EQUITY EFFECTS OF HIGHER EDUCATION IN DEVELOPING COUNTRIES*

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Almost all of higher education is in trouble but nowhere more so than in the developing world (World Bank, 1994). This refrain has been repeatedly stated by the World Bank and the regional development banks. And it is indeed true. Demand for higher education in the developing world has grown as more students have completed secondary education and as economic growth has taken place. At the same time, demand for public resources has been directed away from higher education to other pressing public needs as development and restructuring have taken place. As a consequence, fewer public funds are available for each student.

Enrollments in most of the public universities have risen while financial resources per student have fallen dramatically. The number of students has more than tripled over the past 20 years, while the amount of recurring public resources allocated to higher education has only increased in real terms by about 15 percent to 20 percent during the same period of time (World Bank, 1995). It has been estimated that real expenditures per student have declined by over 50 percent across most of the developing world (e.g., Winkler, 1990; Albrecht & Ziderman, 1992). These dramatic financial declines in per student support have led to major concerns about diminished quality, while there is little evidence about increased efficiency. But, unfortunately, in spite of the dramatic expansion of higher education across most developing countries, there are continuing concerns that little has been said about the effects on student equity and the increasing need for greater equity in the delivery of these educational services. Although the basic functions of higher education have been historically defined

* This article has been prepared for a forthcoming edited book by David W. Chapman and Ann E. Austin (eds.), *Higher Education in the Developing World.*

and examined in terms of instruction, research and outreach, many have failed to note and examine the fourth important functional purpose of equality of educational opportunity. Nowhere is this more true than in developing countries.

This paper is intended to address our major concerns about the likely equity effects resulting from the recent transformations and restructuring taking place in the higher education systems of most developing and transiting countries. We first give an overview of the likely effects of the expansion on equity. Next, we examine the concurrent quality and efficiency changes taking place. Third, we review the various strategies employed for expanding excess. Finally, we examine the problematic issues for gaining equity through expanding access, providing greater student choice, and encouraging student persistence and degree completion.

Effects of the Expansion on Equity

The expansion strategies in most developing countries have led to an unprecedented growth in student numbers. The average annual growth rate in student enrollment has been between 4 percent and 6 percent in most developing countries. Over the past 20 to 30 years it is clear that this expansion has tripled enrollments for all students and undoubtedly provided some extra spaces for students who come from traditionally under-represented groups. Without the availability of adequate numbers of student places, it is impossible to provide greater equality in opportunities for attending higher education. However, such expansion policies are a necessary but not a sufficient condition for the provision of greater equity in access to higher education. Other conditions, factors and understandings about equity must be present as well.

Generally, almost everyone has some notion about the nature of equity. Most people believe that it basically refers to some dimension about "fairness" in the distribution of some good, service or cost. But seldom do they have conceptual understanding about

what constitutes such fairness or how one might measure it. Does it mean, for example, "equal treatment of equals" whereby people are grouped and everyone within the group is treated the same? This line of argument is often used to support the "fairness" of national examinations for university admission or for arguing no tuition for all enrollees. But it is frequently forgotten that in higher education, even within small groups, there will be individual differences. You then end up with equal treatment for all unequal participants and this often results in counterproductive equity effects.

On the other hand, most people who have thought about the issue tend to mean that unequal groups (or individuals) should have unequal treatment and that differential assistance should be given to less advantaged groups or individuals. Two problems arise here, however, in that one still needs to define the groups or individuals in need of differential treatment and one needs to define the differential treatment.

To address these problems one needs to more systematically examine the equity effects that are likely to result from both the supply and demand sides of these issues. It has been generally assumed, for example, that on the supply side the expansion of national systems of higher education in most developing countries would contribute to greater equity in access through increased participation of traditionally disadvantaged groups such as women and students from lower socioeconomic status (SES), rural, and developing regions. Trow (1974) identified this process of change in higher education as a change from an *"elite"* to a *"mass access"* system. In many cases, such supply side expansion policies certainly have helped to increase the number of students accessing higher education. But it still has not led to "mass access" systems in most developing countries, nor has it necessarily led to greater equality of opportunity for all youth and young adults. Only in a few countries, such as in Uruguay and Honduras, has there been any attempt to providing "open access" for all secondary graduates, but in both of these cases there are still very important equity issues relating to

limited access for historically disadvantaged students (largely through the bottleneck of inaccessible or inadequate secondary schools).

Major equity problems in access, choice and persistence in higher education continue to exist in most developing countries. There are still serious questions about the demand side negative effects of various factors on students' secondary academic achievement, and on their access, choice, and graduation rates in higher education. Concerns about inequalities of participation and the persistence in higher education of traditionally disadvantaged groups such as women and students from developing regions, rural areas, and low-income groups remain. Students from these groups in most developing countries have been historically under-represented among both the applicants and admitted students for university level education. In countries where the demand for higher education exceeds the supply of higher education places, seats in higher education are often distributed by competitive examinations without any consideration to its equity effects. Even if an admissions examination is taken, the probability of applicants from lower socioeconomic status passing the competitive exams has been estimated to be about three times lower than applicants from higher income groups in some countries (Ozgediz, 1980). Moreover, the possibilities for private tutoring and attending higher quality private or public secondary schools have reinforced the fact that students from higher income groups are much more likely to pass the exams and have more options for attending higher quality institutions than students from lower socioeconomic backgrounds.

Supply side policies to reduce social pressure for higher education often have been criticized as resulting in a deterioration of quality (see, for example, Williamson, 1987; Castro & Levy, 1997). The majority of universities, particularly those that have been newly established outside large metropolitan cities, often have been characterized as having low quality of educational services. While many new institutions frequently lack the minimum level of educational resources for teaching and research, they are also frequently characterized as having "very high average costs" due to

small size with diseconomies of scale and inefficient deployment of resources (Lewis & Dundar, 1995). The issue here has historically been whether there is, indeed, a natural trade-off between quality and efficiency. But an equally important question is whether there is a trade-off between equity and efficiency, along with declining quality? More specifically, do expansion strategies provide greater access for disadvantaged groups? Or do they simply increase both inefficiency within the system and perpetuate existing inequities in access? Unfortunately, the effects of such "supply-side policies" have not yet been systematically examined or reported in most developing countries.

Public policy makers in most developing countries historically have paid little attention to the "demand side" of the problem. In spite of an unprecedented growth of higher education during the past two to three decades, most systems in developing countries have not provided access to more than one-third of all applicants each year. Public policies often ignore the factors affecting student demand for higher education and assume that low cost-recovery with low- to no-tuition and fees and low financial aid policies (along with the availability of a large number of financial concessions to *all* students in the forms of subsidized food, housing, books, health care, and the like) will provide greater equity and equal access to a larger segment of the population who are coming from lower-middle or lower-income socioeconomic status. Unfortunately, several studies in the economics of higher education have revealed that in the case of strong private demand and limited supply such funding policies are likely to contribute to greater social *inequality*. In short, most observers of higher education in both developed (Hansen & Weisbrod, 1969) and developing (Brunner, 1996; Carlson, 1992; Psacharopoulos, 1980; World Bank, 1994) countries have argued that heavy subsidization of students in higher education means that poorer families who lack access to higher education support the more privileged. Democratized access fueled by public subsidies has not materially improved the participation of low-income students (Ziderman & Albrecht, 1995).

Another aspect of equity in education and equality in opportunity for access to education in most developing countries is the fact that considerable under-investment and low quality exists in many of their secondary education sectors (World Bank, 1990, 1993, 1995). Several observers have argued that declines in the quality of primary and secondary education obviously have had negative effects on equal access to higher education, especially in the context of very competitive university entrance examinations (e.g., Baloglu, 1990; TUGIAD, 1993). A recent Higher Education Council study in Turkey (YOK, 1990) has reported, for example, that about 45 percent of all secondary school graduates in that country did not have "the required minimum academic knowledge" to pass the first stage of the entrance examination and for study at the university level. This was attributed largely to a limited supply and decline in the quality of secondary education across the country. In order to compensate for the low quality of secondary education, more students have been attending private tutoring courses wherein the cost is often higher than attendance in higher education.

In spite of the joint effects of declining institutional quality and increasing inefficiencies, many faculty and university administrators often have persisted in *not* seeking alternative sources of funding. Until recently, greater diversification of revenue sources (such as tuition and fees, research and service contracts with government agencies and local industries, commercialization of research and development activities, solicitation of contributions from alumni, and selling or renting portions of their assets) has been basically ignored in many developing countries (Johnstone, 1998; Ziderman & Albrecht, 1995). Most important, many countries also have been strongly opposed to any expansion of tuition or fees as a source of additional funding largely on political and alleged equity grounds.

Most public institutions and politicians in the developing world have mistakenly argued that low- or no-tuition and fees have provided greater equality of educational opportunity through providing greater access to historically under-served populations. Or, alternatively, even when tuition and fees are raised the public authorities have withheld

or withdrawn public subsidies. In spite of the additional burdens brought on by the expanding enrollments, universities and public authorities believe they are contributing to enhanced educational access. Such reasoning is simply incorrect because a rising tide in public higher education in developing countries does not necessarily raise all ships. To be sure, some additional low-income students have gained access to higher education through the enrollment expansions of the past twenty years, but the overwhelming public subsidy has been and continues to accrue primarily to students from middle- and high-income families. In almost all countries around the world, there is a highly skewed participation of high socioeconomic status (SES) students in higher education. Both the World Bank and the regional development banks have consistently pointed out that in most developing countries the middle and highest income groups overwhelmingly gain the most subsidy and subsequent benefits resulting from higher education. Experience and several studies in developing countries (e.g., Chile, Columbia, Honduras, Indonesia, Malaysia, and the Philippines) have consistently shown that proportionate access to higher education by lower income groups is not materially improved by "no-tuition" policies. In fact, no-tuition systems usually lead to a regressive redistribution of income – i.e., poorer citizens who lack access to higher education support the more privileged (Brunner, 1996; Psacharopoulos, 1980; World Bank, 1994; Ziderman & Albrecht, 1995).

