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Private Supplementary Tutoring among Primary Students in Bangladesh

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SUMMARY

Using the databases created under *Education Watch*, a civil society initiative to monitor primary and basic education in Bangladesh, this paper explores trends, socioeconomic differentials, and cost in private supplementary tutoring among primary students and its impact on learning achievement. The rate of primary school students getting access to private supplementary tutoring is increasing two percentage points per year and reached at 31% in 2005. Incidence of private tutor was more among the boys and the urban students than their respective counterparts. Educated parents and the well-off families were more likely to arrange supplementary tutoring for their children. A wide variation in the cost for private tutoring prevailed. The tutees spent 46% of their total private expenditure for education on supplementary tutoring. Supplementary tutoring helped students learn more than those had no such support. Private tutors for primary school students have become a well-accepted norm. Finally, a number of social implications were discussed.

INTRODUCTION

Educational institutions are the places where tuition is supposed to take place. The teachers and the students jointly participate in classroom situation to achieve education. The education provision is such that in majority cases the students require study at home in order to supplement school education. It is done in the form of homework and learning what was asked by the schoolteachers. Studying at home requires tutoring support, which sometimes the parents, relatives or the household members provide and sometimes do not. An external support is often sought for this. Such support is sometimes provided free of cost and often on a payment basis (Biswal, 1999; Kwok, 2001; Foondun, 2002). Our interest in this paper is payment-based tutoring support to the students outside official school hour.

Supporting students at home is often called as 'shadow education system', because it exists due to the existence of the mainstream education provisions, follows mainstream school curriculum, changes with the change of mainstream system and features are less distinct than mainstream education (Bray, 1999, 2003; Bray & Kwok, 2003; Kwok, 2001). Following the above we define private supplementary tutoring which covers tutoring only in the academic subjects, additional to the provision of mainstream education and provided by tutors' financial gain (Bray, 2003).

Payment-based private supplementary tutoring has spread all over the world, both in the developed and the developing countries – from east to the west (Bray & Kwok, 2003; Bray, 1999; Foondun, 2002). It is spreading sharply in Asia, Africa, Europe and North America, both in English speaking and non-English speaking countries. Though expanded largely in the 1980s and afterwards some parts of East Asia particularly in Japan and South Korea, private tuition has long history (Kim, 2004). The provision of *Juku* in Japan is an industry-like well organized system and some of such companies quote on the stock exchange. Similar companies also exist in South Korea. In a comparison of 15 OECD nations South Korea became second only next to Japan in this regard. In 2003, 83% of elementary, 75% of middle school and 56% of high school students in Korea has undergone various kinds of private tutoring. Household spending for private tutoring has been growing at a remarkable pace there, 1.2% of GDP in 1990 to 1.8% in 1994 and 2.9% in 1998 (Kim, 2004).

Econometric evidence from a Korean study showed that lower school quality stimulates demand for private tutoring significantly (Kim, 2004). Institutional features in students' learning environment are the key driving factors for the demand for shadow education. Both social and educational factors are responsible for widespread popularity of private tutoring (Heung-ju, 2006). It has major social and economic implications on the existing education provisions (Bray, 1999). Competitive university entrance examination stimulated increase of private tuition in Turkey (Tansel & Bircan, 2004). In Canada, in response to market demand shadow education system is gradually transforming to independent private learning centres (Aurini & Davies, 2003).

Private supplementary tutoring has long history in the Indian sub-continent (Sujatha, 2006). A general impression is that the weak students receive such tutoring to make up their deficiencies. But the history says that the well-off families recruited economically poorer but meritorious college/university students on a yearly basis to look after the education of the children of the families. These tutors were remunerated both in cash and kind. The situation in Bangladesh is no less than this. Especially in British India when new colleges were

establishing in various district towns all over the country, rural young people were used to avail such facilities nearer to their colleges.

The situation has changed a lot over the period. In addition to the above-mentioned form of private supplementary tutoring many other forms have been developed and this is not concentrated only among school students but in other levels too. Various types of people including the teachers of schools and colleges, students and unemployed educated youths are involved in providing private supplementary tutoring. Alongside to their regular job the employed people also involved in private tutoring for additional income.

Primary education in Bangladesh is confined to first five grades (I to V) for children aged 6-10 years. It is compulsory by law (Government of Bangladesh, 1990). Competency-based primary education has been introduced and textbooks were revised accordingly. No tuition fee is charged to the students and textbooks are provided free of cost. Food for education programme was introduced in order to attract the children of poor families to schools, which has later replaced by stipend programme. The schools are in general responsible to provide primary education to all eligible students in their areas fixed by the sub-district level education offices. Studies show that the net enrolment rate at primary level increased from 60% in 1990 to 86% in 2005; about one percentage points per year. However, the quality of education is still very low. A study conducted in 1998 showed that 29% of the children aged 11-12 years had basic competencies (Nath & Chowdhury, 2002). Again, on completion of primary education less than 2% of the students achieved all the necessary competencies and a third of the completers remained semi-literate or illiterate (Nath & Chowdhury, 2001; Ahmed *et al*., 2003). All these including other evidences indicate that the schools are not being able to perform their duties regarding all children's education (Ahmed & Nath, 2005). Problems lay with the governance of the institutions, teachers teaching capacity, teaching learning provisions, physical facilities of the schools, absence of inclusive education including no or less care of the first generation learners and so on. A general impression is that failure of the system in providing quality education including increased competition among students for better results in exams increases dependency on private supplementary tutoring. Till date, no attempt was taken to explore the issue holistically. Moreover, the issue is ignored in the policy documents including the government's education statistics.

