

THE WORLD BANK

Discussion Paper

EDUCATION AND TRAINING SERIES

Report No. EDT84

Public Policies Toward Private Education

Estelle James

June 1987

Education and Training Department

Operations Policy Staff

Discussion Paper
Education and Training Series
Report No. EDT 84

PUBLIC POLICIES TOWARD PRIVATE EDUCATION

Estelle James

Research Division
Education and Training Department

June 1987

The World Bank does not accept responsibility for the views expressed herein, which are those of the author(s) and should not be attributed to the World Bank or to its affiliated organizations. The findings, interpretations, and conclusions are the results of research or analysis supported by the Bank; they do not necessarily represent official policy of the Bank.

Copyright The International Bank for Reconstruction and Development
 /The World Bank

ABSTRACT

This paper surveys the wide range of public policies toward private education that are found in a sample of 35 developed and developing countries. Private schools in developing countries tend to be less subsidized and less controlled than those in developed countries. The author then discusses the relative merits of using subsidies and regulations to stimulate quantity and quality of private education. The author concludes that per student subsidy, targetted at low-income students, is probably the best way to increase both quantity and access. To increase quality, the government may have to intervene with earmarked subsidies directed towards schools, together with ~~and~~ regulations. However, these interventions have many pitfalls. The trade-offs between quality and quantity and between public and private education are discussed.

CONTENTS

	<u>Page</u>
Introduction	2
I Policies Toward Private Education in Developing and Advanced Industrial States	7
Data Problems	7
Subsidies and Regulations: A Diagrammatic Representation	11
Relationship Between Subsidies and Private Sector Size: Modern Versus Developing Countries	23
Relationship Between Subsidies and Controls	25
II Some Underlying Conceptual Issues	29
Policy Goals	29
Quality	31
The Quantity-Quality Trade-Off	32
Information	33
III Control	37
Should Nonprofit Status be Required?	40
Should Minimum Physical Standards be Imposed?	45
Should Minimum Academic Requirements be Set?	47
Should Fees and Other Selection Criteria be Controlled?	51
IV Subsidies	56
Lump Sum Grant	58
Subsidy per Student	59
Subsidy as a Proportion of Costs	61
Subsidies Tied to Particular Inputs	63
Subsidies Tied to Capital	66
Subsidies Based on Academic Achievement	69
Summary and Conclusions	72
Appendix	77
I Private and Social Value Added and School Quality	77
II The Quantity-Quality Trade-Off	80
III Non-Profit and For-Profit Production in the Long Run and Short Run	82
IV Price Ceilings	84
V Lump Sum Grants	86
VI Subsidy per Student	89
VII Subsidy as a Proportion of Cost	92
Footnotes	94
References	96

Introduction

Developing countries today are considering greater reliance on the private sector for the provision of quasi-public goods such as education. It is argued that this would enable education and other services to grow without imposing additional costs on the public treasury. Furthermore, the discipline of the market would force private schools to operate efficiently and in accordance with consumer preferences. The desire for greater efficiency and responsiveness to consumer preferences has also led some advanced industrial states to consider adopting privatization policies.

This reevaluation of privatization is closely related to the concurrent reevaluation of decentralization since delegation of educational responsibilities to private organizations has many of the same advantages and disadvantages and raises many of the same policy issues as does delegation to local communities. Public finance models often assume that quasi-public goods are provided by local governments, which have the best information about consumer preferences, that people will move to a geographic community offering the kinds of services they prefer and those with like tastes will therefore congregate together to get the product variety of their choice. Decentralization is then said to bring about competition, efficiency and the prospect of tapping new revenue sources (albeit at possible costs in terms of equity).

However, many countries do not have well functioning local governments and when they do, barriers to mobility and costs of setting up new communities limit this process. The fact that bundles of different

public goods (schools, hospitals, social services) are tied together under local government provision may further prevent consumer preferences from being fully satisfied with respect to any one of them. In contrast, private production, which is based on a "community of interest" rather than a geographic community, constitutes an alternative institutional mechanism for accomplishing the goals of decentralization without incurring movement costs or local government set-up costs and without the artificial tying together of a variety of quasi-public goods. Indeed, in situations where local communities are informal arrangements without legal taxing authority (as for the Kenyan harambee schools), it is difficult to draw the line between decentralization and privatization.

Private education also has an advantage with respect to cost recovery. Many countries currently rely on a small proportion of user fees in their public schools and are considering raising them, particularly at the secondary and higher levels where demand greatly exceeds capacity and the upper income brackets are disproportionately represented. (See Financing Education in Developing Countries, 1986.) This "privatization of funding" in public secondary and higher education could permit greater spending at the primary level, hence could be both efficient and equitable. However, political opposition to fees is strong from students and their families, often preventing this from happening, whether the public school system is centralized or decentralized.

In contrast, private schools automatically engage in cost recovery, since fees are their major means of support in developing countries. Privatization therefore gives us an alternative way to raise aggregate revenues from the beneficiaries of education, even if tuition at public institutions remains unchanged and low.

It is useful at this juncture, therefore, to take stock of the current state of public policies toward private schools. Are these policies restrictive or facilitating? In the former category are historical policies which, in earlier periods, prohibited certain types of private schools (such as those run by the Catholic Church) in several European countries. In the latter category are generous subsidies to private schools, covering most of their costs, found in many of these same countries today. In these cases, where production responsibility is decentralized while funding responsibility remains centralized, the question of the optimum division of control always arises. In between the extremes of restriction and facilitation are the policies of most developing countries, which range from moderate assistance to moderate impediment.

In this paper, based on discussions with knowledgeable people about a sample of 35 advanced industrial and developing countries and research visits to some of them, I outline the major policy constellations that exist currently. Each such constellation includes both facilitating factors (subsidies) and restrictive factors (regulations). That is, each country must determine the public-private division of responsibility concerning funding and concerning control. Can large private sectors exist without subsidies? Are subsidies accompanied by controls and if so, over what? These questions are answered for the 35 countries in my sample. Interestingly, the answers turn out to be different in modern and developing countries.

Beyond describing the current state of affairs empirically, this paper investigates from a theoretical perspective which policies are consistent with alternative educational goals. The optimum policy

constellation, of course, depends on what a country wishes to accomplish. Is it trying to increase enrollments? quality? equity? efficiency? national unity? responsiveness to consumer tastes? These are all worthwhile objectives but, as we shall see, shaping the private sector for each end may require different policy instruments, a given instrument may have a positive effect on one objective but a negative effect on another, and hence a choice must be made among them. The divergent policies found in many countries today suggest they have different goals or, perhaps, have not carefully thought out the ultimate impact of their policies. And quite possibly, even after careful thought, there is not a full agreement on goals even within a given country.

One of the most important goal-choices involves the trade-off between quantity and quality, to which I shall frequently refer. Under certain conditions this also implies a trade-off between efficiency and equity. The goal of national unity sometimes conflicts with consumer or group preferences. Another frequently recurring theme in this paper concerns the degree of information and the relative informational deficiency possessed by families, school managers and governmental planners, concerning educational quality and the educational production function. Our assumptions regarding agreement on goals and distribution of information have major implications for the choice between centralization, decentralization and privatization and for the optimal subsidy-regulation scheme where some delegation is used.

Part I depicts in stylized fashion the categories of policies found in my sample of advanced industrial and developing countries. This lays out the wide range of policy options available, regarding the delegation of production and funding responsibilities in private organizations. Part

II raises some fundamental definitional and conceptual issues that underly an analysis of these policies. Parts III and IV proceed to examine in greater detail the probable impact of some of these options, to ascertain whether they are consistent with alternative educational objectives. This also allows us to infer the implicit objectives for each policy instrument. The close relationship between privatization and decentralization issues becomes clear in this analysis. The conclusion summarizes our findings on the optimal policies for a country seeking to expand its private educational sector and sets forth questions that need further study.

I. Policies Toward Private Education in Developing and Advanced Industrial States

While there are many dimensions to a country's policy toward private education, two may be most salient: the degree and type of subsidy or financial support and the degree and type of regulation or control. Both of these create a kind of public-private hybrid, subsidies implying mixed public-private funding and regulations implying mixed public-private decision-making. The private sector is defined in this paper as comprising all educational institutions where some proportion of the funding and decision-making is the ultimate responsibility of private organizations, not governmental authorities.

What kind of subsidies do we find, what is the nature of the regulations and is there a connection between them? Are there systematic differences in the subsidy-regulation patterns in advanced industrial and developing societies? Are there systematic relationships between the subsidy-regulation patterns and private sector size? These are the questions we address in this section. It turns out that most of the answers are "yes."

Data Problems

Data on types of subsidies, regulations and private sector size were obtained for a sample of 35 modern and developing countries, from a combination of published sources, visits to countries and discussions with knowledgeable officials. A few data problems should be mentioned at the outset.

First, in some countries there may be missing information on types of subsidies and regulations; that is, either or both may be understated in some cases. This could not be avoided without extensive research visits to each country. Partly for this reason, I have treated countries as groups, rather than individually; it is less likely that the missing information was large enough to distort the group assignment.

The second problem works in the opposite direction. My groups are based on subsidies and regulations "on the books." However, these are implemented in very different ways in different countries and I have much less information on degree of enforcement. To exemplify how important this factor is: we know that the enormous expansion of Japanese private education in the 1950's and 1960's was facilitated by a bureaucratic decision to overlook the many detailed regulations which specified space per student, minimum number of chairs and books, maximum student-faculty ratios, enrollment ceilings, etc. Most of the numerous private universities that were established during this period simply did not meet the required standards, yet they were given official approval. This might appear to be a highly regulated system, but de facto it was unregulated, in these respects. In Zambia, Nigeria, India and Pakistan numerous unregistered private schools have developed in recent years. Such schools may not meet all of the registration requirements but they apparently meet consumer requirements nevertheless. As yet another example: similar detailed regulations are in effect in Colombia but systematic monitoring is impossible, especially since the number of private institutions has increased much faster than the administrative-inspection staff. Thus, the regulations are enforced sporadically and may appear as a nuisance factor rather than as constructive oversight. The very presence of numerous

regulations "on the books" does indeed open the door to harassment, corruption and other restrictions on private initiative, even if they are not systematically enforced. This would be worth further investigation in several countries. For the purposes of this paper, however, I assume a uniform level of implementation, unless I have specific information to the contrary.

Of course, countries frequently have different policies toward their private sectors at primary, secondary and higher levels, and the size of their private sectors also vary by level. For purposes of expositional simplicity, I concentrate this discussion on the secondary level, except where otherwise noted. Developing countries are more likely to make primary education a public responsibility, a symbol of national unity and equity, and therefore to offer less subsidies to private primary schools. In fact some countries (such as S. Korea) have nationalized their primary schools while relying on private initiative at the secondary and higher levels. In general, excess demand and consequently private sector size are much larger at the secondary level. On the other hand, in modern countries, where differentiated demand is the driving force, the subsidy system is likely to be similar at the two levels and the private sectors will also be much closer in size. (For further discussion of this point see James, 1986b and 1987a.)

At the higher education level, subsidies are likely to be less common than at the secondary level, this time both in developing and advanced industrial societies. While excess demand in developing countries may be great, governments place less priority on accommodating it by subsidizing the private sector. And in modern countries, the main suppliers of private education, religious organizations, will put less emphasis on higher than

lower levels, where socialization takes place. As noted below, those subsidies that do exist are likely to take indirect forms such as tax abatement and student loans. While support is therefore less and less direct, control over universities is also much less. For example, academic regulations rarely apply and, in the absence of subsidies, regulations regarding teachers and decision-making rarely apply. On the other hand some countries (e.g. Malaysia, Kenya) appear to discourage the growth of private universities, perhaps in order to maintain control over who gets access to higher education. And, without positive support from the government, it is much more expensive, hence much more difficult to start a university than a secondary school. Thus, the over-all atmosphere may be somewhat less conducive to private initiative at the higher level; however, this tentative hypothesis would need much further examination before it can be confirmed.

At the secondary level further problems arise: there are often two separate private subsectors, one heavily funded and controlled, the other unsubsidized and relatively unregulated. The former is usually but not invariably larger than the latter. For example, the voluntary aided schools in England, run by affiliates of religious organizations with government support, are part of the private sector by my definition, (although they consider themselves public) since they retain some funding and decision-making responsibilities (15% of capital cost, selection of students and teachers). But the private sector also includes the elite group of independent schools which are subject to very little support or control. Similarly, the "substitute" schools in Germany are subsidized and regulated, the "supplementary" schools are not. And even in Sweden, which is generally antithetical to private education, a few private schools are

subsidized on special grounds (e.g. the Jewish school). Sometimes the unaided schools are there by choice because they do not want to accept the control that goes with aid. More often they are there because the government does not wish to aid them. In the discussion below I sometimes distinguish between the two components of the private sector but generally I have categorized a country according to its average treatment of the sector as a whole, which depends on the relative size of the two component parts.

Subsidies and Regulations: A Diagrammatic Representation

Ideally, I would have liked to rank each country according to its ratio of subsidy to total private sector cost (the inverse of its delegation of funding responsibility). However, data on size of subsidy and/or total expenditure were not available for most countries; private schools jealously guard their financial information. Therefore, a rougher grouping was used. Countries were placed into 4 categories of roughly equal size: I. Those which offer no systematic subsidy; II. Those which offer indirect subsidy; III. Those which offer partial subsidy; and IV. Those which offer almost complete subsidy to their private educational sector. Table 1 lists the kinds of subsidies found in each category. (While category I obviously offers the least aggregate subsidies and category IV the most, the value of the implicit subsidy in category II sometimes exceeds the explicit subsidy in category III. These magnitudes, however, are usually not available.)

Ranking countries according to degree of regulation (i.e. the inverse of its delegation of decision-making responsibility) was more difficult, because of the complex, varied and detailed nature of controls, which

Table I
Subsidy Constellations and Their Ingredients

- I No Systematic Subsidy
- II Indirect Subsidy
 - Tax benefits (relief from import duties, property tax, sales tax, income tax, gift tax)
 - Low-interest loans or guaranteed loans
 - Student loans or scholarships
- III Partial Subsidy
 - In-kind provision of texts, meals, supplies, some equipment
 - Provision of 1 or 2 teachers per school
 - Subsidized teacher-training
 - Small cash grant
 - Low-rent buildings or shared facilities
- IV Almost Complete Subsidy
 - Payment of all teacher salaries
 - Other recurrent expenses, depending on enrollment
 - High proportion of capital costs

cannot easily be collapsed into a single scalar value. I found, however, that certain types of control were almost universal (Regulations of Physical Facilities), others exist in a large set of countries (Academic Regulations, Organizational and Reporting Requirements), and still others apply mainly to countries and schools where large subsidies are granted (Regulations Regarding Teachers and Students). I was thus able to construct a (rough) continuum with respect to regulation as well. Table 2 lists the regulations I found, in this order; they represent the decision-space that has been shifted from the private to the public domain. (Although some elements of category I (Regulations of Physical Facilities) generally appear before II A (Academic Regulations) or II B (Organizational and Reporting Requirements), and II always appears before III (Regulations Regarding Teachers and Students), so that III implies some elements of I and II are present, it is possible that II B appears

without II A, as will be noted below). A fourth category lists the kinds of decisions that are almost always reserved to the schools.

We can now construct a diagram, depicting each country's policies in 2-dimensional space. In Figure I degree of subsidy is measured along the vertical axis and degree of control along the horizontal axis. Thus, the upper right hand (Northeast) corner represents a pure public system: full public funding and control. The lower left hand (Southwest) corner represents a pure private system: full private funding and control. As we have just suggested, however, most private schools are hybrids, receiving some public support and/or facing some public regulation. Where then does each private school system fall in this two-dimensional continuum? We proceed to construct a scatter diagram which will tell where most countries are located and what, if any, are the relationships between subsidy, regulation and private sector size. In this diagram, a square indicates a small private sector (less than 25% of the total secondary student body), a circle indicates a large sector (25% or more), when these are blank they represent developing countries and filled in they represent advanced industrial states.

I. No systematic support. (Row 1, along the horizontal axis.) This group, which includes several African and European countries (e.g. Nigeria, Madagascar, Mali, Burundi, Algeria, Sweden, Greece, Italy), gives virtually no assistance to private schools on a regular basis.