This regressive subsidy results from several factors. First and most important, many students coming from lower SES and disadvantaged families either drop out before graduating from high school, attend weak secondary schools, or are not able to access higher education because of failure on competitive examinations. This results primarily from the cumulative disadvantages of growing up in culturally disadvantaged families and communities and from attending weak secondary schooling. Even in those countries with open admission policies to their public universities (e.g., Honduras, Uruguay), well over half of all lower SES students dropout prior to graduation. Moreover, most of the private costs of higher education

do not result from tuition and fees, but from transportation, food, and housing and these costs are more pronounced for low-income students coming from rural areas outside the main cities where most public universities are located. Finally, the opportunity cost of attendance in higher education (i.e., foregone earnings) is also a material detriment for many students coming from low SES families.

Several commentators on higher education in developing countries (e.g., Carlson, 1992; Ziderman & Albrecht, 1995) have noted that high SES students are relatively price inelastic or insensitive to increases in tuition and fees. Evidence indicates that many of these middle and higher income students have both the ability and willingness to pay for higher tuition and fees. Most observers recommend increases in such private costs of up to 20 or 25 percent of their direct instructional costs.

But what would be the effect of such increases on low-income students? Given that most low-income students in both developing and developed countries are highly sensitive (or price elastic) to such price increases, it is likely that major losses would take place without effective scholarship grant and loan programs in place. The point here is simply that a targeted grants and loans program for low-income students with increased tuition and fees would not only generate more revenue for the institution and contribute to greater quality, but it would also contribute materially to enhanced access for low-income students with high abilities (Johnstone, 1998). Assuming, of course, that such loans and aid are widely publicized and implemented in fair and accurate ways and that there is an available and functioning capital market for any loans program.

In spite of these arguments in support of greater instructional cost-recovery through expanded student fees, it is important to note that the total outcomes of higher education do not accrue solely to the individual students, but to the larger society as well. There is a continuing need for public subsidy to the institution for the external effects resulting from many of these other services and social benefits – as in the delivery of public services such as health, contributions to the arts and humanities, and the provision of leadership and

entrepreneurial talent for both the public and private sectors. The research and development work product coming from higher education in many developing countries is also important. It has been estimated by Castro and Levy (1997, p. 5) that these institutions in Latin America, for example, contribute "roughly 80 percent of the research undertaken and a major share of the national science and technology effort." Equally important, many advocates for public higher education in developing countries, including the Inter-American Development Bank (Birdsall, 1996; Castro & Levy, 1997) and UNESCO (Tunnermann, 1996) among others, have noted that the public university often plays a critical role in producing and disseminating national culture and in building a national identity. But one should never lose sight of the central fact that the greatest beneficiaries of higher education instruction are the students themselves. Rates of both private and public returns have generally remained positive into the 1990s for most developing countries (Birdsall, 1996), even according to estimates given by critics of public higher education (World Bank, 1995), and university graduates in most developing and transition countries are clearly outside the range of relative poverty (Milanovic, 1998). Needs remain high for strong reform in the financing of public higher education and needs are urgent for addressing the equity effects of current practices.

Although Castro and Levy (1997) have noted that changes in policies on supply subsidization typically run up against severe political constraints in most developing countries, several countries have shown considerable progress in cost recovery. Alternatives to public sources of funds for instruction are growing in many developing and transition countries, with examples in Latin America – e.g., Argentina, Chile, Colombia, Costa Rica, Mexico and Venezuela (Schiefelbein, 1996), Central Europe—e.g., Poland, Hungary and Romania (World Bank, 1999), the Middle East – e.g., Turkey (Lewis & Dundar, 1995), Asia – e.g., China (Johnstone, 1998), Southeast Asia – e.g., Thailand and the Philippines (Tan & Mingat, 1992) and in the former Soviet Union – e.g., Azerbaijan, Kyrgyz Republic, and Russia (World Bank, 1999) among others. Public universities, for

example, in several Latin American countries are beginning to charge or raise tuition and fees (Castro & Levy, 1997). In Chile only one-third of all funding for higher education comes from the government. Nearly 40 percent of all Latin American students are in private institutions, usually receiving no public funds or very little public support.

A major problem in several of the countries in transition has been the probable negative equity effect of their efforts in seeking alternative sources of instructional funding. In Poland, for example, higher education institutions have made remarkable progress with respect to the mobilization of alternative sources of funding to complement decreasing governmental allocations whereby they have been charging all students in extramural (i.e., evening or weekend) programs tuition and fees, while at the same time providing education with no tuition or fees to their regular day students. Today, over 50% of all students have been defined as being in such programs and it appears that the quality of education offered to extramural students is not on par with the programs offered to regular day students. Except, of course, when "extramural" students are permitted to attend regular day classes. It appears that most universities have become dependent on these fee payments and that the fee-paying students are subsidizing regular day students.

Similarly, in most countries in transition student fees also have begun to be introduced even in the public higher education institutions. Although in most of these countries "constitutional provisions" prohibit universities from charging tuition and fees, many universities have nevertheless developed ruses for charging such fees. Many public institutions now are accepting an increasing proportion of their students on a fee-paying basis. As a rule, government-assisted places are supposed to be allocated to students with no fees on the basis of university entrance examinations. On the other hand, by the mid-1990s, it had been estimated that about 45 to 50 percent of all students entering state universities in Azerbaijan and Poland, about 30 percent of all students in the Kyrgyz Republic, and about 10 to 15 percent of all students entering state institutions in Russia, Belarus,

and Hungary (based on personal conversations with key university administrators; Johnstone, 1998; Rysalieva & Ibraeva, 1999) were fees paying students. Again, we know nothing about the equity effects of such likely cross-subsidies. Although data do not exist, it is highly probable that most of the fees paying students have lower socioeconomic status backgrounds that most of those students found within the regular day school – resulting in strong regressive transfers of subsidy to higher income families.

Other differences in family costs resulting from corruption in transition countries have also resulted in likely negative equity effects. It is reported, for example, that considerable corruption and bribery have been taking place in most of the economies in transition, particularly those from within the former Soviet Union. More specifically, we know that parents often have to pay informal fees (i.e., bribes) to get their children into university, either in a lump sum or in the form of high hourly rates paid to whomever writes the entrance examinations to "tutor" their child for the examinations (Balzer, 1998). In Azerbaijan, for example, it is alleged that students at university also can pay their teachers for good grades, a top mark in an examination is supposed to cost between US$100-$125. In Moldova bribes are alleged to vary in amount, depending on whether a degree in a particular field of study is expected to yield a high income. Having family wealth in these countries obviously helps getting your children into and choice of university.

In Russia, elite secondary schools have been emerging in the urban centers. Entry into university from these schools is much more certain than from regular secondary schools. Although these are publicly funded schools, family wealth clearly affects access. These schools pay university teachers for teaching college preparatory courses tailored precisely to the entrance requirements of their universities – that are in turn often set by these same teachers. Given the very poor quality of secondary education in Georgia, no private lessons and a lack of textbooks for most poor youth obviously prevent many of these young people from entering higher education.

Effects of the Expansion and Transition on Quality and Efficiency

The shortfalls in per student funding indeed have resulted in major declines in the quality of higher education across both the private and public sectors of developing countries (Castro & Levy, 1996; Williamson, 1987). Buildings are deteriorating, most research laboratories lack modern equipment, teaching materials are missing, staff are underpaid and often underprepared, and outdated curricula are previewed. Travel budgets and supplies are very limited. Many universities still do not have adequate access to the Internet. In short, expanding enrollments with declining per student resources have all contributed to diminished quality and services for almost all students. These problems have become most apparent in countries in transition.

The amount of resources allocated for libraries frequently has been viewed as an important indicator of university quality. A study of university libraries in Turkey (Ertel & Koran, 1989), for example, reported that a great majority of universities in the country had inadequate library resources when compared with universities in most other countries. It was estimated that the average number of books per student was only 11 in the university system, with estimates between 4 and 40 within individual universities. Similar figures were reported as 818 and 384 at Yale and Oxford, and 55 and 25 in Brazilian and Filipino universities, respectively. Not surprisingly, the share of library and publication expenditures are nearly invisible in the overall expenditures of most universities in developing nations.

Most important, salaries of professors have dramatically deteriorated while shifting recruitment and commitment away from the profession. Faculty has taken on second and third jobs in order to maintain professional life standards in many developing and transition countries. Shortages of faculty frequently exist in certain critical fields such as in the natural sciences, engineering and technological fields. The core of any university's quality can be found within the quality of its faculty, and when this quality is materially diminished so is the quality of its work product.

Inefficiencies are rampant as well, especially in the public universities. Budgets are notoriously inflexible and student/faculty ratios are often either very high or very low with limited rational basis other than historical legacy. Frequently, graduation rates are also very low. Institutional missions are ambiguous, and prospective economies of both scale and scope are largely unknown. Incentives for improving productivity and accountability are lacking or poorly conceived.