The objective of this paper is to explore trends, socioeconomic differentials, and cost in receiving supplementary private tutoring among primary students in Bangladesh and its impact on learning achievement.

DATA AND METHODS

This paper used five sets of databases created under *Education Watch*, a civil society initiative in Bangladesh to monitor primary and basic education in the country in the context of Education for All. Till date, six reports were published on various issues of primary and secondary education and literacy since its inception in 1998. Three of these were based on nationally representative sample household surveys where information on students' receipt of private supplementary tutoring was collected. Another two were based on representative sample survey of students learning achievement, receipt of private tuition and private cost of education. All the databases contain socioeconomic information of the surveyed students. Standard procedures were followed in instrument development, sampling, and data collection.

The samples represented all the 64 districts in the country. Multistage sampling procedure was followed in each case. Trained field investigators collected data visiting door to door of the sampled households and the schools. In case of household survey, the head was the principal informant. In absence of the principal informant his/her spouse or an adult person provided information. However, the respondents took help from other members of the households, if necessary. Assessment of basic education of the children was tested at their premises through one-to-one basis and test on competency-based learning achievement of the students was done in groups in the schools. Validity of the instruments was ensured by a team of national experts belonging in the *Education Watch* committee. Other means of validity assessment of the test instruments were also applied. Reliability of most of the data was tested through survey-post-survey method and Kudar-Rechardson formula number 20 was used to see the reliability of test data. The data were found acceptably reliable. Table I provides data sources and samples at a glance. Detail of the methodology is available in the main reports of *Education Watch* (Chowdhury *et al.,* 1999, 2002; Nath & Chowdhury, 2001; Ahmed *et al.,* 2003, 2006; Ahmed & Nath, 2005).

Table I. Sample at a glance

Year	Issues covered	Data source	Sample size
1998	• Participation in private tutoring	HH survey	33,229
	• Socioeconomic information	HH survey	33,229
	• Assessment of basic education	Test of student	3,360
2000	• Participation in private tutoring	HH survey	6,619
	• Socioeconomic information	HH survey	6,619
	• Cost of private tutoring	HH survey	6,619
	• Assessment of primary competencies	Test of student	2,509
2003	• Voices of the stakeholders on private tutoring	FGD and in-depth interview	130
2005	• Participation in private tutoring	HH survey	16,400
	• Socioeconomic information	HH survey	16,400

Note: HH = Household, FGD = Focus Group Discussion

The definition of private supplementary tutoring is a crucial one. The *Education Watch* surveys followed the one suggested by Bray (2003). The definition is as follows.

Tutoring which covers only the academic subjects, additional to the provision of mainstream education, occurs outside the official school hour and provided by tutors' financial gain.

The tutors included neighbours, relatives, teachers of own and other educational institutions, coaching centres, and any other person provided tutoring by financial gain. This may happen in students' places, tutors' places or any other third places. Any free of cost supplementary tutoring on academic subjects and payment-based tutoring on non-academic subjects were excluded from the analysis.

RESULTS

TRENDS IN PRIVATE SUPPLEMENTARY TUTORING

According to the definition mentioned earlier, proportion of primary school students having private supplementary tutor was 21.4% in 1998 and 21% in 2000, which rose to 31% after five years in 2005 (Table II). Although no statistical difference was observed between the prevalence rates in 1998 and 2000, a significant increase was observed from 2000 to 2005 –two percentage points per year. Separate analysis shows that such increase occurred among both the boys and the girls, and both urban and rural students. The rate of increase was mostly similar to all the four groups of students.

Table II. Percentage of students receiving supplementary tutoring by year, area and sex

Year and area	Sex			Significance
	Boys	Girls	Both	
1998				
Rural	19.7	16.5	18.1	p<0.001
Urban	45.1	43.6	44.3	ns
Both	22.9	19.9	21.4	p<0.001
Significance	p<0.001	p<0.001	p<0.001	
2000				
Rural	19.4	16.6	18.0	p<0.01
Urban	43.8	39.3	41.5	ns
Both	22.4	19.7	21.0	p<0.01
Significance	p<0.001	p<0.001	p<0.001	
2005				
Rural	31.2	25.2	28.2	p<0.001
Urban	53.2	50.3	51.7	ns
Both	33.8	28.1	31.0	p<0.001
Significance	p<0.001	p<0.001	p<0.001	

The students of urban schools were significantly ahead of their rural counterparts in receiving private supplementary tutoring. The gap between them reduced over time; 26.2 percentage points in 1998 to 23.5 percentage points in 2000 and 2005. In 2005, 28.2% of the rural students and 51.7% of the urban students had private supplementary tutors. The girls

lagged behind the boys in all the years in this regard. Although the gender gap was about three percentage points in 1998 and 2000, it increased to 5.7 percentage points in 2005. In 2005, 33.8% of the boys and 28.1% of the girls had private supplementary tutors. It is interesting to note that significant gender difference disfavouring girls prevailed only in the rural areas. A kind of gender parity existed in the urban areas. Whereas a quarter of the rural girls had private tutor in 2005, over 53% of the urban boys availed this.