Table II

Types of Regulations, According to Probable Occurrence

- I Regulations of Physical Facilities
 - Schools must register
 - Health and safety standards must be met
 - Standards regarding space and furniture must be met
 - Target enrollments are related to physical facilities

- II A. Academic Regulations
 - Schools must follow detailed government curriculum
 - Degree requirements are specified by government
 - Calendar and timetable are specified by government
 - Students must take national exams periodically (e.g. at exit from primary and secondary school or entrance to public secondary schools and universities)
 - Medium of instruction is specified *

- II B. Organizational and Reporting Requirements
 - Schools must have non-profit status
 - Schools must submit periodic financial reports
 - Minimum investment is specified *

- III Teachers and Students
 - Teacher salaries and qualifications are specified by government
 - Procedures and criterion for firing teachers are specified by government
 - Allocation of budget between teachers and other inputs is specified
 - Fees are controlled by the government
 - Expenditures per student are limited
 - Criteria and procedures for selecting students are specified

 - Government representatives serve on managing board of school

- IV Decisions Generally Reserved to Schools
 - Selection of teachers
 - Selection of students**
 - Teaching methods
 - Religious instruction

* These regulations are rare, but potentially important.

** Some societies do not permit religion or ethnicity as grounds for selection; others explicitly permit it. This regulation does not occur in any regular order.

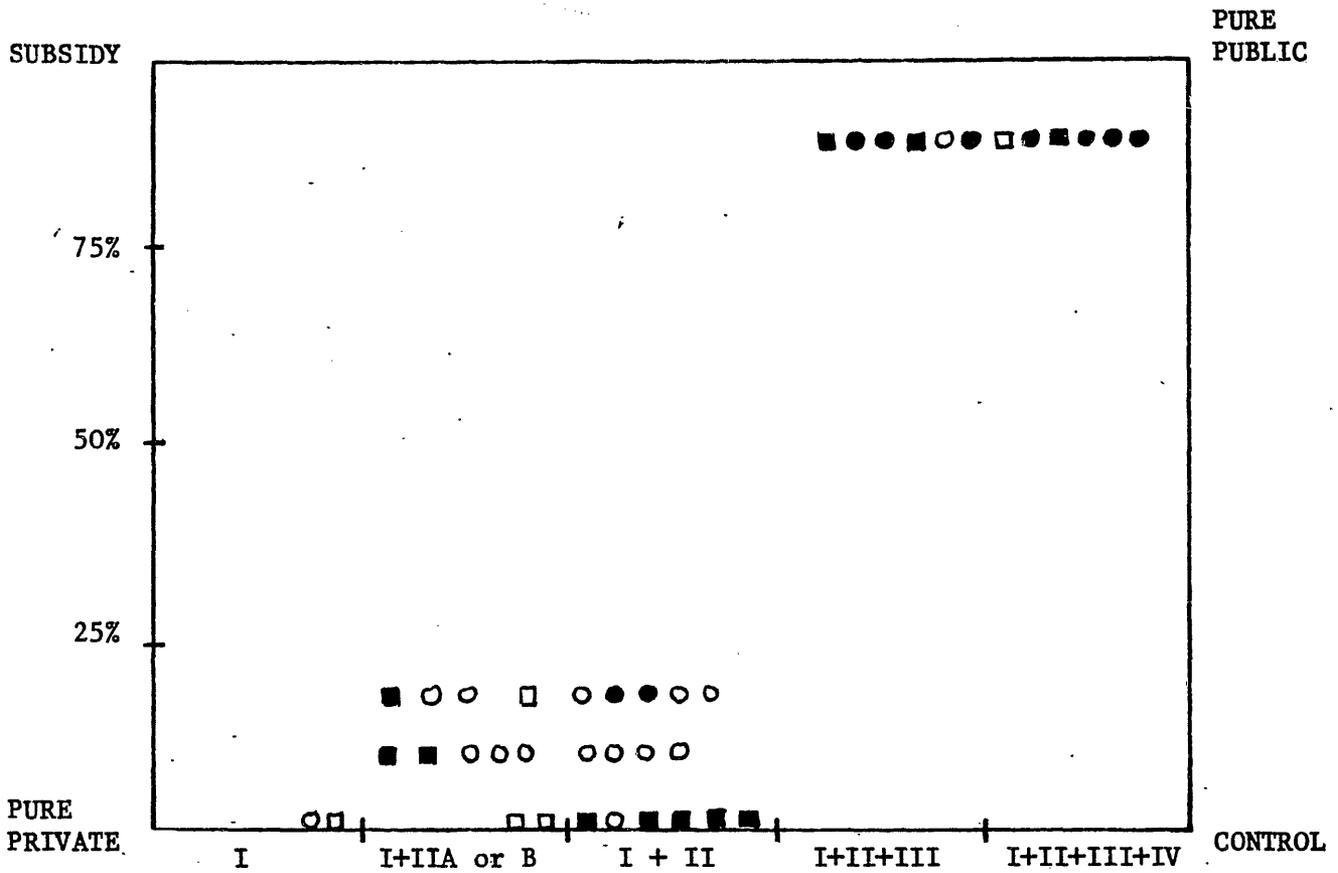


FIGURE I: POLICY CONSTELLATION
SUBSIDIES, CONTROLS AND PRIVATE SECTOR
SIZE IN MODERN AND DEVELOPING COUNTRIES

- = Advanced industrial state with small private sector.
- = Advanced industrial state with large private sector.
- = Developing country with small private sector.
- = Developing country with large private sector.

Nevertheless, those which exist often face both physical and academic regulations. They are required to register, to meet minimum health and safety standards and, if a national curriculum, exam system or timetable exists they are required to follow it despite the absence of subsidies, (e.g. Italy, Greece).¹ These regulations are costly, both in terms of money and organizational time and effort. Consequently, the net attitude toward private schools might be termed negative, sometimes the result of an antagonistic political ideology. Indeed, these controls are often designed to discourage or prohibit private schooling, as in Pakistan and Tanzania in the 1970's. Thus, the private sector in this group is usually small.

II. Indirect subsidy. (Row 2.) This group, which includes the U.S., the U.K., Jordan, S. Korea, the Philippines, Japan before 1970 and several Latin American countries (Brazil, Mexico, Guatemala), offers indirect subsidies to the private sector: tax privileges (e.g. relief from import duties, property tax, income tax, gift tax, sales or value-added tax); low interest, tax-free or government-guaranteed loans; and student loans or special scholarships (especially at the university level) which enable students to pay high fees. Of course, tax benefits have value only if the country has a well functioning tax collection system and student loans will work only if they are ultimately repaid. Both these requirements limit the usefulness of indirect subsidies in developing countries. On the other hand, government guaranteed or subsidized loans may be a useful way of overcoming capital market failure problems, especially acute at the higher educational level. Several of these countries also indirectly facilitate private sector growth at the university level by charging substantial fees at public universities (U.S., Korea, Japan).

Interestingly, some of the "indirect subsidy" countries do not impose national degree requirements, examinations or even a national curriculum on their public or private schools; weak central control of education is characteristic of such countries which may also help explain their reliance on indirect forms of subsidy (e.g. the U.S. and U.K. are prime examples). On the other hand, regulations of physical facilities as well as organizational and reporting requirements are typical of this group. This may be viewed as an attempt to provide incentives so that the private schools (the agents) will act in the interest of the government or society (the principal) without extensive direct controls.

For example, in the U.S. all schools are subject to zoning and building codes and, moreover annual financial statements are required for those which wish to retain tax exempt status. This is a significant requirement, since private schools are reluctant to provide information on their revenues and costs in most countries, fearing that it will be used against them. In Japan, S. Korea and parts of Latin America nonprofit status is required for all private schools and universities and in the U.S. and U.K. it is, again, a necessary condition for tax-exemption. (In the U.K. the term "educational charities" rather than nonprofit organization is used). Nonprofit organizations (NPO's) are legally prohibited from distributing their monetary residual or profits; instead, all revenues must be plowed back into organizational activities. Hence, they may use these funds to improve quality, rather than downgrading quality in order to maximize profits. However, in some countries it is widely believed that founders of private schools find methods to reap their profits in disguised form, for example, by awarding themselves high (above market) wages or perks as school managers.

In Brazil, Colombia and Guatemala starting fees and any subsequent changes must be approved by the government and detailed financial reports are required for this purpose. Such regulation of fees is unusual in unsubsidized schools and could be a significant impediment to private sector growth, if enforced. Nevertheless, it is widely believed that schools usually find their way around these restrictions, e.g. by invoking "voluntary" contributions; charges for transport and meals, etc. The reporting regulations, however, remain.

In developing countries excess demand is usually large enough at the secondary and higher levels to produce large private sectors in this relatively permissive atmosphere and these are shown by the blank circles in row 2 of the diagram. In developed states, however, the private sector is relatively small in the absence of direct subsidies and therefore is shown by filled in squares.

III. The partial subsidy group. (Row 3.) A wide variety of countries offer partial subsidy (less than 25% of total expenses) to their private educational sector. Examples are Senegal, Peru and Bolivia (especially to the "fe y alegria" schools and cooperatives), Pakistan (after 1980), Japan (after 1970), Jordan (primary level), Liberia, Indonesia, Kenya, and some Indian states. (Education is reserved to the states, not the central government in India, and state policies differ widely.) Most commonly, the subsidy includes in-kind provision of books, supplies and meals; 1 or 2 teachers per school; and subsidized teacher-training. Often a cash grant, is given as well; less often, low-rent buildings or shared facilities (e.g. libraries) and indirect subsidies such as tax incentives are included. In Kenya, Paraguay, and several other countries rural

communities have started their own schools, then pressure the government to provide teachers, with partial success.

The regulations which accompany these subsidies range from minimal to broad controls over physical facilities, fees and salaries of subsidized teachers (e.g. these apply to subsidized schools in Peru and Senegal). These countries apparently do not believe that indirect structural and reporting requirements will suffice to bring private school behavior into concordance with national interests, either because private consumers and managers have different information about the educational production function or because they have different goals. On the other hand, these countries do not regulate too heavily, for fear that private initiative will be discouraged.

For example, in Indonesia schools must spend more than their private sources of income in order to be eligible for aid; i.e. aid cannot exceed their operating deficit. In this sense, subsidized schools are turned into nonprofit (or zero-profit) organizations. Beyond that, subsidized schools must have at least 2 permanent qualified teachers (as evidence of quality), and Indonesian must be its language of instruction (a tool of national unity). Similarly, Pakistan has stated its intention of making Urdu (or an approved provincial language) the instructional medium in all schools. This is important because desire for English medium instruction is a major source of private sector demand in many countries (e.g. Pakistan, India, Latin America) and such regulations, therefore, undercut the potential market. It should be noted, however, that even in countries with these nationalistic requirements, some of the most elite private schools are exempted, teach a foreign curriculum in English and prepare students for external examinations (e.g. in Pakistan a few such schools are heavily subsidized).

Sometimes indirect regulation exists in these countries via the type of schools for which partial aid is designated. For example, the fe y allegria schools which are subsidized in many Latin American countries are run by Catholic orders specifically for low income groups in urban areas; with admission policies and fees self-regulated for this purpose, external regulation is unnecessary and superfluous.

In general, the positive effects of the partial subsidies outweigh the negative effects of the moderate controls in this category, so most of these countries have large excess-demand driven private sectors, as depicted by the circles in the third row of the diagram.

IV. The high subsidy group. (Row 4.) Here we have a concentration of European countries -- Holland, Belgium, Ireland, France, Luxemburg, Denmark, the "voluntary aided" schools in the U.K., the "substitute" schools in Germany -- which provide heavy subsidies, covering over 80% of total expenses, to their private schools, usually differentiated along religious lines. Included here too are the state of Kerala in India, Lesotho, Togo and Chile. In particular, all teacher salaries are paid in these countries, an allocation (usually based on enrollments) is made for other recurrent expenses, and a high but varying proportion of capital costs is also covered. In the case of Chile, payments are made per student, in a modified voucher plan, but the net effect is the same. Generally, the intent is for private and public schools to operate at the same level of expenditure per student in these countries.

It is hardly surprising that these are also the most heavily regulated schools. Besides the physical, academic and financial controls that we have already encountered, these schools often face controls over

teacher salaries, credentials and procedures for hiring and firing as well; private school teachers, in effect, have the same status and job security as civil servants (e.g. Holland, France, and to a lesser extent Belgium). Government also sets and pays teacher salaries in Togo and Lesotho. Also of interest are regulations designed to control the decision-making structure, by placing teachers, parents, students and government representatives on the governing boards (e.g. Holland, France, voluntary aided schools in U.K.) This is designed to ensure democratic accountability in a situation where public funds and production responsibilities are turned over to private organizations. (Interestingly fewer controls over teacher salaries and decision-making structure are found in Chile, where the voucher scheme was part of an explicit decision to de-control.)

Controls extend too over the distribution of service and the criteria for selecting students in heavily subsidized schools, in an attempt to deal with problems of equity and access. For example, academic ability could not be used as grounds for exclusion in English voluntary aided schools, after the public shift to comprehensives. In France private schools are eligible for subsidy only if they agree to become part of the regional educational plan; the government's attempt to require them to accept students from their catchment area sparked a major and as yet unresolved controversy. The price for government support to the mission schools in post-independence Kenya and for state support of denominational schools in post-war Germany was that they agreed to forego religion as a basis for selection; schools that receive aid must use centrally-determined selection criteria. [Interestingly other countries specifically permit religious selection of students and teachers in their

subsidized private schools and some countries (e.g. Kenya, Nigeria, Malaysia, India) use tribal, caste or regional quotas in their public schools].

In general, price-rationing is restricted or proscribed in high-subsidy schools. Holland places a low ceiling on fees and students cannot be excluded on grounds of nonpayment. Governmental approval of fees is required in Luxemburg. Subsidized schools in Chile and voluntary aided schools in England cannot charge fees. In India tuition floors are set in some states, ceilings in others, for aided schools, reflecting different philosophies about whether the regulations are designed to enhance resources and quality (floors) or equality (ceilings). As discussed in Part III, a ceiling on fees implicitly places a ceiling on expenditures per student and school quality.

This leads us to the point that in almost all cases, even as public funding approaches 100%, the final selection of teachers and students as well as teaching method is left to the school; this seems to be the sine qua non of "private" education. But this is also most important, because the students plus the teachers and the teaching method ultimately determine the learning environment. When these decisions, too, are turned over to the government, the private schools have been nationalized.²

As indicated by the above examples, many of the countries in the higher subsidy group are developed, although a few developing countries are also represented. This category contains a mixture of large and small private sectors, depicted by the circles and squares in the top row of the diagram.

Relationship Between Subsidies and Private Sector Size: Modern Versus Developing Countries

A casual perusal of Figure I shows that the countries in my sample fall into two clusters rather than a continuum of countries: those offering low subsidies (less than 25% of total sector expenditure) and those offering high subsidies (more than 75% of total sector expenditure). Most advanced industrial countries fall into the latter group and most developing countries fall into the former.³

Historically, many nineteenth century European countries would have fallen into the former group as well. This suggests that private sectors in developing countries are more "pure" than those in modern countries, that subsidies and hybridization may increase in the process of economic development. As resources for education increase, some of them are used to subsidize private education. Elsewhere, I have argued that this occurs in countries with cultural heterogeneity, in response to pressure from consumers who want a differentiated product and producers, often politically powerful religious organizations, who want to maintain a clientele for their schools (James, 1986b).

In the Southwest quadrant, then, are a few modern countries and some "suppressive" developing countries (i.e. no systematic assistance, many regulations) both of which, consequently, have small private sectors. We also find, however, a large number of "permissive" (low subsidy, low regulation) developing countries with large private sectors.

How can large private sectors grow without substantial public support? This runs counter to the belief of many educators and economists, who emphasize the need for public spending to increase enrollments. As I have shown elsewhere, in developing countries the private sector is a

response to excess demand (James, 1986b). Because of limited resources, the public sector does not provide a place for everyone, particularly at the secondary and higher levels. However, the private rate of return is high because education brings better jobs and lifetime earnings. As a result, many people are willing to pay the price necessary to acquire an education in the private sector. Excess demand and private sector size will be particularly large if the government has adopted a high-quality low-quantity pattern for the public sector. The scarcity of resources keeps subsidies to this sector low. Nevertheless, in the presence of excess demand subsidies are not a necessary condition for private sector growth; private education will flourish in an atmosphere of "benign neglect."

By contrast, in most advanced industrial societies (Japan being a major exception), a public school place is provided for everyone, at least at the primary and secondary levels; hence there is no excess demand. Instead, as I have shown elsewhere, heterogeneous demand is the motive for private education, i.e., some people want an education which is differentiated along religious, linguistic or pedagogical lines from that provided by the government. But, since fee-charging private schools must compete against freely-available public schools, their effective demand is immediately limited. Therefore, the private sector will not grow large in advanced industrial societies unless it is heavily subsidized, so that the state rather than the individual pays most of the bill. And wealthy countries can more easily afford generous subsidies. Therefore, the few modern countries in the low subsidy cluster (Southwest quadrant) have small private sectors, but most modern countries are in the high-subsidy cluster (Northeast quadrant) and we observe that several of these have

large private sectors. Along similar lines, in a regression analysis I conducted across 14 modern countries the existence of large subsidies was positively related to private sector size, as expected.⁴

However, not all private sectors in the high subsidy cluster are large. In culturally homogeneous countries such as Norway or Luxemburg there is little differentiated demand for education so the private sector will be small even if subsidies are offered, because a uniform public product can be offered which is consistent with consumer tastes. Just as the absence of subsidies does not rule out large private sectors when the underlying (excess) demand exists, so it does not create large sectors when the underlying (differentiated) demand does not exist. Subsidies are, apparently, a necessary but not a sufficient condition for large private sectors in advanced industrial states.