The Ministry of Education in most developing countries is responsible for the overall finance and management of most public institutions. Although in several countries the ministries of labor, health or agriculture are also responsible for some higher education institutions, largely in the fields of agriculture, health or other specialized fields. Overall, such ministries of education typically have very limited financial capacity and weak institutional capacity to support tasks such as policy development and planning, curriculum development, monitoring and assessment. This not only leads to considerable inefficiency in the use of resources, but it also precludes directly addressing the related issues of student equity that are so pervasive.

Expanding University Enrollments Driven by Equity Concerns

Unfortunately, almost all discussion about equity in the higher education of most developing countries has been largely hortative or only generalized as an important social goal of public policy. Seldom have any measurable results been reported in the literature. To the extent that policy discussions have taken place about equity concerns almost all of the exhortations have been about access and expanding enrollments with very little discussion concerning the other aspects of equity such as choice or persistence to graduation. As a consequence, very little public or institutional policy has been directed to expanding choice or reducing student dropouts. Almost all of the public policies relative to equity and equality of educational opportunity for students have been directed to either attempting to find more spaces for more

students or for keeping tuition and fees zero or at very low levels. Yet, for all of the exhortations about equity needs, within each country little is understood about the nature of the issues, about the types of needs that might exist, or about the range of public policies that might be most effective.

Several persistent myths exist within most developing countries about the types of remedies that should be employed in order to best address matters of educational opportunity in higher education. For example, as we have already reviewed above, the most common public policy for addressing equity for those students most historically denied access to higher education has been to simply expand the number of programs and institutions in order to create more new spaces. The believe is that a rising tide of enrollees will necessarily include those most disadvantaged students especially in less developed regions. It is also believed that holding to no- or low-levels of tuition and fees will also ensure access and persistence for disadvantaged low-income students. Similarly, it is conventionally believed that expanding programs and spaces will also ensure greater student choice and freedom of selection. Finally, it is believed that by holding to highly competitive admission examinations this will necessarily result in the fairest admission criteria and in turn contribute to equity. Unfortunately, these proposed "equity policies" in most developing countries have not necessarily led to their expected results. Often the results are just the opposite. It is the purpose of the remaining parts of this chapter to more carefully examine these propositions.

Strategies for Expanding Access

It is important to note here that the nature of higher education and the process of governmental and market transitions taking place within former centrally planned economies since 1989 are materially different from the previous lower quality of higher education and recent transformations taking place in most other developing nations of the world. Nevertheless, many of the generic problems dealing with

equity are also relevant to both transition and developing countries and both are included within the context of this chapter. As Johnstone has cogently noted, "the decade of the 90's has seen a remarkably consistent worldwide reform agenda for the finance and management of universities…(even) in countries with dissimilar political-economic systems and higher educational traditions…" (1998, p. 1). As evident in Table 1, enrollment expansion since 1989 has also taken place within almost all of those countries in transition.

Table 1: Age Cohort Enrollment Rates in Transition Economies (gross rates, percentage of 18-22 age group)

Country	**1989**	**1997**
Central Europe		
Czech Republic	12.7	17.3
Hungary	13.9	23.8
Poland	11.6	20.6
Slovak Republic	13.2	17.6
South-Eastern Europe		
Bulgaria	16.4	27.1
Romania	8.8	18.7
Baltic republics		
Estonia	N/A	21.3
Latvia	15.2	24.6
Lithuania	17.7	18.2
Western CIS		
Belarus	16.5	19.5
Moldova	11.6	13.5
Russian Federation	16.7	18.7
Ukraine	15.3	20.1
Caucasus states		
Armenia	16.5	N/A
Azerbaijan	8.1	12.3
Georgia	14.3	14.4
CentralAsian republics		
Kazakhstan	12.9	13.4

Kyrgyz Republic	10.9	15.2
Tajikistan	9.0	8.9
Uzbekistan	9.1	5.0
Turkey	15.0	26.7

Source: *Adapted from Laporte and Ringold (1997).*

Since the early 1960s the supply of higher education in most developing countries has been inadequate to meet an increasing social demand. In spite of major expansion attempts, many systems have been unable to meet the needs of no more than one-third of all applicants. In many developing countries higher education access or admission is determined by centrally administrated meritocratic entrance examinations to which all high school graduates are eligible to apply. The shortage of higher education spaces and the importance of such entrance examinations for admission to higher education in general, and to the most prestigious universities and programs in particular, have produced intense competition for admission. In several countries (most notably in the former Soviet Union) such admission examinations and decisions are managed by the individual institutions themselves. Often these latter procedures lend themselves to bias, cheating, and even bribery on behalf of students with influential or high-income families.

More important, concerns remain about the fact that such allocation processes probably result in considerable inequities in access to and choice in higher education. The central rationale behind the expansion of higher education has been that such expansion will lower the barriers to access and thus provide greater opportunity to a larger segment of the population who would be otherwise unable to access higher education. Most central governments have addressed this issue of equality of educational opportunity in higher education largely by responding to the supply side of the problem and paying little attention to the demand side. Expansion of "the higher education pie" has simply been assumed to automatically improve access to higher education for a larger segment of all groups, including historically disadvantaged groups.

As a result of most government plans in the developing countries from the late 1970s and early 1980s, and the restructuring attempts during the 1990s in transition economies, strategies to increase enrollments on behalf of equity concerns have typically followed one or more of five major tracks: (1) sharp increases in enrollments in the existing institutions; (2) establishment of new universities, particularly outside of the major cities; (3) expansion of two-year vocational colleges; (4) expansion of non-conventional approaches to higher education such as distance education and evening programs; and (5) permitting the development of private higher education institutions.

Expansion of existing universities. Since the 1970s, enrollment rates in most developing countries have been expanding at a relatively fast pace. In Latin America, for example, cohort participation rates have increased from around 3 percent in 1960 to over 20 percent of the cohort relevant population in 1997 (Castro & Levy, 1997). Table 2 illustrates these enrollment rates across South and Central America.

Table 2: Enrollments in Latin America, 1994
(gross rates are for age-cohorts)

Country	Enrollment	Enrollment Rate (%)
Argentina	1,054,145	38.9
Bolivia	154,040	22.8
Brazil	1,661,034	11.4
Chile	327,084	26.6
Colombia	561,223	17.6
Costa Rica	83,608	29.3
Cuba	176,228	15.8
Ecuador	212,985	19.7
El Salvador	108,063	19.1
Guatemala	112,621	12.3
Honduras	53,802	10.6
Mexico	1,304,147	13.8

Nicaragua	41,991	11.2
Panama	69,540	27.6
Paraguay	52,853	12.3
Peru	643,153	28.3
Dominican Rep.	112,798	15.1
Uruguay	74,842	29.9
Venezuela	601,100	31.4
Total	**7,405,257**	**20.7**

Source: *Adapted from Castro and Levy (1997).*

Increased participation in higher education also has been one of the most remarkable achievements of countries in transition from the influence of the former Soviet Union as evidenced from Table 1. Improved selection and availability of new courses and programs have also stimulated demand for higher education. Within higher education, enrollments have become increasingly driven by labor market demand. Expansion of access to higher education has been a priority on the reform agenda for governments in this region and there have been concerted efforts by governments to pursue reforms of higher education and provide access similar to that in Western Europe. As illustrated in Table 1, average enrollment rates of cohort groups between the ages of 18 and 22 have increased from around 12 to 15 percent in 1989 to over 20 percent in 1997 for these developing countries in transition (Laporte & Ringold, 1999). In several countries (e.g., Azerbaijan, Georgia, the Kyrgyz Republic, Poland and Romania) these increases largely have been due to the significant expansion of private institutions. In the main, however, political liberalization and deregulation have increased the autonomy of both public and private universities, allowing greater flexibility in designing curricula and programs of study. Nevertheless, in these transition countries we still know little about the socioeconomic, gender and regional equity effects of these dramatic expansions over the past decade. The literature is almost barren in addressing these issues.

Similar growth rates for Asia, the Middle East and North Africa also indicate the same trends in higher education enrollment

increases. Gross enrollment rates divided by gender from 1995 for the Middle East and North Africa are presented in Table 3.

Table 3: Age Cohort Gross Enrollment Rates for Middle East and North Africa

Country	**Higher Education**	
	Female	*Male*
Algeria	9	13
Egypt	14	22
Iran	11	19
Iraq	NA	NA
Jordan	13	22
Lebanon	NA	NA
Morocco	9	13
Syria	NA	NA
Tunisia	12	14
Yemen	3	7

Source: *Adapted from Human Development Network (1997).*

Establishment of new public universities. The number of new public universities also has increased in rather dramatic fashion in many countries. In Turkey, for example, the number of universities increased from 8 in 1970 to a country-wide network of 54 public universities by 1999. This wave of expansion seems to be continuing with the expected establishment of several new institutions over the next few years.

In Latin America, the surge in the number of higher education students was accompanied by the creation of many new institutions, both private and public. It is particularly instructive to note in Table 4 that over half of all these institutions are now within the private sector. However, the private/public and university/non-university distinctions barely scratch the surface of the enormous complexity of the institutional scenario of Latin American higher education. Other developing countries have experienced similar expansions in both their public and private institutions.

