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Decentralization in Education:
An Economic Perspective

Donald R. Winkler

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Evaluating decentralization in terms of three economic criteria — social efficiency, technical efficiency, and equity — the author argues that some decisionmaking (about finance and teacher recruitment) should be provided for at the local level, and some (about school organization and curriculum) at the regional level.

A system of central government grants should be used to correct problems of equity and inefficiency inherent in a decentralized system.

Little is known about the economic and educational consequences of decentralization, despite a wide variety of country experiences. The effects of decentralization are difficult to isolate, so scholars have focused instead on issues of implementation.

Decentralization policies are most successfully implemented if:

- There is a tradition of self-reliance in local communities.
- Local governments or communities have their own sources of tax revenues and voluntary contributions.
- The pressure for decentralization originates in the community rather than with ministry planners.
- All important affected political groups, especially teachers, are involved in and informed about the development of decentralization plans.
- Administrative capacity at the local level either exists or is provided through training.

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Decentralization in Education: An Economic Perspective

by
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Summary

Educational decentralization policies have been adopted or are under consideration in a number of the developing countries. Educational development projects inevitably have some impact on the degree of centralization in education. These facts provide the rationale for a critical assessment of decentralization and an evaluation of developing countries' experience. This paper defines educational decentralization, presents economic criteria for evaluating decentralization policy, assesses the results of decentralization policies, discusses factors which influence successful implementation of decentralization, and makes recommendations for further research to guide Bank lending policy.

For the purposes of this paper, decentralization policies will be categorized as those which: (i) delegate decisionmaking to autonomous, public entities, (ii) deconcentrate decisionmaking to subnational directorates of the central government, and (iii) devolve decisionmaking to local governments or community organizations. Devolution receives the most critical attention in this paper.

The degree of centralization in educational systems typically varies with the decisionmaking areas, including school organization, curriculum and teaching methods, examinations and supervision, teacher recruitment and compensation, finance of recurrent expenditures, and school construction and finance. The desirability and feasibility of decentralization in these areas depends on the structure of government finance, political environment, government and administrative structure, and the historical and cultural context. Given these conditions, economic criteria can be used to evaluate decentralization plans.

Three economic criteria are used to evaluate decentralization -- social efficiency, technical efficiency, and equity. These criteria argue for some decisionmaking areas (finance, teacher recruitment) provided at the local level, with other areas (school organization, curriculum) supplied at the regional level, and a system of central government grants to correct some of the efficiency and equity problems inherent in a decentralized system.

Little is known about the economic and educational consequences of decentralization, in spite of a wide variety of country experiences. The effects of decentralization are difficult to isolate, and scholars have instead focused on implementation issues. Decentralization policies are most successfully implemented if there is a tradition of self-reliance by local communities; if local governments or communities have their own sources of tax revenues and voluntary contributions; if the pressure for decentralization originates with the community rather than ministry planners; if all important affected political groups, especially teachers, are involved and informed about development of decentralization plans; and if administrative capacity at the local level either already exists or is trained.

I. Introduction

In recent years there has been renewed interest by countries, international aid organizations, and scholars in decentralization of government, including public education. Countries on every continent have either considered or attempted to implement some form of educational decentralization. In 1972, Peru established regionalized directorates and community nuclei to reduce bureaucracy and incorporate disadvantaged groups in society. In 1974, the Philippines established thirteen regional offices of the Ministry of Education to undertake regional planning and administration. In 1977, Nigeria modified its constitution to establish local governments, whose main function is provision of primary education. And, in 1980, Chile instituted the most radical decentralization policy to date, assigning the responsibility for elementary and secondary education to municipalities, along with local revenue sources to support them.

International aid organizations have, by and large, been supportive of such decentralization policies. The United States Agency for International Development (USAID) has generally favored strong community involvement in educational planning (see Korten and Alonso, 1981), and a recent director of the Agency strongly supported decentralization efforts. UNESCO has generally favored decentralization as one means of incorporating marginal groups in public decisionmaking and improving the quality of services they receive (see the 1982 UN Report). The World Bank has no official position on educational decentralization but has generally been sympathetic to decentralization efforts (see the 1983 *World Bank Development Report*).

Finally, scholars have repeatedly studied the decentralization phenomenon, recently with an emphasis on both political motivation for and the implementation of decentralization efforts. The scholarly interest of the 1980s is in contrast to scholarly articles of the 1950s, which expressed most interest in decentralization and establishment and strengthening of local governments as a means towards democratization (see Conyers, 1984). Scholarly interest parallels government interest in decentralization in those two time periods. During the 1960s and 1970s scholars and countries were more interested in central government planning, including educational planning, and implications of such planning for centralized control of resources. The implications of planning for centralization were complemented by African independence and resulting efforts to eliminate colonial influences through the nationalization of schools. Ironically, colonial administrative structures were used to implement such centralization policies.

Rationale for Decentralization

Countries may adopt decentralization policies for a variety of reasons, some explicitly expressed in policy statements, some of which are only implicitly revealed through administrative actions. The rationale for educational decentralization can be grouped into three broad categories: (i) educational finance, (ii) efficiency and effectiveness, and (iii) redistribution of political power.

Financial arguments for educational decentralization are a recent phenomenon. The proportion of school-age children enrolled in primary and secondary schools has grown rapidly over the past two decades, and educational expenditures have grown rapidly as well. Central governments now find themselves facing severe fiscal constraints to continued expansion of educational opportunities. Hence, shifting part of the burden for support of primary and secondary education to subnational units of government, to community and voluntary organizations, and to parents has become an increasingly attractive alternative. The form of shifting advocated in decentralization plans varies with a variety of country characteristics, including the form of government, colonial administrative heritage, and traditions of community involvement.

Efficiency arguments for decentralization typically focus on the high unit costs of primary and secondary education provided by the central government. One explanation for such high costs is inadequate national government capacity to administer a centralized educational system. Another explanation is the costs of decisionmaking in a system where even the most minor local education matters must be decided by a geographically and culturally distant bureaucracy in the capital city. Yet another explanation is the frequent application by education ministries of national standards for curriculum, construction, teacher quality, etc., thereby preventing cost savings through adjustments of educational inputs to local or regional price differences.

The effectiveness rationale for decentralization argues that the centralized planning policies popular in the 1960s have resulted in expensive education, which is decreasing in quality. After independence, many countries (e.g., Guyana) nationalized and centralized

their educational systems and established free education as a right. Given current fiscal constraints, such a policy can continue to be followed only with decreasing educational quality. Administration and accountability can be improved in education, it is argued, by making schools more responsive to parents and local communities and eliminating the need for central government decisions on local educational matters. These arguments are buttressed by evidence of greater cost-effectiveness in the private sector. In Senegal, for example, unit costs are higher and exam pass rates are lower in public than private, religious schools.

An example of these arguments for decentralization is given in the sixth five-year plan of Pakistan:

> The nearly comprehensive nationalization of educational institutions and the accompanying policy of free education ten years ago had at least two casualties. An already impoverished Government was landed with a large financial burden which restricted it from expanding education. And many of the schools of high quality, some of them run by education-conscious communities, lost their excellence under the public control. This, in both quantity and quality, was counter-productive. (Government of Pakistan, *The Sixth Five-Year Plan, 1983-1988*, Planning Commission, Islamabad, pp. 318-319, as quoted in Jimenez and Tan (1987).)

Redistribution of political power is rarely stated as an objective of decentralization, but democratization or inclusion of marginal groups in society is a frequently stated goal. An example is the 1972 Peruvian educational reform which explicitly attempted to include Indians and other disadvantaged groups in education decisionmaking. McGinn and Street (1986) argue that redistribution of political power is the primary objective of decentralization. With that as the objective, decentralization may be undertaken to empower those groups in society which support central government policies or to weaken groups posing obstructions to those policies. Thus, decentralization in Mexico has served to reduce the power of the teachers union by transferring salary negotiations from the central to the state government level. From this perspective, decentralization is less concerned with the transfer of power from one level of government to another than it is with the transfer of power from one group to another. And, ironically, one consequence of decentralization may be to increase the effective control of the central government, or at least that of key decisionmakers within the central government.

Questions to be Answered

This paper does not deal further with the issue of why countries choose to decentralize. Rather, the focus here is on whether decentralization is wise educational policy. Examination of this issue requires that a number of specific questions be answered. Among the questions requiring answers are:

- What is meant by the term decentralization? What, specifically, does it mean in the context of public education?
- What kinds of decentralization are in fact undertaken by developing countries?
- What is the desirable level of centralization or decentralization from an analytic perspective? How is the answer to this question affected by the economic, political, and administrative institutions of most developing countries?
- Typically, there is divergence between stated goals and actual outcomes of government policies. What are the political, economic, and educational consequences of decentralization?
- Decentralization itself leads to problems. What is the central government's proper role in correcting those problems in a decentralized educational system? Which factors appear to most strongly influence successful implementation of decentralization policies in terms of stated goals?
- Finally, after reviewing the literature on educational decentralization, what is the status of our knowledge? And what should the priorities be for further research and study on the subject?

The term decentralization has several definitions, as shown below, but most commonly it refers to the devolution of some degree of decisionmaking power to the local government or community organizations. Unless stated otherwise, this is the definition used in this paper.

II. Definition of Decentralization

Centralization-decentralization can be viewed as a spectrum ranging from a unitary governmental system where the central government has most power or decisionmaking authority to a governmental system where local governments and community organizations exercise large amounts of power. The ultimate centralized system is one in which all decisions are made in the nation's capital, and the ultimate decentralized system is one where all decisions are made by individuals, community organizations, and small local governments.

Definitions

Since most countries are relatively centralized in terms of public decisionmaking, most policy discussion concerns alternative means of decentralizing, not centralizing. Four types of decentralization are typically identified in the literature (Rondinelli, 1984): deconcentration, delegation, devolution, and privatization. If successfully implemented, each of these types of decentralization results in a unique system for financing and for delivering education. In what follows, I will attempt to define these terms and give examples of educational systems corresponding to each type.