Relationship Between Subsidies and Controls

As we have seen, the state is in a position to control even without subsidizing. In particular, minimum health and safety standards may be specified (consistent with general building codes and additionally to protect children) and a national curriculum, degree requirements and examinations may be imposed (to preserve national unity and integration). Schools that do not comply can simply be closed down or can be deemed as not acceptable for meeting compulsory attendance laws. Voluntary or mandatory licensure or accreditation procedures can also exist without aid. Such situations of the stick without the carrot are indicated by the points along the horizontal axis; in most instances, if the regulations are enforced, the resulting private sectors are small.

At the level of moderate subsidies we see some considerable variation but no clear-cut increase in control. Such situations (rows 2 and 3) mainly signal a more hospitable government attitude toward the private sector. It is also possible that the existing controls are more strictly enforced over recipients of subsidies. For example, within the U.S. controls over teacher certification and curriculum requirements are enforced more strongly in those states which aid private schools and enforcement has increased over time as aid has increased (Encarnation, 1983). Unfortunately, as noted above, it is difficult to get this kind of information on enforcement for a large set of countries.

Finally, once large subsidies are granted, substantial additional controls follow in virtually all cases. The normative rationale for these regulations is that, once public funds garnered by compulsory taxation are given, society also has a right (duty) to exert some control over how these funds are spent. Private schools should not be able to do things with public funds that would be ruled out of bounds to the public schools, which are presumably being run to maximize social welfare. The desire for control may also be part of the raison d'être for the subsidy. If we regard central government as the principal whose goal it is to maximize social welfare, and private school managers as the agents, differing objectives and information may lead agent behavior to conflict with that preferred by principal, in which case direct controls may be in the public interest. The large subsidies enable the controls (which are costly) to be imposed without fear of driving away most private entrepreneurs. In this sense, the subsidies may be a necessary cost if a society wants the variety and competition associated with privately produced education but also wants tight social control over the variables listed above.⁵

A positive rationale for the regulations is that, once having given funds, politicians have the power to demand a quid pro quo, and they use this power to establish rules and standards that gain them good will from diverse constituencies and hence help them get reelected (whether or not this maximizes social welfare). In this connection, it is significant that many government regulations, particularly those that are closely tied to subsidies, apply to inputs rather than outputs. Thus the academic regulations may exist with or without subsidy, but tight regulations of teachers usually exist only if subsidies are present. For example, the numbers, salaries and credentials of teachers in subsidized schools are usually regulated, as are hours and other conditions of work. We also find rigid restrictions on the school's ability to fire teachers. The emphasis on inputs may stem partially from the fact that inputs are easier to control and measure than outputs; these regulations may be used in situations where inputs are readily observable but outputs (including quality) are not. But more basically, this phenomenon is consistent with Peltzman's (1976) view that regulations will generally serve a mixture of economic interest groups and with Stigler's (1971) view that producer interests will usually dominate. In this case, the regulations were designed in large part to protect the producers, especially the teachers. As a result, costs rise dramatically when subsidies are instituted and wages rise fastest of all. This has been demonstrated in my studies of Japan, Holland, Sweden and Australia, the few countries where I was able to get the necessary data (see James, 1982, 1984; James and Benjamin, 1988a).

The higher salaries may have enabled more and better staff to be hired, thereby permitting expansion without downgrading quality; at least,

this was often their ostensible raison d'être. However, the infra-marginal workers gain a rent - the subsidy constitutes, in part, a redistribution of income to them. Whereas economic efficiency arguments are usually couched in terms of consumer interests, these data suggest that producer and worker interests are at least equally important in the political process which creates and maintains these subsidies and the accompanying regulations. For example, in Kerala, India, subsidies to private (religious) schools were introduced in the 1960's by a socialist government, despite its ideological opposition to religion and privatization, because it wanted to pay a political debt to its supporters in the teachers union. A requirement to raise teachers' salaries substantially, accompanied the subsidies.⁶ Thus, cost advantage may be one raison d'être for reliance on private education in developing countries but ironically, this cost advantage is likely to disappear if large subsidies are introduced.

II. Some Underlying Conceptual Issues

This section outlines the key conceptual issues that arise in an analysis of educational policy. Since optimum policies depend on goals, I start by outlining the objectives that a government planner might have in formulating policy. Among these, the pursuit of school quality, hence the quantity-quality trade-off, looms as most important for our purposes. It is thus particularly important to define what we mean by school quality, which has been used in different contexts in a variety of ways.

Furthermore, a key assumption that must be made in assessing alternative policies toward privatization and decentralization concerns the relative degree of information available to consumers, private (or local community) school managers and central government planners. It is often alleged that the informational problem is particularly great in the field of education. Do consumers have correct information about how education, particularly educational quality, enters into their utility function? Do private school managers have correct information about the educational production function, particularly the production of school quality? Do central planners have better information than student-families or school managers about how to produce and evaluate educational quality? This discussion sets the stage for the analysis of specific instruments, which follows in Part III and IV.

Policy Goals

What are the goals a government planner might pursue in setting educational policy? For many years a basic goal of educational planners

was to increase quantity (Q) of enrollments. The presumption was that society would then be better off because of the positive externalities stemming from education, particularly from literacy and numeracy. More recently, the goal of increasing quality (QUAL) has come to the fore, as input and output indices such as student-faculty ratios, teacher training, books per student, absenteeism and drop-out rates indicate low quality levels in many schools in developing countries. Efficiency (EFF) i.e. getting the greatest possible output from any given amount of expenditures, is clearly desirable to economize on costs; so too is equity (EQ) as political pressures grow for greater and more equal access for the lower classes. Responsiveness to consumer demand is another possible goal, as is socialization for national unity, particularly for newly emerging countries.

One problem is that some of these goals conflict with each other. For example, responsiveness to consumer demand may lead to local or tribal variations which conflict with the goal of national unity. Similarly, the desire to increase enrollments may conflict with the goal of improving school quality, where budgets are limited.

Where such conflicts exist, choices must be made and relative weights given to different objectives. But here we come to a second problem: different groups in society may have different goals or may place different weights on a variety of goals. For example, central leaders may care more about national unity while tribal leaders may push for responsiveness to local conditions. The teachers union and the upper classes may emphasize school quality while the lower (urban working) classes may care more about quantity. In this paper I do not choose among these objectives, but I try to delineate the effects that different policy

instruments may have, so that an informed choice can be made, of policies that are likely to achieve the intended goal.

Quality

Many of the policies we shall discuss have the goal of improving school quality. For most products, quality is measured according to the revealed preference of consumers. If we make the usual assumption that consumers have full information and choice, this is the most accurate measure. However, this is the very assumption we will be questioning below. Therefore, some other definition of quality is needed in the case of education.

Suppose we assume that the education a student ends up with after attending school depends on his or her ability or prior learning; the average ability or prior learning of other students at the school (the peer group effect); and its expenditures per student. To measure the contribution of the school itself, i.e. its "value added" or "quality," it is necessary to control for the education possessed by its students before they ever enter the school. Otherwise, we might be giving a given school credit for results that have really been achieved by prior schools or by the home environment. This adjustment for incoming student input is however, very difficult to make in reality.

In this paper I distinguish between private and social value added or quality. The individual family choosing a school is interested in private value added, i.e. how much extra education a particular student will acquire as a result of attending a given school. For this reason, the family may choose a school that has a better peer group (fellow students who are brighter or have a higher SES).

On the other hand, the central planner is less interested in gains achieved through the peer group effect. The reason is that if one student is fortunate enough to get into a school with bright students, some other student will not get in; thus the social gains are much less than the private and may be zero (or even negative) under certain circumstances. For the government planner, social value added and social quality depend primarily on how much the school spends and how these expenditures are allocated.

Obviously, different actions will be taken and different policies are optimal depending on whether the object is to maximize private or social value added. In fact, this difference between private and social perceptions of school quality is one of the main reasons for government intervention in the educational marketplace. (Private and social value added and school quality are defined more rigorously in the Appendix.)

The Quantity-Quality Trade-Off

In developing countries with large private sectors, both currently and historically, consumers have clearly opted for quantity over quality. Excess-demand driven private education is typically characterized by low-paid untrained teachers, high student-faculty ratios, few books and practically no equipment. While a few elite expensive schools are found, the overwhelming majority of private school managers in developing countries have concluded that most consumers are not willing to pay the price for higher quality education. In effect, families are saying that more years of low-cost education is worth more than fewer years of high-cost education.

In contrast, many government policies are aimed at raising quality beyond the level that would be chosen by consumers in a free market. Government requirements that schools be organized as nonprofit organizations, that minimum standards be met regarding inputs and outputs and subsidies targeted toward particular factors of production, all represent attempts to raise quality.

But higher quality implies higher expenditures per student, hence higher price and fewer students enrolled, the exact extent depending on the price elasticity of demand. That is, quality comes at the expense of quantity. And, while quality has social value, so too does quantity. For example, a higher quality level may imply a higher cost and price, which fewer people can afford. Along similar lines, any given subsidy by the government can either be used to increase quality for those already in school or to expand the number of places for those not yet in school. This is shown diagrammatically in Figures IIA and IIB and the related discussion in the Appendix. Thus an important question in evaluating government policy is: Would society be better off having more quantity or more quality? Are the social benefits of an extra dollar spent on quality greater or less than the benefits of an extra dollar spent on quantity? And, does the central government, the local community or the individual consumer have the best information to make that assessment?

Information

In most economic models we assume that consumers have the necessary information to maximize their own utility, that producers have the information needed for technological efficiency and those who don't won't survive in the market-place. If this were the case in education,

production could be left to the private sector, except possibly for a simple subsidy per student aimed at increasing quantity if positive externalities are present.

However, most of the policies that I shall discuss (because they are in fact used) assume that consumers and producers do not have full information in the education industry, and that government planners know better. For example, school managers may not realize the importance of trained teachers and texts in the educational production function and may therefore choose the wrong factor mix, i.e. one which does not maximize the educational value of a given outlay. Government planners may be able to take advantage of economies of scale in carrying out research on the educational production function and may therefore have better information. In that case, it is possible to increase quality without increasing costs simply by changing the factor mix, and governmental constraints on (regulation of) private production decisions may be efficient.

Now, if consumers were able to distinguish between good and bad schools and if they placed the correct relative value on quality, this problem would disappear in the long run without government intervention. Uninformed producers, finding themselves making losses (because they are producing their quality level above minimum cost and market price) would either learn to mend their ways or exit from the market. Thus, the more basic informational problem concerns consumers and consumer ability to evaluate quality.

Consumers can readily observe quantity (i.e. enrollments) and price. They can also, with some difficulty, observe characteristics of gross output, such as test scores and career prospects of the graduates of

different schools. But quality, defined as value added, is much more difficult to observe, since this requires an adjustment for the incoming student input to the school. Even economists, using the latest statistical techniques, find it difficult to make this adjustment and estimate value added in an unambiguous manner (see the recent controversy over Coleman's study of public versus Catholic schools in the U.S.: e.g. Coleman et al, 1980; Goldberger and Cain, 1982; Murnane, 1984; Willms, 1984). It is quite possible, then, that families will be unable to measure school quality and its value to them. If higher quality requires a higher expenditure per student, hence a higher private market price, it will be unable to survive in a market where families cannot distinguish between high and low quality education. In fact, such a market operates perversely to drive out the good (hence higher cost) schools, since other (profit-maximizing) schools will always gain by downgrading quality, lowering their price and capturing the market. This process should produce a higher marginal social return to quality than to quantity and if we could measure these returns we would have an indirect test of the consumer information hypothesis.

The possible tendency of families to undervalue factor inputs is accentuated by their definition of value added, where student inputs play an important role. Thus, families may be willing to pay more for more selective schools, rather than for higher spending schools, believing that the peer group effect is more important, and this may be quite rational from the viewpoint of private returns. From the viewpoint of social returns, however, we have seen that quality can only be increased through more spending or better allocation of expenditures. Thus, both because of differing information and because of a divergence between the definition of private and social quality, the government planner may place a heavier

value on educational quality through costly factor inputs and may institute policies directed toward that end.

In Parts III and IV I use the symbols PI to refer to the case where decentralized producers have correct information about the educational production function; CI refers to the case where consumers are able to correctly evaluate both quantity and quality; and GI is the case where government has better information than either producers or consumers.

III. Control

We move on now to a more detailed assessment of alternative policies toward private schools. In pursuing their goals through the possible use of privatized education, planners must ask and answer a series of questions that ultimately define the chosen policy. Many of these same questions would also have to be asked if planners were contemplating the decentralization of schooling to local governments and the answers would depend on similar factors. Thus, in the following discussion the term "local community" can often be substituted for "private managers" and we then have an analysis of decentralization policies. Some of the key questions follow.

1. Should all private schools (or all subsidized private schools) be required to operate as nonprofit organizations (NPO's)? Or should profit-maximizing organizations (PMO's) be permitted as well?

2. Should all schools (or all subsidized schools) be required to meet certain minimum standards with regard to physical facilities and other inputs? And if so, how is this best monitored?

3. Should all schools (or all subsidized schools) be required to meet certain minimum standards with respect to academic outputs, such as uniform curriculum and degree requirements? What role does a national examination system play in this process?

4. Should student admission criteria be controlled to assure a desired distribution of the educational service? Relatedly, should the government set a ceiling with respect to price, thereby limiting price-rationing? Or a floor, thereby limiting the government's share of costs?

5. If assistance is given, what form should it take? Should it be in cash or in kind? Should subsidies be lump sum or tied to specified inputs or outputs such as number of teachers, number of students, or their academic achievements?

6. In particular, what can be done to alleviate the shortage of capital?

7. Should enrollment limits be set for each subsidized school? And, should new schools be eligible for subsidy? Or should entry be restricted?

8. Finally, should government control the decision-making process in subsidized private schools, thereby gaining indirect control over all the factors listed above?

The questions regarding regulation are dealt with in Part III and those regarding subsidies are discussed in Part IV. Welfare implications for all these possible policies are summarized in Table III. It turns out that in the short run an NPO or a local community, which may have quantity and quality in their objective functions, will produce more quantity and quality than a PMO, so long as there are "potential profits" which may be spent in this manner. An NPO or quality-oriented local community will also produce more quantity and quality in response to a subsidy in the short run. But in the long run, if free entry is allowed it will depress the market price to eliminate these potential profits, at which point PMO's, NPO's and local communities all behave alike. In this long-run equilibrium, if quality is unobservable so that consumers are unable to detect and evaluate quality differences, quality will be produced at the minimal level, which may be sub-optimal. This is the case where government intervention to enhance quality is most needed and many of the subsidies

Table III
Impact of Subsidies and Regulations on Price, Quantity, Quality,
Productive Efficiency and Equity in Education

<u>Type Regulation</u>	<u>Short run—School</u>		<u>Long run with Entry—Industry</u>				
	Q	QUAL.	P	Q	QUAL	EFF	EQ
<u>NPO requirement without subsidy</u>							
CI	+	+	0	0	0	0	0
GI	+	+	0	0	0	0	0
Long run, no entry			+	-	+	-	-
<u>Minimum physical standards</u>							
	-	+	+	-	+	?	-
<u>Minimum academic standards</u>							
	-	?	+	-	?	0	-
<u>Price ceiling without large subsidy</u>							
	-	-	-	-	-	0	?
<u>Type grant</u>							
<u>Lump sum</u>							
FMD	0	0	-	+	0	-	+
NPO	+	+	-	+	0	-	+
<u>Subsidy per student</u>							
FMD	+	0	-	+	0**	0	+
NPO	+	+	-	+	0**	0	+
<u>Cost-sharing</u>							
FMD-CI	+	+	-	+	+	-	+
FMD-GI	+	0	-	+	0	-	+
NPO-CI	+	+	-	+	+	-	+
NPO-GI	+	+	-	+	0	-	+
<u>Subsidies tied to input</u>							
	Q	QUAL	P	Q	QUAL	EFF	EQ
FMD-CI	+	+	-	+	+	-	+
FMD-GI	+	0***	-	+	0***	***	+
NPO-CI	+	+	-	+	+	-	+
NPO-GI	+	+	-	+	0***	***	+
<u>Subsidies tied to input with output constrained</u>							
FMD-CI	0	+	+	0	+	-	0
FMD-GI	0	+	0	0	+	***	0
NPO-CI	0	+	+	0	+	***	0
NPO-GI	0	+	0	0	+	-	0

* These results hold if there are potential profits in the short run that can be used by NPO's to increase quantity and quality.