Table 4: Public and Private Institutions in Latin America

Country	Year	Universities			Other			Totals		
		Public	*Private*	*Total*	*Pub.*	*Priv.*	*Total*	*Pub.*	*Priv.*	*Total*
Argentina	1994	37	42	79	956	718	1674	993	760	1753
Bolivia	1995	11	24	35	44	2	46	55	26	81
Brazil	1994	68	59	127	150	574	724	218	633	851
Chile	1995	25	45	71	---	200	200	25	245	270
Colombia	1994	51	96	147	28	83	111	79	179	258
Costa Rica	1994	4	20	24	68	207	275	72	227	299
Cuba	1994	7	---	7	28	---	28	35	---	35
Ecuador	1995	15	8	23	73	78	151	88	86	174
El Salvador	1995	2	44	46	17	10	27	19	54	73
Guatemala	1994	1	5	6	1	2	3	2	7	9
Honduras	1995	2	4	6	2	3	5	4	7	11
Mexico	1995	39	49	88	383	199	582	422	248	670
Nicaragua	1994	4	7	11	---	3	3	4	10	14
Panama	1994	3	13	16	1	4	5	4	17	21
Paraguay	1994	3	12	15	39	18	57	42	30	72
Peru	1993	28	25	53	347	277	624	375	302	677
Dom. Rep.	1995	1	24	25	6	4	10	7	28	35
Uruguay	1995	1	1	2	10	9	19	11	10	21
Venezuela	1994	17	15	32	43	39	82	60	54	114
Totals		**319**	**493**	**812**	**2196**	**2430**	**4626**	**2515**	**2923**	**5438**

Source: *Adapted from Castro and Levy (1997).*

Expansion of two-year vocational schools. Two-year vocational training schools have also emerged as an alternative form for expanding post-secondary education in several developing countries during the past two decades. The growth of both schools and enrollments appear to be substantial. Some countries, such as Turkey (Dundar & Lewis, 1995), have experienced over a tenfold increase in such institutions and programs. The majority of students in these programs likely come from secondary vocational schools, rural areas and lower socioeconomic status families where their cumulative disadvantages prior to entrance typically prevent them from achieving high examination scores for admission into regular university degree programs.

Expansion of alternative delivery systems. Both the development of evening programs and distance education (e.g., televised courses and correspondence study) have contributed to expanding access for many

individuals. Implementation of "dual," "second shift" or "evening" instructional programs in some universities were started in the middle 1980s in order to partially address the increasing pressures of rising social demand and to provide educational opportunity for many "working" students who were not able to attend day classes (Johnstone, 1998). To deflect some of this demand, such students are frequently admitted without competitive exam scores and are increasingly being required to pay higher tuition and fees for attendance. In several countries (e.g., Belarus, Kyrgyzstan, Poland, and Costa Rica) such students are frequently not separated but even merged with other non-fees paying students. It appears that several of these programs were adopted primarily for gaining additional all-purpose revenue from these students.

The reason offered for these special admissions often has been based on arguments of expanding equity of access and educational opportunity for historically disadvantaged groups, but in fact many of the internal institutional arguments have been based on the low marginal cost for the provision of such services. Nevertheless, the scope and impact of these types of higher education in most countries are still largely unknown. What we do know is that the largest proportion of low-income students and otherwise disadvantaged students (who might come from weak secondary schools or rural areas) in most developing countries are likely to be found within these student groups. These students are most likely to be paying the highest levels of tuition and fees for services and have the highest dropout rates short of graduation. In several institutions it has been found that any extra revenue generated through these tuition paying students is likely to be used for regular no-tuition instruction for students with higher socioeconomic status (e.g., Russia, Poland, Costa Rica).

Distance education (e.g., televised courses and correspondence study) has also been provided by many developing countries in order to reach students who fail to gain admission through the regular testing admission process. The number of these types of students is increasing so that in some countries such as Turkey, the number is approaching 30 percent of all students in higher education. Other big

providers of distance education have been China and Thailand. Although data are limited relative to the numbers of such students in most countries, we do know that in several countries the age cohort participation rates are inflated because of the inclusion of the head-counts of these individuals. In Turkey, for example, the central authorities report that over 26 percent of the age cohort are participating in higher education, while over one-third of these individuals are part-time in distance education programs. Unfortunately, there is little evidence about the effectiveness or efficiency of these programs.

Expansion of private higher education. Until recently, little has been done to help develop private higher education in most developing countries. In fact, in several countries (e.g., Turkey, Uruguay, and in all of the countries who are today in transition but were previously under the control or influence of the Soviet Union) it had been historically discouraged or prohibited by public authorities. In other countries, it is legally prescribed that only government-sponsored institutions can award degrees (e.g., Singapore, Hong Kong, Sri Lanka, and China). Nevertheless, in some of these and other developing countries (e.g., Brazil, Chile, Egypt, Korea, Philippines and Jordan) private universities recently have been encouraged to grow and some have, in fact, taken on a major share of new enrollees into higher education. During the last two to three decades in many parts of the developing world, enrollments in private institutions have increased at a much faster rate than in public institutions (Tilak, 1991). In Latin America, the Inter-American Development Bank (Castro & Levy, 1996) has estimated that private higher education currently serves almost 40 percent of all students. In the Philippines private institutions are enrolling over 80 percent of total enrollments in the country. In Romania, where no history of private higher education existed prior to 1989, today over one-third of all enrollments are in private institutions (Johnstone, 1998). In Turkey, after the establishment of the first non-profit private university in 1984, private higher education has begun to grow to where today it

has eighteen new private institutions, though the share of students is still relatively low.

In a good number of countries the share of enrollments in private institutions are more than half of the total. Unfortunately, there is little useful empirical data to indicate the likely equity effects of these rather dramatic changes.

Although it has been historically argued that expanding private higher education in developing countries will necessarily lead to greater problems of unequal educational opportunities, recent evidence indicates just the opposite is probably taking place. Tan and Mingat (1992), for example, have estimated that for several selected Asian countries there is an *inverse* correlation between the share of cumulative public spending on education received by the 10 percent best-educated within the population and the extent of private financing in higher education. They have argued further that there is a relatively high correlation between gross enrollment rates in higher education and the extent of private financing in higher education within their sample of 11 Asian countries. All of this gives further support to the argument that private financing helps mobilize resources, thus augmenting public funds for expanding coverage. Similar results also appear to be taking place in the regions of Latin America, the Middle East and the transition countries of the former Soviet Union where the private sectors of higher education have recently expanded as their respective economies have undertaken economic growth or transition initiatives.

Continuing Problematic Issues Relating to Equity

In spite of the impressive perceptions most people have about the development and expansion of higher education in the developing world and transition economies, most systems are still in trouble. Critical to the issues of this chapter, it is questionable whether much headway has been accomplished with regard to targeted policies on equality of educational opportunity.

As noted, admission to higher education in many developing countries is administrated centrally through very competitive national examination systems. In spite of the remarkable expansion of higher education over the past two decades, the social demand for higher education in most countries still greatly exceeds the supply of positions and spaces. In Turkey, for example, from 467,000 applicants in 1980 only about 42,000 students were admitted to higher education institutions, indicating that only about 9 percent of all applicants were enrolled. As a result of the various expansion strategies in the 1980s and 1990s, larger numbers of applicants and students have been admitted to higher education. But the percentage of students accepted to higher education from the annual examination cohort had increased only to around 26 percent by 1993 (Lewis & Dundar, in press), and only 16 percent of its age cohort group were being provided an opportunity for and a place within higher education. Excluding enrollment in distance education (wherein completion rates are very low) the age cohort rate drops to less than 10 percent, which is clearly among the lowest among OECD countries. The system has obviously not provided open access of educational opportunity for everyone.

An increasing number of observers and international agencies have begun to question the expected equity effects resulting from the expanding systems of higher education and restructuring taking place in these countries (Castro & Levy, 1997; World Bank, 1994). Yet, in spite of these growing concerns and perceptions about the equity outcomes that are alleged to be resulting from the recent expansion initiatives in many countries, only limited information exists about the efficacy of these efforts. Nevertheless, understanding the nature of such equity can be gleaned from existing work. We know, for example, that equality of educational opportunity in higher education can be measured across several dimensions and notions relating to institutional **access**, institutional and program **choice,** and **persistence** to graduation. Although these dimensions are often inter-related, in most cases they are measurable and have separate recognizable identities.

Access to Higher Education

A number of causal and correlation models have been developed to explain why and how individuals make decisions about accessing higher education. A useful summary of these models can be found within Hossler, Braxton, and Coopersmith (1989). This summary includes detailed econometric and sociological models, often with multiple decision stages, in order to give conceptual understanding to the process. But the main value of the summary is that it gives us greater insight into what factors might influence the decision process about whether to participate in post-secondary education. In particular, it gives us insight into what factors might lend themselves for policy purposes.

Although a variety of terms have been used to describe the characteristics that cause an individual to consider attending post-secondary education following graduation from high school, one of the central concepts examined has been "college aspirations" (Jackson, 1982) or the desire to attend. This notion about college aspiration comes out of the literature on status attainment and includes factors such as socioeconomic status, aptitude, high school performance, gender, and family background. "Predisposition" (Hossler & Gallagher, 1987) and general "expectations" (Chapman, 1981) are also terms that have been used to describe essentially the same set of individual factors.

Without going into a detailed literature review of these models, it is nevertheless useful to briefly examine those variables that have been found to be correlated with both desire toward and action to higher education attendance. Although each of the following variables has been found to be positively correlated with enrollment in higher education, the strength of the association has not been consistent across all studies and it is likely that the importance of these factors will vary according to differing conditions in each developing country.

Studies focusing on educational attainment and access to higher education have categorized the main determinants of such access into several major groups. These categories of influence have included student's socioeconomic status, ascribed attributes such as

ability and gender, community context such as rural or urban setting, educational background characteristics, and labor market and wage rate effects.

