

**DROP-OUT RATES AND INTER-SCHOOL MOVEMENTS:
EVIDENCE FROM PANEL DATA**

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DROP-OUT RATES AND INTER-SCHOOL MOVEMENTS: **EVIDENCE FROM PANEL DATA**

Introduction

Overtime Pakistan has made considerable progress in raising adult literacy, however the goal of universal primary education remains elusive due to low enrollment and high drop out rates. Despite the two rounds of the much propagated Social Action Plan in the nineties a sound base for sustained enrollment rates and retention of students at different levels could not be achieved. The high levels of drop-outs at the primary, middle, and secondary school level remain the milestones of journey through school education. The resources spent on dropouts are an “educational wastage”, because the limited literacy and numeracy skills acquired at less than primary level are lost by the drop outs. Consequently overtime they may revert to a state of complete illiteracy. Another kind of educational wastage results from the introduction of various incentive schemes to attract students. These schemes have yielded limited results, simply because they are not well integrated through the system. For example, in Sindh, the scheme to provide free primary education, including books, is beset with the most serious problem of extended teacher absenteeism in rural areas, and all the students are promoted to next class even if they do not appear in the examination. Teacher absenteeism is particularly acute because in these rural primary schools there is only one teacher for all the five classes. Furthermore, most of the teachers admit that they can only teach the regional language, therefore they do not even distribute the books for english and mathematics provided by the education department. Besides the characteristics of the system, household characteristics such as the poverty levels and the socio-cultural factors also have a strong bearing on the decision to educate children.

In Pakistan children tend to drop-out in large numbers at three critical levels: primary, middle, and secondary. The twin objective of this study is: a) to determine and analyze the factors that force the students to drop-out; and b) to study the phenomenon of interschool movement between public and private schools as reflected in the Pakistan Socio-economic Survey panel data set. It may be due to higher incomes, due to decline

in income levels, or any other factors such as the motivation of parents to provide better education to their children despite hardships. The study is structured as follows: In section II we briefly review the findings of available studies on school dropouts. In section III we describe the data set and the methodology used for this study. The results are reported in section IV, and finally section V reports the conclusions and policy recommendations emerging from this study.

II. Review of Literature

In almost all the developing countries school drop-out rates or low completion rates have been a subject of interest to academics, researchers, and policy makers for a long time. Although the findings of various studies differ depending on the peculiar country specific situations but rural-urban divide, gender bias, and distance to school appear to be the most common elements in all the studies. In this section we review the findings of some of the studies pertaining to low completion rates at various grade levels in Pakistan.

The study by Chaurd and Mingat (1996) based on a sample of 8000 students in the Punjab and the NWFP provinces is a very extensive study on the learning effects and dropout rates at the primary level only. It covers three types of educational institutions — private, public, and mosque schools over a thirteen months period in 100 schools (to give it a longitudinal survey dimension) at two levels – grade I and grade IV. The main findings of the study are that at level I dropouts are lowest for private schools, and highest for mosque schools, however at level IV the drop-outs are lower and do not differ significantly between the three categories of schools. Similarly, the study shows that in both the single gender and mixed schools the magnitude of dropouts at grade level I is not significantly different. However at grade level IV the dropouts are higher for mixed schools, but at the same time dropout rates at this level were lowest for schools that offered second shifts. In fact double shifts in schools fulfil a very important demand of the poor parents. It allows them the flexibility of time to send children to school without affecting their earnings, which in most cases are vital to the survival of the family. Overall, in single gender schools the dropout rate is higher in all female schools compared to males. At the regional level, in the rural areas dropouts are not affected by

multigrade or single grade teaching, or even if the schools do not offer all levels of primary schooling. Similarly low quality of building structure and poor ventilation were also not a serious issue with regard to student retention, but highly qualified and aged teachers appeared to facilitate the dropouts at both grade I and IV levels.

Kemal and Maqsood (2000) also analyze the primary dropouts using the same data set. However in order to give a more equal representation to all the three types of schools they revisited the areas covered and suitably modified the representation of schools by type. Their findings are identical to the earlier study with reference to classroom characteristics, teacher qualifications, and the age of the teachers. While they also found lowest dropout rates for private schools both in the Punjab and the NWFP, the dropouts in the mosque schools differed. They were lower in Punjab and higher in the NWFP. However in both the provinces the performance of the public schools was superior to that of the mosque schools. An interesting finding of this study is that while in the rural areas harsh treatment of the students resulted in higher retention rates, this was not acceptable in the urban areas.

The study by Holmes (2003) measures the determinants of school completion in Pakistan at the primary, middle, and high school levels, using the Pakistan Integrated Household Survey (PIHS) data of 1991. She also finds that overall, females receive less education than males. They tend to dropout, or are withdrawn earlier for both economic and socio-cultural reasons. Opportunity cost of sending female children to school in rural areas, where girls are married quite early, is high because benefits of their schooling will not accrue to their parental household. This finding is also supported by World Bank (1989) which shows that escorting girls to middle and high schools raises the cost of sending girls to school, therefore they tend to drop out after completing primary school.

Socio-cultural factors prevent girls from attending mixed school beyond the primary level, as well as single gender schools at distance. Lack of single gender schools has also been reported as a major deterrent to the girls' continuation into middle and high schools by Alderman, *et.al.* (1996). They concluded that gender gap in illiteracy can be reduced by 40 percent in rural Pakistan if gender gaps in primary education were eliminated.

Holme's study shows that distance to primary school was not significant as a cause of dropout, however the distance to middle and high schools affected the schooling of both the sexes. Overall the distance to middle schools was a more important factor influencing girls schooling compared to males. Sathar and Llyod (1994) found that having a school 1 km away had a positive and significant effect on the primary school attendance, but for rural girls only. This finding is also shared by Swada and Lokshin (2001), they maintain that accessibility to a primary school within the village seems to contribute to about 18% increase in a girl's primary school entry probability, and that the female primary school dropout will decline by about 16 percent.

Findings with regard to the impact of parents education differ widely. Holmes shows that this impact differs by gender; the education of the father increases the expected level of school retention by boys, and that of the mother's enhances the educational attainment of girls. However earlier studies Behrman et.al (1999) and Swada and Lokshin showed that parents education did not impact child schooling by gender. Behrman et.al found no effect of mother's primary education on child schooling while father's education had a significant impact on children's education. Similarly, Swada and Lokshin reported a consistently positive and significant coefficient of father's and mother's education at all levels of education except at the secondary school level. However, King, et.al. (1986) found a clear positive effect of father's education on both sexes; no significant effect of mother's education on boys schooling, and a significant effect on the girls only in middle class urban sample.