** This assumes that subsidy is less than the initial price and the real income effect on quality stemming from the decline in market price is negligible.

*** Efficiency under GI depends on degree to which school managers are successful in reducing quality to original levels by decreasing other factors of production, thereby producing initial low quality level at higher cost.

and regulations listed above are designed toward that end. It is also the case, however, where producers and consumers will find it both desirable and feasible to evade this objective, by trading off potential quality increases for greater quantity instead. All these points are spelled out in much greater detail in the following pages. The reader who wishes to skip the details may refer to Table III and move to the Summary and Conclusions which follow.

Should Nonprofit Status be Required?

Many of the countries in my sample (e.g. Nigeria, Mali, Brazil, Colombia, S. Korea and several European countries) require that all schools, or at least all subsidized schools, be run as nonprofit organizations (NPO's), i.e. as organizations that are legally prohibited from distributing their profits. Instead, all revenues (R) must be spent (C) within the organization; the nondistribution constraint says that quantity and quality must be chosen such that $\sum R - \sum C = 0$.

What is the rationale for this requirement and does it fulfill its rationale? Recent theories of nonprofit organizations argue that the nonprofit institutional form is preferred by consumers in precisely those cases where they cannot observe output or important output characteristics, such as quality (Hansmann, 1980; James and Rose-Ackerman, 1986). In such cases, profit-maximizing entrepreneurs will have an incentive to "cheat" on output, perhaps by downgrading quality, in ways that consumers are unable to detect. In fact, producers who do not cheat will be driven out of business by those who do.

For example, suppose that three different quality levels, $QUAL_0 < QUAL_1 < QUAL_2$ can be produced at three different average cost levels, $C_0 < C_1 < C_2$. If consumers cannot distinguish among quality levels, profit maximizing organizations (PMO's) will always produce at the lowest possible (hence cheapest) quality, $QUAL_0$, which they can sell at $P_0 = C_0$ without a loss. Consumers who prefer higher quality will be unable to buy it. A higher price provides no assurance of higher quality, and if consumers realize that they will not pay P_1 or P_2 ($= C_1$ or C_2) so even firms that want to produce $QUAL_1$ or $QUAL_2$ cannot do so and survive. (In cases where consumers think they can distinguish school quality, even though in reality they cannot, some private school owners may try to trick consumers into believing they are providing higher quality, by charging a higher price. If they are successful in fooling consumers, we may find P_1 or P_2 being charged, but only $QUAL_0 = C_0$ will be produced.)

In such situations, consumers may prefer to buy from organizations which cannot distribute profits to their owners and therefore have less incentive to cheat. If an NPO charges P_1 or P_2 , consumers know that this entire amount will indeed be plowed back into the organization and is therefore more likely to result in $QUAL_1$ or $QUAL_2$. The NPO is thus seen by economic theorists as a response to situations where consumers do not have perfect information, cannot assess product quality and consequently need a "trustworthy" institutional form. Local governments, which may be viewed as a public NPO, are another possible institutional response to the same problem. As discussed above, education may be one such industry where consumers are uninformed about quality, hence prefer a "trustworthy" institution, a public or private NPO.

However, if consumers themselves preferred the NPO form for this reason, there would be no need for government intervention. The fact that government mandates the NPO in many cases suggests that consumers themselves are not aware of the informational problem or do not see NPO's as a solution. That is, consumers may believe they are operating under GI (full consumer information) and therefore do not need the nondistribution constraint as a protection. Governments, on the other hand, may believe they are operating under GI (government has better information than consumers), and for that reason require all private schools to be NPO's, which they consider more trustworthy. In particular, politicians may fear scandal if subsidies are ultimately passed on to owners as profits and for that reason require all subsidized schools to be NPO's.⁷

If NPO's are not maximizing profits, they must be maximizing something else, and this objective will determine their behavior. Elsewhere I have argued that many private schools and other NPO's were started by religious organizations, whose object was to increase faith or adherents. While this goal no longer exists for some NPO's, it does for others. To meet this direct goal, it appears likely that both quantity and quality enter as indirect goals. Since both these arguments are presumed to be in the government's objective function as well, the planner may feel comfortable delegating production responsibilities to a private nonprofit school, as his agent. NPO status then becomes a substitute for more direct controls which are both difficult and costly.

The ability of NPO's to produce at a higher quality level is enhanced if they have access to special sources of revenue such as donations from abroad or volunteer labor of priests and nuns. This, of course, is a characteristic in particular of religious NPO's. It raises their average

revenue curve above that facing PMO's and enables them to increase both quantity and quality further. The government may delegate production responsibilities to NPO's partly in order to gain the benefits of these donations.

On the other hand, the government's trust in NPO's may be misplaced. First of all, most secular nonprofit schools do not benefit from the philanthropy we have just described and even religious schools have diminishing access to donations, particularly donations of labor, as the supply of priests and nuns decreases. In most of the following discussion I assume that this special access to philanthropic revenues is negligible. Second, if NPO's are not driven by the profit motive they may simply be wasteful and inefficient. Their greater use of inputs would then imply poor utilization, the wrong factor mix, not higher quality.

Third, there are many ways of distributing a "disguised profit." These include paying the manager a large (above-market) salary and perks, purchasing materials at a firm owned by the manager at an inflated price, etc. If a school calls itself an NPO but is really engaged in disguised distribution of profits, it will behave very much like a PMO in terms of quantity and quality -- except that "profits" will appear on the books as higher costs.

In addition, multi-product NPO's may engage in cross-subsidization, earning a profit on one set of products which it then uses to subsidize another set. For example, it may earn a profit on secular education in order to finance religious education. In such a case, the nonprofit school will behave very much like a PMO with regard to secular education. (In this connection, local governments may be viewed as large multi-product public NPO's which are particularly likely to engage in cross-

subsidization, although it is difficult to predict a priori which products and consumers will be the winners, which the losers.) (For a further discussion of cross-subsidization see James, 1983 and 1986a.)

Moreover, in the long run many new nonprofit entrepreneurs may enter the private educational sector, if revenues exceed minimum cost, and some of them may not care about quality. Their entry will cause price to fall to P_0 so that, unless there are large donations, those NPO's wishing to produce higher quality will have no resources to do so under GI (where consumers are not willing to pay a higher price for nonobservable higher quality). That is, if there is free entry, NPO's will end up behaving exactly like PMO's, even if they have other arguments (such as quality) in their objective function, because this is the only way they can break even (in the absence of donations or volunteer labor). In that case, the NPO requirement has had no effect at all. These short run and long run effects are spelled out in the Appendix.

However, the number of ideologically motivated entrepreneurs may be limited, in which case entry does not occur, price is not depressed and higher quality can be maintained. Indeed, respondents from many countries indicated that the religious (nonprofit) schools tended to be higher in quality than the secular (for profit) schools, in these countries. This may be partly due to religious philanthropy and partly to a preference for quality which can be satisfied out of potential profits in the absence of free entry.

If nonprofit schools do produce higher quality in the long run and if this is due to limitations on entry rather than to special donations, it comes at the expense of higher quantity. The restrictions on entry which permit the higher quality to remain also keeps costs above minimum AC_0

and price above P_0 . This in turn means that equilibrium enrollments decline and fewer students, particularly fewer low income students at the bottom end of the demand curve, get access to education. Significantly, much of the recent growth of excess-demand-driven private sectors has come from profit-making proprietors (or from secular NPO's which many informants believe are engaging in disguised profit distribution), not from the religious organizations which dominated in the past. If these private proprietors had been ruled out of the market, much of this low cost expansion would not have taken place. Quality of education might have been higher, but quantity of enrollments would have been lower. Thus if the government adopts a policy favoring NPO's with limited entry, it is also taking a stand in favor of quality and against quantity.

Should Minimum Physical Standards be Imposed?

Most countries in my sample specify certain minimum facilities that are needed for school registration. Some of these standards (e.g. lavatories, fire-escapes and ventilation) are there for reasons of health and safety, but some (e.g. space, chairs, desks) have an academic rationale as well. In general, they imply a belief that some consumers, because of misinformation, will choose a quality level which is too low for their own self-interest and hence need to be "protected" by a government which has better information. This belief also leads to the imposition of uniform minimum standards by a national government which is decentralizing educational production responsibilities to local communities.

But this protection comes at a price, assuming the constraint is binding (in the sense that some schools or communities would not have provided these facilities otherwise). While those who remain in school

have better facilities, costs are higher and hence schooling becomes less accessible to those at the low end of the demand curve. The higher are the minimum standards, the higher the costs and price and the more people will consequently be left out. If the government has not chosen the "right" physical facilities, productive inefficiency also results.

The negative effect of standards on enrollments seems to be mitigated if subsidies are provided along with the standards, and as we saw in Part I this is often done. The subsidies enable the improved facilities without a consequent rise in price. But given the resource scarcity only limited subsidies are possible. Since the subsidies can alternatively be used solely to increase enrollments, the quantity-quality trade-off is not avoided. Moreover, in these cases, both producers and consumers may conspire to use the subsidies for quantity rather than quality.

It is hardly surprising, then, that political pressures in many developing countries have led to requirements which are "on the books" but scarcely enforced. Officials may look the other way when toilets don't work, when books are non-existent, when enrollments increase beyond the point that a building is supposed to accommodate, or when a school simply doesn't register. As mentioned earlier, some countries (e.g. Japan in the 1960s) have used lax enforcement as a deliberate policy to raise quantity. Other countries have chosen lax enforcement in preference to the heavy administrative expenditures that careful inspection would require. In such situations, enforcement may appear to be capricious, arbitrary and even corrupt. Thus, thousands of unregistered schools exist today in countries such as Nigeria, Zambia, Pakistan and India, just as they existed in nineteenth century England. The optimum policy regarding physical facilities, then, is not only one which gives the "right"

combination of quantity and quality but also one where the costs of implementation are feasible and less than the benefits.

Should Minimum Academic Requirements be Set?

Going beyond minimum physical standards, the government often imposes heavy requirements regarding academic outputs. More than half the countries in my sample have a national curriculum which specifies courses that must be offered and sometimes a weekly timetable that must be followed in all schools, public and private, local and national. Uniform degree requirements are often set throughout a country, and in a few cases (Indonesia, Malaysia, Pakistan) the medium of instruction is specified for all subsidized schools.

In general, where curriculum and degree requirements are set nationally for all public schools, these will also apply to private schools or at least to subsidized private schools. In an important work, Archer (1979) has argued that such national systems exist in countries where political power was used by a dominant group at some stage in history to sweep away competing educational ideologies, leaving a public monopoly. The public monopoly may gradually erode, to gain support and resources from other groups in society, so private schools may now exist, but adherence to the national system continues to be required for all. In contrast, a uniform national system may not exist in those countries where many groups have historically competed in the educational marketplace on the basis of their economic power, none of them ever attaining a political monopoly.

Beyond this historical explanation, governmentally imposed academic standards are consistent with a belief in GI (central government has

better information than consumers, producers or local communities about what constitutes the "best" curriculum). The fact that "elite" private schools (which presumably cater to knowledgeable parents) are sometimes granted exemptions is consistent with this paternalistic interpretation. If the curriculum imposed is more expensive than would have been chosen by some consumers, costs and price go up, enrollments and access go down as a result.

These regulations are also justified by the government's objective of national unity: everyone should have a common educational experience to help create a national, as opposed to regional or tribal, loyalty and identity. This may be particularly important in newly emerging countries which must consciously foster and quickly develop a sense of unity that they did not acquire in a gradual historical process.

On the other hand, such requirements limit the amount of differentiation that is possible in response to parental or local community choice. In particular, minority ethnic or cultural groups may be dissatisfied with the majority curriculum, which the majority may be using as a deliberate tool of assimilation. A trade-off is thus involved between uniformity and unity on the one hand, versus differentiation and adaptability to heterogenous tastes on the other.

Closely related to the issue of curriculum and degree requirements is the question of whether a national examination should be required. Currently, some systems have common exit exams at the end of public or private secondary schools (e.g. the O levels and A levels in England, the KCE in Kenya) and many public systems have entrance exams at the secondary or higher levels. While the latter exams are not required of everyone - only those who want to gain entry to the public sector - this is often the

desired goal of students. Thus, many students from both sectors take these entrance exams.

Both exit and entrance exams that are taken by many students from both sectors are a potential monitoring device. In fact, even if curriculum and degree requirements are not explicitly imposed on the private sector, the common exam often imposes this requirement implicitly. For example, even in the absence of directives from the Minister of Education, Japanese private secondary schools would gear their teaching to the public university entrance exam and advertise the success rates of their students in gaining admission. Similarly, recent changes in the O level examinations in England may bring about corresponding change in the private as well as the public school curriculum. In fact, uniform examinations have the great virtue of being a self-enforcing mechanism, since it is to the vested interest of students to take the exam which will gain them a credential or entrance to the next level of education and, knowing that, it is to the vested interest of schools to prepare students for the exam.

Uniform exams are, in addition, a potential yardstick of relative performance, a source of information to parents and planners alike about the "quality" of different schools. In many countries individual schools and local community systems are publicly ranked according to their performance in these exams. A recent law in England requires that all publicly funded or subsidized secondary schools make available, upon request, data on their exit examination results. Mandating the provision of such information seems to be one way the government can deal with the problem of consumer information, without detailed controls.

However, there are severe pitfalls to using exam performance as an index of school quality. They are, first of all, heavily dependent on student input and therefore an unreliable indicator of value added by the school. When student inputs were statistically controlled for in a recent British study, school rankings changed drastically. (Inner London Education Authority, 1986.)

In addition, preparation for the exam may stress factual memory rather than other important classroom goals such as critical thinking and creativity, that are less easily measured. In this sense, emphasis on examination results may interfere with good teaching. And, if different groups in society wish to stress different educational goals, the uniform measure provided by a common examination is illusory.

Moreover, there are systematic biases in examination results by income class or by urban-rural residence, and these are not immutable and "objective". Somerset's work in Kenya showed different types of questions produced different socio-economic biases (with higher income students doing relatively better on tests of "reasoning" rather than "memory") (Somerset, 1983). The question of what is the optimal exam and what is the exam defining as "quality" then becomes a complex matter of public policy, in which there will be winners and losers, with various groups choosing their sides accordingly. In sum, national examinations are probably useful as a self-monitoring device, if society can agree on a curriculum it wishes to monitor, but they are certainly flawed and should be used with extreme caution as a source of information about relative school quality.

Should Fees and Other Selection Criteria be Controlled?

Unsubsidized schools usually retain the right to select their own students using their own criteria; in effect, this is part of what they are purchasing as a quid pro quo for the resources they invest. High fees are ordinarily charged and serve as a major rationing device; the state could not proscribe these and maintain the schools unless it was willing to cover the cost. In addition, academic entrepreneurs often have particular goals in mind, which imply particular groups they wish to serve. For example, prestige-maximizing schools wish to select bright students from elite families. Schools run by religious or ethnic organizations are set up to provide education to their communities. If the right to select were taken away, and if self-selection were not a reliable substitute, such organizations would often lose the motivation to run their schools. Most states that are not paying the cost feel they gain from the existence of these schools and are therefore unlikely to interfere in the student selection process in the absence of subsidies.

However, when large subsidies are granted this situation changes. Now the state is not saving much in cost by permitting private schools. It is the private schools instead who are receiving the benefit, given management power without funding responsibilities. Thus, large subsidies are often accompanied by a requirement of low or zero fees and by controls over the procedures and criteria for selecting students.

The kinds of admissions criteria that are legally and socially acceptable vary widely, depending on the country's history and the group currently in political power. For example, religious, racial or ethnic criteria for admission are prohibited for aided schools in Kenya and Jordan and for schools receiving government funds in the U.S., but

religious criteria are explicitly permitted for voluntary aided schools in England and ethnic or caste quotas exist even in public schools in Nigeria, Malaysia and India. In many countries (e.g. the U.S. and Japan) admission by academic ability is widely accepted as fair. In contrast, this was ruled out for all publicly funded secondary schools in England after they became comprehensive and in Australia, while legally permitted, such criteria are frowned upon in many quarters.

These rules are important as a matter of equity because they determine who gets access to education. However, the definition of what is equitable obviously varies from country to country. It is hardly surprising that the group which has the political power to impose its definition on the public system also has the political power to extend the definition to a publicly funded private system. In the extreme, the power to select students is taken away from the subsidized private school altogether, in favor of a central allocation process. For example, students are assigned centrally to all Dutch universities, whether public or private, and the government insistence that subsidized Catholic schools had to become part of a regional catchment area produced turbulent demonstrations in France.