Socioeconomic status. One of the best-established results of educational attainment research is that the student's SES (largely determined by family income, occupations, and educational levels) plays an important role in determining educational achievement (e.g., Bidwell & Griedkin, 1988; Sewell & Hauser, 1975; Stevenson & Baker, 1992). Substantial correlation between socioeconomic background and schooling appears to be present in both developed and developing countries, and this relationship explains an important part of the existing intergenerational transmitted socioeconomic inequality in both types of countries.

Yet little is known about the success of the recent expansion policies in higher education in *reducing* inequalities among different social and income groups. We do know, for example, that a recent study by the Student Selection and Placement Center in Turkey (OSYM, 1992) indicated that individuals from higher SES families (as measured by parents' education level and income) have higher chances and opportunities to access higher education. We also know from a few other studies in developing countries such as Brazil (Holsinger, 1975; Jallade, 1982), Israel (Neuman, 1991), Kenya and Tanzania (Armitage & Sabot, 1987), Greece (Patrinos, 1995), and the Philippines (Smith & Cheung, 1986) with similar expanding systems of higher education that the influence of socioeconomic status has not weakened in determining educational access and achievement. Basically, it has been argued that such a system expansion will make additional positions for some groups that have been historically under-represented – but will it reduce inequalities in educational opportunities?

Over the past two decades, several studies in developing countries have examined which income groups benefited the most from subsidies for higher education. In four developing country cases relating to Chile, Colombia, Indonesia and Malaysia it was reported by Psacharopoulos and Woodhall (1985), that the highest income

groups in each country were overwhelmingly the major beneficiaries of highly subsidized or free higher education. In Colombia, for example, the top 20 percent income group in the country received over 60 percent of all higher education subsidies, while the bottom 40 percent received only 6 percent. In Indonesia, the top 30 percent income group received over 83 percent of the subsidization to higher education. Moreover, other data from the Philippines confirm this tendency towards skewed high socioeconomic status. At the publicly funded University of the Philippines, the average salary of the fathers of all students was two and a half times that of the general population and 77 percent of these fathers were in a "professional" class of employment (Smith & Cheung, 1986).

Tan and Mingat (1992) have illustrated that the degree of social bias in the educational systems of a country can be assessed by comparing various socioeconomic groups' shares of enrollments (at various levels) to their shares in the general population. In Thailand, for example, they note that in university education the professional group's share of enrollments is over 36 percent compared with their population share of only 3 percent. The farmers' share of university enrollment is about 11 percent compared with their population share of 69 percent. Similar results were found in their work in the Philippines and India. Their work illustrates that the bias against children whose parents were farmers begins with dropouts and inadequate primary schooling. For children of laborers the bias largely takes place in the transition to secondary education. Where primary education is universal in some developing countries, differences among socioeconomic groups occur mostly in access to subsequent levels of education. These patterns in access suggest that the families of professional and business groups continue to strengthen their advantage in the transition from secondary to higher education. These results are clearly evident in Table 5 wherein the composition of school and reference populations by socioeconomic status are profiled for the major regions of the world.

Table 5: Composition of school and reference populations by socioeconomic groups, for major world regions (middle 1980s)

Region	School population at each level (percentage of total)			Reference Population	School population as ratio of reference population		
	Primary	*Secondary*	*Higher*		*Prim.*	*Second.*	*High.*
Asia	100	100	100	100			
Farmers	53	25	19	58	0.91	0.43	0.33
Blue collar	34	43	38	32	1.06	1.34	1.19
White collar	13	32	43	10	1.30	3.20	4.30
Anglophone Africa	100	100	100	100			
Farmers	74	36	39	76	0.97	0.47	0.51
Blue collar	18	29	21	18	1.00	1.61	1.17
White collar	8	35	40	6	1.33	5.83	6.67
Francophone Africa	100	100	100	100			
Farmers	61	36	39	76	0.80	0.47	0.51
Blue collar	26	27	21	18	1.44	1.50	1.17
White collar	13	32	43	6	2.17	5.33	7.17
Latin America	100	100	100	100			
Farmers	31	12	10	36	0.86	0.33	0.28
Blue collar	52	54	45	49	1.06	1.10	0.92
White collar	17	34	45	15	1.13	2.27	3.00
Middle East.& North Africa	100	100	100	100			
Farmers	33	15	22	42	0.79	0.36	0.52
Blue collar	43	57	31	48	0.90	1.19	0.65
White collar	12	28	47	10	1.20	2.80	4.70
OECD Countries	100	100	100	100			
Farmers	12	11	11	12	1.00	0.92	0.92
Blue collar	53	45	32	53	1.00	0.85	0.60
White collar	35	44	57	35	1.00	1.26	1.63

Source: *Adapted from Mingat and Tan (1986).*

The problem of achieving proportional social representation in higher education is very difficult and was not solved even in the former Soviet Union. Although standardized and historical data are hard to uncover, it appears as if the nature of the population attending

universities in Russia has not changed materially since the 1930s. University students with professional family backgrounds were 2.4 times over-represented in 1939 and still 2.1 times over-represented in 1970. Policies of deliberately putting students with "proletarian" backgrounds at an access advantage in the 1930s may have had a short-term positive equity effect whereby 1939 university students with manual labor backgrounds were over-represented by 10 percent compared with their percentage within the population. Nevertheless, by 1964 they were again under-represented by over 35 percent. In the United States university students from professional backgrounds were 2.5 times over-represented in 1957; similar students in the United Kingdom were over-represented by 2.4 times in 1979 and in France they were 2.4 times over-represented in 1965 (World Bank, 1995).

As we noted earlier, similar problems and concerns have arisen in the developed world. Most European countries, for example, have historically offered free higher education as a perceived means of expanding access to working-class students, at least prior to several efforts towards cost-recovery in the late 1980s and the 1990s. Nevertheless, several earlier studies (in Sweden, Germany and the UK) consistently found that participation rates among working-class students had not increased, and that most of the subsidies had been received largely by middle- and high-income students (Ziderman and Albrecht, 1995). Experience and studies have consistently shown that access to higher education by lower socioeconomic groups has not improved materially with low tuition and fees.

Gender. Do women and men with similar academic abilities and achievement have similar chances to succeed and access higher education? In most developing countries the answer to this question is still largely unknown, although Tan and Mingat (1992) have reported that there is a positive correlation between female share of enrollment in higher education and per capita GNP in selected Asian countries. Although women's access to higher education in Turkey, for example, has improved substantially over the past three decades, the proportion of female enrollments in higher education is still low compared to

most developed countries (World Bank, 1993; Baloglu, 1990). The proportion of female students in higher education increased from 18.7 percent in the 1969-70 academic year to 27.5 percent in 1981-82, and to 35 percent in the 1991-92 period (OSYM, 1992). As common in most developed and developing countries, the majority of women students are studying in the general arts, social sciences and humanities.

Evidence in many countries has indicated that participation of women in higher education is influenced by many factors, including educational, cultural and economic influences (Subbarao, Raney, Dundar & Haworth, 1993). Most important, disparities between men and women in higher education largely come from previous inequities in their education. A recent study by the World Bank (1993) on women in other developing countries noted that the bottleneck for women's access to higher education was largely at the transition from primary to secondary schooling.

Rural location of students. In many countries there are substantial differences in access to higher education by location as individuals from urban areas and developed regions of the countries have better access to secondary and higher education institutions. Many more high quality secondary schools are located in urban and developed regions of the country and students from those schools perform much better on university entrance examinations. Moreover, the absence of a nearby post-secondary school tends to discourage and restrict access to higher education for many individuals regardless of parental SES as reported by Smith and Cheung (1986) for the Philippines.

Equally important, location can have a "double negative impact" for access on some historically disadvantaged groups. Women and students from lower SES family conditions in rural areas and developing regions may have two serious disadvantages for attending higher education due to (a) the probable low quality of their secondary education and (b) the limited possibility for attendance because of not having a nearby post-secondary school.

Moreover, there is clear evidence in the literature (e.g., Cuccaro-Alamin & Choy, 1998; Hearn, 1994) that indicates that the strongest economic influence on access is not tuition and fees, but rather the other private costs of attendance; and staying at or near one's home would clearly minimize such additional costs. Several Polish studies found that in the case of full-time students living away from home, parental contributions were very high and they could even exceed a quarter of the family budget. "In kind" contributions by parents for students living at home, on the other hand, reduced the cost burden associated with university-level studies to around six percent of the family budget (Paszkowski, 1987).

The negative effects of such location specific disparities in education in most developing countries have been long recognized and major attempts have been made to reduce them. For example, one of the goals of both the 1982 and 1992 expansions of higher education in Turkey was to provide greater access to students outside the three large urban centers. In spite of the substantial expansion of higher education, often in rural areas of the country, there are still considerable regional disparities in Turkey today (Baloglu, 1990; Lewis & Dundar, in press).

Educational attributes of students. The educational attributes of students can be best understood by examining several of its major components in the context of developing countries. These would include first, and most notably, the quality of the secondary educational experience. They would also relate to the nature (i.e., academic or vocational track and intensity) of such experiences. The quality and nature of educational provision at the secondary level are very important factors in access to higher education (e.g., Alexander, Holupka & Pallas, 1987; Hearn, 1991). It is known, for example, that attending a university is more likely to be "a given" for students who attend elite private high schools than for students who attend public high schools (McDonough, 1997). Even after controlling for academic characteristics, socioeconomic background, and educational aspirations, students attending private high schools are more likely

than their peers attending public high schools to enroll in four-year university training (Falsey & Heyns, 1984).

