Production of Cognitive and Life Skills
in Public, Private, and NGO
Schools in Pakistan

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The share of private and NGO schools in primary education has substantially increased over time, though the public sector is still a major player in this area. The present study analyses the factors determining the quality of education offered by the three types of schools and draws policy recommendations for improving primary education in Pakistan. The study compares learning achievement of Class 4 students enrolled in 50 public, private, and NGO schools located across six districts of Pakistan and in Azad Kashmir in terms of their scores in Mathematics, Urdu, and General Knowledge tests. The analysis shows that, practically, there is no gap between public and NGO schools in terms of the test scores of their students. However, a significant test score gap was found between the students enrolled in public and private schools. This gap was largely explained by family background and school-related variables, including teachers' qualification and student/teacher ratio. However, the performance of private schools was not uniform across districts. In some districts public schools performed even better than private and NGO schools. The findings of this study highlight the need for improving the quality of education in public schools by recruiting more qualified teachers and improving overall supervision. Teacher training is the area where the public and private sectors can benefit by pooling their resources and expertise.

1. INTRODUCTION

Although primary education in Pakistan is dominated by the public sector, the role of private sector has gradually increased. The share of private schools in the total primary enrolment has jumped from only 14 percent in 1990-91 to 25 percent in

1998-99.[1]   This increase has been observed in urban as well as in rural areas of the country, though private schools are more numerous in urban areas, where about half of the total primary-level students are enrolled in these schools. In urban Punjab, privately-managed schools account for more than half of the primary school enrolment.[2]   The Government of Pakistan (GoP) aims at establishing schools in rural areas through private-public partnership [Pakistan (2001)]. However, the persistence of high levels of poverty, particularly in rural areas, may inhibit the expansion of private sector among low-income groups.

Besides coverage, the quality of education provided in public schools is a major concern in Pakistan. One of the arguments in favour of more private schools is that competition with private schools would improve the quality of public education. However, this may not be necessarily true. If the private schools attract more able students from public schools, the expected positive impact will be negated [Sander (1999)].

Quality of education, as measured by students' cognitive achievement, depends on personal attributes of the child, family background variables, school- and teacher-related inputs into the education process and the structure of the system itself. The most important family background variables are considered to be household income and parental education [Behrman, *et al.* (1999)]. These factors play an important role in improving the home learning environment and availability of educational materials ranging from a reading-lamp to dictionaries and encyclopedia. The quality of teachers is also very important in improving the quality of education.[3]   School-related variables such as class size, school attendance, teacher-student ratio, availability of text/work books and assignment of homework also make a difference in the level of student achievement. Performance of students enrolled in small classes is likely to be better than that of the students enrolled in large-size classes, as former are more likely to receive personalised teacher attention [Bedi and Marshall (1999)]. Similarly, schools may also differ in terms of their management practices, which in turn may affect the educational outcomes.

Several studies have explored different dimensions of primary schooling in Pakistan.[4]   However, only a few recent studies have been undertaken to investigate the role of the NGOs and private sector in this area. On the basis of a survey of

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[1]This percentage excludes *Kachi* class. If this class is taken into account, the share of private schools in primary enrolment is reported to be 28 percent [Pakistan (2000)].

[2]The statistics make no distinction between the NGO and private schools and treat both types of schools as private organisations. A directory of NGOs working in the field of education shows that about 400 NGOs are operating education programmes in all regions of the country.

[3]However, studies, including the present one, usually have to rely on imperfect measures of teaching ability such as teacher's degree attainment. Obviously, such measures do not account for many other important aspects of teaching quality in the process of imparting education. [Goldhaber and Brewer (1997) and Bedi and Marshall (1999)].

[4]See, for example, Khan and Irfan (1985); Burney and Irfan (1991, 1995); Sathar and Lloyd (1994); Alderman, *et al.* (1996, 1997); Mahmood (1999); Arif, *et al.* (1999); Arif and Saqib (1999).

private and NGO schools, Gazdar (1998) found that the latter were innovative and more efficient because of community participation, parents' trust in teachers, and proximity of the school to pupil's home. Zia (1999) assessed the performance of students from a Bunyad Centre, an NGO school, located in Sheikhupura district. According to his results, even the students who ranked low in the class, obtained more than 50 percent marks. Khan, *et al.* (1999) compared the quality of education provided by public, private, and NGO schools in all the provinces and concluded that NGO schools were performing better than public schools, whereas private schools ranked between the NGO and public schools.

As is evident from the brief review presented above, the studies of the comparative performance of the public, private, and NGO schools have serious limitations in terms of scope, coverage, and method of analysis. In particular, none of these studies has tried, systematically, to explore the difference in the educational outcomes produced by the three types of schools, while controlling for the four sets of factors (i.e., personal attributes of child, family background variables, school- and teacher-related inputs and school structure) that are known to influence these outcomes.

One of the major contributions of the present study is that it links students' cognitive achievement to their personal characteristics, family background, school- and teacher-related inputs into the educational process, as well as to the type of school in which they are enrolled.[5] This methodology allows us to extensively examine the key question of what determines students' success in school, while avoiding many of the shortcomings of the previous studies.

This paper is organised as follows. Section 2 gives a brief overview of the educational reforms in Pakistan, primary school enrolment, and the extent of involvement of the private sector in the field of education. Data sources and method of assessment of educational outcomes are discussed in Section 3, while the sample characteristics and results of the cognitive skills tests are reported in Section 4. Relative performance of students in different types of schools is analysed in Section 5. The final section concludes the paper with some policy recommendations.

2. EDUCATIONAL REFORMS, PRIMARY SCHOOLING, AND GROWTH OF THE PRIVATE SECTOR IN PAKISTAN

Educational policies introduced since Independence have assigned high priority to the universalisation of primary education (UPE). The first education conference held in 1947 laid down the target of free and compulsory primary education within a decade. Unfortunately, this target could not be achieved even half a century later. All the educational policies that followed the 1947 education

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[5]However, because of data limitations, some other factors that may also affect academic achievement, such as nutritional status of a child, conduct by teachers, and scores from the previous class examination, have not been included in the analysis.

conference simply postponed the achievement of UPE to a later date. For example, the policy introduced in 1959 made very comprehensive and ambitious recommendations, including character building through religious education, compulsory primary education for all within 15 years, and revision of curricula to impart technical and vocational education at schools. These recommendations were incorporated in the Second Five-year Plan (1960–65). However, this plan failed to achieve its targets related to primary and vocational education [Pakistan (1960, 1965)]. The 1969 Education Policy, which envisaged UPE by 1980, met a similar fate. The 1972 policy shifted the goal of universal primary education to 1986 for boys and 1992 for girls [Pakistan (1972)]. Keeping in line with the tradition so firmly established by the past educational policies, the 1979 and the 1992 education policies also shifted the goal of UPE to a still later date. Education Sector Reforms (ESR), an action plan to implement the 1998 education policy, has now set the target of 100 percent gross primary enrolment and 60 percent literacy rate by 2004 [Pakistan (2001a)].