The results of all the three surveys show that the proportion of students having private tutor significantly increased with the increase of grade of enrolment of the students (Table III). In 2005, 22.3% of the students of grade I, 29.5% of grade II, 34.3% of grade III, 37.2% of grade IV and 38.4% of grade V students received support from private tutors. Increase in the prevalence rate varied from 7-10 percentage points among the students of various classes during last seven years. Thirty one percent of the students of grade V had private tutor in 1998, which rose to 34.5% in 2000 and 38.4% in 2005.

Table III. Percentage of students receiving private supplementary tutoring by class and year

Class	Year			Significance
	1998	2000	2005	
I	13.8	12.2	22.3	p<0.001
II	19.2	16.6	29.5	p<0.001
III	24.1	24.7	34.3	p<0.001
IV	29.4	29.1	37.2	p<0.001
V	31.0	34.5	38.4	p<0.001
Significance	p<0.001	P<0.001	p<0.001	

Separate analysis by area and sex also shows that the rate of incidence of private tutoring significantly increased with the increase of grade in all four groups of students. An analysis of 2005 data shows that the students of grade V in rural areas were less likely to have private tutor than those of grade I in urban areas (Table IV). In urban areas, 43.6% of grade I, 48.7% of grade II, 51.6% of grade III, 61.1% of grade IV and 62.2% of grade V students had private tutor in 2005. The urban-rural gap narrowed down from 24% in class I to 19.8% in class III, and then increased to about 27% among the students of class IV and V. Sex-wise analysis shows that the girls of each grade were significantly less likely to have private tutor than the boys of the same grade. However, the gender-gap increased with the increase of grade. For instance, the gap was 2.7 percentage points in class I, about six percentage points in classes II-IV and 10.2 percentage points in class V. Over a third of the girls and 43.7% of the boys of class V had private tutor in 2005.

Table IV. Percentage of students having private supplementary tutoring by class, sex and area, 2005

Class	Sex				Area			
	Boys	Girls	Diff.	Sig.	Rural	Urban	Diff.	Sig.
I	23.6	20.9	2.7	p<0.05	19.6	43.6	24.0	p<0.001
II	32.5	26.4	6.1	p<0.001	27.2	48.7	21.5	p<0.001
III	37.4	31.1	6.3	p<0.001	31.8	51.6	19.8	p<0.001
IV	39.9	34.3	5.6	p<0.01	33.5	61.1	27.6	p<0.001
V	43.7	33.5	10.2	p<0.001	35.6	62.2	26.6	p<0.001

There are various types of primary schools in the country. Except the madrasas and the kindergartens, all others follow mostly the same curriculum. School-type wise analysis shows that the rate of students having private supplementary tutor varied by school-type in all the surveys (Table V). It was highest among the students of kindergartens, followed by those in the primary sections of the secondary schools. The position of the government schools was a distant third followed by the non-government schools and the madrasas (Islamic religious schools) with little difference from the government schools. The non-formal school students had the lowest incidence of private tutor. The highest rate of increase, over the last seven years, occurred in the non-government schools followed by the government schools (12 and 10 percentage points respectively). The rate increased 3-4 percentage points in three types of schools viz., madrasas, kindergartens and primary sections of secondary schools. In the non-formal schools, 5.4% of the students had private tutor in 1998, which increased to 9.1% in 2000 and 12.3% in 2005. That is, nearly seven percentage points increase during last seven years. In 2005, a significant urban-rural difference in availing private tutor services was observed in four types of schools viz., government, non-government, madrasa, and primary section of secondary schools. On the other hand, statistically significant gender difference was seen only among the students of government and non-government schools.

Table V. Percentage of students receiving private supplementary tutoring by school type and year

School type	Year		
	1998	2000	2005
Government	22.8	23.1	32.1
Non-government	16.7	15.8	28.5
Non-formal	5.4	9.1	12.3
Madrasa	16.9	15.4	20.2
Kindergarten	66.4	67.9	69.3
Secondary attached	61.5	64.7	63.2
Significance	$p<0.001$	$p<0.001$	$p<0.001$

SOCIOECONOMIC DIFFERENTIALS OF PRIVATE TUTORING

Three variables were considered to assess socioeconomic differentials of incidence of private tutoring; these are parental education (both father and mother) and household food security status. Parental education was measured by years of schooling completed by them. In order to assess food security status of the households, the respondents were asked to rate their households in a four-point scale considering overall income and expenditure of the household members. These are always in deficit, sometimes in deficit, breakeven, and surplus. All these three variables were found to be positively correlated to each other. Again, the parents of urban areas were more educated and economically well-off than those of rural areas.

A positive relationship was observed (Annex I). Proportion of students having private tutor increased significantly with the increase in the level of education of the parents ($p<0.001$). For instance, in 2005, a fifth of the students of the never schooled mothers had private tutor, which was nearly 35% among those students having mothers with primary education, and nearly half of the mothers with post-primary education provided private supplementary tutoring to their children. Similarly, 22.3% of the students with never schooled fathers, 31.9% of those with primary educated fathers, 43.4% of those with secondary educated fathers, and 47.4% of those with fathers having post-secondary education had private supplementary tutors. Again, 17.4% of the students from always in deficit households had private tutor in 2005,

which gradually increased to 44.7% among the students of surplus households. Incidence of private supplementary tutoring increased over time more among the students of the lower educated parents than those of the higher educated parents. Similarly, it increased more among the households with deficit food security status compared to the breakeven and surplus households.