Concerns about the equity implications of diminished quality in both the secondary and higher education levels of many developing countries have been raised in several studies (e.g., Baloglu, 1990; Lewis & Dundar, in press; Williamson, 1987; World Bank, 1994, 1995). There are, for example, substantial differences between the quality of secondary schooling by region or between urban and rural locations and these differences influence the academic achievement of students in competitive university entrance examinations and thereby in access to higher education (Alexander & Pallas, 1984). Until the early 1980s in Turkey, for example, the few developed regions with large urban centers enjoyed major advantages in the quantity and quality of both secondary and higher education. Students from these urban regions were over-represented in applications, passing the examinations, and access to higher education compared with students from more rural and developing regions of the country. While in 1976 only about 7 percent of the high school graduates in the Eastern Anatolia region (a developing region) accessed to a higher education program, 30 percent of high school graduates in the Marmara region (a developed region) were admitted to a higher education program (USYM, 1978). It is also appropriate to note that although the enrollment rate of the age cohort of university students in Turkey has been estimated as being only about 10 percent in 1993, when one recognizes that the same age cohort in secondary schools is only about 50 percent (World Bank, 1999) the participation rate of high school graduates in higher education rises to almost 20 percent – i.e., over 50 percent of the age cohort were already eliminated because of inadequate or unavailable secondary education. Similar stories exist throughout the developing world.

The World Bank (1990) has examined the variable nature of secondary schooling in several developing countries and has noted that many secondary vocational schools have become problematic as they attempt to employ both a "vocational" and "general" curriculum in their training for the labor market and university admission. This

attempt at a joint mission has resulted from a public concern that students in secondary vocational and technical schools should also have opportunity to continue their education. Utilization of both inadequate general curriculum compared to academic track high schools and inadequate vocational and technical curriculum as required by industry have raised serious questions about both the efficiency and equity effects of such secondary level vocational schools.

Psacharopoulos (1993) also reviewed several studies in developing countries that compared "academic or general" secondary education to "technical or vocational" secondary education and found, on average, that rates of returns to general education were much higher— i.e., 16% compared to 11% for vocational education. Costs were the principle factor wherein vocational education is far more expensive to provide that more general academic programs. This finding of higher economic benefits favoring academic programs is also supportive of the equity benefits accruing from strong academic secondary programs facilitating access to higher education as well. In many countries with strong upper secondary vocational training programs, disproportionately larger numbers of students with lower SES participate. In such cases, as in Poland, this secondary vocational tracking system effectively precludes many of them from success on the entrance examination and accessing higher education.

Access to an academic curriculum. A recent study by Adelman (1999) at the U.S. Department of Education examined the issues of whether and how the nature of the secondary curriculum might influence attendance and persistence in the higher education system of the United States. Through the use and analysis of data drawn from a nationally stratified longitudinal sample called the High School & Beyond/Sophomore Cohort (from 1980 until the cohort was roughly age 30 in 1993) Adelman found that the nature of the high school curriculum had a profound effect on both access and completion in higher education. He found that the impact of a high school curriculum of high academic intensity and quality had the highest positive

association with both access and completion, greater than any other single variable including socioeconomic status. It is highly likely that such circumstances exist in most developing countries as well.

Access to private tutoring. Private tutoring is a form of education outside of formal schooling employed to prepare students for the university entrance examination. This form of education is a type of "shadow education" and is commonly used to assist access to higher education in many countries (e.g., Japan, Taiwan, South Korea, Hong Kong, Turkey, Greece, and even today in Russia and most of the other countries in transition) where the supply of spaces is limited and spaces are allocated through very competitive centrally administered examinations (Stevenson & Baker, 1992; Lewis & Dundar, in press).

In several developing countries, the importance of this type of education has dramatically increased since the early 1970s as increasing numbers of students receive some private tutoring to prepare for university education. A report in Turkey (OSYM, 1992) indicated that students who took such private tutoring were, indeed, more successful in the university entrance examination than students who did not take such tutoring. However, without a causal modeling analysis it is premature to arrive at such a conclusion since the majority of these students might have attended higher quality secondary schools or have come from higher SES families. Nevertheless, the private costs of such tutoring is often higher than attendance in many post-secondary institutions. And such cost burdens are frequently very high for low SES students.

Effects on access of changing labor markets. Changing labor markets have been found to have important effects on the enrollment patterns of higher education in most developed countries (e.g., Boesel & Fredland, 1999; Corazzini, et al., 1972; Chressanthis, 1986; Hossler, 1984). It has been shown clearly that during periods of high unemployment, such as during the world recession of the late 1970s, students are more likely to attend a post-secondary institution rather than be unemployed. Economists have explained this effect as resulting from

the materially reduced "opportunity cost" of earnings while being unemployed. Post-secondary attendance has become much less expensive because earnings are no longer having to be foregone.

It is highly probable that historically disadvantaged prospective students are also those individuals most likely to be unemployed in both developed and developing economies when aggregate unemployment increases. Thus, it appears that increases in national unemployment may induce larger numbers of low SES and other disadvantaged students to attend higher education. On the other hand, in most developing countries today where economic development and rising employment are taking place it appears that such market conditions are contributing to raising the opportunity costs for higher education. Beyond the other income and social demand effects (i.e., increased demand for access to higher education as well as for other social services) resulting from an expanding economy, it appears that all students who are or who have prospects for employment also will be experiencing rising opportunity costs for attendance.

The effect of changing wage rates on access. It is also important to recognize that wage rates have changed over time and across industries in both developed (Boles & Foreland, 1999) and developing countries (Psacharopoulos, 1985) as their economies have experienced increases in both their national incomes and employment. We know, for example, that today in most developing countries the wage rates of university graduates are not only positive, but frequently very high as well (Bennell, 1995; Psacharopoulos, 1989, 1994). The net effect of such changes in most countries has resulted in an *increasing* "wage gap" between high school graduates and university graduates in the labor market (Psacharopoulos, 1994). Moreover, these wage gaps have increased over time when viewed across industries wherein those jobs that require higher levels of education have had both their productivity and wages increase at a faster rate. This has been particularly true in transition economies. Today thousands of students in these countries are attempting to access

business schools and other applied social science fields because of their rising industry wage rates.

It has often been argued that the general social rate of return resulting from higher education is typically below those resulting from both primary and secondary education, especially in developing countries (World Bank, 1986; Psacharopoulos, 1989), and that these results in public policy should deflect investment priorities and resources away from higher education on to elementary and secondary education. But almost all of these return estimates have generally failed to account for the social externalities resulting from higher education nor do they differentiate between fields of study. Many emerging fields in the developing countries have large wage premiums with high social rates of return – e.g., business, science and the applied professional fields (Birdsall, 1996). Recent studies have also indicated that in those developing economies with rapid growth and technological development – such as in Mexico (Lachler, 1998), Vietnam (Moock, Patrinos & Venkataraman, 1998), Argentina, Colombia, Ecuador, Venezuela (Gomez-Castellanos & Psacharopoulos, 1990) – the rates of return accruing to university graduates are now exceeding those of high school graduates. Enrollments in these economies and fields need to be encouraged but we know little about what types of students are participating.

In short, there have been increasing economic incentives for individuals in developing countries to access higher education, but we have limited evidence about the proportion of these new enrollees coming from historically disadvantaged populations. We do know that lower SES students are more sensitive to price and cost changes, so as opportunity costs of foregone earnings might increase one would expect that proportionately fewer low SES students would enroll. We also know that as the wage gap and rates of return increase on behalf of higher education graduates, this also will lead to greater variance in income patterns across the country's entire population (Psacharopoulos & Woodhall, 1985).

Choices within Higher Education

Consumer choices within higher education have often been neglected, but nowhere more so than in developing countries. The question of choice relates not only to which institution one attends, but also to which program and courses one actually participates within. Young people's choices of what and where to study is often based on flimsy information. They listen to their peers, no better informed than they are, and their parents' often outdated social beliefs. Hard facts about programs and institutions, like reliable academic reputations, dropout rates, and labor market prospects are not easy to assemble in most developing countries.

Nevertheless, a number of studies have been undertaken in the United States that investigate the characteristics that students rate as most important when they decide to apply to or attend a particular postsecondary institution. Although the exact order of these characteristics varied from study to study, the most frequently noted characteristics were identified by Hossler, Braxton and Coopersmith (1989) in the following rank order: (1) special academic program, (2) costs of tuition and fees, (3) financial aid availability, (4) general academic reputation, (5) location, (6) size, and (7) social atmosphere. There were, of course, differing variations in the weighting of these factors by different student populations and for different institutions.

Financial aid offered to students either by reduced tuition or special grant has been an important institutional instrument used by many colleges and universities to recruit not only the best and brightest students but also for recruiting those student populations with priorities under affirmative action policies. Leslie and his colleagues (1977), along with others (Hearn, 1984; Lay & Maguire, 1980), all have generally concluded that among low-income students both costs (i.e., levels of tuition and other private expenditures) and the availability of financial aid were among the most important reasons for selecting an institution. As one would expect, the largest proportion of low-income students were found at public two-year junior colleges and vocational schools where tuition was low and aid was high. In fact, one of the most powerful arguments can be made

for a high-tuition and high-aid system in the higher education of both developed and developing nations because of its ability to not only ensure access for low-income students through high-aid, but also because it gives greater choice in selecting programs and institutions to high-ability students from lower income families. This has been particularly true in the private sector wherein high tuition receipts from high-income students are often used for aid to low-income students in the developed countries. Although most of the "equity in choice literature" has been drawn from studies in developed countries, there is no reason to believe that differing circumstances in the majority of developing countries would necessarily result in different outcomes.

