

Dissection and Dynamics of the Salary: The Case of Bangladeshi Private Tutors

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Abstract

The demand side of private supplementary tutoring has been and is being researched rigorously while the supply side of this globally spreading phenomenon is remaining unobserved comparatively. This paper attempts to unveil the factors lying behind the determination of wage or salary of the tutors agreed to be given by the households. A set of university students who provide private tuition were surveyed. The findings reveal that the type of institution of the tutees makes an immense influence on the salary of the tutors. If the tutees are students of such academic institutions where the medium of instruction is English, giving tuition to them in private, tutors are more likely to get a salary above the market average rate of that. Transportation cost is the other feature contributing to the increased likelihood of getting the above-average salary. Academic background of the tutors, devoted hours to tuition and the minimum level of expected salary have no vital control over manipulating the salary of the tutors. This paper, in another way, establishes the fact that affluent households spend more money on private tutoring than their counterparts.

Keywords: Private Supplementary Tutoring, Shadow Education, Salary, English Medium, Private Tutors

1. Introduction

Private supplementary tutoring can be defined as educational activities of students' under the supervision of a single teacher or a set of teachers from different disciplines at home or even in any coaching center after attending regular classes in respective institutions (Imtiaz, 2018). Private supplementary tutoring should be private in nature, should supplement the regular education and should be academic. Privatness of the PST excludes any kind of unpaid tutoring. The academic attribute of PST excludes domains like music, sports, and art. Supplementation refers to tutoring should be in subjects those are taught in regular schooling (Liu & Bray, 2016; Bray, 2009; Tan, 2009). This practice is also known as shadow education since it mimics the formal educational system (Bray, 2009). Many of the curriculums within the shadow imitate the curriculum in the colleges, and the shadow quarter grows because the college sector grows (Zhang & Bray, 2016).

Private tutoring is now a global phenomenon and can be seen in almost every part of the sphere including Asia, Europe, Africa, North America (Biswal 1999; Kwok 2001; Foondun 2002; Bray 2009; Bray and Lykins 2012; Hamid, Sussex & Khan, 2009; Silova 2010, Napporn & Baba Moussa, 2013; Pallegedara, 2012; Sen, 2010; Aurini & Davies, 2004; Jokić, 2013). It is commonly thought that as educational institutions are not fulfilling their duties properly, private tutoring acts as a surrogate mother (Sujatha, 2014). Parents assume private tutoring can drive up the probability of success of their children in the examinations and academic well-performers are more likely to get into good universities and well-remunerated jobs (Imtiaz, 2018). Students are pushed in the direction of shadow education by a feeling that formal schooling doesn't always assemble all their desires (Chan & Bray, 2014).

Prevalence of remunerated supplementary tutoring is historically evident in the low earnings nations like Bangladesh and Cambodia and even is raising in high-income countries in Europe after the crumble of socialism and creation of a market financial system (Nath, 2008; Silova & Bray, 2006). Private tutoring was primarily manifested in nations wherein *attempt* was particularly valued such as South Korea has been widely known for its *hagwons*, Japan for its counterpart *juku*, and Taiwan for its *buxiban* (Seth, 2002; Roesgaard, 2006; Liu, 2012). This could provide an explanation for why tutoring was particularly familiar in Asian countries which were inspired by the Confucian culture as compared to the Western countries in which greater emphasis is positioned on *capacity* (Sobhy, 2012; Bray & Kwo, 2013).

Tutors are forbidden in few countries to provide tutoring specifically to their present students (Bray & Kwo, 2014). Though in Bangladesh, such prohibitions are not in action. Teachers in Bangladesh justify their supplementary tutoring stating about the low salaries they get which fall short of the necessary earning they need to support their families (Nath, 2008; Hamid et al., 2009). If we eliminate registered coaching centers from the picture, incomes generated from private supplementary tutoring remain untaxed in most of the cases. When the tutors attempt to give tutoring privately and their earning is untaxed, they will be unwilling to expose their activities (Bray & Kwok, 2003). In several cases, senior school students or university students serve as private tutors (Bray and Lykins, 2012).