Analysis of the 2005 data by gender shows that significant gender difference disfavouring the girls prevailed at each level of parental education and each category of households mentioned above (Annex II). The gender-gap was 4.1 percentage points among the students with never schooled mothers, 5.9 percentage points among those with primary educated mothers, and 8.7 percentage points among those with post primary educated mothers. Again, the gender-gap was 3.2 percentage points among the students with no education of fathers, which increased to 13 percentage points for those with post-secondary educated fathers. Incidence of private supplementary tutoring was 20.1% among the first generation learners (both the parents never went to school) and 36.6% among the others with significant gender-gap in both the groups. However, the gap was lesser among the first generation learners compared to the rest of the students (3.2 vs. 6.9 percentage points). Grade-wise analysis of these shows no gender difference in the prevalence rate of private tutoring among first four grades of the first generation learners but a big gap of 13.3 percentage points was observed among the students of grade V (boys 33.4% vs. girls 20.1%). On the other hand, gender difference in the prevalence rate occurred among the second (or more) generation learners of each grade (Annex III). Similar analysis by household food security status is provided in Annex IV.

To predict the incidence of private tutoring among primary students, a multivariate analysis was done in addition to the above bi-variate analyses. This would help understanding the influence of a particular variable on incidence of private tutoring controlling the influences of the others. As the dependent variable was dichotomous in nature (having incidence of private tutor or not) binary logistic regression analysis was thought to be suitable (Menard, 1995; Hosmer & Leweshow, 1989). The predicting variables considered in the analysis are area, sex, class, learner category and household food security status. Two separate models were built – one with all the above variables as categorical and the other class as continuous and others categorical (Annex V and Table VI). Not much variation was found in the regression coefficients of the two models. The findings reveal that the chance of an urban primary student is 2.4 times higher than that of a rural student to have private supplementary tutor, if other factors remain constant. This is 1.33 times higher for a boy compared to a girl and 1.75 times higher for a student of better-off households compared to a student of deficit household. Students of educated parents were 1.90 time more likely to have private tutor than the first generation learners. Again, the chance of incidence of private tutor among the students of grade V is 2.2 times higher than those studying in grade I (Annex V).

Table VI. Logistic regression analysis predicting incidence of private tutors among primary students, 2005

Predicting variables	Regression coefficient	Odds ratio	95% CI of odds ratio
Area			
Rural	0	1.00	
Urban	0.88	2.40	2.17 – 2.65
Sex			
Girls	0	1.00	
Boys	0.29	1.33	1.24 – 1.43
Class	0.19	1.21	1.18 – 1.24
Learner category			
First generation	0	1.00	
Second or more	0.64	1.90	1.76 – 2.06
HH food security status			
Deficit	0	1.00	
Better-off	0.56	1.75	1.63 – 1.89
Constant	-2.366		
-2 Log likelihood	18638.03		
Cox & Snell R^2	0.08		
Nagelkerke R^2	0.12		

1. The model: In $[p / (1 - p)] = a + \sum b_i x_i$; where p is the probability of a student having private tutor, a is the constant, b_i values are estimated regression coefficients and x_i are the predicting variables.
2. The first generation learner means both parents never went to school and all other students included in the second category. Deficit includes both always in deficit and sometimes in deficit households and better-off includes breakeven and surplus categories.

Table VII. Estimation of probabilities of incidence of private supplementary tutoring

Characteristics of students	Boys	Girls
First generation learners from rural deficit households	0.13	0.10
First generation learners from rural better-off households	0.21	0.17
Second or more generation learners from rural deficit households	0.22	0.18
First generation learners from urban deficit households	0.27	0.21
Second or more generation learners from rural better-off households	0.33	0.27
First generation learners from urban better-off households	0.39	0.32
Second or more generation learners from urban deficit households	0.41	0.34
Second or more generation learners from urban better-off households	0.55	0.48

The probabilities are calculated from the co-efficients of the regression model presented in Table 6 by using the following equation: $p = \exp(a + \sum b_i x_i) / [1 + \exp(a + \sum b_i x_i)]$

Table VII provides estimated probabilities of incidence of private supplementary tutoring against various characteristics of the students. The probability of incidence varied from 0.10 to 0.55. The highest probability occurred for the second or more generation learners from urban better-off households and the lowest the first generation learners from rural deficit households. The first generation learners of the urban deficit households had more chance to get private tutor support compared to the rural first generation learners (both deficit and better-off) and the second generation learners from rural deficit households. Again, it was higher for the first generation learners of urban better-off households than the second generation learners of rural better-off households. Whatever the characteristics of the households were, the girls were less likely to have private tutorial support compared to the boys of similar characteristics.

COST OF PRIVATE TUTORING

Data on private expenditure for education during the first nine months of the academic year were collected in 2000. It was found that although the primary education in Bangladesh is said to be free, on average, the parents had to spend Tk. 736 per student, which was approximately equal to annual public cost per student at that time. We calculated that the mean private expenditure for education for those having no supplementary tutor was Tk. 419 and for those having tutor was Tk. 1,923 ($p<0.001$). The later group of the students spent 46% of their educational expenditure for private tutoring, which came down to 25.4% when all the students of primary schools were considered.