A particularly crucial control is that over fees. In a few unsubsidized cases (e.g. S. Korea and some Latin American countries) initial fees and fee changes must be approved by the government; in Malaysia and in some Indian states fee ceilings are set. However, in most developing countries fees are unregulated and those regulations that exist are often evaded. Parents may pressure for such controls (e.g. in Zambia), but the schools counter by threatening to close, and this usually keeps the government at bay (Kaluba, 1986).

Is this threat credible? What are the economic consequences of a ceiling on fees? In this discussion I assume that the price ceiling is binding, i.e. that the ceiling is indeed lower than the free market price. In that case the price ceiling lowers the marginal revenue of quality and consequently less of it will be produced if quality was initially above minimal levels (but under GI quality would already be minimal). That is, price ceilings lead to a downgrading of quality, since schools can no longer charge higher tuition for higher quality. Parents who would rather spend more and get more, are not permitted to do so (Such parents, however, often find ways to subvert the system, e.g. by voting for high dues in PTA's and putting pressure on others to comply.)

In addition, price ceilings limit quantity since the marginal reward is now smaller for each incremental place. This effect is even greater in the long run, as new schools are not attracted into the education industry by the existence of profits. And if the price ceiling falls below P , the minimum average cost, those schools which cannot downgrade quality further will make a loss and go out of business.

Of course, as numbers of student places shrink at lower prices, quantity demanded far exceeds supply and schools can select on the basis of academic ability, religion or whatever other characteristics they deem important. In this competition for places, the wealthy will always be at an advantage, both because they score better on entrance exams and because they are more likely to know how to "work the system." Thus, the fee ceiling, which was designed to help the poor by saving them money, actually hurts many of them by excluding them from education altogether. The rich, on the other hand, retain greater access and also benefit from the lower fees. In a context of excess demand in developing countries,

where the object is to increase both quantity and quality, effective price controls would seem to be a counter-productive device and are not commonly used.

In contrast, in developed societies with full enrollment and large subsidies, private school fees are often tightly controlled at the primary and secondary levels. Examples are Holland, Luxemburg and voluntary aided schools in England. This is also the case in the recent Chilean voucher experiment. In effect the government is saying: We will pay you the same (or almost the same) amount we pay in public schools, but in return you must not charge your students high fees which would allow the wealthy to purchase a superior education through the private sector. The subsidy keeps private schools in business and, in any event, the public sector is committed to providing a place for everyone. In this context the price ceiling does not have the negative effect on enrollments we just described. It does, however, constrain quality. Parents who want to purchase a superior education in these countries must either do so on a supplementary basis after school (e.g. with music lessons, dance lessons, travel abroad, etc.) or they must do so in the non-subsidized (and therefore extremely expensive) private sector.

An unusual case, which I mention in passing, is the imposition of a floor on fees or other private sources of income. This was found historically in nineteenth century England and in some twentieth century Indian states as a requirement for subsidy. The basic idea is that government subsidies should not be used to replace private funding but rather to upgrade quality and encourage the mobilization of private resources for education.

If the constraint is binding, such a policy may indeed succeed in raising quality to some extent. NPO's, which now have more money to spend per student and are not permitted to increase quantity by lowering price, will have to raise cost and therefore quality (or waste and inefficiency). PMO's which now offer an excess supply of places and cannot compete on price grounds, may compete on quality grounds instead - providing they are operating under CI, so that consumers can detect and respond to quality difference. But under CI, there is no efficiency rationale for the government to try to raise quality in the first place; such intervention only decreases social welfare.

Specifically, if quality does go up, these gains clearly come at the expense of quantity and equity. While schools are eager to supply more places at the higher price, fewer people can afford to buy them. Those at the low end of the demand curve, the lower socio-economic groups, are effectively excluded from the market. Under CI this is inefficient, as well as inequitable.

Moreover, it is by no means certain that more private resources will be mobilized for education under this scheme. Indeed, if demand is elastic over the relevant range, total private educational spending will decline. In view of all these problems, it is hardly surprising that regulated price floors are rarely found today.

IV. Subsidies

As we saw in Part I, most countries give some form of assistance to their private schools. In some cases (e.g. U.S., U.K., Latin America) this takes the form of indirect tax subsidies of various sorts -- exemption from income, sales, property or import taxes. These have the advantage of being "automatic," hence having low administrative costs for both government and private entrepreneurs. They have the disadvantage that they are valuable only in countries with well-functioning tax systems and they give the government little direct control over which schools are to be assisted or over the total amount of implicit subsidy. Perhaps for these reasons, direct subsidies in cash or in kind are more common.

In this section I examine an important set of questions about the best form for assistance to take, once the government has decided that some direct subsidy should be given. Subsidies can be in cash or in kind; if in cash they can be lump sum or tied to (contingent upon) different inputs or outputs. They can be for all private schools, or only for NPO's; for pre-existing schools or for newly entering schools as well. As we shall see, each of these alternatives has different consequences for quantity (Q), quality (QUAL), efficiency (EFF), price (P), equity (EQ) and total subsidy.

Sometimes a distinction is made between a subsidy that goes directly to a school versus a voucher that is given to a student for use in a school. Voucher schemes have been widely discussed and are highly controversial. I would argue that a voucher scheme is equivalent to a subsidy per student given directly to a school, which is much less controversial and is, in fact, used in many countries. In both cases,

student choice is implied and determines the flow of funds; hence schools have an incentive to attract them. In both cases a decision must be made as to whether private schools are eligible and this in turn has implications for the amount of funding that will be available to public schools. In both cases various conditions can be attached to the subsidy or voucher (e.g. payments may be contingent on fees charged, may differ for different categories of students, may go only to "accredited" schools, etc.). And in both cases the quality problem is solved only under certain rather restrictive assumptions.

While the definition of most of the terms used is self-evident, and quality has already been discussed, the definition of equity is ambiguous in a context of subsidies. A particular subsidy may have the effect of lowering price and thereby increasing enrollments of the lower socio-economic classes, but most of the benefits may accrue to the upper classes who were enrolled ex ante. Does this represent an increase or a decrease in equity? To fully assess this issue, one would obviously need detailed data on the distribution of benefits and taxes which are financing the subsidy, which I certainly do not have for all the countries in my sample. Therefore, as a first approximation, in this section I simply define equity as increased access to education for the lower income groups, who tend to be clustered at the lower end of the demand curve. The reader should bear in mind this limited definition of equity in interpreting Table III.

In the following pages I analyze a number of possible subsidy types, differentiating between the long run and the short run; between those cases where only NPO's or PMO's as well are permitted and subsidized; and between situations where consumers have or do not have accurate

information about product quality (CI versus GI). Diagrams depicting these cases are presented in the Appendix and my results are summarized in Table III.

Lump Sum Grant

Suppose we start with an education industry in long run equilibrium with price = minimum average costs, profits = 0, and quality at minimal levels. Now suppose the government introduces a lump sum grant to private schools. This grant, which is not contingent on the input or output behaviour of schools but simply on their existence, is not the most common form of subsidy but is sometimes given on an ad hoc basis to a number of schools (e.g. in Liberia). It is undoubtedly the simplest way for the government to assist private schools. The question is: does it increase quantity, quality or any other socially desirable goal? It turns out that the answer depends on whether we are talking about the long run or the short run and whether PMO's or NPO's are involved.

In the short run, a lump sum grant to a PMO has exactly the same effect that a decrease in fixed cost would; it affects profits but does not effect behavior at all. And this is where things remain if only pre-existing schools are eligible for the grant. However, if new schools are also eligible, they will be attracted to the education industry in the long run. Their entry will push down price and increase aggregate enrollments. It turns out that, although total enrollments increase, each school produces less than before, at sub-optimal capacity. Thus, efficiency declines; there are too many schools for aggregate output. And quality is unchanged.

In contrast, a lump sum grant to an NPO increases both quantity and quality in the short run if the NPO cares about both objectives. In the long run quantity increases still further, due to the entry of new schools, but quality reverts back to previous levels (which are minimal under GI) and production is inefficient -- exactly as in the long run PMO case. Lump sum grants to local communities that are in competition with each other in the production of education would have exactly the same effects in the short and long run, depending on entry conditions.

Thus, a lump sum grant increases quantity but decreases efficiency and has no effect on quality in the long run. To trade off some of the quantity gains for quality, countries sometimes institute lump sum grants simultaneously with standards regarding minimal facilities. The benefits and costs of this procedure will be discussed in the section on subsidies tied to specific inputs; suffice it to say here that the outcome is far from certain.

Subsidy per Student

In this case we start once again in long run equilibrium and assume a subsidy per student is introduced. This is the case in most European countries and in Chile, where subsidies are contingent on enrollments. As noted above, a subsidy per student is equivalent to a voucher scheme. In the former case the money (or the voucher, a claim on money) goes directly to the school while in the latter case it goes initially to the student and is then passed on to the school. In both cases, however, student choice is assumed to be present and determines the flow of funds.

In the short run the value of the subsidy or voucher is shared between producer and consumer and raises the average and marginal return

to each student place so that schools expand their capacity. In the long run, new schools enter if they are eligible for the subsidy (voucher), until all profits are competed away; the entire subsidy or voucher value is passed along to consumers. The lower price that results means that a larger number of student places are demanded and these are supplied by a larger number of subsidized schools. Thus, if a country is interested primarily in quantity and access, a per-student subsidy is an efficient way to increase enrollments. Per student subsidies to local municipalities would have these same effects in the short run (no entry) and long run (free entry).

The quality issue is more complicated. In general, since the price and cost of quality is unchanged by this subsidy, which is tied only to quantity, quality remains at its original level (except for NPO's in the short run). If problems of consumer information and quality existed before, they will also exist after this subsidy scheme has been implemented. Two qualifications, however are needed. First, if consumers care about quality and can properly evaluate it, they may choose to purchase more quality with their higher real income as the private price of education falls. Since quality is difficult to observe and recognize and since the higher real income can be spent on many other goods, this positive income effect on quality is likely to be very small.

Second, if the subsidy per student is very large and exceeds the initial price, production continues to be profitable even after entry and competition push the new market price to zero. With space now available to accommodate full enrollment (zero price) demand, and with each student profitable, schools will compete for them by offering monetary inducements (e.g. scholarships) or by spending more on characteristics that make

schools attractive, such as higher quality. This might happen, for example, if initial price in the private sector is less than expenditure per student in the public sector (as is often the case) and the government institutes a voucher scheme equal in value to the latter. A student subsidy of this magnitude could very well increase quality. But it would also cost the government a lot of money since it provides both full enrollment quantity and high quality with full public funding -- much more than most developing countries can afford.

Subsidy as a Proportion of Costs

Often, subsidies are established to cover some fixed proportion of private school costs. In other words, they are set up on a matching basis, presumably to facilitate private production and to encourage the mobilization of private resources. Subsidies have taken this form in many European countries, in some Indian states and, since the 1970's, in Japan. Subsidies to local communities are also often handled on a matching basis. What are the consequences?

Cost-sharing by the government reduces both average and marginal costs so in the short run price falls yet quantity increases. In the long run, with free entry of aided schools, price falls, access and enrollments increase still further. In both the short and long run, the marginal cost of quality to the school has declined, causing the equilibrium level to rise under CI (full consumer information). However, quality will not go up if consumers cannot detect and therefore are not willing to pay a higher price for higher quality, as under GI. The marginal cost to the school of waste and sloppiness has also declined, as has the cost of buying labor peace by paying above-market wages; the government now pays part of these

costs. Therefore, if it takes effort to eliminate waste and psychic discomfort to keep wages at market levels, school owners will be less willing to endure that effort and discomfort, from which the private cost-saving is now less. Instead, they will take more of their rewards in non pecuniary forms such as leisure, a relaxed life style. Thus, a shift to a higher private pecuniary cost curve takes place, partially due to higher quality (under CI) and partially due to greater X-inefficiency. The inefficiency is obviously an undesirable feature of this scheme. The final long run equilibrium, therefore, combines a lower price, higher quantity, higher real costs and possibly higher quality (under CI).

The analysis of NPO behavior follows along familiar lines. In the short run the NPO, which must spend all its revenues, will operate at a higher Q and QUAL (and will have less incentive for efficiency) than a PMO. In the long run, with free entry of new NPO's eligible for subsidy, it will behave exactly the same as the PMO.

A common arrangement under decentralization is for cost-sharing between local communities and the central government. If the government provides subsidies on a matching basis, the effects will be the same as under privatization with NPO's.

In all these cases, the shift to a higher cost curve, due to a combination of quality improvement and waste, means that the total subsidy bill is greater than initially expected. This is one reason why cost-sharing arrangements are often accompanied by spending "norms," which limit expenditures per student or their allocation to different factors of production. The norms may be closely related to public school spending patterns. These regulations may constrain waste, but they also constrain quality and the school's ability to choose what it considers to be the

best factor mix -- one of the supposed advantages of privatized or decentralized production. If school managers are well informed about the educational production function, the loss may be greater than the gain.

The cost-sharing arrangement is often intended as an incentive to attract more private resources into education. Does it achieve this goal? The answer depends on the amount of cost-sharing, the accompanying regulations and the elasticities over the relevant range. In most European countries, where the government's share of costs is 80-95%, fees and total expenditures are tightly controlled, and private spending has obviously gone down relative to the non-subsidized case. It would be useful to do an empirical study of several developing countries which have used cost-sharing, to see whether resource augmentation or substitution of public for private funds has taken place.

Subsidies Tied to Particular Inputs

Often subsidies are tied to the use of a particular factor of production. Such subsidies may be given in cash or in kind. As examples of the latter, one or two trained teachers may be assigned to private schools by the government; books and meals may be supplied; at the university level equipment may be provided or facilities (space, libraries) shared. As examples of the former, the government may give a grant to a school which is earmarked for or contingent upon the school's employing one or two trained teachers, purchasing books, meals or equipment, etc. Because of the fungibility of money and the possible substitution of factors, subsidies in kind or cash subsidies that are earmarked for or contingent upon the usage of certain factors are all formally equivalent to each other and will therefore be analyzed together.

Furthermore, such subsidies will either be equivalent to a lump sum grant, in which case PMO behavior will be unchanged in the short run, or else they will have an impact on marginal costs, in which case they will change the school's costs, factor mix and quality in ways that may not be efficient.

I elaborate in some detail because this is the most common form of subsidy in developing countries (e.g. Kenya, India, Senegal, Peru, Paraguay, Indonesia and many others), particularly in situations where higher quality is the objective, but its effects may be quite different from the intent. Suppose that the government assigns (and pays the salaries of) two trained teachers to a given private school; or suppose it gives an equivalent monetary grant contingent on the school's employing at least two trained teachers. If such a school had already hired two or more trained teachers, either of these subsidies would have the same effect as a lump sum grant, which we have already discussed. In the first case the school would simply fire its own teachers, substituting the staff provided by government; in the second case the school would simply use the grant to pay its own teachers. In both cases average costs fall but marginal costs are unchanged so the previous analysis regarding lump sum grants holds.

The more interesting situation occurs when the school did not previously employ two trained teachers. In this case, the subsidy, whether in cash or in kind, has the effect of changing the school's factor utilization. Indeed, many private schools in developing countries have no trained teachers and survive by hiring cheap "unqualified" teachers, often on a part-time basis. Consequently, this kind of subsidy inevitably raises the calibre of the teaching staff. While in kind or in cash provisions are formally equivalent, the former has the advantage of automatic monitoring

and this may account for its popularity: the government can be certain that two trained teachers are in fact used. The provision of textbooks to private schools, many of which have little or none to begin with, would have a similar positive effect.

The welfare rationale for tying subsidies to particular inputs is, of course, based on assumptions about information and about labor market behavior. If private school managers and their students do not correctly value the higher quality provided by trained teachers, thereby underestimating their productivity (in other words, if GI holds), intervention that increases their employment may raise quality so much that it is socially worthwhile even though private consumers do not realize this. On the other hand, if PI and CI hold, the implication of consumer and producer behavior is that the costs of achieving higher quality exceed the benefit. Thus, such a policy decreases efficiency under PI and CI but is potentially efficient under GI. (Also, it is potentially efficient under PI and CI if labor markets are imperfect and teacher salaries exceed their opportunity costs.)

But even under GI or imperfect labor markets, problems abound with input-tied subsidies. First of all, trained teachers are often a very scarce resource in developing countries. There are simply not enough to go around to all schools and classrooms. This means that more trained teachers in one place, for example in private secondary schools due to input-tied subsidies, implies fewer trained teachers elsewhere, for example in public primary schools. In the short run, until the number of trained teachers increases, the question is not only whether they are quality-enhancing more than consumers and producers realize but also whether their social value is higher in one particular part of the educational system, and if so where?