Others (e.g., Chapman & Jackson, 1987; Hearn, 1984) have found that with the most academically talented students the roles of financial aid and tuition are clearly not as important. They also found that most academically talented students came from middle and higher SES families. They concluded that perceived quality and reputation had a greater impact on the choice of institution than did the net cost (i.e., high tuition with high aid) for these students. This was also found to be true in Turkey as well. Recently when students were surveyed and asked if they would have been willing to pay much higher rates of tuition if they could have gotten into a higher choice (presumably a higher quality) university or program, a very large proportion indicated a willingness to pay larger sums of money in tuition and fees (Council on Higher Education, 1998). Again, it is instructive to remember that high SES students are not as price sensitive as low SES students.

Still others have demonstrated that location is an important criterion in choosing which post-secondary institution to attend. In some cases, particularly for low SES and low ability students, it has been argued (e.g., Cuccaro-Alamin & Choy, 1998; Hearn, 1994) that location overwhelms most other factors in where one attends a post-secondary institution. Post-secondary vocational training programs and two-year colleges, for example, are often situated in rural areas so as to ensure equity in access for disadvantaged populations. But often

overlooked in reviewing such settings are the major negative effects on equity in student choice and graduation.

There is a clear body of literature that indicates that student tracking takes place and very few of these students go on to four- and five-year degrees where the largest socioeconomic payoffs result. In reality, most developing countries have very inflexible courses of study and when a student either drops out of a program or even finishes it (particularly at most two-year schools), that student is required to start all over again if undertaking a new program or set of courses in a four- or five-year program. The notion of transferring credits or courses both between and within universities is seldom permitted in most developing countries. This inflexibility in the curriculum is most pronounced in economies in transition. Thus, again we have a set of policies based on equity concerns and the net effect is largely negative with limited options (i.e., precluding choices for program and university degrees) for historically disadvantaged students.

Persistence and Completion in Higher Education

Persistence and degree completion in higher education is often a forgotten dimension in higher education in both the developed and developing countries as it relates to equity issues. Nevertheless, the reasons for focusing on persistence and degree completion should relate principally to equity and not just efficiency issues. In the United States, for example, where over 75 percent of high school graduates are currently entering post-secondary institutions under an essentially open admissions system, their completion rates are dramatically less. While the "college access gap" between whites and blacks and whites and Latinos in the United States has closed from the 11-15 percent range to 5 percent over the past two decades, the "degree completion gap" remains stubbornly high at over 20 percent (Smith, 1996). In the developing countries such gaps relating to differing sub-populations undoubtedly also exist, though the literature is very limited.

Alexander and his colleagues over nearly two decades of research in the 1970s and 1980s persistently demonstrated in the United States that the power of a student's prior academic background overwhelms the predictive power of demographic variables (e.g., gender, race, socioeconomic status) in relation to test performance (Alexander and Pallas, 1984), post-secondary access (Thomas, Alexander and Eckland, 1979) and college completion (Alexander, Riordan, Fennessey and Pallas, 1982). Surprisingly, few other researchers have paid much attention to this rich body of literature. Nevertheless, Adelman in his most recent study with the High School & Beyond cohort data set (1999) found that the impact of a high school curriculum of high academic intensity and quality was indeed a very powerful predictor of college and university completion. He found that "academic resources" (the composite of high school curriculum, test scores, and class rank) produced a stronger association with a bachelor's degree completion than did socioeconomic status. "Students from the lowest two SES quintiles who are also in the highest academic resources quintile (at the secondary level) earn bachelor's degrees at a higher rate than a majority of students from the top SES quintile" (Adelman, 1999, vii). The impact of a high school curriculum of high academic intensity and quality on degree completion was even much greater for African-American and Latino students than it was for white students.

He also found that for students who attended a four-year post-secondary program, the only form of financial aid that bore a positive relationship to degree completion was work-study employment while the student was enrolled and for purposes of covering the costs of education. It was also found that students who attend four-year institutions and who earn fewer than 20 credits in their first calendar year of post-secondary experience (presumably because they were "part-time" students) also damage their changes of completing a bachelor's degree. These latter findings were also confirmed by Cuccaro-Alamin and Choy (1998) with other national data sets in the United States. They found that after controlling for work, borrowing, attendance status, and other factors considered related to persistence,

working and attending part-time were negatively associated with persistence in school and borrowing was positively associated with persistence.

Several developing countries recently have become concerned about their largely invisible dropout rates and are attempting to develop better accountability and reporting systems. In Chile, for example, over 60 percent of all secondary-school graduates are going on to universities, but only about half are graduating. And some of these failures occur quite late in their regular five-year university programs. *The Economist* recently (May 1, 1999) reported on a five-year accountability program being funded by a loan from the World Bank. Chile is attempting to develop a national accreditation system for its universities along with a strong publicity scheme for reporting on such statistics as dropout rates. Turkey has similarly developed public policy requirements, as a part of their national reform initiatives for higher education, that all students in four year programs must complete their programs within a six year time period.

In addition to better and more public information about institutional dropouts, Chile is also attempting to address another reason for its high level of dropouts; namely, the inflexible nature of its higher education curriculum. Mid-stream program changes are virtually impossible. So a student who has chosen the wrong route has to start all over again— "a costly procedure for which few have the nerve or the resources" (*The Economist*, 1999, p. 34). The nation's largest public university, the University of Chile, is trying to address this problem by introducing an initial two-year curriculum common to all students. Although it is expected that this may lengthen many of the university's programs to at least five or six years, they are hopeful that the results will be worthwhile with more curricular options (especially for less informed low SES students), fewer dropouts and more broadly educated students.

Unresolved Issues Relating to Equity

It is clear that higher education in most developing countries continues to face a number of unresolved but crucial questions concerning issues of equity in access, choice, and persistence. What are the most likely factors determining access to higher education? Who goes where? Does the system of public funded higher education with free or nominal tuition schemes and substantial private concessions provide equity in opportunities such as in access and choice making between men and women, between rural and urban students, and between different socioeconomic groups? Who benefits from and who finances higher education? Have the recent expansions of higher education helped generate a greater number of students from traditionally disadvantaged groups? Are historically disadvantaged students given access, but then dropping out before graduation? All of these questions are still largely unexamined in most developing countries.

After rapid growth during the past three decades, conditions of financial stringency have arisen that appear to be impairing further expansion and improvement of most systems. Most of the new types of post-secondary institutions and programs established with no- to low-fees were allegedly expanded to provide greater access to many traditionally disadvantaged students who might not otherwise participate in higher education. But the fruits of these efforts have been largely unmeasured. Important public equity concerns for greater student access, choice and persistence do not necessarily need to be compromised as one might address financial concerns.

There has been rapid, and in some cases dramatic growth in enrollments, programs, and institutions with only limited progress on equalizing educational opportunities for disadvantaged groups. The data in most developing countries indicate that educational opportunities for traditionally disadvantaged groups are yet to be improved in material ways and in some countries the direction is backwards. Students from these groups have continued to be under-represented among both the applicants and admitted students for

university level education. The probability of applicants from lower socioeconomic status passing competitive entrance examinations has been estimated in some countries (e.g., Turkey) to be about three times lower than applicants from higher income groups and this participation rate does not appear to have materially changed over the past two decades. Most students from lower SES and rural areas still have limited options and choices and are still found predominantly in two-year or less vocational schools or in high tuition and fees paying distance education or evening programs. And most of those low SES students that do get access are participating in the lower quality programs and schools.

Even the funding policies and procedures of higher education in most developing countries contribute to *greater* social inequality. Even as an overwhelming majority of all students in higher education come from middle- and high-income families, there has been limited success in cost-recovery through tuition or fees in most developing countries. Major public subsidies and post-school benefits are being directed to the highest SES students, while a disproportionate number of low SES students are being denied access, limited choice of program or institution, not graduating, or paying high fees through evening programs. In addition, considerable under-investment continues to exist in the secondary schools across most countries, especially in the rural areas of the developing world (World Bank, 1990). The needs continue to be high for strong reforms in the financing of public higher education in most developing countries and the needs are urgent to address the equity effects of current practices.

At the least, public policy attention needs to be focused on the major target areas of equity concern that we have reviewed throughout this chapter. Several specific initiatives on advancing equity can be identified through the following proposals relating to supply and demand policies in higher education:

Supply Policies:

- Require each institution in post-secondary education to define their unique missions and goals in written and approved form

so that they might better address their productivity with regards to instruction, research, outreach and student equity concerns. Explicitly recognize that all such schools cannot aspire to becoming national and international class "universities" with major research and service missions. Many such institutions might become regional class "universities" with major instructional and equity missions.

- Provide appropriate rules and regulations that would give each of the individual institutions in higher education greater accountability, incentives and responsibility for using their resources flexibly in addressing their missions and goals. Such deregulation is necessary in most countries so as to increase the autonomy of universities in order to permit greater flexibility in designing curricula, programs of study, and alternative sources of revenue.
- Relax the barriers to moving between tracks, levels and programs. Most of the educational systems in countries in transition from the former Soviet Union, and many other developing countries tend toward early and narrow specialization. This policy needs to be revisited. It conflicts with what almost all industrialized countries have come to understand as the preferred education for a modern economy and society. Each country, for example, needs to examine in what ways it might replace costly specialized secondary vocational education programs with less expensive training that integrates academic and vocational education, and thus reduce the heavy tracking that often begins as early as the eighth and ninth grades.
- Encourage and urge all universities to develop relatively common curriculum for the first two years of study so that students can avoid tracking systems and delay decisions on major courses of study.