Centralized Decisionmaking

In a centralized governmental structure, education is financed and managed from the center. The nature of education is such that some decisionmaking power must be given to school teachers and administrators, but typically they can make only the most routine decisions and have no or little control over resource allocation in the schools. An example of a centralized country is Cameroon, where almost all educational revenues are derived from central government revenues (excepting some fees in former Anglophone provinces), and the central government determines curricula, sets and evaluates exams, and recruits, assigns and promotes teachers and administrators. There are administrative representatives of the Ministry of Education outside the capital city, but their fiscal and decisionmaking independence is very small.

Delegated Decisionmaking

Delegation is the transfer of government tasks or functions to autonomous organizations such as public corporations and many regional development agencies, which may then receive public funding and are ultimately accountable to the government. The most commonly delegated areas in the education sector are vocational and higher education. Autonomous training agencies, such as SENA in Colombia and SENAI in Brazil, have been established in a number of developing countries. These agencies typically are assigned a general task (e.g., vocational training), given an independent source of revenue (often an earmarked payroll tax), and report to a board of directors rather than any particular minister. Similarly, universities are often autonomous bodies which receive direct funding from the government but are subject to little direct control.

Examples of delegation in elementary-secondary education are not readily found. In Lesotho most elementary education is delegated to the churches, with teacher salaries paid by the government; this pattern was not uncommon elsewhere in Africa prior to independence. In other countries, it is not uncommon for the government to pay all or some portion of teacher salaries in religious schools, even when public schools exist as well. Examples are Papua New Guinea, where teacher salaries in religious schools are paid by the government, and Paraguay, where some teachers in religious schools receive pay from the government (Winkler, 1980).

Deconcentrated Decisionmaking

Deconcentration refers to the transfer of authority to lower levels within central government agencies. Often this takes the form of creating or expanding powers of regional directorates. This has been an especially common form of decentralization in Latin America. Among the countries which have established regional directorates of the education ministry are Peru, Colombia, Chile, and the Philippines. These directorates vary in power, but they often have the responsibility of supervision and planning for the region.

Devolved Decisionmaking

Devolution implies the creation of autonomous and independent subnational units of government, which have authority to raise revenues and spend. Devolution may result in a strong central authority and community-financed and managed schools. It may, also, result in a federal form of government in which general purpose regional or local governments have re-

sponsibility for the finance and provision of elementary and secondary education. The similarity between devolution and federalism is demonstrated by a popular economic definition of federalism:

> A public sector with both centralized and decentralized decisionmaking in which choices made at each level concerning the provision of public services are determined largely by the demands for these services by the residents of (and perhaps others who carry on activities in) the respective jurisdiction. (Oates, 1972)

There are a number of examples of federalism among developing countries including Brazil, India, Malaysia, Nigeria, Pakistan, and Papua New Guinea. In each of these countries decisionmaking authority is divided between the central government and regional governments. Local governments, also, typically exist in some form, but in most countries their power and authority is determined by the regional government; furthermore, regional government is often highly centralized, even in a decentralized, federal system.

Elementary and secondary education may be devolved to regional governments, local governments, or both. In India, education was devolved to the state governments in the constitution of 1950, although the central government still plays an important role in determining the size of revenue transfers to the states for education. Primary and secondary education have also been devolved to the provincial level in Papua New Guinea. On the other hand, primary education is devolved to local government in Brazil and Nigeria, while secondary education is largely the responsibility of the regional or state governments. In Brazil, the organization of primary education varies by state, but in most states there exist parallel local and state primary school systems with local schools funded largely from local government revenue sources and state schools funded by state revenue sources; both school systems also receive some transfers from the central government. In Nigeria, the local government is responsible for managing primary schools and providing revenues for school construction and materials and supplies, but most operating revenue comes from state government transfers, and state revenues in turn are largely derived from the central government.

The Eclectic Model

Some countries do not fit well any of the descriptions given above. In particular, some countries have centralized and nationalized systems of primary education but decentralized systems of secondary education, in large part because the central government does not have sufficient revenues to fully fund secondary education. Both Kenya and Indonesia, for example, have free, nationalized primary education and more decentralized provision of secondary education. For example, in Kenya the central government has established conditions to foster development of community-based ("harambee") and financed secondary schools, but such schools will probably be nationalized or managed and financed by the central government as the central government budget permits.

An important feature of the eclectic model is the parallel existence of several types of schools. For example, in Kenyan secondary education, one finds central government schools (23 percent of the total), community "harambee" schools (50 percent), and subsidized community or private schools (21 percent) (Ayot and Lillis, 1985). Another feature of this eclectic model is government subvention, usually in the form of teachers salaries, of education provided by private, usually religious, schools. In some cases, subventions may cover almost the entire cost of teacher compensation, yet management lies with the private school. For example, in Indonesian secondary education one finds a combination of government schools (56 percent of the total) and private schools (44 percent), with the private schools receiving significant government subventions (20 percent of total compensation costs) in the form of payment of teacher salaries. In addition, even students in Indonesian government schools pay sizeable enrollment fees, constituting as much as ten percent of recurrent expenditures (Meesook, nd).

Another version of the eclectic model is, in principle, the educational system which has centralized decisionmaking but which has many of the characteristics of decentralized systems: salary scales which vary by location, local provision of some educational services through contracts with the central government, and substantial community input to local school finance without commensurate local control. In practice, systems with centralized decisionmaking rarely permit these characteristics to exist.

Measures of Decentralization

A measure of decentralization would ideally measure control or decisionmaking authority. One plausible measure of control over resource allocation is the percent of expenditures born directly by users and local (or regional) government. Three problems exist with this measure. The first and most serious is that central government regulations and mandates on subnational units of government may result in those units having very little control over resource allocation

or spending in spite of seemingly high direct financial contributions to education. For example, if the central ministry of education mandates class size and teacher salary, which represents a high proportion of recurrent expenditures, the subnational government may have control over very few resources.

A second problem has to do with the treatment of central government transfers to subnational governments. Subnational units of government may receive transfers in the form of block grants, categorical education grants, and earmarked tax revenues. If such transfers are relatively stable over time, they may be *de facto* own-source revenues of the lower unit of government; this is especially true if the transfers are fungible such that the lower unit of government can in fact use a special grant for general purposes. But if the magnitude of, say, earmarked revenues varies with political and educational conditions, such revenues may be *de facto* central government revenues, in spite of the fact that government accounts show them being directly distributed to the lower units of government.

A third difficulty is that the degree of fiscal decentralization is determined not only by the proportion of funding directly provided by lower units of government but, also, by the number of lower units of government. Other things equal, the larger the number of units of government, the more control local citizens have over resource allocation decisions in their local schools.

An alternative measure of decentralization would more directly reflect the distribution of decisionmaking authority. This measure would reveal the degree of central government control over major kinds of educational decisions: curriculum, construction and construction standards, teacher assignment and pay, etc. Decisionmaking with respect to the various educational functions is discussed in more detail later.

Regional versus Local Autonomy

Educational decisions can be made at several levels -- national, regional, local, the school or school district, and the family. Decentralization refers to the decisionmaking authority of subnational units of government, but quite clearly decisionmaking by regional governments in India is quite different from decisionmaking by the community in the "harambee" schools of Kenya. Furthermore, there may be conflict between decentralization at the regional and the local levels. In Chile, for example, municipalization of education came at the expense of the regional directorates, which were established earlier (Magendzo and Egana, 1985). In India, the 1950 constitution assigned elementary and secondary education as a responsibility of the state governments, and the local government contribution to education has consequently declined over time (Tilak, 1984).

The rationale for decentralization may differ markedly depending on the level to which educational decisionmaking responsibilities are assigned. Decentralization to the regional level is most frequently undertaken for reasons of administrative convenience (as in Latin America) or to appease subnational cultures (e.g., India and Papua New Guinea). Decentralization to the local level is more commonly undertaken as a means of democratization and increasing citizen participation, especially of ethnic or disadvantaged minorities, and as a means of stimulating larger financial contributions by the community.

In most developing countries, local governments have relatively little independence. Even among federal countries, constitutions rarely specify the powers of local governments (Brazil and Nigeria are exceptions); most constitutions spell out only relations between the regional and central governments and leave the assignment of local government powers, to the regional government. In fact, it's not clear that local governments have any more power in federal than unitary systems. Local governments are frequently dependent on regional governments for some services, the pass-through of some central government grants, approval of tax increases, and appointment of chief government officers.

Primary and secondary education may be the responsibility of the central, regional, or local governments in a federal system. And, when the responsibility is assigned to local authorities, those authorities may be elected by local citizens (as in Brazil and Sri Lanka), appointed by regional authorities (as in Malaysia and Korea), or some mix of the two (e.g., India where local councils are elected but the chief administrative officer is appointed by the state). Furthermore, education may be assigned to a general purpose government (such as a municipality) or to a special purpose government or special district; the latter is uncommon among developing countries, although community schools financed by some combination of contributions and compulsory fees resemble the special district. Special districts are, however, used in the provision of some urban services and could conceivably also be used in education.

Decentralization of Education Functions

In discussing centralization-decentralization in education, it is useful to disaggregate the provision of educational services into its various components or functions. For the purposes of this analysis, these

components are labeled: school organization; curriculum and teaching methods; examinations and supervision; teacher recruitment and compensation; finance of recurrent expenditures; and school construction and finance. The degree of centralization of decisionmaking differs by component. For example, curriculum decisions may be highly centralized at the same time that school construction and finance is very decentralized. It is the mix of decisionmaking powers with respect to the various components which leads to a summary description of an entire educational system as being centralized or decentralized. Table 1 suggests the mixes most commonly found in educational systems described as centralized, decentralized, and mixed.