More basically, even when teachers are no longer a bottleneck factor, higher quality may not in fact be achieved by input-contingent subsidies since clever profit-maximizing managers may find ways to reduce other factors or to increase quantity instead. For example, if the trained teaching staff increases, the school will probably compensate by reducing its nonteaching staff or its untrained teachers. Also, the school manager will increase quantity at the expense of quality, raising class size for the more capable trained teachers so that enrollments go up, cancelling out the potential gain in quality. Under GI the manager has every incentive to substitute away from other factors and to trade off possible quality gains for higher quantity, until he returns to the initial market quality level, in which case the government's purpose has been completely defeated. Moreover, the initial quality level may no longer be provided at least cost, due to the distortion in factor proportions.

Thus, to be effective in achieving their objective, subsidies tied to particular inputs such as trained teachers must be given in amounts that exceed the number of trained teachers the school had ex ante and must be accompanied by regulations that prevent school managers from downgrading quality by increasing quantity, class size or student faculty ratios. But these regulations and the consequent monitoring apparatus entail yet another cost that must be taken into account in determining whether such a subsidy scheme is socially optimal.

Subsidies Tied to Capital

In view of the extremely low capital/output ratios exhibited by most private schools and universities, it is perhaps surprising that more countries do not have specific subsidy programs aimed at correcting this

deficiency. Books and equipment do not make good collateral for ordinary commercial banks. Hence banks are often unwilling to lend, or charge high rates of interest to academic institutions. Most students in developing countries are unable to pay the tuition needed to cover these high capital costs, especially since they in turn do not have ready access to student loans. This helps explain why private schools and universities in most countries emphasize labor-intensive fields such as social science, management and humanities, not capital intensive fields such as the natural sciences and engineering. (Private medical schools are the major exception to this rule. The private rate of return to medical training is apparently so high that wealthy students exist who are willing and able to pay the high fees needed to cover the capital costs.)

The product mix problem is especially acute at the upper secondary level, where private school students are often effectively cut off from entire career options because of the absence of laboratory science. And at the university level, private universities turn out liberal arts graduates who cannot get jobs, while engineers and technicians are in short supply.

To the degree that the high interest rates are signalling true opportunity cost and social risk, the emphasis on labor-intensive fields at private schools and universities is efficient; the costs of greater capital intensity exceed the benefits. But to the degree that capital market failure is at work, corrective action by the government may be needed. Capital market failure exists, for example, if the social risk of investment in educational equipment is less than the private, because of risk pooling and risk spreading; or if students are unable to borrow using their human capital as collateral even though, on average, the social rate of return is high. We then get on underinvestment in education, particularly in capital-intensive education.

Several countries have adopted policies to tackle this problem, particularly at the higher educational level. For example, S. Korea and Indonesia have, at earlier periods, offered low interest or guaranteed loans to their private universities and Colombia has a long-standing program of student loans. A recently proposed private sector incentive scheme in Morocco provides tax benefits for educational institutions if and only if a specified minimum investment is exceeded, and larger benefits are tied to larger investments. This system is clearly intended to encourage and facilitate the flow of capital resources into education: but it assumes that the ability to raise this capital exists. One of the most ambitious and successful programs was the social agreement that bank loans should be used to finance private secondary schools and universities in Japan in the 1950's and 1960's. This indeed led to a huge expansion -- although still primarily in labor intensive fields. When many institutions were in danger of defaulting on these loans in the late 1960's, because they could no longer raise tuition, government stepped in with a program of subsidies to save the universities and the banks.

Despite these examples, there are far fewer examples of aid in the form of capital than there are of aid in the form of teachers. Indeed, private schools or local communities are often explicitly required to provide the capital, in order to be eligible for government-subsidized teachers. Even in advanced industrial societies, subsidies typically cover all recurrent costs but only 80-90% of capital costs of aided schools. The presumption seems to be that it is easier for schools and communities to raise a chunk of capital on a one-time basis than it is for them to support teachers on a regular basis. It may be that a careful calculation of relative social benefits accounts for the differential subsidy to

teachers and capital. Or, it may be that teachers can lobby to be hired and complain about low salaries, while buildings and equipment cannot lobby to be constructed and cannot complain about poor maintenance. One issue that clearly requires further investigation is whether these policies are optimal, or whether greater attention should be given to capital deficiencies in the future.

Subsidies Based on Academic Achievement

Should subsidies be based on quality of academic outputs rather than on inputs or enrollments? This would have the advantage of rewarding and therefore encouraging quality directly. For example, subsidies might be tied to examination scores or numbers of graduates, rather than simply numbers of students. Since many students at private schools and universities drop out or fail the exit examinations, this would make a sharp distinction between successful and unsuccessful institutions, leading the latter to concentrate more on quality or exit from the industry.

Such subsidy schemes are already in existence in a few countries. For example, New York State pays private universities a per capita grant for each graduating student. Senegal bases its subsidy partially on examination scores. Japan pays a higher subsidy to institutions with a low student-faculty ratio and high research expenditures, the basic idea being to create an incentive system that encourages the product mix and technology that society prefers. In nineteenth century England the "payment by results" system was used, basing subsidies on attendance rates (absenteeism was a big problem) and on number of students passing tests in literacy and numeracy. Parts of India used a similar system, in the past.

But problems with such a system are evident, possibly accounting for the fact that it has not spread further. To reward number of graduates would require a national system for assessing graduate status, because individual schools would have an incentive to downgrade their standards in order to obtain the subsidy. But some countries do not have national degree requirements or a national examination system, hence such a system would be difficult for them to implement.

For those countries that do have national norms, as we saw in Part II, schools that select the best students will achieve the best outputs, even if they do not have the highest value added. It is value added that we would like to reward, not selectivity. But value added is extremely difficult to calculate. Rewarding on the basis of test scores might lead schools to place even greater weight on selection than they do now. They might, for example, become unwilling to accept students from more disadvantaged backgrounds, who are most difficult to teach, least likely to pass and hence have a lower expected subsidy value. Or they might accept such students but concentrate their attention on teaching the others who are more likely to succeed. Perversely, schools that serve a wealthier clientele would receive higher subsidies under this system (although this effect could be overcome by making the subsidy rate a function of socio-economic background as well as academic success).

Also, to reward examination scores or graduation rates would require an agreement on exactly what should be examined and what weights should be given to different aspects of the curriculum. Educators disagree on these issues and, furthermore, vested interests of different groups are involved. We noted earlier that different students will perform well on

different types of exams; hence the ranking of students and schools is not invariant to the choice of exam type yet this choice is not obvious or completely objective.

In particular, the academic results that are rewarded would have to be observable and measurable. But some educational goals are not easily measurable and may consequently be overlooked in a subsidy system that is tied to exam results. As discussed in Part III the ability to think critically may be the most important academic output, but memorized facts are easier to test. Factual memory is already overemphasized in some developing countries and it would not be desirable to encourage this further. In nineteenth century England educators claimed that the payment by results system led to an overemphasis on the 3 R's, to the neglect of other important subjects. These criticisms eventually led to its abandonment, after much Parliamentary debate.

These issues are also similar to those which have been raised recently in connection with the controversial issue of merit pay for teachers in the U.S. and they have been convincing enough to prevent most communities from implementing such schemes. However, the preceding pages have made clear that there are flaws in every subsidy system and, in particular, with those that are directed toward increasing quality. It may be that a reward for academic achievement has a place as one component of an over-all system that also encourages quantity and access for lower socio-economic groups.

Summary and Conclusions

What can we conclude, now that we have analyzed a large variety of possible policy instruments?

The object of increasing quantity is easiest to achieve. The market should simply be opened to PMO's, NPO's and local communities, with few restrictive regulations. Given the high private rate of return to education in many countries, large enrollments can often be attained even without positive central government support. But the process can be speeded up, and has been in most societies, by partial subsidies. A simple per student subsidy, or a subsidy specifically for low income students, or a means-tested student loan program is probably the best way to increase quantity and access.

If, on the other hand, the object is to increase quality, the problem is government's education policy apparatus, which operate contrary to consumer preferences and social welfare. Or, it may occur because consumers realize they lack crucial information on the educational production process and have therefore delegated to the government the job of gathering this information and putting it into practice in the public schools. In the latter case, government intervention in the form of subsidies and regulations designed to increase quality in the private sector may also be socially optimal.

If this is attempted, it becomes important to restrict the private domain to producers who also have quality in their objective functions. In a situation where consumers lack information and government cannot observe

and specify all the input and output components of good quality education, producers who are only interested in maximizing profits will find ways to evade most of the restrictions that might be imposed. For example, they will minimize inputs and outputs that are not required or rewarded, in favor of those that are. They will trade quality for quantity whenever possible. And parents who are eager for access will implicitly conspire with them. This may result in a quality level which is largely unchanged, despite government intent to the contrary and a quantity level which is produced above minimum costs.

Small subsidies, which may be popular for political reasons, are especially subject to these distortions and are therefore of questionable economic value. Very substantial subsidies -- textbooks or teachers in greater quantities than the school had ex ante, vouchers per student that exceed the initial price -- will probably have a positive effect on quality. But the input substitution and output trade-offs just described will cause this effect to be relatively small while the cost to the government is large.

If the object is to increase quality, then a rationale exists for restricting the market to NPO's and local communities that may have quality in their objective function. Further, entry would have to be constrained to make sure that competition from new schools does not erode the resources for quality; i.e., to maintain the "short run" solutions in Table III and Part IV. Possibly, an enrollment limit should be set for each institution to make sure it does not trade off quality for quantity beyond that point. Regulations setting minimum physical and academic standards may also be in order. In this context, some reward for differential academic outputs (achievement) may also be worth

considering, as an alternative to the more cumbersome process of specifying numerous inputs. The job of calculating how best to produce these outputs would then be left to the school.

But if these quality-enhancing competition-constraining policies are followed and particularly if they are successful, they also come at a price: less quantity, less access for lower socio-economic groups, less efficiency and, if production is by NPO's that are based on religious, linguistic or tribal loyalties, less national unity. Decentralization to local communities often avoids the ideological component of NPO's but introduces other inefficiencies since people may not be able to move to communities that offer the education of their choice. Quality thus comes at the expense of quantity, access and efficiency.

Developing countries cope with this trade-off between quantity (access) and quality by permitting a dual educational system to grow. We often find a large differential between the public and private sectors, with one sector specializing in quantity, the other in quality. Some countries have opted for a large public sector with low expenditures per student, in which case the private sector is small, high quality and serves an elite clientele, while others have opted for a small selective high quality public sector, in which case quantity for the masses is left to the private sector. Each of these patterns has different distributional effects which I discuss elsewhere and which helps account for the collective choice that is made (James and Benjamin 1988a and 1988b). But both patterns are found in the countries located in the southwest quadrant of Diagram I, where subsidies and regulations are low. In the first case the small private sector attracts a wealthy informed student body that can evaluate and pay for quality without government assistance. Probably

quality floors would not even be binding there, since they are already exceeded. In the second case a large private sector has developed because of the limited number of high cost public places and the limited public funds which preclude substantial subsidies. Regulations designed to raise quality without subsidies would severely restrict enrollments, contrary to popular demand. The expansion of the private sector does, however, diminish the pressure for expansion and downgrading of the public sector, thereby permitting quality to be maintained there.

Only in advanced industrial countries can both quantity and quality be provided for everyone, either in the public sector or in a publicly funded private sector. With public education freely available, private sectors can grow large only when heavily subsidized by government. Modern countries with large private sectors are therefore located in the northeast quadrant of Diagram I, where extensive subsidies and controls over fees and expenditures are designed to assure that private schools survive and that public and private sector qualities converge. In fact, in such cases quality is often considered higher in the private sector. Perhaps this is what the distant future holds for some developing countries too, as their public spending increases and they must decide whether they wish to maintain their large private educational sectors with subsidy or let them wither away.

Since most developing countries today are far from this point of full enrollment capacity, probably the major question we have identified as needing additional study is whether public policy should shift the balance further toward quality (by imposing regulations) or quantity (by becoming more permissive). To answer this would require a careful analysis of the relative returns to quantity versus quality in each country concerned.

Relatedly, should public policy shift the balance further toward private provision of education? To answer this studies are required on the relative value added and efficiency of public versus private sectors after controlling for student intake and, if a differential is found, we should attempt to ascertain why. We also need more information on the costs and feasibility of enforcing minimum standards; the effects of cost-sharing and matching grants on total educational resources and their distribution; and the benefits of providing subsidized labor versus subsidized capital to private schools. These are important areas for further investigation in analyzing policy toward decentralized public school systems, as well.

Appendix

I. Private and Social Value Added and School Quality

Let us start by setting forth a hypothetical production function:

$$ED_i = f[S_i, XPS, (\sum_{j \neq i} S_j)/(n-1)]$$

where the education that student i ends up with after attending school (ED_i) is a function of his ability or prior learning (S_i), the average ability or prior learning of other students at the school $[(1/n-1)\sum S_j]$, and its expenditures per student (XPS). S_i recognizes that students always bring with them innate ability (genes) and prior learning from their home or earlier schools, which play a large role in determining ED_i . $[(1/n-1)\sum S_j]$, the peer group effect, recognizes that students learn from each other and will therefore acquire more ED_i the brighter their fellow students. Although the peer group effect can be quite complex in reality, here we model this effect as separable and the input simply as the average of other students' prior learning. (For recent empirical evidence on the peer group effect see Willms, 1985 and 1986; McPherson and Willms, 1986.) XPS assumes that inputs have a positive marginal productivity so that higher spending per student produces higher educational outputs.

It is tempting to use ED_i as a measure of quality since this can readily be measured according to test scores or lifetime earnings of outgoing students. Indeed, this is often done. However, this obviously overestimates the contribution of the school itself, since it includes the value of its incoming student input, S_i and $\sum S_j$, i.e., the education possessed by its students before they ever enter the school.

Value added, i.e. gross output minus the incoming student input, comes closer to the measure we would like to have. From the viewpoint of the individual family choosing a school, and if we make certain strong separability assumptions for notational simplicity, value added is $ED_i - S_i$. I call this private value added or private quality. This tells the family how much extra education student i will acquire as a result of attending school, a plausible definition of school quality. Unfortunately, this figure may be difficult for the family to obtain, since it must then know the prospects of the student both before (S_i) and after (ED_i) attending school. If different schools are being compared, the family must have this information for each of them separately, i.e. it must know their $\sum S_j$, XPS and the transformation into ED_i for each school.

From the viewpoint of the central planner or society as a whole comparing schools, yet another definition of value added may be more relevant: $ED'_i(S_i, XPS, \sum S_j = 0) - S_i$, where ED'_i is the gross educational output in the absence of (positive or negative) contributions from the peer group. If the peer group effect operates separably through the average ability of one's fellow students, if every student i is affected in the same way by $\sum S_j$, and if the ability distribution of the entire student population is fixed for the country as a whole, then the over-all contribution of $\sum S_j$ is also fixed. Under

these assumptions total education in the country, i.e. $\sum ED_i$ can only be increased by increasing XPS or the efficiency of schools in transforming XPS into ED_i . Increases in ED_i that are achieved by redistributing $\sum S_j$ are essentially a zero sum game. Therefore, in evaluating the impact of policies on $\sum ED_i$ I use $ED'_i - S_i$ as my definition and XPS as an indirect measure of social value added by a school, or its social quality.

Further, I associate with each quality level (QUAL) a hypothetical cost curve, $C = C(Q)$. Then, by observing C and Q we can infer QUAL. Unfortunately, if producers are lazy or misinformed, they may spend more without producing better results. On the other hand, if they have special access to lower priced factors of production (e.g. volunteer labor) or production techniques they may produce more at lower cost. I call attention to situations where either of these effects may be present, thereby biasing the use of XPS as a quality measure. However, I assume that, by proper use of factors of production, it is generally possible to increase quality by spending more, that quality increases generally require higher expenditures and therefore XPS is taken as a crude proxy for quality.

Different actions will be taken depending on whether the object is to maximize ED_i or ED'_i , private value added or social value added. An individual family may feel that the best way to enhance its child's education is to get him or her into a school with a superior peer group, while to the government planner the social value of these gains are zero; social school quality can only be enhanced by increased spending on education or improved allocation of educational resources. This difference between private and social quality, we shall see, is one possible reason for government intervention in the educational marketplace.