The market for private tutoring is utterly big in Bangladesh. About 37.9% of primary school students and 68.4% of secondary students in Bangladesh undergo private tutoring and the percentage jumps over eighty when

we count the tutees among students of class 10 (Nath, 2011). In Dhaka, students' participation in various kinds of tutoring might be influenced by the huge population and socioeconomic status of students' family. In this study, we particularly confine ourselves to the supply side of PST industry in Dhaka. More formally, this paper has narrowed its focus on the university students who act as private tutors.

University students, who are the tutors, enjoy financial independence which is one of the key factors influencing them toward giving tuition (Imtiaz, 2018). The salary the tutors get from the family of the tutees is basically an integrated indicator of various attributes of the tutors. This paper is the first of its kind in Bangladesh to slice up the body of the salary into pieces to understand the impact of every single flesh in organizing the salary structure of the tutors. Salary of the private tutors can rely on several factors. Among the factors, minimum expected salary can be a vital one. Expected salary is an indicator of how the tutors rate their educational quality and potential ability to teach. The higher the expected salary, the higher they rate themselves. Transportation cost and devoted hours to tuition can have the role in shaping the salary of the tutors. A high transportation cost and long devoted hours to tuition presumably shift up their salary. Parents usually look at the educational background of the tutors while hiring them. In this study, we tried to find a significant difference in the salary of tutors from Business Studies background with those of the tutors from other backgrounds. Pieces of evidence from significant studies which showed a correlation between family income and demand for private tutoring tell that more affluent families can afford high expenditure on amount and quality of tutors (Bray & Kwok, 2003; Kenayathulla, 2012; Bray et al., 2014). It is believed that most of the students of English Medium schools are from economically well-solvent families and therefore their parents spend much on private tutoring. This assumption is supported by Mousumi and Kusakabi (2017) who noted that there are no 'Low-fee English medium schools' in Bangladesh. Thus tutors, who give tuition to students from English Medium/English Version schools, can enjoy higher salaries than others. Thus the spotlight of this research is:

- To make inference on the average salary the tutors get and to find the direction of difference (positive or negative) between salaries of tutors from Business Studies background and tutors from other backgrounds i.e. science, humanities.
- Are the salaries of tutors who give tuition to students from Bengali Medium institutions are significantly higher than those of tutors giving tuition to students of English Medium/English Version institutions?
- Finding the impact, if any, of the minimum level of expected salary, transportation cost, and devoted hours to tuition in the salary structure of the tutors.

2. Literature Review

Being a universal phenomenon, the nature and mechanisms of private tutoring are not the same regardless of socio-economic and socio-cultural contexts (Wolf, 2002). Different kinds of tutors distribute their lessons in various ways (Bray, 2009). As the tutor having a good knowledge of the student's strengths and weaknesses, individual tutoring, in particular, can be tailored to the needs of the student (Ireson, 2004). It also signifies a major monetary investment by families to their children's education and in some countries, this is definitely a big business (Bray, 1999). Both in the developed and the developing countries, from east to west, private supplementary tutoring based on payment has spread all over the world, (Bray and Kwok 2003; Bray 1999; Foondun 2002). In the UK, private tutoring has been seen as a respectable job for students of university seeking financial support and for teachers who are wishing to supplement their income. (Ireson, 2004)

Factors back in shaping the demand for private tutoring can be extensively categorized into cultural, economic and academic subdivisions (Silova & Bray, 2006). Stevenson and his colleagues have argued persuasively that effort is mainly valued in Asian cultures which are influenced by the Confucian tradition, while in western cultures extra emphasis is placed on capacity (Stevenson & Lee, 1990; Stevenson & Stigler, 1992). In help of this role, they claim that when Asian moms and college students consider the causes of success and failure they put extra emphasis on attempt than capability (Stevenson & Stigler, 1992). Thus, cultural factor helps us understanding why tutoring is large in countries which deem attempt as a component explaining and determining success (Bray, 1999).