For any given country, the degree of centralization with respect to each component can be determined through the examination of educational plans and operational guidelines of the ministry of education. But there is often a discrepancy between what is written or reported and what is practiced. In particular, the central government often sets guidelines for curriculum, teacher qualifications, school construction standards, etc., which are unrealistically high given the income and human resources of the country. The result may be that what appears to be strict central government regulations and mandates are not enforced and are in fact largely ignored by the providers of educational services.

School Organization

School organization refers to the establishment of minimum schooling requirements, the structure of elementary-secondary schooling, and the rights of children to education. Excepting a very few federalist systems (e.g., the United States), decisions about school organization are highly centralized. However, in spite of a high degree of centralization, large differences in compliance with organizational standards, especially in providing educational opportunities to all children, are found in all school systems. (e.g., inequalities in service provision between regions, income groups, and urban/rural areas are found in all countries; see Carron and Chau).

The major difference between decentralized and centralized school systems lies with which level of government makes the resource allocation decisions resulting in unequal opportunities. In the centralized model unequal educational opportunities are the result of resource allocation decisions made in the ministry of education itself. In the decentralized model, unequal educational opportunities are usually the result of differences in wealth or tax base between the local or regional governments responsible for financing elementary-secondary education; this is the case, for example, in Brazil. In the mixed model where the community often supplements central or regionally provided education with its own contributions, unequal opportunities are the result of both factors -- variations in tax base or income among communities and central government decisions to distribute resources unequally; this is the case, for example, in the secondary schools of Kenya.

Curriculum and Teaching Methods

As with school organization, curriculum standards are usually regulated and teacher education usually provided by the central government; in most countries, public school curriculum standards are, also, extended to private schools (e.g., Indonesia). Curriculum is typically viewed as being the domain of experts, who mainly reside in teacher colleges or the ministry of education. Teacher education is, also, typically viewed as the responsibility of the central government, or the regional government in large decentralized systems. In-service training, however, is usually somewhat more decentralized, with either a regional government or the regional directorate of the central ministry playing an important role in organization and delivery.

Centralization of curriculum decisionmaking need not imply a uniform curriculum. In Cameroon, the curriculum follows the French model and is highly specific and identical in all parts of the country. But other centralized countries have attempted to differentiate the curriculum to meet the instructional needs of different social groups. A tightly controlled pedagogy can be one policy response to the problem of poorly qualified teachers.

Centralization of curriculum decisionmaking also need not imply centralized production and distribution of textbooks. The ministry of education (or, in some federal systems, the regional secretariat of education) can produce and distribute textbooks to schools or school children. Or it can purchase and distribute textbooks. Or it can simply require students to purchase their own textbooks from either the ministry or local bookstores. In addition, the ministry can either specify the precise textbooks to accompany the curriculum, or it can give schools the freedom to select from an approved textbook list.

Examinations and Supervision

Perhaps the most crucial question regarding educational supervision is who selects the chief administra-

Table 1

Centralization-Decentralization Typology for Public Education

	School Organization	*Curriculum and Teaching Methods*	*Examinations and Supervision*
Centralized Model	Minimum schooling requirements and school organization (preschool, primary, secondary, vocational, higher education) set by the central government.	Curriculum, teaching materials, pre-service and in-service instruction provided by the central ministry of education.	Examinations set and evaluated, as well as teaching performance evaluated by central ministry of education; responsibility for direct supervision often lies with regional administrative offices.
Mixed Model	The central government determines organization of the schooling system, but the local community helps determine how many years of education are provided, often through at least least temporary self-finance of years beyond those funded or authorized by the central government.	Curriculum, teaching materials, and in-service instruction established and provided by the central government or through its regional delegations.	Examinations set centrally, usually administered and evaluated regionally; the instruction, often through regional or district offices.
Decentralized Model	Organization of schooling is almost always set by the central ministry of education; the local community decides how many years and levels of education will be provided.	The basic contents of the curriculum are set centrally, but textbooks may be selected and purchased locally, and in-service instruction may be provided locally or regionally depending on the size of the locale.	No national examination system exists; all examinations are set and evaluated locally; the central or regional governments usually provide limited supervision of teachers and schools.

tive officer of a school or group of schools and what power that individual has over the various educational functions. The chief administrator is typically appointed by the ministry (or the regional education secretariat) in a highly centralized system and may have relatively few powers other than sending personnel evaluations to the ministry and monitoring the education and examination system to assure compliance with ministry guidelines. On the other hand, in a decentralized system the chief administrator may be directly elected by the local community or may be appointed by an elected mayor or council. Between these two extremes is the administrator who is appointed by the ministry and given considerable decisionmaking authority over resource allocation within the schools. In many countries, transportation is sufficiently difficult and human resources sufficiently scarce that, irrespective of how the administrator is selected, there is very little actual supervision of the schools. The fact that in many countries administrators are also responsible for supervising private schools only exacerbates this resource problem.

Teacher Recruitment and Compensation	*Finance of Recurrent Expenditures*	*School Construction and Finance*
Central government sets accreditation standards, provides teacher education, sets teacher pay scales, and directly pays the teachers; in some cases (Francophone Africa) teacher recruitment, pay, and promotion may be under control of the civil service ministry rather than the ministry of education.	All recurrent expenditures fully funded by central government excepting minor user fees; nonteacher resources distributed to schools.	Central government sets construction standards, which may be uniform for the entire country, and covers all construction costs, although the local community may be required to provide labor and/or some constructon materials.
Teachers may be selected by the local school authority, but the central or regional government typically prescribes pay scales; accreditation standards are also set centrally.	The central or regional government provide most funding of local schools in the form of block grants or project grants, but some portion of educational expenditurcs are funded by local revenue sources, and the local community has some influence on total expenditure levels.	Construction standards are set by the central or regional government and matching funds are often provided for school construction; in some cases the matching funds take the form of a promise by the central government to cover some portions of recurrent expenditures, often teacher salaries.
Teachers are selected and pay scales are set by local government; accreditation standards are typically set by the central government but they may not be enforced.	Local government funds elementary and sometimes secondary education from local revenue sources; user fees or "voluntary" contributions to the parents-teachers associations may be required; block grants or project grants may be provided by the central government.	Land and materials for school construction are provided by the local community; labor may be voluntary; local construction standards used.

Examinations provide a standard for measuring and evaluating learning. Variation in examination control and procedures is perhaps more extreme than any other educational function. In many former British colonies (e.g., countries in the West Indies) exams are set and graded in England. At the other extreme are most countries in Latin America which have no standardized national or other examinations; as a result, the criteria set for passing from one grade or one level to the next are set at the school level and vary greatly. In between these two extremes are countries which set and grade exams nationally or regionally. Although a system of national examinations is typically found in the centralized model, Latin America demonstrates that local control of examinations and promotion standards can coexist in relatively centralized systems.

Teacher Recruitment and Compensation

Accreditation standards for teachers are almost always set centrally (a notable exception is the United States where state governments license teachers), but

the criteria set for accreditation are often ideal standards which cannot be met in practice. The local or regional labor market for teachers determines *de facto* local or regional accreditation standards, even in highly centralized school systems.

Teacher recruitment and promotion practices vary greatly between countries. In a highly centralized country like Cameroon the ministry of education doesn't even control recruitment and promotion. Instead the ministry of public service recruits, appoints, promotes, and moves teachers; nationally recruited teachers are also likely to enjoy civil service protection. In a decentralized country like Brazil, the community may itself recruit teachers, and employment and promotion may be in part politically determined (patronage of the elected mayor). Teacher compensation practices are highly correlated with recruitment procedures. When recruitment and promotion are centralized, there typically is a national pay scale, which does not vary with working conditions. When recruitment is decentralized, teachers are usually paid in accordance with local labor market conditions. One may also find (e.g., in Latin America) national pay scales and local recruitment of teachers. Furthermore, even in centralized systems with national pay scales, one may find local communities recruiting and setting teacher pay for additional grades beyond those provided by the central government.

Finance of Recurrent Expenditures

In a highly centralized educational system, the government both finances and directly provides all inputs with no local contribution (excepting minor matriculation fees). In a decentralized system, the local community finances and directly provides inputs, either through local tax revenues (e.g., Brazil) or through "voluntary" fees (e.g., Kenya). A mixed system would include central government finance and provision of some educational inputs (e.g., books, supervision) and grants (block and/or project) to regional or local government and some local community control over use of those funds (e.g., Colombia, India, Nigeria). An example of the latter is the Indian midday meal program which is provided by the local community but partly financed by central government grants. In general, the finance of government services is more decentralized in developing than industrialized countries. In an unpublished monograph, Bahl and Linnes find 15 percent of total government expenditures are financed at the local level in developing societies, compared with 32 percent in industrialized countries. In addition, they found the relative importance of local government finance is larger in federalist countries and in large countries.

In addition to directly financing education, the central government also often exerts other kinds of financial control. Frequently, it performs an auditing function to assure voluntary or local contributions are used in accordance with regulations. This auditing and financial control often extends to private and community-based schools, where central governments often regulate user fees or development fees (e.g., Kenya).

School Construction and Finance

In the centralized model, the central government sets uniform construction standards and directly carries out all school construction. In the decentralized model, the local community finances (often through voluntary contributions) and constructs schools using local materials and construction standards. In the mixed model, the central government may construct schools using different regional standards, or the community constructing its own school may be required to follow government standards for the school to be accredited and staffed.

In practice, school construction and finance tends to be more decentralized than the other components of elementary-secondary education, especially in Africa and Asia. In many countries the central government offers an implicit matching grant, promising to staff the school constructed by the local community (e.g., Eastern Nigeria, Kenya, Zimbabwe, India).

Conclusions

In assessing whether an educational system is centralized or decentralized, it is necessary to look at the distribution of decisionmaking authority with respect to various educational functions. In doing so, one finds some educational functions (e.g., curriculum) tend to be controlled centrally, even in systems which in other respects appear decentralized. And, some educational functions (e.g., construction) tend to be provided locally, even in systems which in other respects appear centralized.