An interesting linkage between property ownership/ land holdings and girls education is reported by Holmes. For the richer households, it is argued that education of boys is considered a necessity, while that of the girls is a luxury. Therefore girls education was positively associated with the wealth of the household. Likewise the positive impact of higher male wages was three times higher for girls than for boys in the urban areas. However the higher female wages did not have any bearing on girls schooling while that of the boys declined. The positive impact of higher wages is also reported by Alderman *et.al* (1995, 1996); Behrman *et.al* (1997); Burney and Irfan (1991); and Sathar and Llyod (1994).

In Pakistan dropouts at the primary and secondary exit levels are also associated with negative income and health shocks. Swada and Lokshin point out that in general Pakistani households face considerable income instabilities, particularly in the rural areas which have a severe limitation on formal and/or informal insurance and credit availability. As a result they are therefore more likely to adopt perverse informal self-insurance devices by using child labor income as parental income insurance, sacrificing the accumulation of human capital (see also Swada 1997).

The study by Swada and Lokshin puts forward an interesting finding on female education. They point out that households do not discriminate against all daughters, while the older daughters might have to bear the brunt of resource constraint the domestic labour provided by elder girls and their early marrying infact releases household resources for younger siblings including younger daughters [(also see Strauss and Thomas, (1955)]. Swada and Lokshin focus in detail on the sibling variable, and show that at the secondary school exit, and post secondary levels, the older brothers tend to increase the schooling probabilities. Once the family decides to invest in the schooling of the most brilliant child, called the “winner”, the elder brothers farm or non-farm contributions towards this investment make a more significant contribution than the daughters non-market domestic labour contribution in the household. By-passing the debate on birth order effects in investment in education they maintain that “under credit constraints, birth-order effects exist, and, more important, the effects are specific to gender and educational levels”.

Having reviewed almost all the possible variables related to the school effect, classroom effects, household related economic and socio-cultural factors, in the next section we describe the data set available for our analysis of the dropout and inter school movement phenomenon, as well as the methodology adopted for the analysis of these two phenomenon.

III. Data and Methodology¹

While very few studies of school dropouts have been done for Pakistan, and most of the available studies are limited to reporting dropout rates for different categories of students and a discussion of these figures in very general terms, no study has been done to capture inter-school movement. Part of the reason for this paucity of studies on such important topics appears to be the unavailability of nationally representative data on dropout rate and inter school movements and their determinants. The panel data generated by the Pakistan Socio-economic Survey (PSES), which is used in this study, fills this gap to a considerable extent.

PSES is an extensive household and community survey conducted by PIDE with the financial assistance of the International Development Research Centre (IDRC), Canada. The first round of the survey was carried out during March-July 1999. Carefully planned two-stage stratified random sampling was used to generate a nationally representative sample of households. All the provincial capitals, the federal capital, and the cities with a population of half a million or more were considered to be self-representative and hence each of them was treated as a separate stratum. Each stratum was then divided into sub-strata on the basis of low, middle, and high-income areas. For the remaining urban population, each administrative division constituted a stratum. The rural population in each district of the Punjab, Sindh, and NWFP formed a stratum, while for the rural population of Balochistan, each administrative division, which consists of several districts, made a single stratum.

The villages included in the village list published by Population Census Organization in 1981 were taken as the primary sampling units (PSU) for the rural areas. In the urban areas, enumeration blocks of about 200 to 250 households, which constitute the sampling frame developed by the Federal Bureau of Statistics, were used as the primary sampling units. Households within the sampled PSU's were taken as the secondary sampling units. In a two-stage sampling, eight households from a sampled

¹ The details of methodology of Data Collection are based on Arif *et al* (2001) "An Introduction to the 1998-99 Pakistan Socio-economic Survey (PSES)" *MIMAP Technical Paper Series No. 4*. Islamabad, Pakistan.

rural PSU and twelve households from a sampled urban PSU were selected for survey. A total of 3564 households were surveyed in the first round of PSES, of which 2268 were rural and 1296 were urban. The break down of the total sample of 3564 household by rural and urban composition in round 1 is reported in Table III.1.

Table III.1
Distribution of the sample households by areas
and by provinces in 1998/99

Province	Total	Rural	Urban
Punjab	1952	1320	632
Sindh	848	456	392
NWFP	508	324	184
Balochistan	26	168	88
Pakistan	3564	2268	1296

Source: Arif *et.al* (2001)

All the 3564 households were revisited in 2000-01 for the second round. However, only 80% of the households could be interviewed. The remaining 20% of the households could not be approached for the following reasons:

- In Punjab 80 households in 8 PSUs of the two far flung districts of Mianwali and Layya could not be traced.
- Like many other longitudinal surveys many households of round 1 refused to be a part of the panel.
- Some of the households which had moved out of their previous address could not be approached because the costs involved in reaching them were too high.
- Finally some of the difficult districts in the two provinces of NWFP and Balochistan due to their close proximity with the Afghan boarder had to be dropped after the 9/11 events. It was indeed risky to move the teams in these remote areas with female enumerators. Therefore, these provinces show high attrition rate in Table III. 2.

Table III. 2

**Distribution of the households covered during
Round II of PSES 2000-01 with their
urban/rural and provincial breakdown**

Province	Total		Rural		Urban	
	Households interviewed in rural II (2000-01)	Attrition rate (%)	Households interviewed in round II (2000-01)	Attrition rate (%)	Households interviewed in round II (2000-01)	Attrition rate (%)
Punjab	1731	11.3	1203	8.9	528	16.5
Sindh	604	28.8	324	28.9	280	28.6
NWFP	341	32.9	207	36.1	134	15.9
Balochistan	186	27.3	112	33.3	74	15.9
Pakistan	2862	19.7	1846	18.6	1016	21.6

Source:

To supplement for the attrition in round I and to make the PSES Round II data representative at the national level as well as for rural and urban areas , 1170 new households were included in the sample. The total number of households in sample for Round II of the PSES was 4020 household — 2577 in rural areas and 1443 in urban areas as shown in table III.3.

Table III. 3

**Distribution of the sample households with their
urban/rural and provincial breakdown
2000-01 PSES Round II**

Province	Total	Rural	Urban
Punjab	2317	1610	707
Sindh	835	462	373
NWFP	500	310	190
Balochistan	368	195	173
Pakistan	4020	2577	1443

Source:

In the second round about 1300 children were currently enrolled, while 591 children had dropped out after the first round. This cohort of 1891 children is the subject of the present study. Furthermore, some of the children who were continuing school from Round I shifted schools; from public to private and private to public. Educational standards of private schools have been reported to be better than public schools in almost all the studies. This forward and backward inter-school movement is a very interesting phenomenon, it may be considered synonymous with the “moving in and out of poverty”

syndrome. Therefore, along with the drop-outs this phenomenon is being investigated in this study.