A wide variation was observed in the cost for private supplementary tutoring per student, which ranges from Tk. 20 to Tk. 18,000 with a mean of Tk. 887. The standard deviation and the coefficient of variation of cost were respectively Tk. 1,298 and Tk. 146 (Table VIII). We have analysed these data breaking down the students into five quintiles. Mean amount of expenditure for private tutoring significantly increased from one quintile to the next. On average, the students of the highest quintile spent Tk. 2,661 for private tutoring (ranges from Tk. 1,201-18,000), which was about 22 times higher than that of the lowest quintile (average Tk. 121 and range Tk. 20-200).

Table VIII. Mean and standard deviation of the costs (in Taka) in private supplementary tutoring by quintiles of costs, 2000

Quintiles	Range of cost (in Tk.)	Mean	Standard deviation	Coefficient of variation
First	20-200	121	56	46
Second	201-400	327	56	17
Third	401-700	532	82	15
Forth	701-1,200	924	109	12
Fifth	1,201-18,000	2,661	2,103	79
All	20-18,000	887	1,298	146

Table IX shows the mean private cost for education and its percentage share for private supplementary tutoring for boys and girls separately and for the rural and urban tutees. It shows that like as total cost for education, the average cost for private tuition was also higher for the boys than that of the girls ($p<0.05$). Over 47% of total private cost for education of the boys went for private tutoring; this was 44.8% for the girls. Urban-rural gap was more prominent than this. Whereas, on average, a rural primary school student spent Tk. 616 for private supplementary tutoring during first nine months of the year, a similar student in urban area spent nearly three times higher than this (Tk. 1,688) ($p<0.001$). It is to be noted that the gender difference in the average cost for private tutoring was statistically significant in the rural areas only. Not much variation was observed in percentage share of cost for private tutoring between the tutees of rural and urban areas. If all the students (both tutees and non-tutees) are brought under analysis it shows that 21.2% of the total private expenditure for education of the rural students went to the private tutors, which stood at nearly a third in the urban context.

Table IX. Cost for private supplementary tutoring (in Taka) during first nine months of the year 2000 by various groups of students

Class	Mean private cost for education	Mean cost for supplementary private tutoring	% share of cost for private tutoring
Boys	1946	920	47.3
Girls	1896	849	44.8
Rural	1327	616	46.4
Urban	3688	1688	45.8
All	1923	887	46.1

Grade-wise analysis of the above (considering both tutees and non-tutees together) shows that the mean private expenditure for education doubled from grade I to grade V, but the cost for private tutoring increased 3.5 times for the same (Table X). The percentage share of cost for private tutoring to total cost also increased significantly with the increase of grade of the students. For instance, it was 19.8% for the students of grade I, 20.9% for grade II, 27.2% for grade III, 26.9% for grade IV and 31.7% for grade V. Grade-wise variation was found much lesser when only the tutees were brought under analysis.

Table X. Cost for supplementary private tutoring (in Taka) during first nine months of the year 2000 by class

Class	Mean private cost for education	Mean cost for supplementary private tutoring	% share of cost for private tutoring
I	509	101	19.8
II	515	108	20.9
III	839	228	27.2
IV	914	246	26.9
V	1100	349	31.7
All	736	187	25.4

Private expenditure for education as well as cost for private tutoring significantly increased with the increase of the level of parental education and household food security status. For instance, expenditure for private supplementary tutoring was Tk. 64 for always in deficit households, Tk. 99 for sometimes in deficit households, Tk. 202 for breakeven households, and Tk. 354 for the surplus households. These figures were respectively 15%, 20%, 27.3%, and 28% of the total private expenditure for primary education of the households. Again, when we considered only the students having private tutor in the analysis the amount for private tutoring increased to Tk. 573, Tk. 614, Tk. 877, and Tk. 1175 respectively. These figures were 44-47% of the total private expenditure for education. Similar trend was observed when data were analysed against various levels of parental education. The first generation learners spent Tk. 553 for the first nine months of the year, which was Tk. 989 for those the parents were educated. The girls lagged behind the boys in both the cases.

Mean expenditure for private tutoring by various characteristics of the tutees (similar to Table VII) is provided in Annex VI. It shows that Tk. 420 was spent for private tutoring for the first generation learners in rural deficit households, which gradually increased to Tk. 1,957 for the tutees of urban better-off households with educated parents. Greater gender difference in three of the four groups (both first and second generation learners of deficit households and first generation learners of better-off households) of urban tutees is noticeable.

IMPACT OF PRIVATE TUTORING ON LEARNING ACHIEVEMENT

Relationship between private supplementary tutoring and learning achievement of the students can be seen from two datasets created in 1998 and 2000. In 1998, a test measuring basic education was conducted among the children aged 11-12 years. A good portion of the respondents were currently enrolled students, a part of whom had private tutor and another part did not. It was observed that at the national level, nearly half of the students with private supplementary tutors and 27.5% of those without private tutor satisfied the criterion of basic education ($p<0.001$). Similar level of statistically significant difference favouring those with private tutor was observed when data were analysed by gender and area of residence of the students (Table XI).