Data show that the overall gross enrolment rate in the late 1990s was only 69 percent, while in the early 1980s it was only 44 percent (Table 1). The gap between the enrolment rates of males and females, though bridged a little during the last two decades, still leaves much to be desired. Even if we achieve the target of UPE by 2004, it will take some time before every person in the country will have primary-level education.[6]   Before examining the reasons for not achieving the target of UPE in the past, a brief comment on the recent drop in the gross enrolment ratio from 75 percent in 1995-96 to 69 percent in 1998-99, as shown in Table 1, seems to be appropriate here. This decline took place largely in rural areas; the gross enrolment in urban areas was quite impressive and there was no change in it during the 1990s, whereas rural areas witnessed a decline of about 7 percent between 1995-96 and 1998-99 (Appendix Table 1). The decline in enrolment reflects a serious regression.

Table 1

Gross Enrolment Rate at the Primary-level by Rural/Urban Area and Sex,
1982-83, 1987-88, 1991, 1995-96, 1996-97, and 1998-99

Area/Sex	1982-83	1987-88	1991	1995-96	1996-97	1998-99
Male	60	63	86	85	80	78
Female	30	34	59	64	64	59
Both Sexes	44	49	73	75	72	69

Source: Mahmood and Zahid (1992); PIHS (1991, 1995-96, 1996-97, 1998-99).

[6]Unfortunately, Pakistan is included in those 28 countries that are in serious risk of not achieving the Education For All (EFA) goal. However, it is considered to be capable of achieving EFA goals if the international community helps the country fill the existing technical and financial gaps (*Dawn*, November 28, 2002, p. 18).

Although one can think of several reasons for this decline, the existing evidence points towards the rise in poverty in the 1990s as the main reason [Hussain (2003)]. The negative effect of poverty on primary school enrolment is found to be more pronounced in rural areas than in urban areas [Arif, *et al*. (1999)].

Now the question is why the target of UPE could not be achieved. Some valuable insight can be gained into the causes of this persistent failure by examining various Five-year Plans published by the Government of Pakistan, as each of them provides a critical review of the previous Plan. These Plans show that the physical targets necessary for providing UPE, particularly opening of new schools, could not be achieved mainly because of inadequate allocation of government resources.[7] The high birth rate, leading to constantly expanding numbers of potential pupils and the absence of appropriate managerial capacity needed for planning, implementation, and supervision of educational projects are some of the other major obstacles in achieving UPE. Among the demand-side factors that are responsible for the low enrolment rates in primary schools, poverty, parents' indifference, particularly towards girls' education, and irrelevance of school curricula to the skills demanded in the labour market appear to be the most important. Legislation for compulsory primary education proposed and mentioned in various official documents about 20 years ago to make up for the slack demand for primary schooling has not yet been enacted [Pakistan (1960, 1965, 1978, 1983, 1994, 2001)].

To overcome the above-mentioned obstacles, ESR, the most recent action plan for achieving UPE, has expressed the government's willingness to develop a partnership with the private sector and NGOs at the primary as well as other levels of education. For this purpose, a package of incentives has been proposed for the private sector. Among other things, it includes a rebate in income tax and provision of plots of land in residential schemes at subsidised prices [Pakistan (2001)].

To understand the importance of the private sector in education and its relationship with the public sector, it would be instructive to first look at its historical evolution in Pakistan. Private educational institutions existed in Pakistan even at the time of Independence in 1947, though they expanded rapidly in the 1960s, particularly in the urban areas. A major shift in the education policy occurred in 1972 when more than 3000 private schools and colleges were nationalised. As a result, the number of schools under government administration increased sharply, resulting in serious deterioration in the management, and resource availability. The standard of education in the government-run schools also declined accordingly, and the infrastructure wore out with the passage of time [Saqib (1998); Mahmood, *et al.* (1999)].

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[7]During the Sixth Five-year Plan (1983–88) only 17,000 schools could be opened as against the target of 40,000 schools. Similarly, the target of opening up new primary schools fell short by about 35 percent during the next Plan period (1988–93). No wonder that only 3.1 million additional children got enrolled at the primary level, 1.5 million less than the Plan target [Pakistan (1994)].

The 1979 educational reforms reversed the earlier policy and allowed private individuals and firms to establish schools. Initially, the number of private schools increased very slowly, and the significance of this development was not fully appreciated for some time. Perhaps this is why no reliable countrywide data became available on private schools until the publication of the first Pakistan Integrated Household Survey (PIHS) in 1991 and The Census of Private Educational Institutions in Pakistan in 2001. Some figures, however, are available for the Punjab, the most populous province of the country, which is home to more than half of its population. These figures indicate that in 1982 there were only 2 registered private primary schools in the province. This number increased to 268 in 1984, and to 451 in 1987, accounting for respectively 1.8 percent and 3.1 percent of the total primary school enrolment in the province [Punjab (1982, 1984, 1987)].

The decade of 1990s witnessed a mushroom growth of private schools in the country. The number of primary schools in the private sector increased from about 11000 in the early 1990s to approximately 15000 in 1999-2000, leading to a rapid decline in enrolment in the government schools as a percentage of the total primary school enrolment (Figure 1). This decline was observed in both urban and rural areas, although it was more pronounced in the urban areas, where the share of government schools in total primary school enrolment fell from 70 percent in 1991 to 53 percent in 1998-99. In other words, approximately half of the total enrolment in urban areas was in private schools.[8] Statistics given in Table 2 do not indicate a substantial gender differential in the school choice. However, substantial inter-province differentials do exist in the distribution of primary school enrolment

Fig. 1. Primary-level Enrolment in Government Schools as a Percentage of Total Primary-level Enrolment by Rural/Urban Area, 1991, 1995-96, 1996-97, and 1998-99.
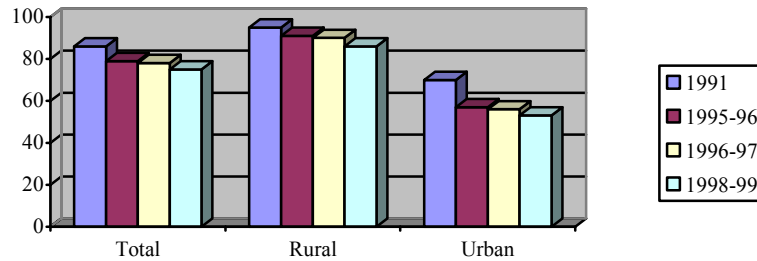
Source: PIHS (1991, 1995-96, 1996-97, and 1998-99).
Note: Enrolment in *Kachi* is excluded. *Kachi* is a pre-primary class in Pakistan.

[8]See footnote 2.