Cross-tabulation technique is used to analyze the impact of various factors on the phenomenon of school dropouts as well as interschool movement between the private and public schools. The analysis is supplemented by logit regression analysis.

Let unobservable propensity to drop out of school Y^* be given by:

$$Y^*_i = \beta' X_i + U_i$$

where β is a vector of parameters, X is a vector of explanatory variables, and U is an independently and identically distributed random disturbance. We observe a dummy variable Y , which takes the value 1 if the student drops out of school and is equal to 0 if he/she stays in school such that:

$$Y_i = 1 \text{ if } Y^*_i > 0$$

$$Y_i = 0 \text{ otherwise.}$$

$$\text{Prob. (dropout) =}$$

$$\text{Prob. (} Y_i = 1 \text{) = Prob. (} Y^*_i > 0 \text{)}$$

$$= \text{Prob. (} U_i > -\beta' X_i \text{)}$$

$$= 1 - F(-\beta' X_i)$$

where F is the cumulative distribution function of U_i . If we assume that U_i have a logistic distribution, the probability of dropping out of school can be estimated by using logit regression. A similar argument about the propensity to move from public to private school and from private to public school would lead to logistic regressions for studying the two movements.

The students either drop out of school or remain enrolled. The dummy variable representing these outcomes will be the dependent variable in the logit regression for the probability of dropping out of school.

The variables determining the decision to drop out of school can be divided into four broad categories, namely household characteristics, personal characteristics, parent characteristics, and school characteristics. Household consumption expenditure is an important variable which may be used as a proxy for household's economic status and may influence the decision to leave school. Besides including consumption level of the household in the logit regression, the dropout rates across per-capita consumption

quintiles have also been studied. Dropout rates may potentially differ between rural and urban areas. This aspect of the phenomenon of dropping out of school has also been explored thoroughly.

Gender is one of the most important personal characteristics of a student that influences her educational outcomes. Gender discrimination is a common phenomenon in the developing countries, this discrimination is more prevalent in the rural areas. A two-way breakdown of the dropout rates across gender and rural/urban areas has been used to assess the impact of gender and geographical location on dropout rate. These variables have also been included in the logit analysis.

Most important parental characteristic that is likely to influence the educational attainment of their children is the levels of their own educational attainments. As shown in section II a number of studies have found a positive and significant relationship between parents', and particularly mother's education on the educational outcomes of the children. An attempt has been made to study the influence of parents' education on the decision to drop out of school.

In the developing countries, distance to school is among the most important factors that may force students to discontinue education. Since schools are located at long distances in the rural areas, regional dimension of the problem of far away schools cannot be ignored. Both cross-tabulation and logit analysis has been used to study this issue.

Quality of education offered by a school can potentially have powerful influence on the decision of parents to allow their children to continue or discontinue schooling. It is well known that substantial quality differences exist between the public and private schools.² Therefore, the difference in dropout rates between public and private schools has also been investigated in this study.

With the sustained increase in the number of private schools in Pakistan over past two decades, the issue of the interschool movement of students has attained greater significance. In our sample, a significant movement of students has been observed, not only from public to private schools, but also from private to public schools. No study so far has looked into the factors that influence these flows. Most of the above mentioned variables that influence dropout rates are also likely to be associated with interschool

² See, for example, Arif and Saqib (2003).

movement of students as well, and hence will be included in the cross-tabulation analysis as well as in the logit regressions for the two types of movements. Household consumption level, parents' education, gender, and regional and provincial difference attain special significance in this regard.

IV. Results

a. Decision to Dropout

In this section we present results of our cross-tabulation and regression analysis that shed some light on the factors influencing the decision to drop out of school. Illustrative nature of the results obtained by cross-tabulation method needs to be emphasized at this point because in this method it is possible to control for one or two variables at a time, so that the results are likely to include the influence of other variables that have not been controlled. To take care of this limitation and to further substantiate and clarify our findings, cross-tabulation is followed by logistic regression analysis.

Role of household's well being has been documented in the literature to have significant influence on a number of educational outcomes, though evidence is not as strong in case of the decision to drop out of school. Table IV.1 presents dropout rates by per capita consumption quintiles. The variation between dropout rates is not substantial across first four quintiles, while the dropout rate for the richest quintile is substantially lower. In fact, contrary to the expectation, the dropout rate for the third quintile is slightly higher than that for the second quintile. These finding cast some doubt on the conventional view that children belonging to low-income households are far more likely to drop out of school as compared to their counterparts in the well off households. Regression analysis, which allows us to control for other relevant variables is likely to shed more light on this issue.

Table IV.1
Dropout Rates by Per Capita Consumption Quintiles

Quintile	Dropout Rate
I (Poorest 20%)	24.2
II	22.9
III	23.7
IV	23.0
V (Richest 20%)	18.8

Gender adds an important dimension to the issue of school dropouts. It is generally argued that the female children in the developing countries are worse off as compared to the male children virtually in all respects. Substantial evidence exists to support this view for a number of social and economic outcomes as shown in section I. However, the dropout rates for males and females, which are 23.6% and 21.1% respectively, again seem to defy the common trend in socioeconomic indicators. Disaggregating these rates across regions offers further insights as shown in table IV.2.

Table IV.2
Dropout Rates by Region and Gender

Region and Gender	Dropout Rate
All Areas	
<i>Male</i>	23.6
<i>Female</i>	21.1
Urban Areas	
<i>Male</i>	23.5
<i>Female</i>	17.0
Rural Areas	
<i>Male</i>	23.7
<i>Female</i>	24.6

While dropout rate for rural males is lower than that of rural females, the dropout rate of urban males is much higher than that of urban females. One plausible explanation for high male dropouts could be the prevalence of poverty. In the urban areas male children in general take up employment at early ages to support families, while rural males start helping in farm and livestock activities outside the house. The high dropout of rural females may be reflective of limited government concessions to promote female education compared to the urban areas. It is also possible that information and access to

government endeavors at promoting rural female education is limited due to lack of media services in rural areas of Pakistan.

Most of the pupils in Pakistan are enrolled in either public or private schools. The two types of schools differ widely in terms of the quality of education offered to the students. The level of cognitive skills imparted by the private schools is generally much higher than that of public schools.³ Therefore, as shown in table IV.3 the dropout rates of private schools are far lower than those of government schools, and this trend persists across regions and gender.

Table IV.3
Dropout Rates by type of School, Region, and Gender

Type of School	Urban		Rural		All Areas	
	Male	Female	Male	Female	Male	Female
Government	26.9	20.1	24.7	26.9	25.3	24.2
Private	17.4	10.0	12.1	7.8	15.4	9.2

Parents' education is known to influence educational outcomes of their children. Table IV.4 presents dropout rates across various levels of father and mother's education. Mother's education at all levels significantly reduces female dropouts, particularly in the urban areas. In the rural areas however, only the highest level of mother's education prevents female dropouts. Father's education beyond primary prevents male dropouts better both in urban and rural areas, as well as female dropouts in urban areas. However it is not very significant in lowering female dropout in rural areas except at the highest level. The overall pattern of these rates seems to indicate that the parents' education has a positive role in reducing dropout rate. However, potential regional differences and differences across various levels of parents' education would be better understood by the regression analysis.