Table XI. Percentage of students satisfying basic education criteria, 1998

Students groups	Private tutor status		Significance
	Having private tutor	Not having private tutor	
Boys	51.7	30.3	p<0.001
Girls	47.4	25.0	p<0.001
Rural	44.7	25.4	p<0.001
Urban	63.5	47.1	p<0.001
All	49.6	27.5	p<0.001

The students of class V were tested at the end of their academic year in 2000 with a competency-based test instrument. A total of 27 cognitive competencies were tested in it. The students having private supplementary tutors achieved, on average, two more competencies than their counterparts without any private tutor (Table XII). Similar results were found when data were analysed separately for the boys and the girls, and for rural and urban students. Presence of private supplementary tutors created statistically significant difference ($p<0.001$) in all the cases.

Table XII. Mean number of competencies achieving by the students, 2000

Student groups	Private tutor status		Significance
	Having private tutor	Not having private tutor	
Boys	17.5 (5.7)	16.4 (5.3)	p<0.001
Girls	17.3 (5.8)	14.7 (5.9)	p<0.001
Rural	16.6 (5.8)	15.0 (5.8)	p<0.001
Urban	20.2 (4.8)	18.0 (4.7)	p<0.001
All	17.4 (5.8)	15.5 (5.7)	p<0.001

Note: Figures in the parentheses indicate standard deviation

An analysis was done to know whether there is any relationship between expenditure for private tutoring and achievement of competencies. The students falling in the second quintile according to their cost for private tutoring achieved equally with those had no private tutor. The students falling in the first quintile achieved on average 1.5 competencies more than the above groups. This is because majority of the non-formal school students who had private tutor fell in this group. The students falling in the third and forth quintiles achieved two more competencies than those falling in the second quartile. Again, the students falling in the fifth

quintile on average achieved four more competencies than those falling in the second quintile. Such an analysis clearly shows a positive relationship between expenditure on private supplementary tutoring and achievement of competencies at primary level. Another example of this is the first generation learners. Tutees of this group spent less amount of money compared to others and hence they achieved on average 2.7 competencies less than the other group of tutees. Gender difference in achievement was higher among the tutees of the first generation learners.

Mean number of competencies achievement of the 16 different groups of tutees, according to their background characteristics (similar to Table VII and Annex VI), is provided in Annex VII. A strong relationship between cost of private tutoring and achievement of competencies is also seen from this.

VOICES OF THE STAKEHOLDERS

Focus group discussions done separately with various types of stakeholders in 2003 indicated that private tutoring on payment has become a well-accepted norm. On discussion of the current situation of classroom teaching a mothers group came to a conclusion that "Private tutoring is necessary to do well in education". Other stakeholders including the teachers thought that private tutoring could increase quality of education. As a parent put it, "What children cannot understand in the classroom can understand with help from private tutor. If a school functions well, private tutoring is unnecessary, but the schools do not function well." A student group mentioned that what they were not able to ask the teachers in the classrooms they could do it to the private tutors. They also mentioned that the private tutors were friendlier than the schoolteachers. Echoing the voice of the others a sub-district level education officer remarked, "Considering the existing socioeconomic situation, private tutoring is inevitable and can be supported." The focus group discussants also mentioned some examples showing better performance of the students as a result of private supplementary tutoring.

DISCUSSION AND CONCLUSION

This paper explored an untold story of an emergence issue private supplementary tutoring, which as 'shadow education system' has several serious implications for the Bangladesh society. The issues discussed as related to the main theme of the paper are prevalence and trends, socioeconomic differentials, expenditure, and impact on learning achievement. *Education Watch* databases created during the last seven years were used in this. Importance of this paper lies with the emerging nature of the issue as well as the silence of the policy documents, the government statistics bureau and the research community about the matter.

Primary education (from grade I to V) in Bangladesh is free and compulsory by law. However, the state level expenditure for education is inadequate to provide quality education to all children. Only 2.2% of GDP is spent for education, which is the lowest among the South Asian countries (Haq & Haq, 1998). Like many other developing countries primary schoolteachers' remuneration is lower compared to other professions with similar educational qualifications (Biswal, 1999). However, in Bangladesh, the major portion of the education budget goes for teachers' salary. The teachers in general have an understanding that the salary they receive from their profession does not meet the needs of their living. Thus, they need additional income. It is also popular among the teachers that if the people of other profession say the doctors are allowed to do private practice why the teachers would not be allowed to provide private tutoring. It is to be noted that none of these are illegal in Bangladesh. Thus, there is a possibility that the teachers themselves create a space in their arena so that the

students are bound to seek for private supplementary tutoring before or after official school hour (Biswal, 1999). Another explanation is that the teachers are in general not able to provide quality education even if they want to do so. The first reason is the quality of the teachers. All the teachers are not trained enough to provide quality education. The second reason is the larger class size. It is really difficult even for the qualified trained teachers to look after all the students when the class size is 60 or higher. Such a situation suggests that due to unavoidable reasons the students are unable to get quality education in school environment so that they look for private supplementary tutoring according to the financial capacity of their parents/guardians (Biswal, 1999). Economic demand of the teachers and educational demand of the students coincided at the existence and emergence of the issue.