It is the combination of decisionmaking authority with respect to the various functions which determines whether the system can be characterized as centralized or decentralized. But the answers to three questions best discriminate between centralized and decentralized systems. Those questions are:

- **Who selects the chief administrative officers of local schools, and what control do they have over resource allocation?**

- **Which level of government is responsible for recruiting and promoting teachers? Is there a national pay scale?**

- **What proportion of total expenditures is financed through local revenue sources, both tax revenues and voluntary contributions?**

III. The Principles of Decentralization

The desirable level of centralization in education is that which maximizes social welfare. However, since there are no direct measures of social welfare, the question of the desired level of centralization must be answered using a variety of proxy criteria. The principle criteria employed here are: social efficiency, technical efficiency, and equity. But application of these criteria is a mere academic exercise unless the political and institutional contexts are considered as well. In what follows, the political and institutional constraints to either centralization or decentralization are first discussed. The initial conditions of the political and institutional contexts and their relationship to decentralization are summarized in Table 2.

As noted earlier, decentralization is an ambiguous term which includes a variety of governmental arrangements for the finance and provision of public services. As typically used in elementary-secondary education, however, decentralization refers to devolution of decisionmaking authority to a subnational level, regional or local, of government. The most important constraints to devolution occur at the local level. As a result, it is devolution to the community or local government which is the focus of the analysis below.

Constraints on the Locus of Decisionmaking

Public Finance

Decentralization implies that the community or local government has decisionmaking authority with

Table 2

Initial Conditions for Decentralization

Initial Conditions Arrayed on Scale of Largest to Smallest Difficulty in Implementing Decentralization

Government Finance	*Political Context*	*Administrative Structure*	*Historical Context*
Direct central government provision of educational inputs to local schools.	Decentralization policy introduced by the central government, no consultation with affected groups, and associated with a particular politician or political party.	Constitution assigns responsibility for education to central government; lack of administrative capacity at local level.	Tradition of dependence by local communities on the central government.
Conditional cash grants for specific projects or functions.	Decentralization advocated by the central government with consultation with affected groups and with broad political support.	Central government administrative tasks already deconcentrated to the regional or local level.	Tradition of self-reliance by local communities and spirit of competition between communities.
Unconditional educational block grants or earmarked shares of central government tax revenues.	Pressure for decentralization originates at the local level and with affected groups, including parents, teachers, and local government officials.	Some educational decisionmaking given to local authorities, and local authorities permitted to raise some educational revenues.	
Large, local-government own-source revenues from taxes and voluntary cash and in-kind contributions.		Local authorities given significant decisionnmaking responsibilities, resulting in development of local administrative capacity.	

respect to both the level and distribution of educational resources. These resources may be financed by transfers from the central government, own-source tax revenues, user fees, and voluntary association fees.

As noted earlier, the most common form of transfers from the central (or regional) government is payment of teacher salaries. In addition, central governments frequently provide grants to local or regional government for specific educational plans or projects. Both of these transfers are accompanied by regulations and restrictions that greatly limit the resource allocation authority of the local schools. Of course, to the extent such transfers are fungible, meaning the local government would have purchased the same inputs in the absence of the grants, they in fact provide a new source of unencumbered funds (albeit with administrative costs associated with preparing projects, disbursing funds, and monitoring and auditing use of funds).

Central government transfers to local governments can be constructed to give local governments substantial resource allocation authority while still fulfilling objectives of the central ministry of education. But in reality the grantor (the ministry) typically mistrusts the use of funds by local education authorities and, thus, attaches a number of conditions (such as projects) to the use of funds. The result can be, and frequently is, centralized resource allocation in a seemingly decentralized educational system.

Communities or local governments, of course, can often raise their own revenues, which can be allocated in accordance with local priorities. But the possibilities of raising substantial local revenues are often limited and sometimes prohibited by the country's constitution. The most common local government tax is the property tax which suffers from two major defects: (i) low revenue elasticity, which makes it a poor tax in a changing environment, and (ii) requirements for sophisticated tax administration, including cadastral surveys, objective assessments, and a professional, skilled administrative corps. The requirements for good property tax administration are typically unmet in developing countries.

Another means of providing own-source tax revenues is through a national tax on personal income, sales, employees, or some other measure of business activity, with some portion of the proceeds earmarked for automatic return to state or local governments. In Brazil, for example, a portion of a two percent payroll tax is automatically returned to state governments in proportion to revenues raised within the jurisdiction. Such automatic transfers of earmarked revenues avoid the administrative requirements of the property tax, and the tax itself may be more revenue elastic. On the other hand, centrally administered taxes tend to have uniform tax rates, thereby limiting the revenue-raising authority of local jurisdictions. While it would be possible to devise centrally-administered taxes with variable rates, this is rarely if ever done.

Finally, communities can raise revenues for education through user fees, donated labor and materials, and voluntary or involuntary association fees. Quite clearly, some countries (e.g., Kenya, Indonesia) raise substantial revenues through these sources. But a variety of problems limit the use of user fees and voluntary association fees in most countries.

Often there are both legal and political constraints on user fees. The level of user fees imposed by the community or the local parent-teacher association (PTA) is usually limited and regulated by the central government due to the conflict such fees present with notions of "free education and equal access". Simply the reporting requirements for such fees may either limit their use or provide an incentive for local jurisdictions to not report their use (e.g., see Paul's discussion of Guyana). In other cases, schools are not permitted to keep the full revenues from the fees, thereby limiting incentives to impose fees. For example, in Indonesia schools can set fees, but all revenues accrue to the central government, which then redistributes the proceeds (Meesook).

If truly voluntary, association fees such as those for the PTA suffer from the usual free rider problem. In some African countries (e.g., Kenya, Anglophone Cameroon) such fees raise significant amounts of revenue only because they are in effect involuntary. On the other hand, contributions can come from a wide variety of sources and organizations, including parents, alumni, and local businesses. The variety of possible voluntary fees and other contributions are discussed elsewhere (Bray, 1985).

In addition to fees, communities can provide labor and materials for school construction, maintenance, etc. These in-kind contributions appear to be most successful when there is a definite target (e.g., constructing a school or competing with a neighboring community) but are less useful as a means of financing recurrent expenditures. A problem with relying on in-kind contributions of labor is that the opportunity cost of labor rises as per capita income increases. Thus, such contributions are less likely to be successful in urban areas than rural areas and are less likely to generate significant revenues in middle-income than low-income countries.

In sum, there are serious constraints on the ability of local governments or communities to raise revenues to support local schools. In some countries these constraints may pose an effective deterrent to the intro-

duction of decentralization measures which require local governments to raise revenues. However, for most countries, aside from legal constraints, local governments could, with technical assistance in tax administration, community organizing, etc., raise some revenues for local education.

Political Context

Both the political context and the administrative structure of a country may also pose constraints to decentralization. The political ideology and policy positions of key actors and interest groups in education play an important role in both the adoption and implementation of decentralization measures. As discussed later, lack of political support, not a shortage of technical expertise, most frequently is the cause of failed decentralization plans. The key political actors on the decentralization stage include functionaries in the ministry of education, teacher organizations, local government officials, local school administrators, parents, and parent-teacher associations.

Decentralization entails the redistribution of political power between different groups in society. While it may increase the power of local government at the expense of the central government, decentralization frequently strengthens the power of the central government (Conyers, 1984). In Chile, devolution of primary and secondary education to the municipalities occured simultaneously with closer central government control over the municipalities with mayors appointed by the president and previously-elected community advisors being appointed by the mayor. In Mexico, delegation of teacher negotiation authority to representatives of the ministry of education in the thiry-one states appears to have had the underlying political goal of weakening the bargaining power of the union (McGinn and Street, 1986).

To be successful, decentralization plans must yield enough influential winners to more than offset the losers, and the plan must be constructed so as to prevent any one group of losers from blocking the entire plan. Since many interest groups tend to be risk averse, the mere uncertainty associated with the outcomes of decentralization is an important deterrent to change. The political constraint may not necessarily argue against attempting any form of decentralization, but it does prescribe care in attending to political concerns in assembling a decentralization plan. While the literature on implementation suggests some of the political problems which may arise, there is no positive theory of implementation to guide policymakers.

Government and Administrative Structure

Both the structure of government and administrative capacity can also serve as constraints to decentralization. Structure of government refers to constitutional and other legal constraints, including the existence of sub-national units of government, and whether chief administrative officers are appointed or elected, while administrative capacity refers to the ability to make and implement decisions; to collect revenues, budget, and keep government accounts; and to monitor and audit expenditures.

In most countries, the constitution determines the institutions of government, including the existence and powers of sub-national units of government. The constitution, or other legislation, assigns taxing and spending powers as well as governmental functions, including education, to different levels of government. If the constitution assigns most power to raise revenue and most education decisionmaking authority to the central government, decentralization may be difficult to legislate. The magnitude of the change required suggests new legislation may be forthcoming only in the case of national emergency or revolution (e.g., Chile).

The colonial administrative heritage of a country influences the writing of the constitution, citizen expectations, and administrative practice. Spanish colonial rule, for example, was hierarchical and centralized, characterized by paternalistic legislation regulating minutiae in the colonies. Regulations established ideal rules of conduct, even if those ideals were unrealistic. Little or no attention was paid to local conditions and regional differences in drafting and promulgating regulations.

The same pattern persists in most former Spanish colonies today, well over a century after independence. According to Hanson (1974), there tends to be hierarchical leadership in the ministry of education, and political allegiance is the principal criterion for appointment to important educational positions. The result is that educational decisions are largely made on the basis of political not educational grounds. The ministry still issues a comprehensive set of rules formulated for ideal conditions not found in the real world, with the requirement that children and schools conform to ideals, not generally allowing variation depending on local conditions. The result is a high degree of centralization, local officials visiting the central ministry to obtain favors much as in colonial times, and a local citizenry with no developed sense of autonomy and local control. Decentralization, which

requires a sense of local autonomy and control and reduced power at the ministry level, is difficult to implement given this administrative history.