On the other hand, education systems vary across different countries. Kim (2005) staged econometric evidence from a Korean study showing that poorer school quality rouses demand for private tutoring extensively. In Turkey, entrance examinations of the competitive university have stimulated increased demand for private tuition (Tansel & Bircan 2004). In Canada, the shadow education system is steadily transforming to independent private learning centers, in response to market demand (Aurini & Davies 2004). 'In post-communistic regimes', the disparities between the necessary knowledge for entering the university and the content of mainstream schooling created demand for private classes (Putkiewicz, 2005). In many Asian countries, high financial and social returns to education make a contribution to the immense competition for university placement. In this case, personal tutoring is seemed to be the appropriate vehicle for getting ahead of others for the admission process (Safarzynska, 2013). Some studies give evidence that there is a possibility of receiving better grades among students taking private classes (Elbaum, Vaughan, Hughes & Moody, 2000; Mischo & Haag, 2002;

Tansel & Bircan, 2005); other studies show that tutoring and educational achievements have no statistically significant relationship between them (e.g. Han, Sung & Gill, 2001); while few others claim that attending preparatory courses may have a negative impact on school grades (Ban, Jung & Yang, 2005). Similarly, results concerning the effect of private tutoring on the college entrance are contradictory that is shown by some studies (Lee, Park & Lee, 2009).

It is not proved whether economic opportunities of low-performing students from middle-class backgrounds are improved by private tutoring, or it is rather an indication of socioeconomic advantages of students of the upper class, which reproduces inequalities in socio-economic condition further (Briggs, 2001; Lee et al., 2009). Private supplementary tutoring has the potential to both amalgam and disrupts the educational disparity associated with socio-economic advantage and disadvantage (Pearce, Power & Taylor, 2017). Sweetman (2002) emphasized the role of tutoring in extending the education gap between wealthy and poor families, which in turn can cause social exclusion of the latter. In particular, through the process of intergenerational transmission of economic, social, cultural resources and advantages schooling can contribute to the reproduction of class differences (Edgerton, Peters & Roberts, 2008). If more privileged households invest more in private education private tutoring can enhance this trend. There are different advantages those children from wealthy families enjoy, such as better learning equipment, private schooling etc and the influence of private tutoring on education inequalities may be small compared to these advantages (Dang & Rogers, 2008).

Parents consider their expenditures on private tutoring very pivotal and the total price they pay for children's PST for grade 11 and 12 falls in a range of two to eight months of household incomes (Bhorkar & Bray, 2018). In Bangladesh, a 1% increase in household expenditure is associated with a 0.58% increase in private tutoring which implies an uprising of household expenditure results in a gradual increment in private tutoring expenditure (Pallegedara & Mottaleb, 2018). If we look at the salaries of the tutors who are working as private tutors, these are results of bargaining between the tutors and guardians of the tutees. The parental sides of the tutees are seemed to have greater bargaining power since they have a lot of options in their menu book in the present Bangladeshi context. This is because the supply of private tutors in the pipeline is fluent whereas tutors need much effort to find a tuition matching their expected level though opportunity of tutoring is vast. Therefore, there is a slim margin between finding tuition and finding tuition of one's own level of expectation.

3. Method

3.1 Sampling, Instrumentation and Data Collection

Our target population was the university students who work as private tutors. Therefore we took a homogeneous purposive sampling approach for the study. We covered tutors from all educational background (i.e. Business Studies, Science, Humanities) giving tuitions to students from each type of institutions (i.e. Bengali Medium, English Medium, English Version). To maintain uniformity, we chose the sample such that tutors were giving single tuition at that time. A mixed questionnaire which contains both closed-ended and open-ended questions was availed as the survey instrument. We asked the tutors about their salary, transportation cost, devoted hours to tuition, lowest expected salary, their educational background, and types of the institution of their students. 147 tutors were supplied with the questionnaire through online and 141 responses could be collected. 11 responses were omitted due to incompleteness. Therefore the final sample size is of 130 tutors.