³ Arif and Saqib (*Op cit*).

Table IV.4
Dropout Rates by Parents' Education, Region and Gender

Parents' Education	Urban		Rural		All Areas	
	Male	Female	Male	Female	Male	Female
Mother's Education						
Illiterate	27.8	23.2	24.7	26.7	24.4	25.4
Primary	26.3	12.5	18.3	23.2	21.9	17.4
Middle	7.6	13.9	13.3	20.2	9.7	16.0
Matric & Higher	17.8	5.6	11.7	0.0	16.8	4.9
Father's Education						
Illiterate	29.2	23.3	28.8	30.7	28.9	27.5
Primary	32.9	22.8	24.3	21.2	26.7	21.8
Middle	21.9	13.7	17.5	37.3	19.0	27.1
Matric & Higher	16.7	9.5	16.2	13.7	16.5	11.2

The pattern of dropout rate across school grades brings out some interesting facts. Table IV.5 presents percentage distribution of the pupils who dropped out of school by the highest grade completed. It is evident from this table that a substantial percentage of both male and female students drop out of schools after completing grade 5, 8 and 10. These are the grades that coincide with the award of primary, middle and secondary school completion diploma, and hence are the milestones of the journey through school education.

Table IV.5
Percentage Distribution of Dropouts by Highest Grade Completed, Region and Gender

Grade	Urban areas		Rural Areas		All Areas	
	Male	Female	Male	Female	Male	Female
1	2.8	0.1	1.6	9.8	2.0	6.5
2	2.0	7.6	3.1	6.4	2.8	6.8
3	2.9	3.8	4.9	2.0	4.3	2.6
4	4.5	2.6	8.5	8.0	7.3	6.2
5	23.2	15.4	18.2	26.8	19.7	22.9
6	7.2	0.7	10.2	2.8	9.3	2.1
7	15.1	6.9	6.7	2.8	9.2	4.2
8	10.1	19.3	16.0	12.7	14.3	15.0
9	14.1	12.1	9.8	9.9	11.1	10.6
10	13.7	28.6	17.1	15.8	16.1	20.2

The award of diploma is likely to offer some sense of completion to the students and their parents, and hence they may assign some extra value to the completion of these grades. From policy point of view, some extra push to induce pupils to start middle school or a vocational school once they have completed primary school, and to enroll in secondary school or a vocational /technical school after they complete middle school is likely to pay off in terms of reduction in dropout rate. The extent of variation in dropout rates across grades also points to the limited value of the studies of school dropout rates that focus on only one or two grades.

Long distance to school is also another common factor forcing pupils to drop out of schools. In urban areas, where means of transportation are generally well developed and safety of environment is more conducive to long walks or rides to schools, this factor is less likely to influence the decision to drop out. However, in rural areas roads and public transport are usually less developed and long travel, particularly out of the village is not considered as safe as travel to a comparable distance in urban areas. In table IV.6 the regional break down of the dropout rates for the students who travel less than two kilometers and those who have to travel more than two kilometers to attend the school clearly points out that in rural areas distance to school is an important factor influencing the decision to quit school particularly for females. The results for the urban areas appeared to be rather mixed, and regression analysis is likely to give a clearer picture for these areas.

Table IV. 6
Dropout Rates by Distance to School

Distance to School	(Percentages)					
	Urban Areas		Rural Areas		All Areas	
	Male	Female	Male	Female	Male	Female
0 – 2Km	24.5	16.9	19.8	23.1	21.4	20.3
More than 2Km	18.0	23.0	39.2	37.7	33.8	31.0

The results of logistic regression analysis are discussed in detail to formalize the preliminary findings of the cross-tabulation analysis. In the regression analysis household consumption expenditure, which is used as a proxy for the permanent household income, turns out to be insignificant. This result does not change with other specifications of the

Gender and region also appear to be insignificant in the regression for all areas according to conventional tests of significance. Students enrolled in private schools are less likely to drop out of school, as are the children whose parents have more than primary education. However, those living more than two kilometers away from schools as well as those enrolled in grade 5, 8, or 10 (the diploma grades) are more likely to drop out of school.

Separate logistic regressions for rural and urban areas reported in tables IV.8 and IV.9 lead to some interesting insights. It appears that the regression for all areas hides some important gender differences across regions. First of all, although the dummy variables for all the four consumption quintiles are insignificant for rural areas, the dropout rate for the richest 20% households in urban areas is significantly lower.

While in the rural areas females are more likely to drop out of school, in the urban areas the situation is quite opposite, where the probability of female students to continue schooling is much higher than that for male students. This difference could be due to the success of the government efforts in urban areas to increase school retention rate of female students, or due to the different perceptions of the rural and urban parents about female education. Whatever the reason, the higher probability of dropping out of school for rural females is a cause of concern as an overwhelming majority of Pakistan's population lives in rural areas.

The role of parents' education also differs across rural and urban areas. Whereas all levels of mother's education significantly reduce dropout rate in urban areas, in rural areas it is true only for the highest level of mother's education. It may be the case that in the rural areas, only the women with highest levels of education are able to influence (or make) decisions about their children's schooling.

Another important difference between rural and urban areas relates to the distance to school. As shown earlier in table IV.4, in rural areas, where means of transportation are relatively less developed, the students who have to travel two kilometers or more to attend school, are more likely to drop out of school, and this would particularly be the case for females discussed with respect to table IV.4. This finding is closely related to the fact reported by the World Bank (1989) that escorting girls to school raises the cost of

Table IV. 9
Logistic Regression Effects of Predictors on the Probability of
Dropping out of School

(Rural Areas)

Variables			
	Coefficient	Wald Statistics	Significance
2 nd Quintile	0.192	0.508	0.476
3 rd Quintile	-0.044	0.028	0.868
4 th Quintile	-0.210	0.617	0.432
5 th Quintile	0.006	0.001	0.981
Sex (male=1)	-0.275	3.641	0.056
School Type (private=1)	-0.968	9.339	0.002
Father's Education (Primary)	-0.279	2.437	0.118
(Middle)	-0.394	3.741	0.053
(Higher)	-0.721	9.76	0.002
Mother's Education (Primary)	-0.196	0.542	0.462
(Middle)	-0.186	0.198	0.657
(Higher)	-1.403	3.232	0.072
School more than 2 km away	0.593	12.722	0.000
Pupil in Class 5	0.759	12.285	0.000
Pupil in Class 8	1.158	22.487	0.000
Pupil in Class 10	2.208	71.525	0.000
Constant	-1.056	17.488	0.000
N	1398		
-2 log likelihood	1370.590		