Table 2

Primary-level Enrolment in Government Schools as a Percentage of Total
Primary-level Enrolment by Gender and Rural/Urban Area,
1991, 1995-96, 1996-97, and 1998-99

Year	Pakistan		Rural		Urban	
	Male	Female	Male	Female	Male	Female
1991	87	85	95	94	68	72
1995-96	80	78	90	91	57	58
1996-97	78	78	89	91	54	59
1998-99	76	74	87	85	51	55

Source: PIHS (1991, 1995-96, 1996-97, and 1998-99).

Note: Enrolment in *Kachi* is excluded. *Kachi* is a pre-primary class in Pakistan.

between private and public schools. Private schools are more popular in the urban areas of Punjab and Sindh provinces, where they account for 53 and 44 percent of total primary school enrolments respectively (Appendix Table 2). Public sector still remains the main provider of primary education in the rural areas of all the four provinces and in the urban areas of the NWFP and Balochistan. In absolute numbers, enrolment in government schools has increased over time in all provinces and regions; it increased from about 11 million in 1991 to 20 million in 2000 (Table 3). The increase in total enrolment was observed for males as well as females. The share of females in total enrolment increased from about one-third in early 1980s to more than two-fifths in 1999-2000.

Income adds an important dimension to the distribution of primary school enrolment between public and private schools. As can be seen from Table 4, children belonging to low-income families are heavily concentrated in government schools: 91 and 68 percent of children from the 1st (the lowest) income quintile in rural and urban areas respectively were in government schools in 1998, while the corresponding percentages for the 5th (the highest) quintile were 73 and 16 respectively. The private sector has a presence at all income levels, but it is more pervasive among the rich urban families: 81 percent of the children in the highest income quintile in urban areas were attending private schools, while the corresponding figure for the lowest income quintile was 30 percent. There was a difference of 25 percentage points between these figures for the 4th and 5th quintiles.

In the urban areas of the four provinces of Pakistan, a decline in the percentage of pupils enrolled in government primary schools was observed in the 1990s in all quintiles, though it was more noticeable in the 5th quintile. In Punjab and Sindh provinces, this decline was just marginal in the 1st and 2nd quintiles. The case of the NWFP and Balochistan was different in this regard, where the proportion of pupils enrolled in government schools in the lowest quintiles increased over time, indicating heavy and increasing dependence of poor families on the public sector (Appendix Tables 3 and 4).

Table 3

Number of Children Enrolled at Primary-level (1–5) in Primary Schools, Pakistan

	Total Enrolment (000)	Female as % of Total
1980	5474	32.6
1981	5741	33.0
1982	6179	32.5
1983	6860	31.7
1984	6828	33.0
1985	7094	33.3
1986	7639	33.1
1987	7959	33.6
1988	9254	33.5
1989	10400	32.1
1990	10837	33.9
1991	10736	34.6
1992	12726	36.1
1993	13288	38.0
1994	14264	39.5
1995	14527	39.3
1996	15395	40.0
1997	17063	41.0
1998	18731	41.8
1999-2000	20399	42.5

Source: Pakistan (2001a).

Table 4

*Percentage Distribution of Children in Primary Schools by Income Quintiles
and Type of School for Urban and Rural Areas, 1998-99*

Rural-urban Areas	Income Quintile	Government Schools	Private Schools	Other Schools	All Schools
Urban Areas	1st quintile	68	30	2	100
	2nd quintile	60	39	1	100
	3rd quintile	53	46	1	100
	4th quintile	42	56	2	100
	5th quintile	16	81	3	100
Rural Areas	1st quintile	91	7	2	100
	2nd quintile	91	7	2	100
	3rd quintile	88	11	1	100
	4th quintile	81	17	2	100
	5th quintile	73	26	1	100

Source: Computed from the PIHS 1998-99 data set.

Overall, it appears that the role of public sector in basic education has been dwindling over time. The urban middle-income and rich families have gradually shifted from the public to the private school system, probably due to relatively better quality of education offered by the latter. However, it needs to be emphasised that most of the rural population as well as the urban poor still depend heavily on the public sector for primary schooling of their children. In the wake of rising poverty during the 1990s, this is not a good omen for the ESR initiative of establishing private-public partnership schools in rural areas. Persistence of high levels of poverty in rural areas may severely restrain the momentum of this initiative. It is noteworthy that in 1998-99, about 40 percent of the rural population was living below the poverty line [Jafri (1999); Qureshi and Arif (2001)].

3. DATA SOURCES AND METHODOLOGY

3.1. Assessing Cognitive Skills

The main objective of this study, as outlined in Section 1, is to explore the differences in the educational outcomes produced by the public, private, and NGO schools. To accomplish this objective, the study has used a survey in which Class 4 students enrolled in these three types of schools were assessed in Mathematics, Urdu, and General Knowledge. The survey was carried out in 1999 in six districts of the country—Khushab and Multan in the Punjab, Khairpur in Sindh, Malakand in the NWFP, Turbat in Balochsitan, and Muzaffarabad in AJK. In each district, 3 to 4 NGO schools, 2 public and 2 private schools with at least one section of Class 4 students were selected. The total sample comprised 50 schools. All private and most of the NGO schools included in the sample enrolled both boys and girls, while public schools were either only for boys or only for girls.[9] In each sampled school, four separate questionnaires were administered to school heads, Class 4 teachers, all Class 4 students, and their parents. In total, 50 school heads and Class 4 teachers, and 965 students and their parents, were interviewed.

A few words about the organisation and the curricula followed by the three types of school are in order here. The NGO schools in Pakistan show wide variation in terms of their size and organisation. They are non-profit organisations and generally follow the curriculum of the public schools. However, a few NGOs have established education centres where the 5-year primary schooling is completed in 3 years. These schools were not included in the sample because in public and private schools' primary education is completed in 5 years, and this study has focused on Class 4 students, who are in Year 4 of their primary schooling. Private schools work for profit and follow either the national curriculum or a curriculum approved by foreign educational institutions. Public schools obviously follow the national

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[9]However, two government schools in Muzaffarabad district were an exception. They provided primary education to both boys and girls.

curriculum and charge very little or no tuition fee. Most of the cost of operating public school system is borne by the public exchequer. Madrassahs in Pakistan are distinct from the public, private or NGO schools. They do not follow the national curriculum; rather they follow their own curriculum, emphasising Islamic studies. Madrassahs are not included in the sample because their curriculum is not comparable to that of other types of schools. The school sample on which this study is based is fairly representative of the public, private and NGO schools in Pakistan.[10]

The sampled students of Class 4 were almost evenly distributed across three types of schools: 37 percent students were attending public schools, 33 percent were enrolled in NGO schools, while 30 percent went to private schools. About 47 percent of the Class 4 students were females. This percentage was much higher (62 percent) in the case of the NGO schools (Table 5).

Table 5

Percentage Distribution of Students by Type of School and Gender

Types of School	No. of Schools	% All Students	% Female Students
Government	13	37.1	46.1
NGO	23	33.0	61.6
Private	14	29.9	30.8
All	50	100.0	46.6
(No. of Students)	–	(965)	

Source: AAPk survey (1999).