II. The Quantity-Quality Trade-Off

This Appendix demonstrates diagrammatically the choice that must be made between greater quality and quantity of places in the schools. In Figure II A, DD is the demand curve for secondary education as a function of price, price = average cost = quality and $AC_0 = QUAL_0$ was the unregulated ex ante cost and quality. Suppose now that $\overline{AC} = \overline{QUAL}$ is the minimum cost and quality level permitted by government policy. Then, $Q_0 - \overline{Q}$ people who previously received a secondary education will not be able to afford one now. Along similar lines, any given subsidy by the government can either be used to increase quality for those already in school or to lower price and expand the number of places for these not yet in school (Figure II B). For example, $Q_0, AC_0 = QUAL_0$ represents the presubsidy point in Figure II B, and a given subsidy can either raise enrollment to Q_1 , average costs to $AC_1 = QUAL_1$, or some combination in between. Thus, in evaluating whether higher quality is socially worthwhile, in a context of less-than-full enrollment, the costs in terms of foregone quantity must be considered.

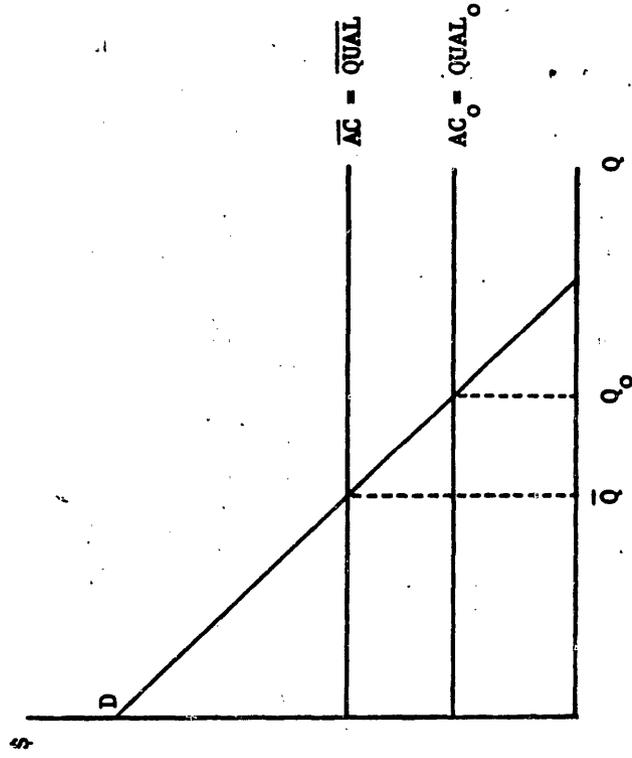


FIGURE II A
EFFECT OF QUALITY FLOOR ON SCHOOL ENROLLMENTS

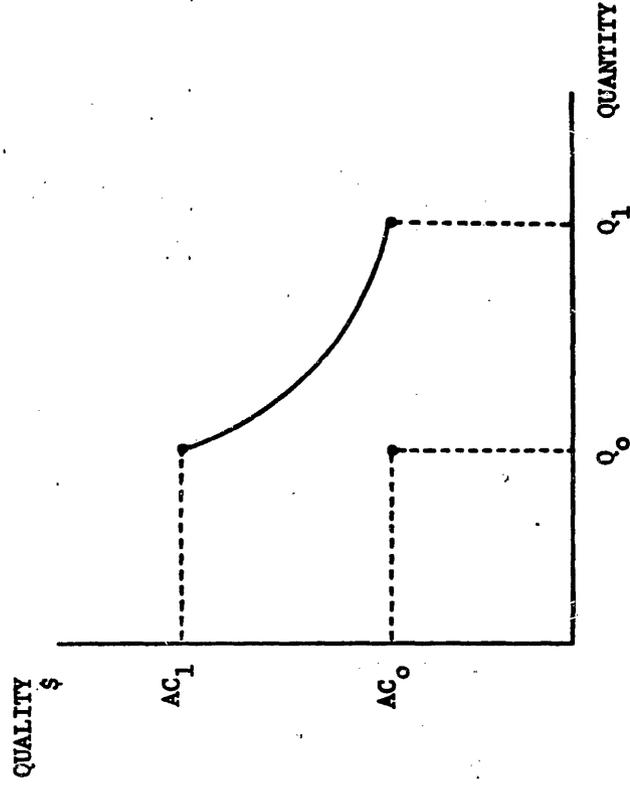


FIGURE II B
POTENTIAL EFFECT OF SUBSIDY ON QUANTITY AND/OR QUALITY

III. Non-Profit and For-Profit Production in the Long Run and Short Run

Suppose that a competitive market sets the price of a school place per year at P_0 in the short run. Then, the profit-maximizing organization (PMO) produces quantity q_0 at quality level AC_0 , the minimum quality level, if consumer cannot correctly assess quality differentials (GI). In contrast, a nonprofit organization (NPO) that has both quantity and quality in its objective function will produce $q_1 > q_0$ at quality level $AC_1 > AC_0$ (see Figures III A and III B).

However, in the long run, new schools will be attracted by the existence of potential profits, in situations such as these where average revenues exceed minimum average costs. Their entry forces market price to fall. In a profit-making industry this fall will continue until price falls to p_0 , minimum average costs. In a market where only NPO's can operate, price will also fall to p_0 if some of the nonprofit entrepreneurs do not care about quality. In that case (unless they have large donations) those NPO's wishing to produce higher quality will have no resources to do so under GI. PMO's and NPO's will both produce at quality level AC_0 . In the long run the NPO requirement has no effect at all (see Figures III C, D, E).

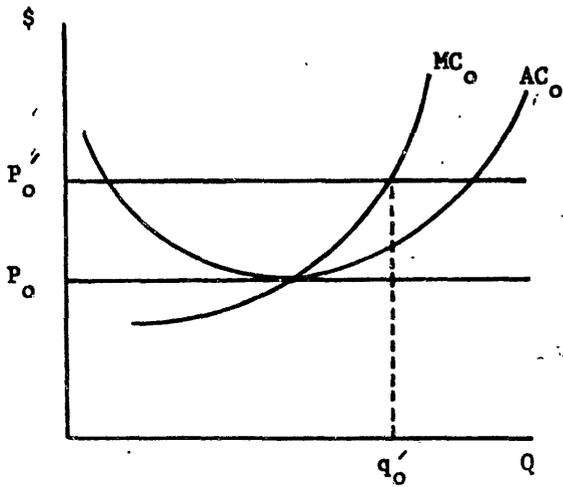


FIGURE III A
SHORT RUN - PMO

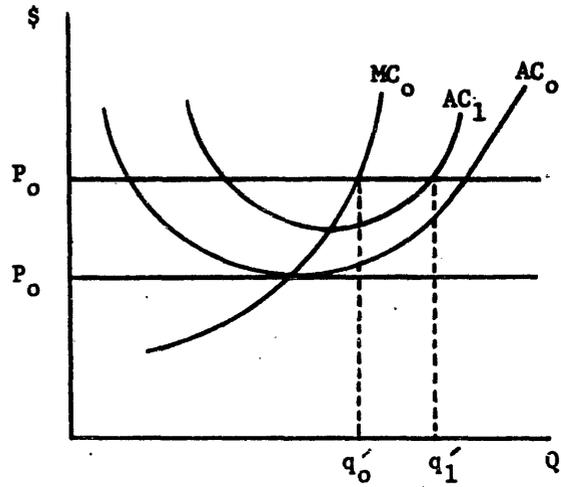


FIGURE III B
SHORT RUN - NPO

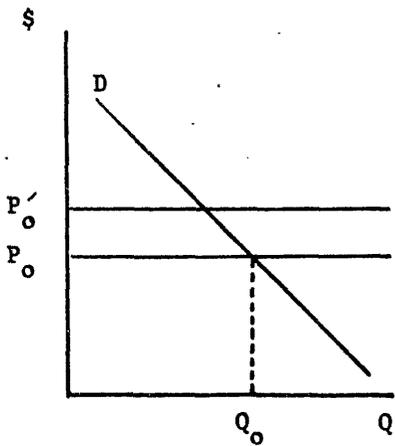


FIGURE III C
LONG RUN - INDUSTRY

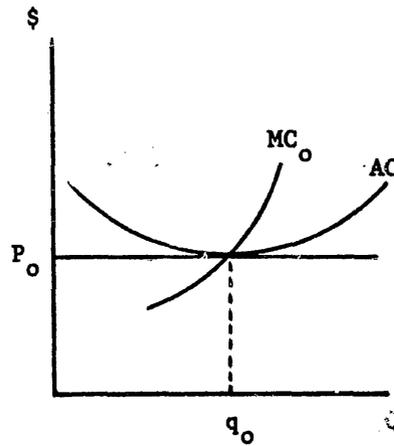


FIGURE III D
LONG RUN - PMO

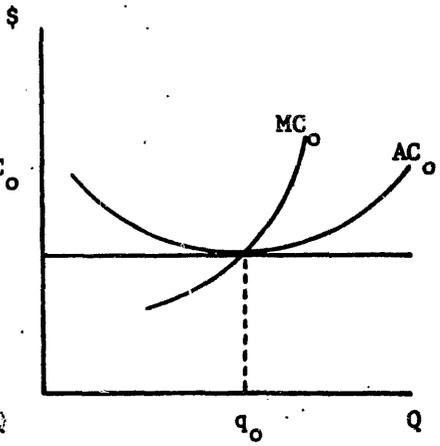


FIGURE III E
LONG RUN - NPO

IV. Price Ceilings

In Figure IV A and B I depict the impact of a binding price ceiling for a PMO and an NPO. Initially, these schools are operating at (P_0, q_0) and (P_0, q_1) respectively. The PMO is earning and distributing a profit in this short run equilibrium. The NPO is spending all of its potential profit on a higher quality (AC_1 rather than AC_0) and quantity (q_1 rather than q_0).

Now a price ceiling of \bar{P} is imposed. This means that the marginal revenue of quality has declined; hence the NPO will produce less of it. So too will the PMO, if quality was initially above minimal levels (but under GI quality would already be minimal). That is, price ceilings lead to a downgrading of quality, since schools can no longer charge higher tuition for higher quality.

In addition, price ceilings limit quantity (to \bar{Q} for each school), since the marginal reward is now smaller for each incremental place, both for NPO's and PMO's. This effect is even greater in the long run, as new schools are not attracted into the education industry by the existence of profits. And if the price ceiling falls below P , the minimum average cost, those schools which cannot downgrade quality further will make a loss and go out of business.

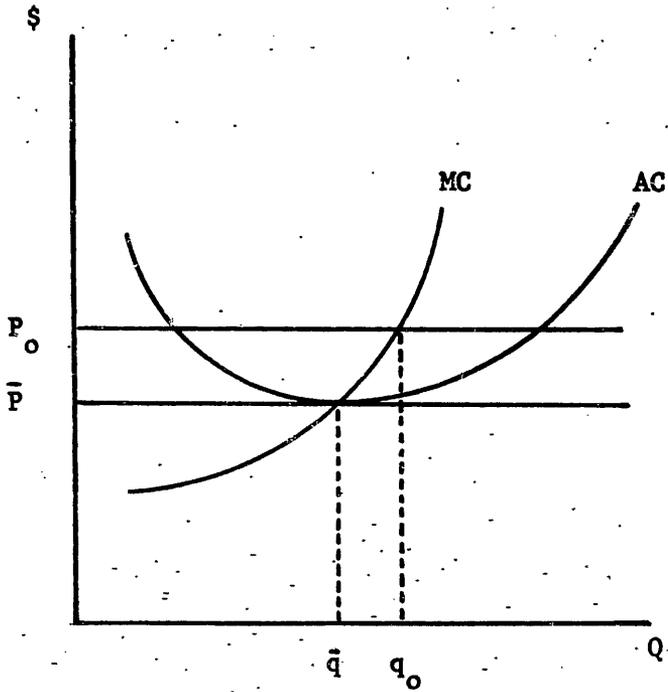


FIGURE IV A

PMO

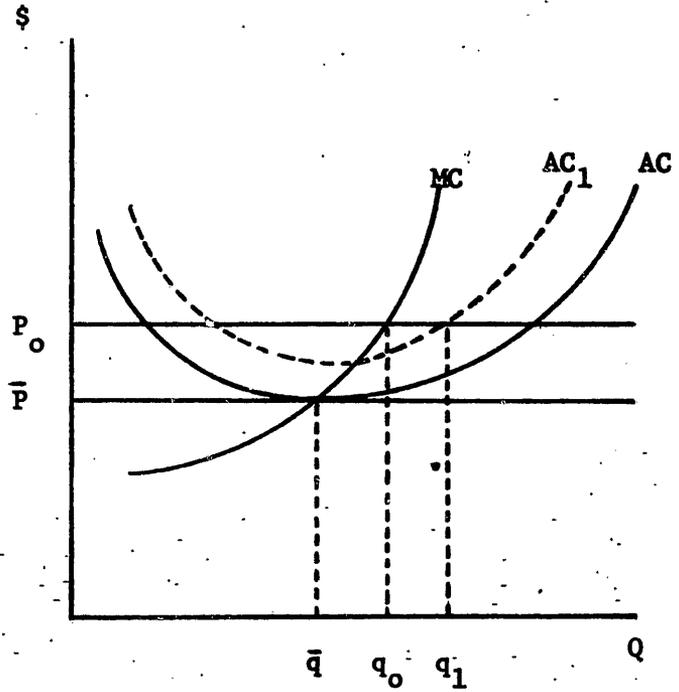


FIGURE IV B

NPO

EFFECT OF TUITION CEILING ON SCHOOL QUANTITY AND QUALITY

V. Lump Sum Grants

To analyze the impact of a lump sum grant (LSG) Figures V A, B and C reproduce III C, D and E but show (as a dotted line) the new average revenue line, AR_1 which equals $P_0 + LSG/Q$. This curve is downward sloping because LSG/Q is downward sloping. Since the marginal revenue of quantity does not shift, the PMO continues to operate at q_0 , $QUAL_0 = AC_0$. But the school now earns positive profits equal to the lump sum grant. In the short run PMO case, then, this subsidy is simply a transfer payment to producers and does not affect behavior at all. This is where things remain if only pre-existing schools are eligible for the grant.

However, if new schools are also eligible, they will be attracted to the education industry in the long run, by the existence of the lump sum grant. Their entry pushes price down to P_1 and average revenue to $AR_2 = P_1 + LSG/Q$, the point at which entry ceases because pure profits are zero once again. Thus the new long run supply curve is $P_1 P_1$, rather than $P_0 P_0$ and aggregate enrollments do indeed increase, to Q_1 . Access to lower income groups also increases but quality is still unchanged and each school now operates at a sub-optimal capacity, q_1 . That is, the government is giving a lump sum grant to more schools than are optimal for producing a total enrollment of Q_1 . Although simple and quantity-enhancing this scheme is not efficient. Nor does it increase quality, with the marginal revenue and cost of quality unchanged.

The NPO, in contrast, reacts differently to a lump sum grant. Since it must spend the entire "potential profit" within the organization, it must choose between higher quality and higher quantity in the short run. If both enter into its objective function as normal goods, both will

LUMP SUM GRANT

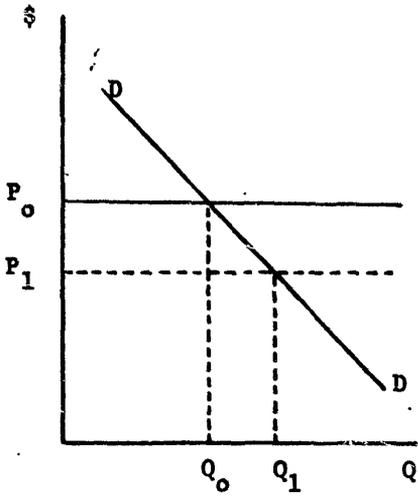


FIGURE V A
INDUSTRY

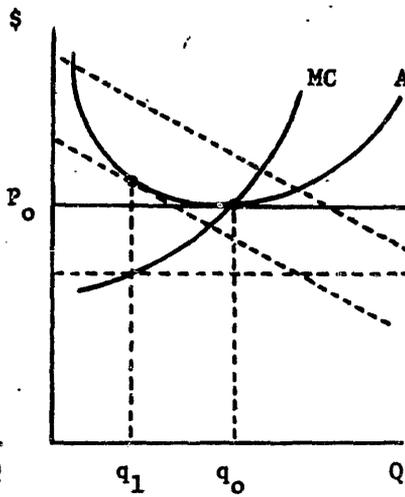


FIGURE V B
PMO

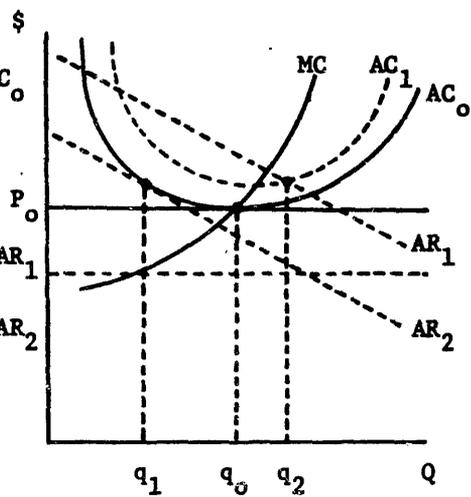


FIGURE V C
NPO

increase (e.g. to q_2 , $AC_1 = QUAL_1$). This positive impact on quantity and quality is one reason why the government might restrict its lump sum grant to NPO's, if it is interested in short run results. If the availability of nonprofit (nonpecuniary-motivated) entrepreneurs is limited, this is where matters stay.