A possible explanation for the limited role of the variables used for measuring household's well being may be found in the enrollment decision of the household. There seems to be consensus among the researchers that income or other measures of the economic status of the household play an important role in parents' decision to enroll

their children in the schools.⁴ It is a crucial decision for the household and is made with the intention to allow the child to complete a certain level of education. It would be reasonable to assume that the decision maker is able to predict the permanent income of the household with a fair degree of accuracy. Therefore once the decision to enroll the child is made, income remains only a limited factor in continuing school attendance. The decision to drop out of school is based on the factors whose impact is not accurately predictable at the time of enrollment. Other variables like parents' education also continue to play their role by influencing parents' preferences about the level of their child's education.

b. Interschool Movement

A major shift in government's educational policy occurred in 1972 when almost all the private schools and colleges in the country were nationalized. 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. The educational reforms of 1979 reversed this policy and allowed private individuals and firms to establish schools. Initially, the number of private schools increased very slowly. However 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. Interschool movement from public to private schools was a significant part of this phenomenon. It is generally believed that the students who move from public to private schools belong to richer households. Since quality of education in private schools is far better as compared to that offered by the public schools,⁵ this presumption raises serious concerns about the educational services, and also links it to poverty. Similar concerns are raised about the movement of students from private to public schools. This makes it imperative to study the phenomenon of

⁴ Using the same data as used in this study, Arif *et al* (1999) also found that household income and poverty played a significant role in parents' decision to enroll their child in a primary school.

⁵ See Arif and Saqib (2003).

interschool movement to systematically analyze the factors that influence interschool movement and come up with policies to take care of the concerns raised in this regard. To the best of our knowledge, no study prior to this one has so far attempted to undertake this exercise for Pakistan.

Before we proceed with the analysis of the factors influencing interschool movement in Pakistan, it would be instructive to take a look at the distribution of students between public and private schools with reference to some socioeconomic characteristics. Table IV.10 presents percentage of students enrolled in private schools by province, region, and gender. Punjab and Sindh have higher percentage of students enrolled in private schools as compared to the other two provinces. This is particularly true for the urban areas of the provinces. In general, a higher percentage of students living in urban areas go to private schools, and a significantly higher percentage of female students living in the Punjab and Sindh attend private school. In the NWFP and Balochistan, the percentage of students enrolled in private schools is not far apart for males and females.

Table IV.10
Percentage Enrollment in Private Schools
by Province, Region, and Gender

Province	Region		Gender		All
	Urban	Rural	Male	Female	
Punjab	37.7	12.0	18.5	24.3	21.0
Sindh	25.6	0.6	14.0	20.2	16.2
NWFP	9.6	11.3	12.0	9.3	11.0
Balochistan	26.0	0.0	10.8	12.7	11.4

It is evident from the following table that private schools generally cater to the needs of the richest segments of the population. While only 10.2% belonging to the poorest 20% households attend private schools, the corresponding figure for the richest 20% households is about 40 percent.

Table IV.11

**Percentage of Students Enrollment in Private Schools
by Per Capita Consumption Quintiles**

Quintiles	% Enrolled in Private Schools
1 st Quintile (Poorest 20%)	10.2
2 nd Quintile	9.3
3 rd Quintile	15.9
4 th Quintile	14.5
5 th Quintile (Richest 20%)	30.9

Parents' education also appears to play an important role in child's attendance of private school. Table IV.12 shows that a higher percentage of students who have primary or higher education attend private schools. A comparison of the two tables reveals that the role of mother's education is more important in this regard.

Table IV.12

**Percentage of Students Enrollment in Private Schools
by Level of Mother and Father's Education**

Mother's Education Level	% Students Enrolled in Private Schools	Father's Education Level	% Students Enrolled Private Schools
Illiterate	13.2	Illiterate	12.5
Primary	27.8	Primary	16.0
Middle	25.7	Middle	19.5
Higher	43.8	Higher	30.5

b.1: Movement from Public to Private Schools

It will be seen from table IV.13 that overall 17% of the students moved from public to private schools in the interval between the two rounds of the PSES. This magnitude is much higher for the urban areas (20.8%). The percentage of the female students who moved from public to private schools is higher than that for male students, however the gender gap in interschool movement is relatively smaller as compared to the regional gap.

Table IV.13
Government to Private School Movement of Students
by Region and Gender (Number and Percentage)

Interschool Movement	Region		Gender		All
	Urban	Rural	Male	Female	
Stayed in Government school	628 (79.2%)	1050 (85.4%)	1031 (84.2%)	647 (81.1%)	1678 (83.0%)
Moved from Government to Private School	165 (20.8%)	179 (14.6%)	193 (15.8%)	151 (18.9%)	344 (17.0%)

According to table IV.14 only 5.6% of the students belonging to the poorest 20% households moved from public to private schools. The corresponding figure for the richest 20% households was 25.2%. This represents a whopping gap of about 20 percentage points. The difference in this percentage is relatively smaller for other quintiles.

Table IV.14
Percentage of Students Moved from Government to Private
Schools by Per Capita Consumption Quintiles

Quintiles	% Students Moved from Government to Private Schools
1 st Quintile (Poorest 20%)	5.6
2 nd Quintile	15.9
3 rd Quintile	13.9
4 th Quintile	18.5
5 th Quintile (Richest 20%)	25.2

Table IV.15 suggest that parents' education has a significant role in the movement of enrolled students from public to private school. The role of mother's higher education appears to be most important in this regard. While only about 13% children of the illiterate mothers move from public to private schools, about 37.8% children of mothers having higher than middle education move to generally high quality though expensive private schools.

Table IV.15

Percentage of Students Moved from Government to Private Schools by Level of Mother and Father's Education

Mother's Education Level	% Students Enrolled in Private Schools	Father's Education Level	% Students Enrolled Private Schools
Illiterate	13.1	Illiterate	12.7
Primary	24.5	Primary	14.4
Middle	22.6	Middle	19.6
Higher	37.8	Higher	23.8

There are substantial inter-provincial differences in the movement of students from public to private schools. The percentage of students moving from public to private schools is the highest for the Punjab followed by Sindh. The percentage for the remaining two provinces however remains less than 10 percent.