Students' cognitive achievement is usually measured by their performance on standardised tests. The score on these tests is considered to be the best available measure of a student's cognitive skills that would permit objective and transparent comparisons.[11] Three tests of cognitive achievement were given to all the Class 4 students in the sample. All tests were administered in Urdu language except for Sindh, where these tests were given in Sindhi language because most of the schools in this province used Sindhi as the medium of instruction. In schools with only one section for Class 4, all students in the class took the test; in schools with more than one section of pupils in the same class, one section was selected randomly.

The first question of all the three tests was relatively easy and its primary objective was a warm-up. Other questions varied in difficulty and coverage of subjects. The mathematics test included a wide variety of topics ranging from basic operations

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[10]This survey was conducted by ActionAid Pakistan (AAPk), and further details on the survey design can be seen in Arif and Saqib (1999).

[11]However, there is also consensus that these tests are only a partial measure of the pupils' educational attainment [Mizala and Romaguera (2000)].

of addition, subtraction, multiplication, and division to more complex concepts of algebraic equations, sequence of numbers, fractions, conversion of kilograms into grams, and reading a bar chart. There were 18 questions in this test. The test of literacy consisted of 17 questions aimed at testing pupils' reading/comprehension capabilities and their ability to write sentences and to distinguish between the correct and incorrect use of tense in a sentence. There were 12 questions in the life skills and general knowledge test. These questions were designed to assess the student's civic sense, basic awareness of contemporary issues related to health, gender, and environment, and knowledge of the country and the people around him.[12] In short, the data set on which this study is based provides the kind of extensive information which is necessary for a meaningful and comprehensive analysis of the educational outcomes produced by the public, private and NGO schools.

3.2. Educational Production Function

The studies of educational production function in developing countries have focused mainly on four types of variables: child characteristics, family characteristics, teacher characteristics and school characteristics [Glewwe and Jacobey (1993); Bedi and Marshel (1999); Mizala and Romaguera (2000)]. The performance of students may also vary across the geographical locations. To analyse the differences in the educational performance of the students enrolled in the three school types, namely public, private, and NGO, the following equation has been estimated:

$$LA = f(C, F, T, S, G)^{13}$$

Where,

LA = student achievement in school (total test score)
C = characteristics of the students
F = characteristics of the students' families
T = characteristics of the teachers in school
S = characteristics of the school
G = dummy variables for geographical location (districts).

[12]In addition to the assessment of Class 4 students, six focus groups were also organised in the six sampled districts. The composition of all the groups was similar across the districts: 2 to 3 teachers, 1 or 2 parents, 2 education department administrators, 1 or 2 community-leaders, and 1 journalist. Although in these focus groups, a variety of education-related issues were discussed thoroughly, the main focus was on the quality of education in different types of schools and parents' interest in educational problems. Discussions carried out in these focus groups generated useful information, particularly on the quality of education, that has been incorporated in this study.
[13]Mizala and Romaguera (2000) have argued that one of the problems with these estimations is that they are based on cross-section analysis, that is, gross values, whereas the dependent variable is the score achieved on the test in a given period. A better estimation procedure, as discussed in the literature, would be to use lagged test scores for the same group of students from a previous period as an independent variable. Such a specification would allow for differential achievement growth based on the previous score. Unfortunately, this type of information is not available.

The dependent variable is the total test scores in Mathematics, Urdu, and General Knowledge. The equation includes four child characteristics: age, sex, pre-school attendance, and having homework regularly. Family characteristics included in the equation are: mother's education, household income, and number of school-going siblings. These variables can play an important role in shaping home learning environment. Variables used to capture the quality and type of the school attended by the child are student/teacher ratio and school type. Teachers' gender and education are the teacher characteristics used in this study. To determine the effect of geographical location on students' performance, district dummies have also been included in the equation. Operational definitions of these variables are as follows:

School Type	– Public school is the reference category and two dummies are used for the NGO and private schools.
Child Characteristics	– Age of the child in years.
	– Sex (male = 1, female=0).
	– Pre-school attendance =1, 0 otherwise.
	– Child gets homework = 1, 0 otherwise.
Household Characteristics	– Mother's primary and higher level of education =1, 0 otherwise.
	– Household income: 'low-income household' is the reference category. The remaining two categories for which separate dummy variables have been used are 'middle income households', referring to the middle 50 percent households, and 'high income households', referring to the top 20 percent households.
	– Number of school-going children refers to the number of children in a household who were enrolled in any school at the time of school survey.
Teachers/Class Characteristics	– Sex (male = 1, female=0).
	– Education: (BA/MA = 1, 0 otherwise).
	– Student/teacher ratio refers to the total number of students in a school divided by the total number of teachers.

4. RESULTS

4.1. Sample Characteristics

Table 6 sets out data on some selected characteristics of children, their households, and teachers that can influence their educational outcomes, controlling for the type of school in which they were enrolled at the time of the survey. In public

Table 6

Selected Student, Family, Teacher, and School
Characteristics by Type of School

Selected Characteristics	Types of School			
	Public	NGO	Private	All
Mean Age (years) of Class 4 Students	10.2	10.5	10.0	10.3
Family Characteristics				
% Father Literate	69.2	65.7	86.1	73.1
% Mother Literate	25.7	39.4	49.5	37.3
Mean Household Monthly Income (Rs)	3271	4291	5506	4350
Teachers' Characteristics				
Share of Female Teachers (%)	44.4	73.6	45.0	54.2
Qualification (%)				
Matriculation	–	9.1	–	3.0
Intermediate	31.6	41.2	2.8	26.1
B.A./B.Sc.	38.8	17.0	41.5	32.4
M.A./M.Sc.	18.2	24.5	48.1	29.2
Others	11.4	8.2	7.6	9.3
School Characteristics				
Mean Class Size	52	21	34	36
Mean Student/Teacher Ratio	33	30	31	31

Source: AAPk survey (1999).

schools, usually, children enter at the age of 5 but private and NGO schools may have different criteria to admit children in different classes. If the sampled students were enrolled in school at the age of 5, they should be 8 to 9 years old in Class 4. However, the majority of these students was 9 to 13 years old at the time of the survey, and there was no major difference in mean age of children enrolled in the public, private, and NGO schools. Although the possibility of misreporting of age cannot be ruled out, class repeaters may have influenced the mean age of the students. About a quarter of the sampled children reported that they had been in primary school for four or more years. Private and NGO schools may also have been able to motivate older children to enrol in school.