Suppose, however, that new nonprofit entrepreneurs (or, more typically, branches of old ones) are attracted by the potential profits and suppose further that some of them do not care about quality. The entry of new schools again pushes the AR curve to AR_2 , where only q_1 , Q_1 and $QUAL_0$ can be produced at break-even levels. Quantity and access have increased but quality has not and production is inefficient -- exactly as in the long run, free entry PMO case. Thus, in the long run quantity is enhanced, efficiency declines and quality is unchanged, whether NPO's or PMO's operate in this industry.

VI. Subsidy per Student

Figures VI A, B and C start once again with a long run equilibrium at P_0 , Q_0 , q_0 and introduce a subsidy per student, S , where S is less than P_0 . The subsidy raises the industry demand curve to D_1 $D_1 = DD + S$. In the short run price falls to P_1 , average and marginal revenue rise to $AR_1 = MR_1 = P_1 + S$. Thus, the PMO increases its output to q_1 , holds quality constant and earns a positive profit. The potential profit means that the NPO, as before, must choose between a higher q or a higher QUAL; if both are normal goods a combination of both are chosen (AC_1 , q_2). Thus, as before, we get a short run increase in quality in the NPO case.

In the long run, however, if new entrepreneurs are eligible for the subsidy and available to enter, price to the consumer falls further to $P_2 = P_0 - S$ so that $AR = P_2 + S = P_0$. A larger number of student places, Q_2 , are demanded and supplied by a larger number of schools although each school only produces q_0 , as it did at the start. Since the price and cost of quality is unchanged by this subsidy, which is tied only to quantity, quality remains at its original level, $QUAL_0 = AC_0$. The latter statement is qualified only if the fall in price to P_2 brings about a positive real income effect which consumers then choose to spend on educational quality.

Now suppose the subsidy per student is greater than P_0 . Even if the competitive market price falls to 0, $AR = S > \text{minimum } AC_0$, so each school makes a profit. This profit attracts still more schools, creating an excess supply which leads the market price to fall further to

SUBSIDY PER STUDENT

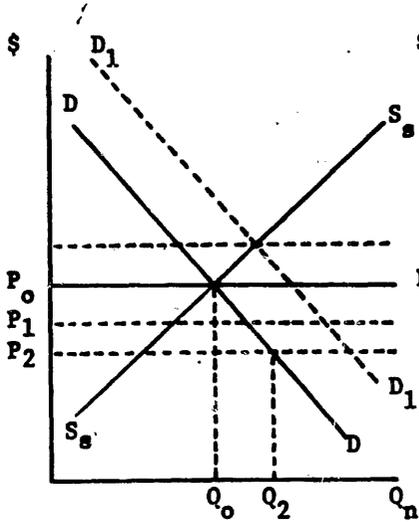


FIGURE VI A
INDUSTRY

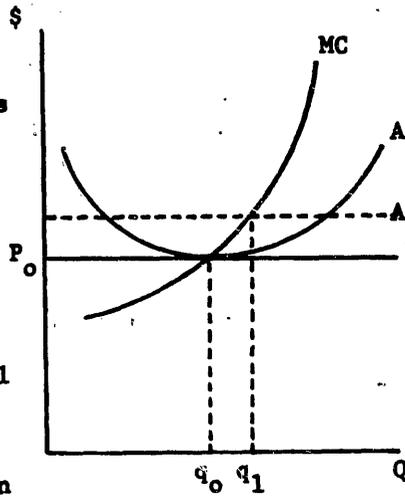


FIGURE VI B
PMO

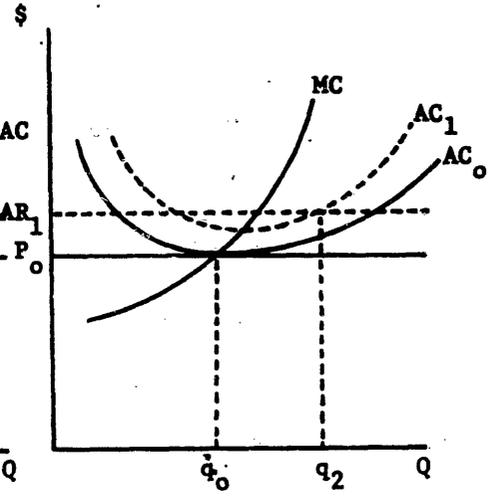


FIGURE VI C
NPO

a negative value. This negative price may show up in the form of monetary pay offs to students who attend (e.g. scholarship) or increased spending on "collective" pay offs such as comfortable lounges and libraries (AC_2), some of which may enhance school quality. A very generous per student subsidy or voucher scheme, therefore, may increase both quantity and quality.

VII. Subsidy as a Proportion of Cost

Cost-sharing by the government reduces private average and marginal costs for the school from (AC_0, MC_0) to (AC_1, MC_1) , and the short run industry supply curve from SS to SS_1 as shown in Figures VII A, B and C. Thus in the short run price falls to P_1 yet the PMO produces a larger quantity, q_1 . In the long run, with free entry of aided schools, price falls and access and enrollments increase still further.

In both the short and long run, the private marginal cost of quality has declined, which would cause the equilibrium level to rise under CI (full consumer information). The private marginal cost of waste and sloppiness has also declined, since the government now pays part of these costs. If it takes effort to eliminate waste, school owners will be less willing to put forth that effort, from which the private cost-saving is now less. Thus, a shift to a higher private cost curve such as AC_2 takes place, partially due to higher quality (under CI) and partially due to greater waste and X-inefficiency. The final long run equilibrium, therefore, combines a lower price (P_2), higher quantity (Q_2), higher average social costs ($AC_2 + \text{average subsidy}$) and possibly higher quality (under CI).

The analysis of NPO behavior follows along similar lines. In the short run the NPO, which must spend all its revenues, will operate at a higher Q and $QUAL$ (and will have less incentive for efficiency) than a PMO (e.g. at q_3 , $AC_2 = QUAL_2$). In the long run, with free entry of new NPO's eligible for subsidy, it will behave exactly the same as the PMO.

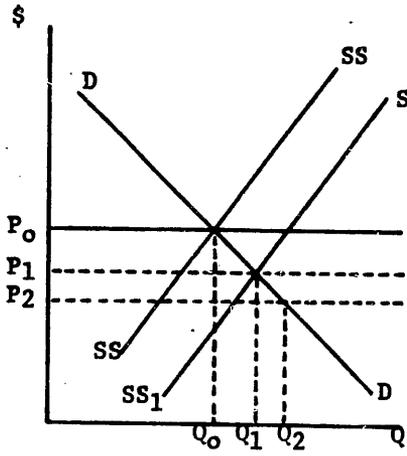


FIGURE VII A
INDUSTRY

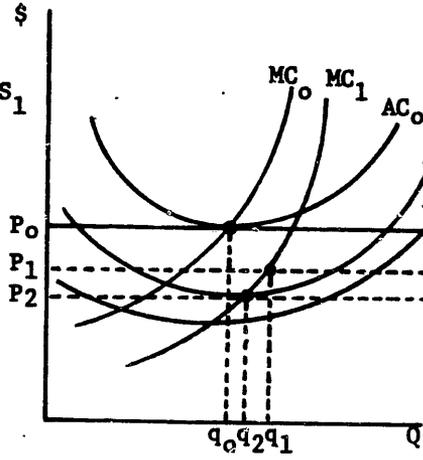


FIGURE VII B
PMO

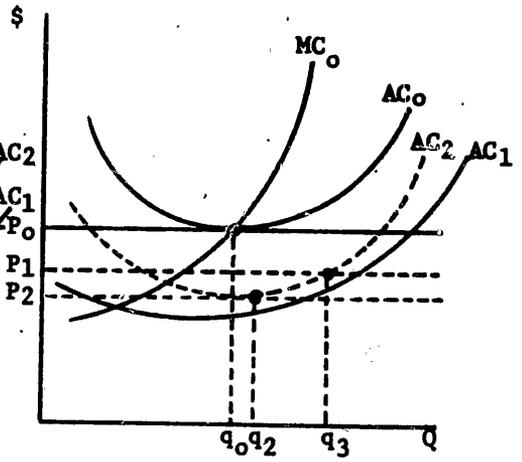


FIGURE VII C
NPO

Footnotes

- * The author is Professor of Economics, S.U.N.Y., Stony Brook and Fellow, Netherlands Institute for Advanced Study. This report was prepared for the World Bank as part of its program for analyzing decentralization and partially funded by research project RPO 673-96, under the general direction of Emmanuel Jimenez. I wish to thank the many people at the World Bank and elsewhere with whom I discussed this topic and the many people in developing countries who answered the questionnaire or sent me the related information. These include: George Psacharopoulos, Emmanuel Jimenez, Jee Peng Tan, Bernardo Kugler, Nestor Dominquez, Ernesto Schiefelbein, Jack Maas, Robert Drysdale, Michael Mertaugh, Donald Winkler, Linda Dove, Adriaan Verspoor, Celicia Valdivieso, Tufan Kolan, Himelda Martinez, Manuel Zymelman, Adriano Arcelo, Andrew Urevbu, Vandhyala B.G. Tilak, C. de Moura Castro, Shahrukh R. Khan, Hashim Abrasi, Kiong Hock Lee, Eduardo Velez, Sylvia Schmelkes and George Eshiwani. Guy Neave at the Institute of Education, University of London, was also very helpful providing me with information on European countries. Vinh Nguyen drafted the graphs.
1. For a theoretical and empirical discussion of the historical factors that lead a country to have a national curriculum and examination system, see Archer, 1979.
 2. As, indeed, happened to many private (girls') schools in Sweden in the 1920's, in Bihar state (India) and in Pakistan in the 1970's, to mission schools in several African countries when they became independent, and to primary schools in S. Korea in 1980.
 3. Australia, whose subsidies are greater than 25% but less than 75%, is an exception which lies somewhere in the middle, with a large private sector. I predict that its subsidies (and regulations) will gradually move to the upper range.
 4. For a fuller discussion of the differences in private education in modern and developing countries and the determinants of governmental policies toward private subsidies versus public production as public expenditures on education grow in the process of development, see James, 1986b.
 5. In some cases, private schools have rejected the regulations and given up the subsidies that go with them. For example, most "direct grant" schools (except for the Catholic ones) chose to become fully independent rather than accepting "voluntary aided" status when this choice was given to them in England, in the late 1970's. Similarly, in Australia some private schools which now receive small subsidies are making contingency plans to forego them if the regulations become too onerous. In Kenya, at least one religious community requested that its schools be released from "aided" status -- and set up a separate unaided,

uncontrolled school when this permission was denied. In New Zealand, schools were recently offered a menu of choices featuring different degrees of subsidy plus control -- and some chose the low option. However, most schools have accepted the regulations together with the subsidies, thus generating the large hybrid private sectors we find in some advanced industrial societies today.

6. Market forces partially reasserted themselves, however. Teachers, whose salaries are now way above market-clearing levels, are often unofficially required to make a "donation" to a school before acquiring a job. The "donation" approximates the present value of their lifetime wage increment, and in some cases has been used as capital to build the classroom in which they teach. (Male teachers with such desirable jobs command a higher dowry from prospective brides and that is one way they fund the large donation.)
7. For a theoretical analysis of the NPO as a consumer response to the problem of misinformation and trustworthiness see Hansmann, 1980. For a discussion of the NPO as a government response to these same problems see James, 1987b. For a summary of the economics literature on the rationale for and behavior of NPO's see James and Rose-Ackerman, 1986.

References

- Archer, Margaret. The Social Origins of Educational Systems (London: Sage, 1979).
- Coleman, James, Thomas Hoffer and Sally Kilgore. High School Achievement: Public, Catholic and Private Schools Compared. New York: Basic Books, 1982.
- Encarnation, Dennis. "Public Finance and Regulation of Nonpublic Education," in T. James and H. Levin, ed. Public Dollars for Private Schools (Philadelphia: Temple University Press, 1983).
- Financing Education in Developing Countries (Washington, D.C.: World Bank, 1986).
- Goldberger, Arthur and Glenn Cain. "The Causal Analysis of Cognitive Outcomes in the Coleman, Hoffer and Kilgore Report." The Sociology of Education, 55, 1982, 103-152.
- Hansmann, Henry. "The Role of Non-Profit Enterprise," Yale Law Journal, 89, April 1980, 835-898; reprinted in S. Rose-Ackerman, ed. The Economics of Nonprofit Institutions: Studies in Structure and Policy (New York: Oxford, 1986).
- Inner-London Education Authority, Research and Statistics Dept., "Looking at School Performance," RS 1058/86, 1986.
- James, Estelle. "The Private Provision of Public Services: A Comparison of Sweden and Holland," PONPO Working Paper no. 60 (New Haven: Yale University, 1982).
- James, Estelle. "How Nonprofits Grow: A Model," Journal of Policy Analysis and Management, Spring 1983, 350-365. Reprinted in The Economics of Non-Profit Institutions: Studies in Structure and Policy, ed. Susan Rose-Ackerman (New York: Oxford University Press, 1986).
- James, Estelle. "Benefits and Costs of Privatized Public Services: Lessons from the Dutch Educational System," Comparative Education Review, December 1984; expanded version reprinted in Private Education: Studies in Choice and Public Policy, ed. Daniel Levy (New York: Oxford University Press, 1986).
- James, Estelle. "Cross Subsidization in Higher Education: Does It Pervert Private Choice and Public Policy?" in Private Education: Studies in Choice and Public Policy, ed. Daniel Levy (New York: Oxford University Press, 1986a).
- James, Estelle. "Differences in the Role of the Private Educational Sector in Modern and Developing Countries," presented at the International Conference on the Economics of Education, Dijon, 1986b.

James, Estelle. "The Private Nonprofit Provision of Education: A Theoretical Model and Application to Japan." Journal of Comparative Economics, 1986c.

James, Estelle. "The Public/Private Division of Responsibility for Education: An International Comparison," Economics of Education Review, 1987a.

James, Estelle. "The Nonprofit Sector in Comparative Perspective" in The Nonprofit Sector: A Research Handbook, ed. W. Powell (New Haven: Yale University Press, 1987b forthcoming).

James, Estelle and Susan Rose-Ackerman. The Nonprofit Enterprise in Market Economies, a monograph in the series Fundamentals of Pure and Applied Economics and Encyclopedia of Economics, eds. J. Lesourne and H. Sonnenschein, Harwood Academic Publishers, 1986.

James, Estelle and Gail Benjamin, Japanese Public Policy and Private Education (London: MacMillan, 1988a).

James, Estelle and Gail Benjamin. "Educational Distribution and Redistribution through Education in Japan," Journal of Human Resources, 1988b.

Kaluba, L.H. "Education in Zambia: The Problem of Access to Schooling and the Paradox of the Private School Solution," Comparative Education, 22, 1986, 159-169.

Mason, Peter. Private Education in the EEC (London: ISIS, 1983).

McPherson, A. and J.D. Willms, "Certification, Class Conflict, Religion and Community: A Socio-Historical Explanation of the Effectiveness of Contemporary Schools," in A.C. Kerckhoff (ed.), Research in Sociology of Education and Socialization, Vol. 6 (Greenwich, Conn.: J.A.I. Press, 1986).

Murnane, Richard. Comparisons of Public and Private Schools: Lessons from the Uproar. Journal of Human Resources XIX, no. 2.

Neave, Guy. "The Non-State Sector in Education in Europe: A Conceptual and Historical Analysis," European Journal of Education, Vol. 20, 1985, 321-337.

Peltzman, Sam. "Toward a More General Theory of Regulation," The Journal of Law and Economics, XIX, 1976, 211-240.

Stigler, George. "The Theory of Economic Regulation," Bell Journal of Economics and Management Science, 2, 1971, 3-21.

Somerset, H.C.A. "Examination Reform: The Kenya Experience." A Report Prepared for the World Bank, 1983.

Willms, J. Douglas. "Patterns of Academic Achievement in Public and Private Schools: Implications for Public Policy and Future Research." IFG Discussion Paper, Stanford University, 1984.

Willms, J.D. "The Balance Thesis: Contextual Effects of Ability on Pupils' O-Grade Examination Results," Oxford Review of Education, 11, 1985, 33-41.

Willms, J.D. "Social Class Segregation and its Relationship to Pupils' Examination Results in Scotland," American Sociological Review, 51, 1986, 224-241.