Demand Policies:

- Raise tuition and user fees at all public post-secondary institutions up to approximately 20 or 30 percent of instructional costs and concurrently use some of the raised funds for means tested qualifications for financial assistance. Address the possibility of lower tuition and fees for lower SES students. (An important complication is that many countries – especially those from the former Soviet Block – have constitutional provisions that guarantee free higher education. These countries must change or find ways to circumvent such provisions, while at the same time providing access to qualified low-income students.)
- Provide effective (i.e., highly visible) financial assistance via scholarship and loan programs to low SES students for food and housing, especially for those students unable to live at home. An important key to a high-aid policy for low-income students is a strong information dissemination effort that is very visible.
- Target priority use of public resources on further developing and strengthening the secondary schools across the entire population so that every high school age student has access to a qualified general secondary school.
- Identify the top two graduates from each of the secondary schools of the country for automatic admission into competitive universities with financial assistance through qualified means/incomes testing. This is essentially an affirmative action effort for historically disadvantaged but competitively qualified students.
- Adopt accreditation systems across each of the subsystems of higher education in each country so that students have better information about standards and choices and so that the public sector has some influence on institutional quality control.
- Develop common credits and courses across each system so that students might have capacity for transfer and career changes.

- Modernize the entrance examination system. For those countries that do not have national systems of entrance examinations, attention needs to be given to standardizing both the examination and its process. To permit each university to write its own tests and administer them through oral interviews encourages the process to become both corrupt and discriminatory. Many such tests discriminate against the poor, are absent psychometric standards, and favor a privileged elite. Objective and fair examinations for entry into university are essential for equality of educational opportunities.

Although there are many other possible recommendations for policy changes in higher education that might relate to enhancing both the internal and external efficiency and efficacy of higher education, the above policy recommendations are those that most directly relate to the many equity concerns noted in this chapter. Although many of the problems relating to equity in access, choice and persistence relate to family circumstances of poverty, location, gender, and ethnicity, carefully developed policies of affirmative action are still possible. The needs for such changes and reform are self-evident and urgent in most developing and transition countries.

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X ь l a s д

MNKMEAF ETMДKDД OLAN ЦLKДLДRMN ALM TДHSML SMSTEMMNDД BДRABДRLMK MДSДLДSM

Dакrrell R. LYUIS *(Minnesota Universitдsi, ABE)*
Xдlil DЬNDAR *(Dьnya Bankн)*

Yдqin ki, dьnyannn hez bir yerindд ali tдhsil inkieaf etmдkdд olan цlkдlдrdдki qддdr problem deyil. Bu xoeagдlmдz hal hдm Dьnya Bankн, hдm dд regional inkieaf banklarн tдrдfindдn ddfdlдrlд qeyd olunmuedur. Bir tдrдfdдn bu цlkдlдrin iqtisadiyyatн inkieaf etdikcд vд orta mдktдb mдzunlarнnnn saун artdнqca ali tдhsilд olan tдlдb dд artнr. BDigdr tдrдfdдn, mдhz bu iqtisadi inkieaf prosesindд dцvlдt fondlarн tдhsilddn baeqa sahдlдrд yцnдldilir.

Dцvlдt universitдlдrindд tдlдbdlдrin saун artнqca onlara ayгнlan maliyyд xдrclдri dramatik edkildд azalнr. Tдlдbdlдrin saун son 20 ildд ьz ddfддdn zox artнbdнr. Belд mьдyydn olunmuedur ki, dьnyannn inkieaf etmдkdд olan цlkдlдrindд hдr tдlдbдyд ayгнlan maliyyд yardнmн 50 faiz azalmнednr. Bu vдziyydt akademik tдhsildд keyfiyydtin pislдemдsinд gдtirib знxarнr.

Artнm strategiyasн inkieaf edдn цlkдlдrin дksдriyydtindд tдlдbdlдrin sayннnn axlagdlmдz ddrdcddd artmasнna gдtirib знxarmнednr vд illik orta artнm gцstдricisi 4-6 faiz arasнnda olmuedur.

Ьmumiyydtlд, demдk olar ki, hдr kдsdd bдrabдrlik haqqнnda mьдyydn anlayне var. Дksдriyydt bunu дmtддnin, xidmдtin vд ddydrin bдrabдr paylanmasн kimi baea dьeьr. Lakin zox az adamda bдrabдrlik deydndd nd ndzdrdd tutulduxu vd onun цlzь vahidinin nd olmasн haqqнnda anlayne var.

Ali tдhsildд bдrabдrlik mдsdldldrinд tдsir edдn amilldrddn biri dд orta mдktдblдrdдki kдskin maliyyд problemldri, tдhsilin keyfiyydtinin aeaxн olmasнdнr. Bir sнra mьeahidzildr tдsdiq edirldr ki, orta mдktдbddki zatнemazlннqlar aznq-aekar ali mдktдbddki qdbul prosesinд цzьnьn mdnfi tдsirini gцstдrir. Turkiyddd Ali Tдhsil Eurasннnn son araednrmasнna gцrd inkieaf etmдkdд olan цlkдldrin

orta mdktdb mdzunlarннnн 45 faizindd ali mdktdbd daxil olmaq ьзьn tdldb olunan minimum bilik yoxdur. Bu vdziyydti aradan qaldнrmaq ьзьn eagirdldr mdktdbddn dlavd mьdllimldrld mdexul olurlar.

Hdr tdldbdud ayrнlan maliyyd yardнmнnнn zatнemazlнxн hdm цzdl, hdm dd duvldt tdrdfinddn maliyydldedirildn universitetldrdd keyfiyydti zox aeaxн salнr. Binalar yarнtmaz vdziyydtddir. Kitabxanalar tddqiqat ьзьn yaramнr, mьasir avadanlnqla tdchiz olunmaynb. Mezildrin dmdk haqqн vaxtlн vaxtннda цddnilmir. Universitdldrin zoxunda hdld dd MNTERNET-д знхне yoxdur.

Kitabxana tdchizatнna universitdnin keyfiyydt gцstdricisi kimi baxнlнr. Tьrkiyd kitabxanalarннda aparнlan araednrma zamanн mьdyydn olundu ki, onlarнn bцuьk dksdriyydti lazнmi qdddr vdsaitd malik deyilldr. Burada hdr tdldbdud 11 kitab dьeьr. Qiymdtldndirmdk ьзьn seэъъзииищщtilmie 4-ddn 40-a qddd цzdl universitd ild tannelnqdan sonra bu ndticdud gdlinmiedir.

Dn bцuьk problem professorlarнn dmdk haqqн ild baxlнднr. Mьdllim ziyalн sdviyydsindd yaeamaq ьзьn iki vd ya ьз yerdd ieldmdlidir. Mstdnildn universitdnin keyfiyydtli tddrisinin цzdyi onun peedkar mьdllimldridir. Tdbiidir ki, maddi cdhdtddn sнxннtн zdkdn mьdllimin keyfiyydtli ieinddn dannemaq olmaz.

Tddssьf ki, inkieaf etmdkdd olan цlkdldrdd tdhsildd bdrabdrlik mdsdldldri haqqнndakн mьzakirdldr demdk olar ki, цuьdverici edkil alнr vd ictimaiyydtin dsas mdqsddi kimi ьmumildedirilir. Az hallarda bu mьzakirdldrin ьmidverici ndticdldri haqqнnda mdlumat ddrc olunur.

Dцvldt tdrdfinddn maliyydldedirildn цzdl universitetldrin saun artmaqdadнr. Mdsdldn Tьrkiyddd 1970-ci ilddn 1999-cu ild qddd 54 beld universitd azнlmnednr. Bu artнm dalxasннnн gdldcdk bir nezd ildd dd davam edcdyi gцzldnilir. Latнn Amerikasн цlkdldrindd dd tdldbdldrin artнmн universitdldrin zoxalmasн ild mьeaydt olunur.

Mnkieaf etmdkdd olan vd kezid dцvrьnь yaeayan цlkdldrdd ali mdktdbdd tdhsil alan kieildrld qadннlarнn nisbdti dd araednrнlmnednr. Qadнn tdldbdldrin saun 1969-70-ci tdhsil ilindki 18,7 faizddn 1981-82-ci ildd 27,5 faizd vd 1991-92-ci ildd 35 faizd qalxmnednr.

Edhdr vd dyaldtldrdd yaeayan orta mdktdb mdzunlarннnн da ali mdktdbldrd daxil olmaq imkanlarн eyni deyil. Dksdr universitdldrin

mdrkdzldrdd yerldemdsi kdndldrddn olan orta mdktdb mdzunlarннnн ali tdhsil almalarн ьзьn zdtinlik tцrdir.

Eagirdldrin mdktdbddn kdnar ali mdktdbldrd hazнrlanmasн (Yaponiya, Tayvan, Cdnubi Koreya) genie yaунlmнednr. Bu da faktdнr ki, dlavd mdexul olan tdldbdldr digdrldrind nisbdtdn qdbul imtahanlarннn daha mьvdffdqiyydtld verirldr. Bu cьr tdhsil hdld 70-ci illdrin dvvdlldrinddn genieldnmdyd baelamнedн.

Aydннdнr ki, inkieaf etmdkdd olan цlkdldrdd ali tdhsil sistemindd problemldr qalmaqdadнr. Problemldri aradan qaldнrmaq ьзьn zoxlu ddyieikliklдr edilmdli vd reformlar aparыыынlmalнdнr.