Table 6 also presents data on the selected characteristics of teachers associated with different types of schools. The proportion of female teachers was substantially higher in NGO schools as compared to both public and private schools. In terms of qualification, teachers employed in private schools were more qualified than their counterparts in public and NGO schools. In NGO schools, about half of Class 4 teachers had a qualification of intermediate level or lower, while the corresponding figures for public and private schools were 32 percent and only 3 percent respectively. Compared to 30 percent in public and 33 percent in NGO schools, about 56 percent teachers in private schools had a bachelor's or higher degree. On the other hand, teachers in public schools were more experienced than the teachers in private and NGO schools (not shown in Table 6). With respect to school

characteristics such as class size and student/teacher ratio, private schools appear to be better equipped than public schools. Mean values of these variables are lower for NGO schools as compared to the other two types of schools.

4.2. Standardised Performance Tests

Table 7 shows the test results of students, where the figures correspond to the percentage of correct answers given by the students. In general, the performance of students enrolled in private schools was better than that of their counterparts in the public and NGO schools. There was no substantial difference between the NGO and public schools in this respect. On average, private school students obtained 75 percent marks in the three cognitive skills tests compared to 66 and 64 percent marks respectively for the students enrolled in the NGO and public schools. The same pattern was observed in the separate scores of the three tests, though the gap between the private and public schools in terms of the marks obtained in Urdu and General Knowledge tests was much wider.

Table 7

Average Marks Obtained by Class 4 Students by Subject and Type of School

Type of School	Mathematics	Urdu	General Knowledge	Total
Public	56.6	67.3	71.1	64.0
NGO	58.7	68.2	73.1	65.6
Private	66.2	79.5	83.0	75.1
All	60.2	71.3	75.3	67.9

Source: AAPk survey (1999).

The range of marks obtained by the sampled students, as shown in Figure 2, highlights two more features of the assessment results. First, the number of students who obtained more than 80 percent marks was the highest in the private schools (46 percent), followed by the students of the NGO schools (31 percent). In the public schools, only 25 percent of the students obtained more than 80 percent marks. This pattern also persisted in all three subjects separately (Appendix Table 5). Secondly, in the case of students who obtained less than 40 percent marks, there was no major difference between the students of the public and NGO schools. However, only a tiny proportion of private school students obtained less than 40 percent marks. These results are consistent with two earlier studies, one by Gazdar (1998) and the other by Zia (1999). However, these results differ from the findings of Khan, *et al.* (1999). While the present study shows that the performance of the NGO schools was almost the same as that of the public schools and definitely lower than that of the private schools, Khan, *et al.* conclude that the performance of the NGO schools was better than that of both the public and private schools. The source of this divergence

Fig. 2. Percentage Distribution of Class 4 Students by the Range of Marks Obtained and Type of School.
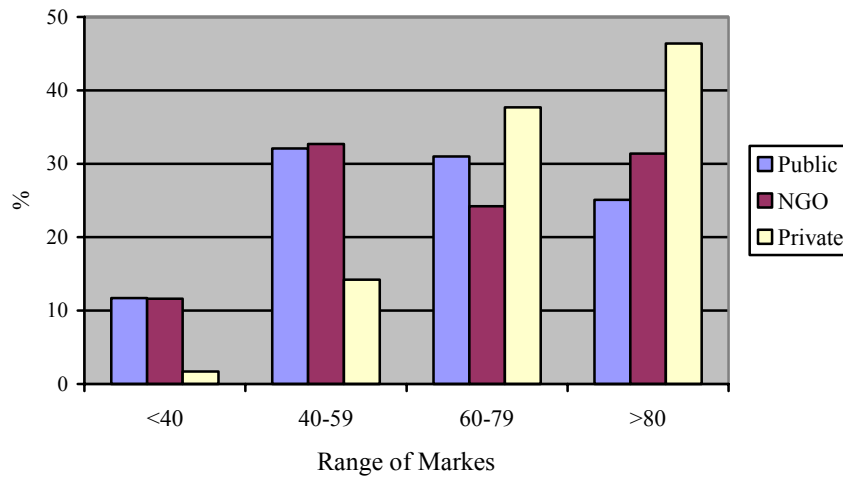
Source: AAPk survey (1999).

appears to be choice of the NGO school made by Khan, *et al.* (1999). Their primary focus was large NGOs that operated a multiple school system; only 7 of the 43 schools included in their sample were operating a single school. The NGOs that operate multiple schools are generally large, well-funded organisations offering high-quality education. However, very few such NGOs are active in the field of education in Pakistan. Therefore, Khan, *et al.* (1999) seem to have compared the best of the NGO schools with the other two types of schools.

Care must be taken in interpreting the test results, as comparison of scores across different school types may be affected by selection factors. Complementary studies and data are needed to analyse the issue of selection in Pakistan's educational system in greater depth. Mizala and Romaguera (2000) examined the heterogeneity of Chilean students in different types of schools by comparing dispersion of test scores across schools. Following their methodology, the average, maximum, and minimum values of the standard deviation of the test scores of students enrolled in the surveyed schools is reported in Table 8. There were four private and NGO schools that had a highly homogeneous student body as indicated by low values of the standard deviation of test scores. However, the public, private, and NGO schools with a highly heterogeneous student body were also found. In general, looking at the gap between the maximum and minimum values of standard deviation, it can be concluded that most homogeneous schools are private, followed by the public and

then the NGO schools. When only the schools with relatively high test-scores (70 percent or above) are considered, the order between the three types of schools is reversed. This is evident from the last three rows of Table 8. It means that high-scoring private schools (>70 percent) are less homogeneous than other schools. There are some NGO and public schools with a highly homogeneous student body that obtained high scores, suggesting that educational performance of some public schools is so good that they attract good students. This has been the case at least in two sampled districts, Turbat and Muzaffarabad. (This will be further discussed in the next section).

Table 8

Standard Deviation of School Performance (Total Test Score)

School Type	Minimum Value	Maximum Value	Average
All Sampled School			
Public	8	46	29.5
NGO	3	46	30.2
Private	15	46	34.5
High Scoring Schools (> 70%)			
Public	21	46	38.6
NGO	23	46	39.1
Private	18	46	37.4

Source: AAPk survey (1999).

5. RELATIVE PERFORMANCE OF STUDENTS: A MULTIVARIATE ANALYSIS

The relative influence of different variables on the performance of students is assessed in this section by the multivariate regression technique. The equation specified in Section 3.2 provides the basis for this assessment. Four models are estimated. Dependent variable in Model 1 is the total score obtained in the three subjects, namely, General Knowledge, Urdu, and Mathematics. Separate test scores on the three subjects are used as the dependent variables in the remaining three models. The explanatory variables are the same in all the models. Estimation results are presented in Table 9. The value of adjusted R^2 of Model 1 (total test score) shows that 55 percent of variation in the performance of students is caused by the independent variables, indicating a good fit to the cross-section data.