Table IV.16

Percentage of Students Moved from Government to Private Schools by Province

Province	% Students Moved from Government to Private Schools
Punjab	20.5
Sindh	15.2
NWFP	6.1
Balochistan	7.8

The results obtained by the logistic regression analysis are generally in line with the cross-tabulation results discussed earlier. Table IV.16 presents logistic regression estimates of the determinants of movement from public to private schools along with relevant statistics. It is evident from this table that the probability of moving from public to private school is significantly higher for the students belonging to the households in richer per-capita consumption quintiles as compared to that for the students in the poorest quintile.⁶ There are no significant gender differences in the movement of students from public to private schools, though the students living in urban areas and in the province of Punjab are more likely to make this move. All levels of parental education exert a

⁶ We also tried household consumption expenditure, log household consumption expenditure and change in household consumption expenditure over the two phases of the MIMAP survey as measures of household's wellbeing, but these variables turned out to be insignificant. The results of these exercises are reported in Appendix 2.

positive influence on this movement, however, only the influence of mother's higher than middle school education is statistically significant.

Table IV.17
Logistic Regression Effects of Predictors on the Probability of Moving from Government to Private School

Variables	Coefficient	Wald Statistics	Significance
2 nd Quintile	0.908	4.306	0.038
3 rd Quintile	0.797	3.497	0.061
4 th Quintile	1.045	6.265	0.012
5 th Quintile	1.020	5.873	0.015
Sex (male=1)	-0.076	0.281	0.596
Region (urban=1)	0.322	4.291	0.038
Father's Education (Primary)	0.155	0.531	0.466
(Middle)	0.313	2.144	0.143
(Higher)	0.326	2.561	0.110
Mother's Education (Primary)	0.320	2.480	0.115
(Middle)	0.159	0.299	0.585
(Higher)	0.878	12.403	0.000
Punjab	1.003	10.066	0.002
Sindh	0.473	1.967	0.161
N.W.F.P	-0.301	0.537	0.464
Constant	-3.690	49.904	0.000
N		1648	
-2 log likelihood	1369.433		

b.2: Movement from Private to Public Schools

Compared to the movement from public to private schools, a much higher percentage, though a much smaller number of students moved from private to public schools. The present sub-section is devoted to the study of this little noticed though important phenomenon. Between the two phases of the PSES survey, more than 37% students moved from private to public schools. Regional, and gender differences in this movement do not appear to be very strong.

Table IV .18
Private to Government School Movement of Students
by Region and Gender

Interschool Movement	Region		Gender		All
	Urban	Rural	Male	Female	
Stayed in Private School	222 (63.1%)	101 (60.8%)	169 (61.2%)	154 (63.6%)	323 (62.4%)
Moved from Private to Government School	130 (36.9)	65 (39.2%)	107 (38.8%)	88 (36.4%)	195 (37.6%)

The percentage of the students who moved from private to public school is the highest for the poorest 20% households.

Table IV.19
Percentage of Students Moved from Private to
Government Schools by Province

Province	% Students Moved from Private to Government Schools
Punjab	38.7
Sindh	28.2
NWFP	41.9
Balochistan	36.0

The percentage for the households belonging to all other quintiles is roughly the same as shown in table IV.20. This indicates low economic status as measured by per-capita consumption is a strong force that pushes students from generally high quality private schools to public schools.

Table IV.20
Percentage of Students Moved from Private to
Government Schools by Per Capita Consumption Quintiles

Quintiles	% Students Moved from Private to Government Schools
1 st Quintile (Poorest 20%)	62.6
2 nd Quintile	35.3
3 rd Quintile	37.9
4 th Quintile	37.1
5 th Quintile (Richest 20%)	36.3

Table IV.21 points towards some interesting insights about the role of parents' education in students' switch over from private to public schools. Contrary to the strong influence of mother's education with regard to the decision to move the child from public to private school father's education seems to play a more crucial role in case of movement from private to public school. Children of more educated fathers are less likely to leave private schools to join public schools. It may be the case that fathers exert more influence on difficult and less palatable decisions of the households.

Table IV.21
Percentage of Students Moved from Government to Private
To Government Schools by Level of Mother and Father's Education

Mother's Education Level	% Students Enrolled in Private Schools	Father's Education Level	% Students Enrolled Private Schools
Illiterate	36.9	Illiterate	43.5
Primary	48.0	Primary	32.2
Middle	25.2	Middle	35.5
Higher	36.4	Higher	38.4

The logistic regression results reported in table IV.22 generally confirm the findings of the cross-tabulation exercises. While the influence of gender, region, province, and mother's education on the movement of students from private to public schools is insignificant, all levels of father's education and household's position in quintiles other than the poorest quintile makes this movement less likely.⁷

⁷ We also tried household consumption expenditure, log household consumption expenditure and change in household consumption expenditure over the two phases of the MEMAP survey as measures of household's wellbeing, but these variables turned out to be insignificant. The results of these exercises are reported in Appendix 3 .

Table IV.22
Logistic Regression Effects of Predictors on the Probability of
Moving from Private to Government School

Variables	Coefficient	Wald Statistics	Significance
2 nd Quintile	-1.977	5.193	0.023
3 rd Quintile	-2.519	8.774	0.003
4 th Quintile	-2.183	6.855	0.009
5 th Quintile	-1.819	4.847	0.028
Sex (male=1)	0.115	0.295	0.587
Region (urban=1)	-0.067	0.071	0.790
Father's Education (Primary)	-0.722	4.152	0.042
(Middle)	-0.677	3.91	0.048
(Higher)	-0.492	2.881	0.090
Mother's Education (Primary)	0.400	1.824	0.177
(Middle)	-0.356	0.794	0.373
(Higher)	-0.308	0.892	0.345
Punjab	0.147	0.103	0.749
Sindh	0.336	0.448	0.503
N.W.F.P	-0.101	0.035	0.851
Constant	1.795	3.513	0.061
N		430	
-2 log likelihood	548.254		

V. Conclusions and Policy Recommendations

While there is a general consensus about the positive role of household income in determining some educational outcomes, this does not appear to be the case for dropout rates in this study. The dummy variables for all the four consumption quintiles are insignificant for rural areas. However, in urban areas, the dropout rate for the richest 20% households is significantly lower. A plausible explanation is that school enrollment is a crucial decision for the household and is made with the intention to allow the child to complete a certain level of education keeping in view the predicted permanent income of the household. Therefore once the decision to enroll the child is made, income remains only a limited factor in continuing school

attendance. The decision to drop out of school is based on the factors whose impact is not accurately predictable at the time of enrollment.

There is very high female dropout in rural areas (24.6%) compared to urban areas (17.0%). However the dropout rates for urban and rural males is almost identical (23.7% and 23.5%) and is closer to rural female dropout. This high dropout rates for males both in urban and rural areas may be directly associated with child labour. Male children can be sent to work farther from home at much earlier age. It may also be due to the out-migration by males even through illegal means. The high female dropout in the rural areas may be the result of limited government efforts at promoting female education compared to urban areas, as well as limited information and access to such government facility by the rural household. The regional differences and cultural factors may also be reflected in the perceptions of the rural and urban parents regarding the education for girls. Whatever the reason, the higher probability of dropping out of school for rural females is a cause of concern as an overwhelming majority of Pakistan's population lives in rural areas.