3.2 Measures

Data on the educational background of the tutors and educational institution type of tutees was collected at nominal scale and coded further. Educational Background had three categories such that Business Studies (coded '0'), Science (coded '1') and Humanities (coded '2'). The coded version of the educational background of the tutors was named "BackTTCoded" and was used in the analysis. Among Educational institution type of tutees, Bengali Medium was coded as '0'. Both the English Medium and English Version Institutions were coded as '1'. Likewise, the coded version of educational institution type of tutees was named "TypeSSCoded" and was used in the analysis. Data on salary was measured on monthly basis. We found the average salary of the tutors in our sample size is 5034.615 Taka. Therefore, we took 5000 Taka as the threshold level of salary and salary above 5000 Taka monthly was coded as '1' and salary equals or below 5000 Taka monthly was coded as '0'. We generate a variable "SalaryType" to save the coded edition of salary. Data on transportation cost, devoted hours to tuition per schedule and lowest expected salary was acquired via open-ended questions to get the accurate value of those variables rather than getting some range of values and used respectively as "TCost", "Hours" and "ExpSalary" in the model.

3.3 Model

In our model, we took "SalaryType" as dependent variable depending on "BackTTCoded", "TypeSSCoded", "TCost", "Hours" and "ExpSalary". Since the dependent variable is a binary categorical variable, the residuals won't be normally distributed. Therefore a logistic regression could be a good choice for investigating the

relationship between the regressors and regressand assuming the probability distribution of the error term follows the logistic probability distribution (Gujarati, 2014).

Let the probability of getting a salary higher than 5000 (SalaryType=1) is P_i and probability of getting a salary equal to or below 5000 (SalaryType=0) is $(1-P_i)$.

We can write:
$$P_i = 1/(1+e^{-Z_i}) \quad (1)$$

and

$$(1-P_i) = 1/(1+e^{Z_i}); \quad (2)$$

where $Z_i = B_0 + B_1(TCost) + B_2(Hours) + B_3(ExpSalary) + B_4(BackTTCoded) + B_5(TypeSSCoded)$.

The probability that a tutor is getting a salary higher than 5000 against the probability that a tutor is getting a salary equal to or lower than 5000 is:

$$P_i/(1-P_i) = e^{Z_i}. \quad (3)$$

We call $P_i/(1-P_i)$ the odds ratio. Taking the natural log on both sides of the equation (3) we get:

$$\ln [P_i/(1-P_i)] = Z_i = B_0 + B_1(TCost) + B_2(Hours) + B_3(ExpSalary) + B_4(BackTTCoded) + B_5(TypeSSCoded) + u_i. \quad (5)$$

Here, the log of the odds ratio is a linear function of the regressors and their coefficients. In this paper, we will use odds ratio to measure the change in the probability of getting a salary higher than 5000 due to any change in the predictor variables.

We used *linktest* command in stata to examine whether we missed out on any strong predictor or not.

4. Results

4.1 Descriptive Statistics

Frequency distribution of the academic background of the tutors and institution type of the tutees are shown in Table 1.

Table 1. Descriptive statistics

Description		Frequency	Percentage
Background of the tutor	Business Studies	73	56.15%
	Humanities	23	17.69%
	Science	34	26.15%
Institution type of the tutees	Bengali Medium	103	79.23%
	English Medium	17	13.8%
	English Version	10	7.69%

Tutors are mostly from Business Studies discipline (56.15% of the sample size). Tutors from Science discipline account for 26.15% of the sample size and tutors from Humanities discipline are the least in the category (17.69%).

The surveyed tutors, typically, give tuition to the Bengali Medium students (79.23%). Only 20.77% of the tutors teach such students who are enrolled in either English Medium or English Version academic institutions.

Table 2. Summary Statistics

Variable	Obs	Mean	Standard deviation
Salary	130	5034.615	2461.477
Hours	130	2.5231	1.182
TCost	130	602.3077	662.895
ExpSalary	130	3615.385	959.526

Table 2 exhibits summary statistics of tutors' salary, transportation cost, devoted hours to tuition and expected lowest salary. Tutors get salary of 5034.615 taka on an average with a standard deviation of 2461.477. Tutors, in general, devote approximately 2.5 hours to tuition with a standard error of 1.18. They bear a mean travel cost of 602.31 taka per month where standard deviation is much higher than mean value with a value of 662.89. One reason behind this less mean and this much standard deviation could be that a large portion of tutors' working place is near the places where they abide in so that they can go their without help of any transport. Commonly expected lowest salary is around 3600 taka with a standard deviation of in the region of 960.