Results of all four models show that students enrolled in the private schools performed significantly better than their counterparts in the public schools. In these models, there was no significant difference between the performance of the public and NGO schools. To see the overall effect of school type (public, private, and

Table 9

*Regression of the Effect of School Type, Child, Family, and Teacher
Characteristics and Districts (Dependent Variables = Test Scores
Total and Subject-wise)*

Correlates	Model 1 (all subjects)	Model 2 (GK[a])	Model 3 (Urdu)	Model 4 (Mathematics)
Constant	14.258***	0.292***	0.395***	0.241***
School Type				
Govt. School (Reference Category)	–	–	–	–
NGO Schools (=1)	–0.005	–0.010	–0.017	0.022
Private Schools (=1)	3.659***	0.082***	0.087***	0.071***
Child Characteristics				
Age (Years)	0.515***	0.021***	0.007	0.010**
Sex (Male=1, Female=0)	0.568	0.009	–0.007	0.033***
Gets Homework (Yes=1, No=0)	5.645***	0.131***	0.134***	0.106***
Pre-school Attendance (Yes=1, No=0)	–0.758	–0.011	–0.020	–0.017
Family Characteristics				
Household Income				
Low Income (Reference Category)	–	–	–	–
Middle Income (=1)	1.310**	0.037**	0.051***	0.002
High Income (=1)	–0.313	0.022	0.026	–0.033**
No. of School-going Children	0.376***	0.010***	0.009***	0.007**
Mother's Education (Higher than Primary=1, Otherwise=0)	0.867**	0.007	0.303**	0.015
Teacher/Class Characteristics				
Sex (Male =1, Female=0)	–1.203**	–0.067***	–0.033**	0.005
Education (BA/MA=1, Otherwise=0)	2.426***	0.067***	0.062***	0.035**
Student/Teacher Ratio	–0.054***	–0.001***	–0.001**	–0.002***
District Dummies				
Multan (Reference Category)	–	–	–	–
Khushab (=1)	1.009	0.011	0.001	0.050***
Muzaffarabad (=1)	13.888***	0.228***	0.286***	0.362***
Malakand (=1)	2.385***	0.061**	–0.038	0.131***
Turbat (=1)	12.051***	0.192***	0.241***	0.325***
Khairpur (=1)	2.539***	0.066***	0.008	0.093***
Adjusted R^2	0.55	0.31	0.46	0.53
F	66.662	24.837	45.347	61.125
N	953	953	953	953

Source: AAPK survey (1999).

   a: GK= General Knowledge.

  ** Statistically significant at the 0.05 level.

  *** Statistically significant at the 0.01 level.

NGO) on the performance of students, a specification test was also performed. All three categories of school type (public, private, and NGO) were dropped from model 1 (Table 10). The F-value was calculated to test the null hypothesis that there was no effect of school type on students' performance, which was rejected at 1 percent level of significance (Table 11). Thus the school system has an independent effect on the performance of children on cognitive and life-skills tests. The school-based management practised in private schools appears to be superior to the centralised management system of public schools, which is controlled by provincial or federal authorities. It is possible to achieve substantial gains in terms of improved efficiency by enabling public schools to adopt the management practices of private schools.

With respect to child characteristics, four variables, i.e., age, sex, pre-school attendance, and a dummy variable for having homework regularly, were included in the four models (Table 9). Age of the student had an independent and significant effect on students' performance in Model 1 (total test score), Model 2 (General Knowledge), and Model 4 (Mathematics). The higher the age of students, the greater the scores obtained in the tests. The effect of students' sex turned out to be statistically significant only on the test score of Mathematics, showing that boys were more likely to perform better in Mathematics than girls. Pre-school attendance did not have a significant impact on the test scores. However, the effect of homework was positive and statistically significant in all four models. Assigning homework to students (and probably its regular checking) helps in creating an environment conducive to home learning.

Table 9 also shows that household income was positively related to the test scores. Children belonging to middle-income households performed better than those hailing from low-income households. However, the performance of the children from high-income households was not significantly different from that of the base category in Models 1, 2, and 3. In Mathematics (Model 4), their performance was even worse than that of the students coming from low-income households.

Parents' education is expected to exert positive influence on the cognitive achievement of the children, as educated parents are likely to create an environment conducive to learning and are able to help children in their studies. In Models 1 and 3, mother's education (more than primary) was significant at 5 percent level of significance.[14]   Model 1 also shows that the number of school-going children in the household had a positive and significant effect on the learning achievement. It is likely that more school-going children create a better learning environment in the household and help each other in studies. The specification test, based on the F-statistic, showed that the combined effect of family background variables (household income, mother's education, and number of school-going children) and child characteristics was statistically significant (Tables 10 and 11).

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[14]However, father's education did not turn out to be significant and was dropped from the analysis.

Table 10

*Regression of the Effect of School Type, Child, Family, and Teacher
Characteristics and Districts (Dependent Variable: Total Test Score)*

Correlates	Model 1 (All Subjects)	Model 2 (GK[a])	Model 3 (Urdu)	Model 4 (Mathematics)
Constant	14.353***	27.142***	13.423***	5.567***
School Type				
Govt. School (Reference Category)	–	–	–	–
NGO Schools	–	0.108	0.697	0.338
Private Schools	–	3.760***	4.166***	3.3752***
Child Characteristics				
Age	0.465***	–	0.318**	1.332***
Sex (Male=1, Female=0)	0.710	–	1.375***	0.022
Gets Homework (Yes=1, No=0)	6.270***	–	5.183***	7.709***
Pre-school Attendance (Yes=1, No=0)	–0.588	–	–0.481	0.086
Family Characteristics				
Household Income				
Low Income (Reference Category)	–	–	–	–
Middle Income	1.683***	–	1.714***	2.232***
High Income	0.539	–	0.276	2.286***
No. of School-going Children	0.355***	–	0.385***	0.798***
Mother's Education (Higher than Primary =1, Otherwise=0)	0.152	–	0.587	0.826
Teacher/Class Characteristics				
Sex (Male =1, Female=0)	–0.650	–0.931	–	1.200**
Education (BA/MA=1, Otherwise=0)	3.449***	1.996***	–	2.556***
Student/Teacher Ratio	–0.040***	–0.058***	–	–0.106***
District Dummies				
Multan (Reference Category)	–	–	–	–
Khushab (=1)	–0.265	0.289	1.080	–
Muzaffarabad (=1)	13.615***	13.933***	14.461***	–
Malakand (=1)	1.458	2.504***	2.321***	–
Turbat (=1)	11.178***	13.165***	13.693***	–
Khairpur (=1)	1.732**	1.688***	4.063***	–
Adjusted R^2	0.52	0.53	0.53	0.34
F	65.959	109.055	71.757	38.245
N	953	953	953	953

Source: AAPK survey (1999).

   ** Statistically significant at the 0.05 level.
   *** Statistically significant at the 0.01 level.

Table 11

Hypotheses Testing

Null Hypotheses	F-value	F-critical	Result
No Effect of School System	31.68	4.61	rejected
No Effect of Household Characteristics	7.47	2.51	rejected
No Effect of Teacher Characteristics	19.70	3.78	rejected
No Effect of Geographical Location	92.18	3.02	rejected

Source: AAPK survey (1999).