One finds much the same administrative heritage in former French colonies. The French administrative system had very weak subnational units of government and highly centralized control. This heritage makes it difficult for ministries to give up control, and local communities tend to lack the requisite skills for managing themselves (Nellis has described how the intent to decentralize in Tunisia was frustrated by these factors).

The British colonies were, also, highly centralized as a means of exerting colonial control. But the British also introduced a tradition of fee-based and community-supported education, which was sometimes affiliated with religious missions. Included in this tradition was the important role of support groups like the PTA and Old Students or Old Boys alumni organizations. These support groups have tended to persist, even after the nationalization of schools by newly independent countries and even in socialist countries (e.g., Zagefka discusses their role in Burma). The tradition of user fees, voluntary associations, and local control facilitates the successful implementation of decentralization policies.

Administrative capacity at each level of government -- central, regional, local -- can also serve as an important constraint on decentralization. The capacities of local governments to tax, spend, and keep government accounts were discussed earlier with respect to public finance. Capacity at the local level is, also, required to administer a personnel system with some degree of civil service protection. In addition, in a system in which the central government transfers resources to lower levels of government, the central government requires the capacity to audit the use of funds and to prosecute corrupt practices, and auditing cannot occur in the absence of standardized accounting practices by the governments receiving the funds.

The administrative capacity of governments is also influenced by the education and training of decisionmakers as well as the individuals who elect or appoint those decisionmakers. If local citizens are largely illiterate, they may not be able to make informed, rational choices in electing local leaders who advocate particular education policies. If local government administrators are poorly educated and have weak administrative skills, they may make poor educational policy decisions and lack the ability to carry them out or to appoint qualified administrators to do so.

In brief, the institutional structure and history of government and the administrative capacity at various levels of government can act as serious constraints to decentralization. Effective decentralization may require constitutional change, changes in values, and training to improve administrative skills in some countries.

Historical and Cultural Context

The historical and cultural context also strongly influences the ability to decentralize. Some countries (e.g., Kenya, Nigeria) have a tradition of local community participation that extends beyond the colonial experience and facilitates attempts to decentralize education. Other countries have regarded decentralized education (especially the mission schools) as a colonial institution and have centralized and nationalized education upon independence. In still other countries, religion introduces values which either facilitate or deter decentralization. Islam, for example, values the diffusion of authority, which in countries like Pakistan is conducive to attempts to decentralize.

Social Efficiency

There are a number of administrative, political, historical, and cultural variables which influence how educational services are financed and delivered. These variables cannot be ignored in attempting to answer the rather academic question, what is the desired degree of centralization in education. But understanding that these variables can act as constraints on decentralization, one can still ask, if these conditions permit choice as to the organization of government, what is the desirable level of centralization. Are there economic grounds for advocating decentralization policies? Three economic criteria are used to answer this question: social efficiency, technical efficiency, and equity. The definition of these criteria and their implications for decentralization in education are summarized in Table 3.

Social efficiency refers to the use of society's resources to maximize social welfare. As used here, it is especially concerned with the match between the preferences of citizens regarding education and the educational services they receive.

Public Choice

The match between consumer-citizen preferences and public service provision is often studied under the rubric "public choice," which is the application of

market principles to the provision of government services. This match is presumed to be closer or better if the consumer-citizen in fact has choices. That is, if the consumer-citizen has the ability to elect local education leaders, decide how much to pay in taxes in order to receive a desired level of educational services, and has the freedom to move to another jurisdiction ("vote with the feet") offering a preferred combination of tax and service levels, social welfare is presumed to be higher. Public choice becomes private choice when citizens choose to send children to private schools, in which case they can directly select that school which offers the desired combination of user fees and educational services. Public choice is the economic argument for citizen participation in educational decisionmaking. In its pure form, this participation takes the form of citizens directly selecting educational leaders, educational taxes or fees, and educational service levels.

The consumer-citizen may be frustrated in effectively expressing preferences by a number of factors. First, citizens may be unable to either directly (voting) or indirectly (voting for a local, general government head who appoints the school chief) elect the local school administrator. Second, citizens may be constrained in their ability to raise local tax revenues, to set user fees or to impose involuntary association dues for the purposes of raising education revenues. If in a decentralized system citizens are unable to express preferences or intensity of preferences with respect to educational leadership, revenues and expenditures, the match between citizen tastes and educational services provided may not be any closer than that in some centralized systems.

A third factor limiting the expression of preferences is the inability of citizens to move from one jurisdiction to another to find the desired combination of taxes and educational services. If jurisdictions are large, citizens are less likely to be able to make such moves than if jurisdictions are small. And if local jurisdictions are not allowed by the central or regional government to vary their tax rates and/or educational expenditures, "voting with the feet" is of little consequence.

A fourth factor which limits the expression of preferences is central government regulation. To the extent the central government attaches conditions to grants to the local government and to the extent it mandates the level and use of educational resources, the local consumer-citizen may be dissatisfied in the resulting quality and quantity of educational services.

Of course, local public choice needs to be tempered by other considerations, in particular externalities and economies of scale with respect to some educational functions. It may not be appropriate for local voters, especially if poorly educated, to select the curriculum and set accreditation standards, but it is appropriate for them to exercise some choice over how their personal income is allocated between government and private goods and choice over how the government budget is divided between education and other services.

Externalities

Externalities refer to the division between who pays for services and who receives the benefits. Elementary-secondary education exhibits significant externalities in the form of benefits to society from having a literate, skilled, well-socialized population. One can conceive of a local community which all the children leave, perhaps due to lack of employment opportunities, when fully grown and educated. The parents of children in the community will receive private benefits as a result of their children being educated and the economic returns which accrue to that education. But others in the community may perceive themselves as receiving very few private benefits. On the other hand, all members of society, especially in the communities to which the children move, receive societal benefits resulting from the education of the children. In other words, other members of society receive benefits without having had to pay for them, i.e., an externality.

In a decentralized system, interjurisdictional spillovers of benefits such as those described above constitute externalities which tend to reduce the amount of educational services provided by the local community. If taxing and educational spending decisions are made by the local voters, they will ignore the externality and thus spend too little on education. Two solutions to the problem are possible. One is to nationalize education, such that all the externalities are internalized in making decisions about educational spending; this, of course, is not consistent with decentralization. Another solution is for the central government to provide matching grants to local jurisdictions to encourage them to increase their spending on elementary-secondary education to assure generation of the desirable level of social benefits. Of course, social benefits are not easily measured, and the desirable level of social benefits is not easily determined. How society values these external benefits can only be revealed through the process used to select national (or regional) leaders and the budgetary priorities they assign to education.

In addition to interjurisdictional spillovers, there are other external benefits associated with particular

Table 3

Economic Criteria for the Evaluation of Decentralization

Criteria	*Definition*	*Implications for Centralization/ Decentralization in Education*
Social Efficiency		
Public Choice	The match between consumer-citizen preferences and public service provision.	Local citizens should have an important voice in choosing the combination of taxes/fees and educational services in the community and should also, have some influence on the nature of educational services provided. Central government regulations, restrictions, and mandates may limit public choice, as may the local tax base and impediments to the citizen "voting with his feet".
Externalities	The discrepancy between who pays for services and who receives the benefits.	Interjurisdictional spillovers may result in insufficient educational spending in a decentralized system. The central government may need to institute a system of matching grants to assure a socially desired level of spending.
External Efficiency	The balance between labor skills provided by the educational system and labor market demand.	In a country with distinct urban/rural and regional labor markets there should be variation within the country in terms of school organization, curriculum and the quantity of schooling.
Technical Efficiency		
Internal Efficiency	Maximization of educational output for a given educational cost.	Internal efficiency is higher when prices of educational inputs are allowed to vary with local (urban/ rural, regional) market conditions, and the educational input mix is adjusted for local prices. Economies of scale may argue for centralization of some educational functions. Administrative costs, including both administrative capacity and the time required to make decisions, also affect unit costs and, thus, internal efficiency.
Technological Change	An increase in the educational output possible from a given level of inputs.	Technological change and innovation in educational organization and service delivery is likely to be greater in a system which both permits and encourages educational diversity and competition.
Equity		
Horizontal Equity	Individuals in like circumstances are treated equally.	When some portion of school revenues are generated from local tax sources, variations in wealth of the local tax base may lead to horizontal inequity. The central government can reduce the size of the problem through grants in aid to local schools with the size of the per pupil grant varying inversely with the local tax base per capita.
Vertical Equity	Relative equality of educational opportunity.	Equality of educational opportunity may be measured by access to and quality of education. In centralized systems, inequality is the result of central government decisions regarding resource allocation; in decentralized systems inequality may result from variations in local tax base and citizen willingness to pay for education. In either case the central government may use grants-in-aid to reduce spending disparities and improve equality of opportunity.

educational functions which may argue for either centralized or decentralized decisionmaking. Standardized examinations and similar school organization and curriculum standards across communities or regions may, for example, facilitate inter-regional migration of human capital both for the purposes of employment and further schooling. The result may be better informed and more efficient labor markets.

External Efficiency

External efficiency is the match of labor skills with labor market demand. Most countries or even regions are large enough to encompass rural areas where agricultural activities predominate, urban areas with heavy concentrations of retail and office activities, and industrial areas occupied by manufacturing firms. Somewhat different labor skills are demanded in each of these geographic areas, which may argue for different education to better prepare students in the needed skills and to maximize the social returns to public investment in human capital. Different education may entail variation in school organization, curriculum, and the quantity of schooling provided.

External efficiency argues for variation with respect to school organization, curriculum and the quantity of schooling. Such variation could be provided through the centralized ministry of education, or it could come about as a result of decentralized decisionmaking. Experience suggests that centralization tends to lead to uniformity in school organization and curriculum but not uniformity with respect to quantity of schooling. Decentralized decisionmaking may be required to yield the desired variation consistent with external efficiency.