Data provided in this paper clearly suggest that provision of private supplementary tutoring is significantly increasing among the primary school students in Bangladesh. The rate of increase was two percentage points per year. If the total number of students at primary level was approximately 18 million in 2005, 5.6 million of them availed supplementary tutoring. Although increasing at a rate of two percentage points per year, the percentage of students having private tutor is still lower in Bangladesh compared to some other countries. For instance, it was 11% among the students of grade I and 73% among the students of grade VI in Mauritius (Joynathsing *et al.,* 1988), 45% of all primary school students in Hong Kong (Times Educational Supplement, July 1996), 39.2% of those in New Delhi in India (Aggarwal, 1998), and 72.9% of the same in South Korea received private tutoring (Kim, 2000). Bray and Kwok (2003) mentioned about cultural reasons in explaining the variations of prevalence rates from one country to another. Russell (2002) wrote an article on the situation in London and other big cities in UK and remarked that "almost unnoticed, a revolution has taken place in state education." Although no scientific literature is available on Bangladesh situation, need of private tutoring for better learning of the students is not unknown to the general people including the parents/guardians and the students. Voices of various stakeholders mentioned in the findings section indicate that payment-based private tutoring at primary level has become a norm in Bangladesh.

Data on private tutoring were sorted out by a number of socioeconomic variables like gender, area of residence, parental education and household food security status. Statistically significant variation in availing private tutor was observed in all the cases when analysed separately. Except gender, all other variables were correlated among themselves. For instance, households with educated parents were economically better-off and they were more likely to live in the urban areas. The findings show that the percentage of urban students availing private supplementary tutoring was much higher compared to their rural counterparts. Again, the urban schools are well equipped than the rural schools. These mean that a better environment at home and in school created more demand for private supplementary tutoring.

Gender difference in availing private tutor prevailed at the national level due to its prevalence in rural areas. Both boys and the girls in urban areas equally received support from private tutors. Like any other opportunities, the rural girls lagged behind their counterparts boys in availing private supplementary tutoring. Although the rate of students having private tutor increased equally in both the areas, the rural girls increased slowly than their peers boys. Whereas over half of the urban boys and girls had private tutor, only a quarter of the rural girls had this. A clear gender discrimination against rural girls indicates parental negligence to their daughters in this regard. When the government is trying to improve rural girls education up to higher secondary level through stipend programme why the parents are neglecting their daughters in providing supplementary tutorial support at primary level needs further exploration. The parents may find barriers like social insecurity, demand for girls' labour at home, etc. or they are still valuing boys' education and underscoring girls' education. A plausible explanation may be due to absence of education of the parents they were unable to earn enough to spend for private supplementary tutoring of their children. It was surprising to

know that the gender gap in the incidence of private tutor was higher among the students of higher grades and among the children of educated parents. These also need further research.

School-type wise analysis showed a wide variation in students having private supplementary tutoring. Kindergartens and the secondary school-attached primary sections, where the children of well-off families enrolled, were more likely to have private tutor compared to the students of other schools. The non-formal schools and the madrsas where the children of relatively poorer families enrolled smaller portion of them availed private tutoring. Only a fifth of the madrasa students and 12.3% of the non-formal school students availed private tutoring in 2005. Non-formal schools are special type of schools where the teacher-student ratio is only 1:30 and both academic and administrative supervision are much stronger than the other schools. The teachers also take additional care to the slow learners. All these might be the reasons why the students of such schools were less likely to avail private tutor. Among various types of primary schools in Bangladesh, the education department of the government directly takes care of two; these are government and non-government schools. It is interesting to note that a good portion of the students of the schools under direct supervision of the government also demands private tutoring.

Cost of private tutoring is a significant one. Although a quarter of the total private expenditure for education went to the private tutors but the private tutees had to spent 46% of their total costs for private tutoring. Multiplying the average cost for private tutoring per tutee to the total number of tutees it can be estimated that Tk. 4967.2 million (Tk. 887 x 5.6) is spent per year as remuneration of the private tutors. This figure is about a third of the annual public expenditure for primary teachers' and staff salary. Such a huge investment has direct impact on the learning achievement of the students. Wide variation in the expenditure for private tutoring created wide variation in students learning achievement. The well-off families and the educated parents invested more money on private supplementary tutoring compared to the others. Again, there is a positive correlation between expenditure in private tutoring and learning achievement of the students. In this sense the provision of private supplementary tutoring is playing a role of providing more to those who already have more and thus contributing inequality among the primary school students. Influence of wealth of one generation diverts to the quality of education of the next. One can argue whether the amount of money spent for private tutoring can be consolidated and be used to increase teachers' salary and ask them for improved in-school education. It might not work well because all the teachers are not equally well in attracting tutees, so that the skilled private tutors might go against such a proposal. One less plausible solution might be quest for an acceptable level of income inequality among the parents, which is mostly a socio-political issue. A practical solution is creating a social support mechanism for those unable to avail supplementary tutoring, especially for the first generation learners, rural girls and pupils of economically deficit households. Information provided in Table VII and Annexes VI and VII can be helpful identifying the vulnerable groups of students for such intervention. Side by side attempt should be taken to make the schools more responsive to the educational needs of all the students, so that out-of-school strategies do not require much to enhance in-school success.

This study mostly concentrated on demand side of the issue but supply side issues are also important in policy context. We did not look at the characteristics of the private tutors, types of service providers, and their operation mechanism. Educational qualifications of the tutors, their training demands, how they can be helped to provide better services, and how their services can be made pro-poor need to be explored. How can we reduce the burden of the students and make their time enjoyable also need attention.