Note: All hypotheses were rejected at 1 percent level of significance.

Teachers' sex had significant and negative effect on the learning achievements of students (Models 1-3), indicating that the test performance of students taught by female teachers was better than those who had male teachers. Hence, at least at the primary level, females appear to be more effective teachers. Results further show that teacher's bachelor-level or higher education had significant and positive effect on the learning achievements of students, implying that teachers with B.A. B.Sc. or higher degree were more productive than those with less education. It has been reported earlier that private schools in the sample had more teachers with a bachelor's or higher degree than the other two types of schools.

Table 9 shows that the pupil-teacher ratio turned out to be negative and significant in all models, indicating that students' performance was better at the schools that had more teachers for a given number of students. The F-values reported in Table 11 show that the overall effect of the class- and teacher-related variables on the performance of students was also statistically significant at 1 percent level.

To capture the effect of geographical variation in the production of cognitive and life skills, five district dummies were included in all four models, with Multan as the reference district. Results show that the performance of students in Muzaffarabad, Turbat, Malakand, and Khairpur districts was significantly better than that of the students living in the reference district. However, Urdu language turned out to be a relatively difficult subject for those living in Malakand, as indicated by a negative coefficient of the dummy for this district in Model 3. It may be noted that most people in Malakand area speak Pashto, a language markedly different from Urdu. The null hypothesis that geographical location (district) has no effect on the performance of students was also rejected at 1 percent level of significance (Table 11). It shows that the district-specific effects are strongly correlated with the performance of students. The reason for this phenomenon cannot be determined with certainty from the quantitative data available to us. However, the evidence gathered through focus group discussions may offer some clues.

Participants of the focus groups in three of the six districts, namely Turbat, Muzaffarabad, and Khairpur, opined that the competition created by some private schools had contributed to the improvement in the quality of education offered by

some public schools. The distribution of average marks obtained by students in different subjects across the sampled districts also lends support to this view (Table 12). It shows that public school students in Turbat performed even better than private school students, while there was no substantial difference in the test performance between the public and NGO schools. Subject-wise data show that the performance of public school students was better in Mathematics and Urdu than that of the students enrolled in the NGO and private schools, though in the case of General Knowledge, the NGO school students performed better than the students enrolled in the public and private schools of Turbat. Moreover, in Turbat and Muzaffarabad districts, the student/teacher ratio was much lower in all types of schools as compared to this ratio in other sampled districts (not shown in Table 12). In these

Table 12

Average Marks Obtained by Class 4 Children by Subject, School, and District

District	School Type	Math.	Urdu	G. Knowledge	All Tests
Multan	Public	43.1	61.3	67.8	55.7
	NGO	44.3	56.9	59.4	52.6
	Private	47.1	72.6	74.2	63.0
	All	44.8	63.2	66.6	56.8
Khushab	Public	45.3	57.1	56.5	52.3
	NGO	49.1	65.9	74.4	61.4
	Private	50.5	70.6	74.5	63.7
	All	47.0	61.3	63.6	56.3
Turbat	Public	89.1	93.7	91.9	91.5
	NGO	85.7	89.9	93.3	89.1
	Private	80.5	91.6	90.5	87.0
	All	85.4	92.0	91.9	89.4
Khairpur	Public	55.2	68.3	72.3	64.1
	NGO	51.3	61.5	69.7	59.5
	Private	66.9	73.4	80.9	72.7
	All	55.5	61.1	72.3	61.6
Malakand	Public	45.2	53.5	66.7	53.4
	NGO	55.9	55.8	60.4	56.9
	Private	70.0	75.3	87.4	76.1
	All	83.7	94.2	91.3	89.4
Muzaffarabad	Public	80.4	87.6	86.7	84.6
	NGO	87.9	96.0	95.8	92.8
	Private	82.3	97.5	90.4	89.8
	All	60.2	71.3	75.3	67.9

Source: AAPk survey (1999).

two districts, the role of the head and the teachers of some public schools in improving the quality of education was particularly appreciated during the focus group discussion. Finally, and more importantly, public, private, and NGO schools received considerable cooperation from the parents and the community. These elements were missing in the districts where test performance of students was relatively poor.

6. CONCLUSIONS AND POLICY IMPLICATIONS

A review of the educational reforms introduced since the Independence of the country shows that a major shift in policy occurred in 1972 when private schools and colleges were nationalised on a large scale. The 1979 educational reforms reversed the earlier policy and allowed private individuals and firms to establish schools. As a result of this change, the following decades saw the private and NGO schools emerging as major players in the field of primary education. The rapid growth in the number of these schools was accompanied by a corresponding decline in the public school enrolment as a percentage of the total primary school enrolment.

This study compares the learning achievement of the students enrolled in the three types of school. Significant gap in test scores was observed between students enrolled in the public and private schools. However, the gap between the public and the NGO schools was small or non-existent, and substantially less than what was suggested by some previous studies. The NGO schools were most heterogeneous in terms of the performance of their students on the tests of cognitive achievement, but among the schools with the highest test scores, these schools turned out to be the most homogeneous. In some districts, the NGO schools did better than their public sector counterparts. In others districts, the public schools performed better than the private schools. The test performance of students was largely explained by the school type, individual and family background characteristics, school-related factors such as teachers' qualification, pupil/teacher ratio, and geographical location of the sampled schools.

The private sector is certainly playing a pivotal role in providing quality education. The competition created by some private schools has also contributed to the improvement of the quality of education in some public schools. It is a healthy sign. However, only better-off families can bear the cost of education in private schools. The justification for a large public sector in primary education is provided by the affordability it offers to low-income households. By examining the share of public schools in the total primary school enrolment, this study has shown that the lowest-income households largely send their children to public schools. Since they cannot afford private education, it is essential to improve the quality of education in public schools. The Government of Pakistan has recently announced that it will recruit only graduates as teachers in primary schools [Pakistan (2001)]; it would be a step in the right direction. Its implementation may improve the quality of education

in public schools. The negative impact of high pupil/teacher ratio on the learning achievement suggests that more teachers may be recruited for large public schools.

Improvement in the supervision of public schools was the common theme of focus group discussions in all six districts. The school-based management practised in private schools appears to be superior to the public school management controlled by the provincial or federal authorities. Gains in public school efficiency may be achieved by enabling public schools to adopt the management practices of private schools.

Most of the policy debate on improving the state of primary education in Pakistan has revolved round generating more financial resources for education. Issues related to production efficiency and demand for schooling have received relatively little attention. An effective strategy for solving the problems of primary education in Pakistan should emphasise the need for efficient use of available resources as well as recognise the fact that teachers, households, and the community all play an important role in promoting good-quality primary education.