Technical Efficiency

In addition to social efficiency, the degree of centralization may affect technical efficiency. Technical efficiency is primarily concerned with efficient resource allocation within the educational system, or minimizing unit costs.

Internal Efficiency

The degree of centralization affects several aspects of resource allocation, or internal efficiency. First, internal efficiency requires adjusting input combinations consistent with prices in the locality of the school. Under centralization, this is unlikely to occur unless local representatives of the ministry are empowered to determine what prices they are willing to pay for services, materials and supplies. But in most centralized systems, there are uniform, national pay scales for teachers, and many school inputs (e.g., textbooks, furniture, food for school meals) are purchased centrally and distributed to local schools.

Second, internal efficiency is affected by administrative costs and efficiency, including administrative overhead, management capability, and time required for decisionmaking. The argument is sometimes made that decentralized administration leads to the duplication of administrative functions in each of the local (or regional) jurisdictions and, thus, leads to increased administrative costs.

The argument of duplicated costs essentially concerns economies of scale. Some administrative functions -- teacher supervision, budget preparation, local planning -- are of necessity carried out in small scale at the local level, irrespective of the degree of centralization with respect to other educational functions. But other administrative or educational functions may exhibit sizeable economies of scale. These functions include: curriculum development, development of instructional materials, and setting and grading standardized examinations. Thus, there may be a cost argument for centralization of some educational functions.

The scarcity of management skills in developing countries can also argue for centralized administration, wherein a few, skilled and educated administrators make decisions for the entire school system. But, as noted above, it's difficult to avoid locating some administrative functions at the local level, even in a centralized school system; some decisionmaking requires knowledge of the local situation that a physically removed administrator cannot know well. Still, the lack of management skills argues for somewhat greater centralization in, say, setting examinations and supervising local schools. There is little evidence in general, that decentralization has served to improve public management (Rondinelli, Nellis and Cheena). Nor is there evidence to show that decentralization has increased local participation, at least in Latin America.

Centralization of decisionmaking has one unambiguous cost -- the time required for decisions to be made. Often even the most minor expenditure of funds or personnel action requires filling a form, sending it to the ministry (perhaps via an intermediary regional ministry representative), awaiting a response, perhaps sending another appeal prior to receiving the response, and perhaps receiving a response requesting more information or better justification for the request. Bureaucrats in the central ministry have incentives to be cautious in their actions but no incentives to quickly respond to requests from the field. In the

meantime, the lack of affirmative response, to even obvious requests, may have serious negative consequences for education. One possible response to this situation is to improve response time in the ministry, but the bureaucratic incentives are such that response time will always be slower than that found in a decentralized system.

Technical efficiency is also affected by the use of community resources. The community devotes resources, in both pecuniary and non-pecuniary forms, directly to the production of educational services and, also, to lobbying for additional education resources from funding sources. The argument is frequently made that if the local community is given more responsibility for funding education and selecting local education leaders, it is likely to increase direct participation in the schools. If this increased productive participation is accompanied by decreased (socially) nonproductive participation in lobbying for funds, the net result is an increase in educational services with no increase in cost. But if the increased participation comes at the expense of citizen time spent in other endeavors, including leisure, there is an opportunity cost to the increase in educational services.

There is little evidence on either the social or technical efficiency consequences of decentralization. There are no studies to determine the extent to which decentralization in fact alters the nature of education services offered and the degree to which beneficiaries of those services are more or less satisfied. With respect to technical efficiency, construction costs of locally-constructed schools tend to be lower than ministry-built schools due to the use of lower cost materials and lower costs associated with contract administration. On the other hand, there has been concern in Nigeria that the growth in the number of local governments, which are responsible for elementary education, may be increasing the costs of administrative overhead.

There is some evidence that locally-provided schooling may be of lower quality. The "harambee" schools of Kenya, for example, are of low quality, both in terms of inputs (teacher quality) and outputs; only 13 percent of "harambee" schools exceed minimum standards (grade 4 attainment levels) compared to 79 percent of central government schools. But evidence from Brazil is mixed, at least with respect to quality of inputs; expenditures per pupil are lower in municipal than state schools in the Northeast, but the opposite is true in some states in the South. In neither case (Brazil and Kenya) can low quality of education be attributed to decentralization; rather, the cause of low quality education appears to be the fact that locally-provided schooling appears to be most common in rural and poor areas where the central and regional governments have failed to provide educational opportunities equal to those in urban and richer areas.

Technological Change

A nationalized educational system is a monopoly which, excepting a few private schools which usually serve either the very rich or the very poor, permits little or no competition. As noted earlier, even the competition from the private sector is often heavily regulated, including tuition charges. The results of monopoly in other industries are well known -- little incentive to innovate, excessively high costs, and insufficient production. A plausible hypothesis is that some of these same results are found in highly centralized educational systems. Another plausible hypothesis is that, other things held equal, decentralization may lead to greater competition between local school systems and, consequently, greater innovation and technological change, reflected in lower unit costs.

Equity

The principal objections to decentralization concern the consequences for both horizontal and vertical equity. A related equity concern, especially among school teachers, is unequal pay for equal work; decentralization to the local level implies variation in teacher pay scales, reflecting local labor market conditions. The only effective solution to this pay equity concern is a national pay scale, which in turn implies a high degree of centralization.

Horizontal Equity

The principle of horizontal equity refers to individuals in like circumstances being treated equally. Education which is locally financed may violate this principle; individuals of given income and wealth levels are treated differently depending on the tax base of the community in which they live. A community with a high tax base per school child needs to set a lower tax rate to yield a given amount of revenue per child than does a community with a lower tax base. If the tax base is property wealth, two individuals with the same wealth pay different tax bills depending on whether they live in the low or high tax base community.

Horizontal inequity can have negative effects on economic efficiency (Buchanan). All individuals have an incentive to live in the high tax base, low tax rate jurisdiction, but it is only those of high income who can respond to the incentive. The result is communi-

ties which tend to be segregated on the basis of income; either the rich or the poor live in a given community. If the high income individuals also have skills (e.g., medical) demanded by all members of society, the result of geographic segregation may be an oversupply of such skills to the wealthy community and an undersupply to the poor community.

Grants-in-aid can be used to solve or at least ameliorate the horizontal equity problem. The central government can distribute block grants, the per capita size of which is inversely related to the local tax base, and thereby effectively reduce any tax advantage to living in a wealthier community. Alternatively, the central government could specifically reduce the horizontal inequity for education by distributing grants to local schools, the per students size of which is inversely related to the local tax base per pupil. The foundation plan used in many states of the United States sets a minimum (foundation) desired level of educational spending and then eliminates any tax base advantage for spending up to that foundation level. Beyond the foundation level, communities may decide to tax and spend whatever they wish. Of course, if the foundation level is not set high enough, there are still powerful incentives to individuals to locate in communities with a high tax base.

Vertical Equity

Vertical equity in education refers to the relationship between educational expenditures and family, community, or regional income or wealth. Ignoring how education is financed, maximum vertical equity would entail all children receiving the same value of educational resources, measured either on a per year basis or on a lifetime basis. Measured on the basis of annual expenditures, large inequalities in educational spending currently exist in developing countries between urban and rural areas, between geographic regions, and between income groups, irrespective of the degree of centralization in decisionmaking. Measured on the basis of lifetime educational expenditures, these inequalities are much larger still.

A decentralized educational system in which communities (or regions) both raise revenues and make educational expenditures is likely to yield significant inequalities in educational spending if only due to differences in tax base and income between communities.

The empirical evidence on the effects of decentralization, however, are ambiguous. In Chile, for example, municipalization was accompanied by altering central grants from a system that redistributed in favor of poorer regions to one which redistributes on a per capita basis, thereby increasing inequities between rich and poor regions. And in Eastern Nigeria, wealthier communities were found to respond most strongly to government incentives for the construction of new schools. On the other hand, Knight and Sabot (1986) compared Kenya, which permitted a large expansion of secondary education via community supported harambee schools, and Tanzania, which did not permit such expansion by local communities and exercised strict quality controls. They concluded the Kenyan system provides greater equality of oppoortunity even though spending disparities are larger.

As noted above, the central government could largely remedy the vertical equity problem while still retaining the public choice advantages of the decentralized system. To reduce vertical inequity, the central government would need to either make unconditional block grants to offset differentials in tax bases of general local governments, or make per pupil education grants, the size of which is inversely related to the tax base per pupil. In the latter case, the central government would need to decide if it would offset tax base advantages for any level of educational spending or only offset tax base advantages up to some specified (foundation) level oi spending.

The central government can also use project or other conditional grants for specific educational purposes to help offset tax base and spending differentials. But these grants tend to be administratively cumbersome, inefficient in accomplishing the educational objectives of the central government, and come accompanied by central government restrictions which limit local public choice (see Winkler's analysis of intergovernmental education transfers in Brazil).

Central governments in decentralized systems have sometimes attempted to ameliorate educational inequities. In Brazil, the formula for distributing federal elementary-secondary education monies to the states is highly redistributive and not strongly influenced by political considerations (World Bank, 1985). Both Eastern Nigeria and Kenya took actions to redistribute government grants in favor of lower income community schools. On the other hand, both Chile and Zimbabwe allocate government grants on a per capita basis with no consideration of community fiscal capacity. And Tilak (1986) found no relationship between federal education grants to provinces in India and measures of income levels or educational needs and concluded that grants are primarily allocated on political grounds and only serve to exacerbate spending disparities. Finally, a study of OECD countries found no relationship between forms of government (unitary vs. federal) and governmental efforts to bring about greater educational equality (Noah and Sherman).

IV. Role of the Central Government in a Decentralized System

If political, institutional, and administrative conditions permit a decentralized educational system to operate, that system leads to both improvements and problems in social efficiency, technical efficiency, and equity. The net result depends very much on the circumstances of the particular country, but government can do much to reduce the magnitude of the problems resulting from decentralization without at the same time eliminating its positive features. In particular, government can respond to the problems of decentralization by (i) nationalizing and centralizing elementary-secondary education, (ii) regulating decentralized education, or (iii) establishing incentives for local (or regional) governments to act consistent with central government objectives and social welfare. In all cases, the ultimate decisionmaker is the central government, yet there are significant differences between these three options in terms of the amount of decisionmaking authority given to regional or local authorities.