The regional differences are also reflected in the role of mother's education in reducing dropout rates. While in the urban areas all levels of mother's education significantly reduce dropout rate, in the rural areas it is true only for the highest level of mother's education. It appears that in the rural areas, only the women with highest levels of education are able to influence decisions about their children's school continuation. In rural areas, where means of transportation are relatively less developed, the students who have to travel two kilometers or more to attend school, are more likely to drop out of school. The dummy variable for school being two kilometers or farther away is insignificant for the urban areas. The need to develop transport infrastructure and providing schools in the vicinity of the households is essential to the promotion of female literacy, particularly when we see the role of mother's education in influencing the education of their children.

This study confirms the findings of the earlier studies that substantial percentage of both male and female students drop out of schools after completing grade 5, 8 and 10 associated with the award of primary, middle and secondary school completion

diploma and hence are the milestones of the journey through school education. The extent of variation in dropout rates across grades also points to the limited value of the studies of school dropout rates that focus on only one or two grades. From the policy point of view some extra push to induce pupils to start middle school after completing primary school, and to enroll in secondary school after completing middle school is likely to pay-off in term of reduction in dropout rate.

Between the public and private schools, low dropout rate in private schools is a well established fact based on empirical evidence and the results of this study add to the existing evidence.

The probability of moving from public to private school is significantly higher for the students belonging to the households in richer per-capita consumption quintiles as compared to that for the students in the poorest quintile. While there are no significant gender differences in the movement of students from public to private schools, at the regional level the students living in urban areas and in the province of Punjab are more likely to make this move. All educated parents who have shifted their children to private schools exert a positive influence on this movement; however only the influence of mother's higher than middle school education is statistically significant. On the other hand in the case of movement from private to public schools children of more educated fathers are less likely to leave private schools to move to public school. However the children belonging to the first quintile — poorest 20% of households tend to move to public schools in a larger proportion. This indicates that a low economic status as measured by per-capita consumption is a strong force that pushes students from generally high quality private schools to public schools.

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Appendix Table 1.1

Logistic Regression Effects of Predictors on the Probability of Dropping out of School (Model-1)

Variables	All Areas			Urban			Rural		
	Coefficient	Wald Statistics	Significance	Coefficient	Wald Statistics	Significance	Coefficient	Wald Statistics	Significance
Household Consumption Expenditure	0.000	0.209	0.647	0.000	0.135	0.714	0.000	0.000	1.000
SEX	0.053	0.259	0.611	0.404	6.703	0.010	-0.262	3.317	0.069
Region (urban=1)	0.043	0.154	0.695	-	-	-	-	-	-
School Type	-0.558	11.653	0.001	-0.387	3.902	0.048	-0.968	9.399	0.002
Father's Education (Primary)	-0.114	0.718	0.397	0.127	0.358	0.550	-0.297	2.765	0.096
(Middle)	-0.465	8.916	0.003	-0.623	5.895	0.015	-0.413	4.127	0.042
(Higher)	-0.705	20.821	0.000	-0.636	8.759	0.003	-0.763	10.888	0.001
Mother's Education (Primary)	-0.266	2.427	0.119	-0.401	3.029	0.082	-0.191	0.518	0.472
(Middle)	-0.565	4.397	0.036	-0.800	4.903	0.027	-0.248	0.355	0.551
(Higher)	-1.060	15.400	0.000	-0.970	10.489	0.001	-1.404	3.250	0.071
School more than 2 km away	0.430	10.603	0.001	0.122	0.249	0.618	0.576	12.277	0.000
Pupil in Grade-5	0.597	13.395	0.000	0.464	3.309	0.069	0.739	11.743	0.001
Pupil in Grade-8	0.976	30.304	0.000	0.751	7.988	0.005	1.160	22.784	0.000
Pupil in Grade-10	1.753	106.841	0.000	1.332	31.605	0.000	2.214	72.367	0.000
Constant	-1.256	90.330	0.000	-1.338	48.783	0.000	-1.069	37.214	0.000
N	2597			1199			1398		
-2 log likelihood	2487.994			1084.263			1374.717		

Appendix Table 1.2

Logistic Regression Effects of Predictors on the Probability of Dropping out of School (Model-V)

Variables	All Areas			Urban			Rural		
	Coefficient	Wald Statistics	Significance	Coefficient	Wald Statistics	Significance	Coefficient	Wald Statistics	Significance
Log Household Consumption Expenditure	0.020	0.030	0.862	-0.068	0.153	0.696	0.042	0.071	0.790
SEX	0.053	0.258	0.612	0.408	6.845	0.009	-0.259	3.249	0.071
Region (urban=1)	0.045	0.170	0.681	-	-	-	-	-	-
School Type	-0.556	11.573	0.001	-0.379	3.730	0.053	-0.972	9.458	0.002
Father's Education (Primary)	-0.114	0.713	0.399	0.126	0.350	0.554	-0.419	4.232	0.040
(Middle)	-0.463	8.802	0.003	-0.615	5.717	0.017	-0.778	11.306	0.001
(Higher)	-0.698	19.952	0.000	-0.603	7.597	0.006	-0.190	0.514	0.473
Mother's Education (Primary)	-0.269	2.488	0.115	-0.407	3.125	0.077	-0.247	0.352	0.553
(Middle)	-0.568	4.451	0.035	-0.806	4.976	0.026	-1.407	3.264	0.071
(Higher)	-1.051	15.132	0.000	-0.929	9.556	0.002	0.573	12.124	0.000
School more than 2 km away	0.431	10.645	0.001	0.127	0.271	0.602	0.739	11.749	0.001
Pupil in Grade-5	0.596	13.356	0.000	0.461	3.268	0.071	1.158	22.677	0.000
Pupil in Grade-8	0.976	30.278	0.000	0.757	8.093	0.004	2.212	72.161	0.000
Pupil in Grade-10	1.753	106.823	0.000	1.333	31.602	0.000	-1.426	1.118	0.290
Constant	-1.399	1.978	0.160	-0.705	0.211	0.646			
N	2597			1199			1398		
-2 log likelihood	2488.170			1084.241			1374.646		

Appendix Table 1.3

Logistic Regression Effects of Predictors on the Probability of Dropping out of School (Model-IV)

