation, support services, and finance designs) and the available budget.

3. DISCUSSION

In cases of low quality public schools and costly non-public schools, a TEVS for poor households and children may be a suitable intervention for reducing inequities in educational outcomes. In effect, a TEVS provides the poor with the funds to afford quality non-public schools, and makes it financially feasible for new and existing non-public schools with the financial motivation to serve the poor. This article supposed that a TEVS has been adopted, and that the task at hand is to design an effective TEVS for the poor in developing countries. Accordingly, this article examined the regulation, support services, and finance designs.

The regulation designs address a TEVS' distribution method, location, and eligibility regulations for children and schools. Regarding distribution methods, periodic distribution (perhaps once each semester) via schools is cost-saving. Rural areas and urban slums typically contain large numbers of poor, so TEVS' for such locations are appropriate; targeting mixed areas (for example, typical urban areas), however, imply greater costs associated with

[2] International organizations and donors include multilateral and bilateral organizations. Multilateral organizations include the Asian Development Bank [ADB], African Development Bank, Inter-American Development Bank, UNESCO, UNICEF, and the World Bank. Bilateral organizations include Canadian International Development Agency [CIDA], United Kingdom Department for International Development [DFID], and United States Agency for International Development [USAID].

identifying the poor. Setting age-group and educational background regulations for children are also problematic because poor households may be unable or unwilling to provide adequate documentation. Issuing more vouchers to girls than boys is particularly appropriate in settings where pro-male educational gender gaps persist. The inclusion of minimum academic performance regulations for children is intuitive but problematic because it works against the very poorest children (who are least likely to meet the performance regulations). The provision of special education is desirable given a TEVS' equity goals, but will either significantly raise a TEVS' total costs or drastically reduce the number of non-special education vouchers, or both. Other regulations for children include assigning vouchers randomly or to the neediest children (in case of excess demand for vouchers), and ensuring that vouchers are not tradable.

TEVS regulations for participating schools address educational quality, curriculum, tuition hikes, discrimination, and religious affiliation. Minimum school quality regulations are consistent with TEVS' mission of providing superior quality non-public schools. Regulations on curricula and religious affiliation ensure that the private and social goals of education are being met. It is also useful to include regulations to protect TEVS children from tuition hikes and discrimination.

The support services designs address provisions for participants, outreach, fundraising, and evaluations. Providing supplies, school-site health care, information, transportation, and conflict resolution for poor children and households significantly aids their participation. Similarly, the provision of information, transportation, and conflict resolution services assists the participation of schools. Finally, support services in the form of outreach, fundraising, and evaluations are valuable for securing funding and ensuring a TEVS' sustainability.

The finance designs included covering the direct costs facing households, providing an add-on feature for households, offering partial compensation for children's indirect costs, and evaluating a TEVS on the basis of its cost-effectiveness. It is essential that the value of a voucher is such that it covers the direct costs of a typical quality schools. Including an add-on feature for households, however, raises equity issues because relatively richer TEVS households will have greater educational choice. Offering full compensation for indirect costs is highly impractical because foregone child labor earnings are significantly larger than direct costs; however, offering partial compensation is an option.

The effectiveness and cost-effectiveness of any educational intervention depends critically on its design. Little is understood about TEVS design in developing countries, resulting in weak evaluations and debates that are dominated by ideology rather than evidence. This lack of understanding ultimately deprives poor households and children of educational opportunities—a detrimental outcome for both advocates and opponents of TEVS' who are united in improving educational opportunities for the poor. By providing the design details of TEVS' in a developing country setting, this article hopes to provide advocates and critics with a clearer foundation for evidence-based evaluations to support, modify, or oppose a particular TEVS.

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