Problems of Decentralized Educational Systems

There are several reasons to argue for a strong central government role in elementary-secondary education. First, education yields social benefits, which will be underproduced in a completely decentralized system. Second, communities and their leaders may lack the information to select competent teachers and design curriculum and organize schooling; a completely decentralized system may result in inefficient resource allocation. Third, employers and advanced educational institutions may lack the information to evaluate the educational attainment of elementary-secondary school graduates; a completely decentralized system may result in uncertainty regarding the level and type of knowledge acquired by students and may impose additional screening costs on employers. Fourth, there may be horizontal and vertical inequity in educational finance and expenditure; in a decentralized system horizontal inequity may result in an inefficient distribution of specialized skills, and vertical inequity may conflict with societal norms of economic justice.

The question is not whether the central government (or in some cases the regional government) should exercise a strong role in elementary-secondary education but, rather, what should be the nature of that role. Centralized control and provision of all educational functions may solve some of the problems noted above but at a possibly large cost in social efficiency (mismatch between citizen-consumer preferences and public educational services and a possible mismatch between skills produced and local labor market demand) and technical efficiency (excessively high unit costs and lack of innovation or technological change).

The central government can correct the problems of decentralized education without incurring the costs of social and technical inefficiency associated with centralized finance and provision of all educational functions. To do so requires a combination of regulatory and incentive measures. The policy tools available to government and their application to these problems are summarized in Table 4.

Regulations and Incentives

The central government can improve information available to local decisionmakers, some of whom may be novices in education, by defining minimum standards of school organization, curriculum, teacher qualifications, and achievement levels. For the purposes of informed decisionmaking, these standards need only be defined, not regulated and enforced. The standards should be realistic, minimum standards, not ideal standards; the latter, if unattainable, may provide little useful guidance in decisionmaking. In addition, since parents selecting private schools face the same informational problem as community decisionmakers, these same informational standards should also apply to private schools.

The central government can also help inform the employers of educated youngsters and advanced institutions of learning regarding the level and extent of knowledge. This information is most directly provided through a national or regional system of standardized examinations or uniform criteria for grade promotion or school graduation. Failing the adoption of an examination system or uniform promotion criteria, there is an economic argument for central government regulation and enforcement of minimum standards of school organization and curriculum, in private as well as public schools.

The problem of interjurisdictional spillovers results in local governments, in aggregate, spending inadequate amounts on elementary-secondary education. The central government can respond to this problem through either regulation or the establishment of in-

Table 4

Central Government Policies in a Decentralized System

Policy Tool	*Policy Goals*	*Example*
Information and Training	Improve local administrative capacity and technical expertise.	Define minimum expected standards of school organization, curriculum, teacher qualifications, and knowledge required for promotion. Train local administrators in personnel and fiscal administration.
Financial Incentives	Increase educational spending to compensate for benefit spillovers.	Provide a central government matching grant for local educational spending up to some desired level, beyond which marginal social benefits are presumed to fall rapidly.
Redistribution	Reduce horizontal and vertical inequities.	Provide central government per student grants to local schools, the value of which varies inversely with the local tax base per pupil (horizontal equity) or inversely with the level of local educational expenditures per pupil (vertical equity).
Regulations and Mandates	Realize positive external benefits from definition of educational standards.	Establish a regional or national system of standardized examinations for grade promotion or school graduation.
Nationalization	Realize economies of scale through centralization of some educational functions.	The central government assumes responsibility for developing the curriculum, teaching materials, and textbooks in some subjects; it might also develop a rational system of standardized examinations.

centives to spend more. Regulation typically takes the form of specifying and enforcing a minimum expenditure per pupil or specifying (as in Brazil) that local governments spend a given percentage of total revenues on education. Matching grants from the central government can be used to provide an incentive to the local government to increase spending, at least up to some minimum level of spending which assures the provision of basic educational services. Both regulation and incentive grants require local governments to employ a standardized accounting system and require the central government to undertake periodic audits of the use of funds.

Aside from the problem of underspending due to spillovers of educational benefits, there may be a general problem of underinvestment by a society in its human capital. If this is perceived to be the case by the central government, it may introduce either regulations or incentives to local governments to increase spending. Regulations may include those mentioned above, such as specifying minimum expenditure levels, minimum tax rates, or minimum user fee levels. Incentives may include rewards for better tax administration and compliance, matching grants for revenues collected through user fees, or other forms of matching grants. (An example of a disincentive to user fees is found in Indonesia where all the revenue from secondary education user fees is transferred to the central government; parents thus have no incentive to raise user fees in order to improve local education).

Solving the problem of horizontal inequity requires reducing or eliminating the advantage associated with a higher per pupil tax base. This can only be done by the central government in effect redistributing tax revenues from high to low tax base jurisdictions. This redistribution can take several forms. The central government can use its general tax revenues to fund capitation grants for education, the amount of which is inversely related to the per pupil tax base. Or, the government can include per pupil tax base as a variable determining the magnitude of other kinds of cash transfers, including project and matching grants.

Alternatively, if local education tax revenues are primarily derived from a single tax source, the central government could establish a single schedule of tax rates and revenue per pupil, administer that tax and

collect revenues. Of course, given the single schedule, jurisdictions with a high tax base would in effect pay more in taxes than they would receive in revenues, while the opposite would be true for jurisdictions with a low tax base. This solution would effectively eliminate horizontal inequity while preserving the ability of local governments to decide which tax rate and corresponding educational expenditure level they prefer.

Reducing horizontal inequity also helps solve the problem of vertical inequity, but there can simultaneously be horizontal equity and large educational spending differences. Hence, the central government may wish to directly reduce vertical inequity. Possible solutions are to impose direct limits on expenditures per pupil (this is done, for example, in California), to limit tax rates for high tax base jurisdictions, to regulate and limit user fees (possibly including limits on fees and, thus, expenditures in private education), and to provide cash transfers to assure that all jurisdictions attain some minimum level of spending.

Efficiency versus Equity

Two basic problems confront central governments with respect to the finance and provision of elementary-secondary education. The first is the appropriate tradeoff between efficiency and equity. The second is what measures to use to attain the desired balance.

Social and technical efficiency require some degree of public choice regarding spending, taxing and resource allocation; stimulation of competition and innovation; and possibly incentives to increase educational taxes, user fees, and spending. Horizontal and vertical equity require limiting the degree of public choice and possibly limiting educational revenues and expenditures.

All countries use some combination of centralized control, including direct finance and provision, regulations, grants and other incentives to attain some desired combination of efficiency and equity. That desired combination is a social and political decision. The important question is not so much the selected combination but whether or not a country could not attain more of one without suffering less of the other. In many countries large inequities in educational spending exist in spite of a highly centralized educational system adopted in the name of equity. In some cases it may be possible to decentralize some educational functions, improve efficiency, and not worsen spending inequities.

V. The Consequences of Decentralization

Controlling for other factors, a policy of educational decentralization is expected to result in improved educational efficiency and worsened equity. Unfortunately, the experience of countries to date provides very little empirical evidence on the economic consequences of decentralization. And there is no predictive theory or model that enables us to make confident conclusions about the independent effects of decentralization.

One problem in assessing the effects of decentralization is defining what constitutes a policy. At one extreme, significant educational reform can take place in the absence of formally stated policies or comprehensive plans (see the McGinn, Schiefelbein, and Warwick analysis of major educational policy changes in the absence of plans in Chile and El Salvador). At the other extreme, grandiose policies are sometimes suddenly announced and just as quickly dropped. And between these extremes are the policies which are carefully formulated but only half-heartedly implemented. Simply the difficulty in defining decentralization policy presents an important *caveat* to drawing firm conclusions from actual country experience.

Aside from the question of what constitutes policy is the matter of the criteria to use to evaluate policy success. Policies can be evaluated in terms of stated government objectives, underlying political goals, or more objective educational and economic criteria. Of these three, stated government objectives are the least useful for evaluation purposes. Stated objectives are often vague and general. For example, the stated objectives for decentralization in Mexico are (according to Prawda):

- improve educational development in the states;
- make plans and solve problems where they occur;
- improve the efficient and effective use of resources; and
- increase the participation and responsibility of the community in education.

Notwithstanding the difficulties in defining policies and stating precise educational objectives, there is a large literature analyzing which factors appear to determine success in implementing decentralization policies. These studies do not, in general, consider the educational (*including* efficiency and equity) impacts of decentralization. Rather, they consider which factors appear to determine success in changing the organization and distribution of decisionmaking power in education. These factors are summarized here. In addition, the question of implementation strategies is briefly discussed.

Factors Influencing Implementation

A variety of factors affect public policy implementation in developing countries, a number of which were discussed earlier as possible constraints to the optimal centralization or decentralization of education. These factors include the system of public finance, the political context, government and administrative structures, and the historical and cultural context. (see Cheema and Rondinelli, 1983, for an up-to-date survey of studies on the implementation of decentralization in developing nations).

Public Finance

A minimum requirement for deconcentration in education is the transfer of resources and resource allocation authority from the central ministry to its regional or local directorates. For devolution and the effective transfer of independent decisionmaking power local or regional authorities must have their own source of revenues. That source of revenues may be earmarked central government tax revenues (as in Brazil), user fees or involuntary contributions or own-source tax revenues. The regional education directorates in the unsuccessful Peruvian decentralization effort had no source of local revenues, nor did they have their own budgets. On the other hand, successful attempts at promoting local education in Africa have typically entailed communities making liberal use of user fees and involuntary association cash and non-cash contributions.