Variables	All Areas			Urban			Rural		
	Coefficient	Wald Statistics	Significance	Coefficient	Wald Statistics	Significance	Coefficient	Wald Statistics	Significance
Change in Household Consumption Expenditure.	0.000	1.284	0.257	0.000	1.195	0.274	0.000	0.276	0.599
SEX	0.051	0.235	0.628	0.405	6.763	0.009	-0.265	3.405	0.065
Region (urban=1)	0.056	0.268	0.605						
School Type	-0.549	11.309	0.001	-0.379	3.753	0.053	-0.963	9.305	0.002
Father's Education (Primary)	-0.114	0.715	0.398	0.123	0.336	0.562	-0.298	2.798	0.094
(Middle)	-0.450	8.377	0.004	-0.598	5.393	0.020	-0.410	4.094	0.043
(Higher)	-0.680	20.199	0.000	-0.593	7.708	0.005	-0.765	11.635	0.001
Mother's Education (Primary)	-0.270	2.500	0.114	-0.395	2.938	0.087	-0.196	0.545	0.460
(Middle)	-0.560	4.306	0.038	-0.797	4.864	0.027	-0.237	0.323	0.570
(Higher)	-1.002	13.755	0.000	-0.897	9.051	0.003	-1.394	3.205	0.073
School more than 2 km away	0.443	11.212	0.001	0.131	0.287	0.592	0.586	12.562	0.000
Pupil in Grade-5	0.599	13.477	0.000	0.469	3.382	0.066	0.739	11.755	0.001
Pupil in Grade-8	0.978	30.411	0.000	0.743	7.808	0.005	1.167	22.969	0.000
Pupil in Grade-10	1.752	106.591	0.000	1.325	31.143	0.000	2.216	72.522	0.000
Constant	-1.224	110.497	0.000	-1.296	61.273	0.000	-1.062	54.724	0.000
N	2597			1199			1398		
-2 log likelihood	2486.880			1083.147			1374.441		

Appendix Table 2.1

**Logistic Regression Effects of Predictors on the Probability of Moving
from Government to Private School**

Variables	Coefficient	Wald Statistics	Significance
Household Consumption Expenditure	0.000	0.913	0.339
Sex (male=1)	-0.070	0.243	0.622
Region (Urban=1)	0.347	5.148	0.023
Father's Education (Primary)	0.177	0.697	0.404
(Middle)	0.323	2.307	0.129
(Higher)	0.372	3.359	0.067
Mother's Education (Primary)	0.373	3.410	0.065
(Middle)	0.205	0.503	0.478
(Higher)	0.857	12.172	0.000
Punjab	0.996	9.489	0.002
Sindh	0.493	2.057	0.151
N.W.F.P	-0.321	0.600	0.439
Constant	-2.918	57.513	0.000
N	1648		
-2 log likelihood	1377.259		

Appendix Table 2.2

**Logistic Regression Effects of Predictors on the Probability of Moving
from Government to Private School**

Variables	Coefficient	Wald Statistics	Significance
Log Household Consumption Expenditure	0.180	1.173	0.279
Sex	-0.068	0.228	0.633
Urban	0.334	4.697	0.03
Father's Education (Primary)	0.169	0.632	0.427
(Middle)	0.316	2.201	0.138
(Higher)	0.356	3.028	0.082
Mother's Education (Primary)	0.365	3.278	0.07
(Middle)	0.201	0.482	0.488
(Higher)	0.842	11.605	0.001
Punjab	0.981	9.562	0.002
Sindh	0.472	1.949	0.163
N.W.F.P	-0.343	0.701	0.402
Constant	-4.364	8.305	0.004
N		1648	
-2 log likelihood	1376.960		

Appendix Table 2.3

**Logistic Regression Effects of Predictors on the Probability of Moving from
Government to Private School**

Variables	Coefficient	Wald Statistics	Significance
Change in Household Consumption Expenditure	0.000	1.521	0.218
Sex (male=1)	-0.078	0.303	0.582
Region (urban=1)	0.342	4.975	0.026
Father's Education (Primary)	0.185	0.760	0.383
(Middle)	0.321	2.284	0.131
(Higher)	0.400	4.033	0.045
Mother's Education (Primary)	0.356	3.095	0.079
(Middle)	0.186	0.411	0.521
(Higher)	0.830	11.158	0.001
Punjab	0.968	9.417	0.002
Sindh	0.464	1.891	0.169
N.W.F.P	0.325	0.623	0.430
Constant	-2.811	64.12	0.000
N		1648	
-2 log likelihood	1376.601		

Appendix Table 3.1
Logistic Regression Effects of Predictors on the Probability of Moving
from Private to Government School

Variables	Coefficient	Wald Statistics	Significance
Household Consumption Expenditure	0.000	1.693	0.193
Sex (male=1)	0.112	0.288	0.592
Region (urban=1)	-0.036	0.021	0.884
Father's Education (Primary)	-0.643	3.647	0.056
(Middle)	-0.720	4.458	0.035
(Higher)	-0.516	3.185	0.074
Mother's Education (Primary)	0.294	1.049	0.306
(Middle)	-0.351	0.798	0.372
(Higher)	-0.329	1.010	0.315
Punjab	0.088	0.038	0.846
Sindh	0.294	0.344	0.558
N.W.F.P	-0.062	0.014	0.907
Constant	-0.398	0.532	0.466
N	430		
-2 log likelihood	559.950		

Appendix Table 3.2

**Logistic Regression Effects of Predictors on the Probability of Moving
from Private to Government School**

Variables	Coefficient	Wald Statistics	Significance
Log Household Consumption Expenditure	0.229	0.91	0.340
Sex (male=1)	0.098	0.225	0.635
Region (urban=1)	-0.03	0.015	0.902
Father's Education (Primary)	-0.642	3.629	0.057
(Middle)	-0.71	4.3	0.038
(Higher)	-0.509	3.016	0.082
Mother's Education (Primary)	0.28	0.958	0.328
(Middle)	-0.365	0.86	0.354
(Higher)	-0.282	0.766	0.382
Punjab	0.112	0.061	0.806
Sindh	0.32	0.406	0.524
N.W.F.P	-0.033	0.004	0.95
Constant	-2.225	1.052	0.305
N	430		
-2 log likelihood	560.724		

Appendix Table 3.3
Logistic Regression Effects of Predictors on the Probability of Moving
from Private to Government School

Variables	Coefficient	Wald Statistics	Significance
Change in Household Consumption Expenditure	0.000	0.069	0.793
Sex (male=1)	0.086	0.175	0.676
Region (urban=1)	-0.009	0.001	0.971
Father's Education (Primary)	-0.641	3.619	0.057
(Middle)	-0.65	3.757	0.053
(Higher)	-0.434	2.382	0.123
Mother's Education (Primary)	0.257	0.81	0.368
(Middle)	-0.352	0.796	0.372
(Higher)	-0.211	0.451	0.502
Punjab	0.105	0.053	0.817
Sindh	0.303	0.367	0.545
N.W.F.P	-0.038	0.005	0.943
Constant	-0.229	0.188	0.664
N	430		
-2 log likelihood	561.568		