Finally, to launch a concerted effort for quality education, it is important to pinpoint the areas where the public and private sectors can co-operate. Teacher training is an important area where these sectors can benefit from pooling their resources and expertise. The public sector has not yet benefited substantively from short-term teacher-training courses offered by the private sector, while the NGOs and the private sector cannot afford to organise such training programmes on a large scale. The government should provide the funds needed to organise such courses at the district level for teachers from all three sectors. These courses would provide a forum for teachers from the three sectors to share their experiences as well as help improve teaching skills.

Appendices

Appendix Table 1

Gross Enrolment Rate at the Primary-level by Rural/Urban Areas and Sex, 1991, 1995-96, 1996-97, and 1998-99

Area/Sex	1991	1995-96	1996-97	1998-99
Rural Area				
Male	82	81	74	73
Female	48	54	53	48
Both Sexes	66	68	64	61
Urban Areas				
Male	97	95	95	93
Female	87	90	91	90
Both Sexes	92	92	93	92

Source: PIHS (1991, 1995-96, 1996-97, and 1998-99).

Note: The gross enrolment rate was calculated as the number of children aged 5-9 years attending primary school divided by the total number of children in this age group multiplied by 100.

Appendix Table 2

Primary-level Enrolment in Government Schools as a Percentage of
Total Primary-level Enrolment—by Region and Province

Region/Province	1995-96 PIHS			1996-97 PIHS			1998-99 PIHS		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Urban Areas	57	58	57	54	59	56	51	55	53
Punjab	55	55	55	47	53	50	43	50	47
Sindh	54	58	56	59	63	60	54	60	56
NWFP	73	72	72	70	72	71	72	65	69
Balochistan	87	87	87	82	88	85	80	88	83
Rural Areas	90	91	91	89	91	90	87	85	86
Punjab	87	91	89	87	90	88	83	80	81
Sindh	97	94	96	98	97	97	95	97	96
NWFP	92	92	92	89	91	89	87	91	88
Balochistan	97	94	96	93	96	94	97	98	97
Overall	80	78	79	78	78	78	76	74	75
Punjab	79	78	78	75	77	76	71	69	70
Sindh	76	70	74	78	76	77	74	74	74
NWFP	89	86	88	85	87	86	85	86	85
Balochistan	95	93	94	91	94	92	95	96	95

Source: PIHS (1995-96, 1996-97, and 1998-99).

Appendix Table 3

Primary-level Enrolment in Government Schools as a Percentage of the Total
Primary-level Enrolment in Rural Areas by Province, Gender,
and Quintile, 1995-96, 1996-97, and 1998-99

Quintile/Province	1995-96			1996-97			1998-99		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Punjab									
1st Quintile	92	96	94	88	90	89	90	87	89
2nd Quintile	92	94	92	92	89	91	89	89	89
3rd Quintile	88	93	90	92	95	93	84	81	92
4th Quintile	86	90	88	81	84	82	78	72	75
5th Quintile	78	80	79	76	83	79	64	65	64
Sindh									
1st Quintile	94	97	95	99	100	99	99	99	99
2nd Quintile	98	97	97	48	100	99	99	99	99
3rd Quintile	99	98	99	96	93	95	96	98	97
4th Quintile	99	96	98	98	100	99	93	97	94
5th Quintile	94	80	89	97	91	95	90	90	90
NWFP									
1st Quintile	96	100	97	97	96	96	97	99	98
2nd Quintile	93	92	93	93	93	93	92	94	93
3rd Quintile	97	99	98	92	98	95	95	95	95
4th Quintile	93	93	93	88	97	92	82	95	87
5th Quintile	81	81	81	70	70	70	69	77	72
Balochistan									
1st Quintile	100	100	100	95	100	96	100	99	100
2nd Quintile	97	100	98	97	100	98	98	100	98
3rd Quintile	98	94	96	95	100	97	100	100	100
4th Quintile	96	95	95	93	94	93	97	96	97
5th Quintile	93	83	89	89	84	87	92	96	93

Source: PIHS (1995-96, 1996-97, 1998-99).

Note: (a) Enrolment in *kachi* is excluded.

(b) Quintiles are based on per capita consumption. The 1st quintile contains individuals with the lowest consumption level, whereas the 5th quintile contains individuals with the highest consumption level.

Appendix Table 4

Primary-level Enrolment in Government Schools as a Percentage of
the Total Primary-level Enrolment in Urban Areas by Province,
Gender, and Quintile, 1995-96, 1996-97, and 1998-99

Quintile/Province	1995-96			1996-97			1998-99		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Punjab									
1st Quintile	71	66	69	54	68	63	63	67	65
2nd Quintile	69	64	66	59	62	61	46	55	50
3rd Quintile	53	53	53	44	55	50	40	52	46
4th Quintile	45	51	48	38	48	43	30	47	38
5th Quintile	30	35	33	22	26	24	18	15	16
Sindh									
1st Quintile	75	84	79	87	86	86	76	82	79
2nd Quintile	70	67	68	63	70	66	61	71	65
3rd Quintile	52	61	57	44	64	53	53	51	52
4th Quintile	45	39	42	49	43	46	36	47	42
5th Quintile	11	18	14	22	20	22	13	13	13
NWFP									
1st Quintile	87	88	87	86	90	88	86	98	91
2nd Quintile	90	90	90	85	79	82	85	83	85
3rd Quintile	68	83	77	77	91	82	73	77	75
4th Quintile	72	60	66	49	68	58	60	53	57
5th Quintile	36	42	40	33	29	31	26	28	27
Balochistan									
1st Quintile	88	98	92	94	94	94	93	93	93
2nd Quintile	96	91	94	86	93	88	88	87	88
3rd Quintile	91	94	92	89	92	90	79	95	85
4th Quintile	86	81	84	70	83	76	75	85	79
5th Quintile	61	74	68	63	74	68	58	75	67

Source: PIHS (1995-96, 1996-97, 1998-99).

Note: (a) Enrolment in *kachi* is excluded.

       (b) Quintiles are based on per capita consumption. The 1st quintile contains individuals with the lowest consumption level, whereas the 5th quintile contains individuals with the highest consumption level.

Appendix Table 5

Percentage Distribution of Class 4 Children by Subjects,
Marks Obtained, and Type of School

Subjects/ School Type	Range of Marks Obtained				
	<40	40-59	60-79	≥80	Total
Mathematics					
Public	28.8	29.9	20.4	20.9	100
NGO	27.4	23.0	25.8	23.9	100
Private	13.5	19.4	38.8	28.4	100
All Schools	23.7	24.5	27.7	24.1	100
Urdu					
Public	9.2	31.8	27.9	31.0	100
NGO	9.1	32.4	21.1	37.4	100
Private	0.7	15.9	27.7	55.7	100
All Schools	6.6	27.3	25.6	40.5	100
General Knowledge					
Public	14.0	12.3	25.7	48.0	100
NGO	11.9	14.5	23.6	50.0	100
Private	1.4	7.6	19.7	71.3	100
All Schools	9.5	11.6	23.2	55.6	100

Source: AAPk survey (1999).

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