Political Context

Political and organizational support are critical determinants of policy implementation. Decentralization alters the distribution of power and leads to natural conflicts between educators and parents and between

ministry and local officials. Three interest groups are especially important: teachers, ministry officials, and local officials.

Teachers play a critical role in implementing any decentralization plan, and a failure to include them in policy formulation can doom efforts at decentralization. They were ignored in the Peruvian decentralization effort and subsequently used the newly created community organizations to oppose the government (McGinn and Street, 1986). Ministry officials have the most to lose in decentralization, and active resistance by factions within the ministry represent a major threat to implementing decentralization. In constructing an implementation strategy, it is important that key ministry officials have an incentive to see the program succeed.

In addition, to political support by important interest groups, political continuity at the national level is required. Venezuela, for example, experienced several changes in political administration in the 1970s, although there was consistent support for a policy of deconcentration to regional and local directorates. Decentralization plans were announced with every change in administration in 1969, 1974, 1977, and 1979. Support for decentralization was consistent and financial resources were abundant, but every new minister of education announced a revision of the previous decentralization plan. As a result, decentralization was never implemented (Hansen).

Political instability in Venezuela took the form of frequent changes in ministers within a democratically elected government. In other countries political instability takes the form of frequent changes from authoritarian military regimes with a need for centralized control to popular democracy and the mandate to return power to the people.

Frequent political and policy changes often destroy fragile local government and community organizations; it is in general far easier to centralize than to decentralize. An example of how policies change is Pakistan, which gained independence in 1947 with elementary education provided by private schools and local schools run by district councils and municipal governments. Education was centralized to the provincial level in 1962, and in 1972 all private schools were nationalized. In 1979, the government again legalized private schools.

Government and Administrative Structures

Successful implementation of decentralization requires precise and concise laws and regulations governing the effort, effective and frequent communication between the center and the decentralized units, and incentives for administrators to implement the new policies.

Specificity of laws and regulations are important. If the descriptions of new roles, activities and coordinating activities under decentralization are unclear, there may be little effort to alter actions. Vagueness in implementation plans and directives permit an organization to claim existing activities meet those directives (Montjoy and O'Toole, 1979). In the case of Peru, the regional and local directorates created by the decentralization plan suffered from ambiguity as to their role. The ministry of education used them as its administrative arms. They were never given the opportunity to fulfill decentralization objectives because they were always responding to ministry requests for more plans and data. Drawing from the experiences of successful countries, Bray (1985) specifies the kinds of details required for successful introduction of community schools.

Historical and Cultural Context

Culture refers to the traditional role of communities and citizens' attitudes towards authority. According to observers, decentralization was relatively successful in Eastern Nigeria, in part due to a tradition of community competition (Okove, 1986). This native tradition was further fostered by the colonial practice of communities constructing and paying the recurrent costs of mission schools. Another positive feature is that communities are small and blood-related, making it easier to control the free-rider problem common to the provision of collective goods (Igwe). Success in Eastern Nigeria can be contrasted to the failure of Peruvian education decentralization. One of the factors contributing to lack of success in Peru was a political culture highly deferential to authority and center-based decisions (Stromquist, 1986).

Culture also has much to do with the origins of decentralization policies in the first place. In Kenya, for example, the pressure for decentralization originated with the community, not the central government. When decentralization policies come from the bottom-up rather than the top-down there are higher expectations for participation and stronger pressures for implementation (Conyers, 1983).

Implementation Strategies

Implementation of decentralization policies requires a plan of action. Rondinelli (1986) notes at least four important elements to a successful strategy:

(i) concentrate initial efforts on small scale activities for which there is popular support and recognized need; (ii) gradually expand the scope of decentralized activities as local managerial and financial capacity increase; (iii) alter the mission of the central government ministry to support and facilitate the decentralized units, as opposed to direct provision and control; and (iv) train both local and central government administrators and officials to change attitudes as well as improve the skills required in a decentralized environment.

The United States' Experience

Elementary and secondary education in the United States are usually viewed as being highly decentralized, with local government, usually special school districts, raising revenues and providing education. The federal government plays only a very minor role in elementary-secondary education, although state governments have assumed an increasingly active role in regulating and financing education provided at the local level.

Some urban school districts, however, are very large with enrollments as large as some countries and encompassing a large number of ethnic and income groups. These large districts are effectively run by professional staff and the teachers' union with little opportunity for parental participation. (See Clark's description of this situation.) Frustration was so high that a movement arose to create independent community schools, not unlike the "harambee" schools of Kenya. Largely in response to minority group pressure, an attempt was made in several cities in the late 1960s and early 1970s to decentralize and give community groups more say in operation of neighborhood schools. One city -- New York -- even permitted neighborhoods to elect local school boards to formalize community participation.

The dynamics of decentralization efforts in the United States were not unlike those in developing nations today. Most announced efforts at decentralization were attempts at administrative decentralization with no provision for parental participation (see Fantini and Gitell, 1973). Major opposition to decentralization came from those groups most at risk in losing power -- school teachers and administrators. In other words, much like decentralization efforts in other countries, the United States experience relied upon the opponents of decentralization to implement it.

The effects of decentralization efforts in the United States were neither large nor permanent, in part a result of insufficient funding. Creation of smaller decisionmaking units did not necessarily increase citizen involvement in education, although different citizens (community activists) did become involved (La Noue and Smith, 1973). The reforms appeared to bring about some minor curriculum changes, but no empirical evidence exists on the impact on student achievement.

In short, decentralization in United States cities experienced many of the same implementation problems as decentralization efforts in developing countries. And the evidence as to the empirical effects of decentralization efforts is no better for the U.S. than the developing countries.

VI. Research Agenda

In theory, decentralization has the potential to improve both the finance and efficiency of public education, as well as the potential to worsen equity. In reality, we know very little about the effects of decentralization on efficiency and equity. A number of case studies exist describing why decentralization policies were formulated, how they were implemented, why implementation was successful or not, and which interest groups appeared to win or lose as a result. These studies permit some generalizations about the politics of decentralization but permit almost none about the educational or economic consequences. Given the lack of generalizable results and the lack of a predictive model of the effects of decentralization, advocacy or opposition to decentralization must be based on either theoretical or political grounds.

As a policy, decentralization is faddish. It was initially advocated in developing countries in the 1950s as a means of establishing and reforming local government. With the sudden popularity of national planning in the 1960s, attention became focused on improving planning and administration at the center. When it was discovered that national planning could not in and of itself solve persistent educational problems, attention in the 1980s once again became focused on decentralization.

What We Need to Know

Before decentralization can be endorsed (or opposed) as good public policy, there is much that needs to be learned from existing decentralized systems and past attempts at decentralization. In addition, it may be necessary to undertake small scale experiments in decentralization in order to answer some of the more important questions regarding effects. The most important questions to which answers are needed are given below.

1. What is the impact of decentralization on social efficiency?

In theory, decentralization should lead to an improved match between consumer-citizen preferences and the quality and quantity of educational services provided. But the magnitude of this improvement is unknown, as is how the magnitude may vary with the type of decentralization undertaken.

2. How does decentralization affect technical efficiency and costs?

Decentralization should, in theory, also result in improved technical efficiency and lower unit costs for a given quality of education. But under which types of decentralization and which types of institutional arrangements does this in fact occur? Are total administrative costs higher or lower in decentralized systems? Are community resources more or less effectively used in decentralized systems?

3. What is the relationship between decentralization, competition between communities, and innovation?

Decentralization should, also, lead to greater competition between communities and greater innovation in the delivery of educational services. To what extent does this occur? How can competition and innovation be fostered in a decentralized system? What is the evidence from the decentralized systems that currently exist?

4. Under which conditions does decentralization lead to increased community finance and increased per pupil educational spending?

From the perspective of governments faced with expenditures growing more rapidly than revenues, the prospect of shifting finance of education to local communities is attractive indeed. Which conditions are required for communities to take the initiative in raising educational revenues? How can the central government facilitate such action by communities? Does the shifting of financing responsibility from central to regional or local governments lead to higher or lower spending per pupil? None of these questions have been answered, although careful study of decentralization experiments might yield some tentative answers.

5. To what extent are intergovernmental transfers consistent with decentralized decisionmaking?

Most countries decentralize educational finance through the use of intergovernmental grants to re-

gional and/or local governments. Most commonly, these grants are conditional on required actions or performance by the recipient of the grant, but this conditionality itself limits decisionmaking independence. How can grants be organized to transfer resources while maintaining decisionmaking independence by the grantee? Under what conditions would such unconditional grants be politically acceptable?

6. How does decentralization affect horizontal and vertical equity?

Decentralization is predicted to increase horizontal and vertical inequity. To what extent has this proven true in decentralization programs? Are inequities larger in decentralized or federalized developing countries than in centralized or unitary governments? What has been the impact of redistributive central government grants on spending inequities between regions or communities?

7. Can the virtues of decentralization be attained in a centralized system?

Decentralization in the form of devolution is predicted to have a number of positive effects on educational efficiency, finance, and management. To what extent can these advantages be attained in a centralized system? In other words, to what extent does decentralization of decisionmaking have to occur in order to realize significant efficiency gains? Which educational functions should be centralized or decentralized in order to yield gains in efficiency and management?

Research Design

At least four basic research designs could be devised to answer the above questions. The first is to simply monitor and evaluate ongoing or past decentralization efforts, focusing on the above questions. Existing studies of decentralization cases have not focused on these questions and rarely provide empirical conclusions. The second is to undertake a systematic comparative study of centralized and decentralized educational systems, again with an emphasis on the collection of data aimed at answering the above questions. The third is to monitor (and possibly fund small scale) new decentralization efforts. Finally, the centralization or decentralization of particular educational functions could be studied. For example, a study to examine the determinants of local community financial support of education might be undertaken either across communities within a particular country or across countries demonstrating large variance in financial support.

Specific research designs could be developed to attempt to answer each of the questions posed above. Clearly, the appropriate design would depend on the country or countries being studied, their institutions, and the type of decentralization undertaken.

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