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Annex I. Percentage of students having private supplementary tutoring by socioeconomic background and year

Socioeconomic background	Year		
	1998	2000	2005
Mothers education			
Nil	15.0	13.7	21.1
Primary	26.4	27.1	34.9
Post primary	43.9	40.4	48.9
Significance	p<0.001	p<0.001	p<0.001
Fathers education			
Nil	13.7	13.2	22.3
Primary	22.5	21.4	31.9
Secondary	32.4	32.9	43.4
Post secondary	45.8	43.2	47.4
Significance	p<0.001	p<0.001	p<0.001
Household food security status			
Always in deficit	12.0	11.2	17.4
Sometimes in deficit	18.1	16.2	26.3
Breakeven	28.0	23.0	33.6
Surplus	40.4	30.2	44.7
Significance	p<0.001	p<0.001	p<0.001

Annex II. Percentage of students having private supplementary tutoring by socioeconomic background and sex, 2005

Socioeconomic background	Boys	Girls	Difference	Significance
Mothers education				
Nil	23.2	19.1	4.1	p<0.001
Primary	37.8	31.9	5.9	p<0.001
Post primary	53.2	44.5	8.7	p<0.001
Fathers education				
Nil	24.0	20.8	3.2	p<0.001
Primary	36.0	27.7	8.3	p<0.001
Secondary	46.0	40.7	5.3	p<0.001
Post secondary	53.8	40.8	13.0	p<0.001
Household food security status				
Always in deficit	19.3	15.7	3.6	p<0.05
Sometimes in deficit	29.6	22.8	6.8	p<0.001
Breakeven	36.5	30.7	5.8	p<0.001
Surplus	47.1	42.1	5.0	p<0.01

Annex III. Percentage of students having private supplementary tutoring by class, learner category and sex, 2005

Class	First generation learners			Second or more generation learners		
	Boys	Girls	Significance	Boys	Girls	Significance
I	13.5	14.7	ns	29.6	24.1	p<0.001
II	22.0	18.7	ns	38.5	31.1	p<0.001
III	24.7	22.7	ns	43.8	35.8	p<0.001
IV	24.0	18.6	ns	47.8	41.7	p<0.01
V	33.4	20.1	p<0.001	47.7	40.3	p<0.01
All	21.7	18.5	p<0.01	40.2	33.3	p<0.001

Annex IV. Percentage of students having private supplementary tutoring by class, household food security status and sex, 2005

Class	Deficit			Breakeven and surplus		
	Boys	Girls	Significance	Boys	Girls	Significance
I	16.4	14.2	ns	29.8	26.9	ns
II	26.3	19.0	p<0.001	38.5	32.8	p<0.01
III	30.3	23.9	p<0.01	43.5	37.3	p<0.01
IV	31.3	24.9	p<0.05	46.2	41.8	ns
V	33.9	24.0	p<0.001	51.1	41.0	p<0.001
All	16.2	13.1	p<0.001	28.3	25.8	p<0.001

Annex V. Regression Analysis predicting incidence of private tutor (second model), 2005

Predicting variables	Regression coefficient	Odds ratio	95% CI of odds ratio
Area			
Rural	0	1.00	
Urban	0.88	2.40	2.17 – 2.65
Sex			
Girls	0	1.00	
Boys	0.28	1.33	1.24 – 1.43
Class			
I	0	1.00	
II	0.42	1.52	1.37 – 1.69
III	0.61	1.84	1.66 – 2.05
IV	0.72	2.06	1.84 – 2.31
V	0.79	2.20	1.97 – 2.45
Learner category			
First generation	0	1.00	
Second or more	0.64	1.90	1.76 – 2.06
HH food security status			
Deficit	0	1.00	
Better-off	0.56	1.75	1.63 – 1.89
Constant	-2.295		
-2 Log likelihood	18625.96		
Cox & Snell R^2	0.08		
Nagelkerke R^2	0.12		

Annex VI. Mean expenditure (in Taka) for private tutoring by various characteristics of the tutees, 2000

Characteristics of students	Boys	Girls	Both
First generation learners from rural deficit households	403	447	420
First generation learners from rural better-off households	439	423	432
Second or more generation learners from rural deficit households	600	430	529
Second or more generation learners from rural better-off households	800	663	735
First generation learners from urban deficit households	1327	770	1072
First generation learners from urban better-off households	1359	903	1135
Second or more generation learners from urban deficit households	1352	866	1135
Second or more generation learners from urban better-off households	1972	1943	1957

Annex VII. Mean number of competencies achieved by the tutees of various characteristics, 2000

Characteristics of students	Boys	Girls	Both
First generation learners from rural deficit households	15.6	13.5	14.4
First generation learners from rural better-off households	14.8	13.4	14.4
Second or more generation learners from rural deficit households	18.0	14.1	16.0
Second or more generation learners from rural better-off households	17.9	16.5	17.2
First generation learners from urban deficit households	18.2	17.9	18.0
First generation learners from urban better-off households	18.3	19.6	18.8
Second or more generation learners from urban deficit households	19.4	19.3	19.4
Second or more generation learners from urban better-off households	20.3	20.2	20.2