4.2 Logistic Regression

Results from the binary logistic regression are demonstrated in Table 3.

Table 3. Results from Logistic Regression

Logistic Regression		Number of obs = 130		
Log likelihood = -171.338442		LR chi2(6)	= 41.31	
		Prob > chi2	= 0.0000	
		Pseudo R2	= 0.2804	
Salary Type	Odds Ratio	z	P > z	95% CI
Hours	0.978	-0.11	0.915	0.66-1.45
TCost	1.002	4.22	0.000	1.001-1.002
ExpSalary	0.999	-0.21	0.832	0.99-1.00
BackTTCoded (Ref: BusinessStudies)				
Science	1.485	0.71	0.479	0.49-4.45
Humanities	0.754	-0.38	0.705	0.17-3.25
TypeSSCoded (Ref: Bengali Medium)				
English Medium/ English Version	4.753	2.79	0.005	1.59-14.19
Constatnt	0.069	-2.15	0.031	0.01-0.79

We observe that only travel cost and institution type of the tutees have statistically significant impact on the odds of getting a salary above average. If the institution type of the tutee is anything other than Bengali Medium, which implies either English Medium or English Version, the odds in favor of getting a salary above 5000 Taka (which is consistent with the average salary level of 5034.615 Taka) is 4.75 times larger than the odds for getting a salary equal to or below 5000 taka (OR 4.75, [95% CI 1.59 - 14.19]) holding all other variables constant ($p = 0.005$). In response to an increasing travel cost, though statistically significant at 5% confidence level ($p = 0.00$), the odds in favor of getting above average salary is vaguely upper than that of getting equal to or below average level of salary (OR 1.002, [95% CI 1.001 – 1.002]). All other predictors failed to bring any statistically significant difference to the salary structure of the tutors ($p > 0.05$).

Table 4: Result from Linktest

Salary Type	Coefficient	z	P> z
hat	1.104	3.74	0.00
hatsq	0.073	0.54	0.59
Constant	-0.081	-0.23	0.81

We applied *linktest* to the model and with a significant *hat* value ($p = 0.00$) and an insignificant *hatsq* value ($p = 0.591$) pointed toward a less probability of any inclusion weak predictor as per the method demonstrated by the Institute for Digital Research and Education [Table 4].

5. Discussion

Guardians spend on private tutoring having various intentions in mind such as increasing competitiveness of their children in order to enter good public schools, colleges and universities; making children more compatible in the job-matching process (Pallegedara & Mottaleb, 2018). Private tutoring is a result of increasing marketization of education which exploits parental apprehension around childhood (Ball and Youdell, 2008). A number of leading problems due to private tutoring has been identified such as additional burden on students put by the tutors focusing on the development of examination-oriented skills, reduction in impetus to upgrade public education due to a diverted motivation for enhancement of quality, outweighing formal education in favor of private tutoring after class 10. Private tutoring surpasses its supplementary nature when the role of private tutoring exceeds the role of mainstream schooling and then it supplants mainstream education (Bhorkar & Bray, 2018).

Being a universal phenomenon, the nature and mechanisms of private tutoring are not the same regardless of socio-economic and socio-cultural contexts (Wolf, 2002). But around the world, shadow education is found to be an issue contributing to educational inequality (Bray, 2011; Paviot, 2015; Connelly, Sullivan & Jerrim, 2014). Household income, as assumed, has again and again been found to have a positive influence on shaping the demand for private tutoring (Ho & Kwong, 2008; Chu, 2009; Bray et al., 2014). This finding has kept its validation even in recent days as Pallegedara and Mottaleb (2018) found Students from affluent families are more likely to pay out more on private tutoring than students from low-income families in Bangladesh. It clearly

indicates the advantage of private tutoring is not distributed equally in Bangladesh because tutors of prime quality are being appointed by prosperous families and poorer households cannot hire tutors of such quality due to high salary demand from the side of the tutors.

Parents who have children studying in English medium or English version schools are seen to be paying above average salary to the tutors compared to their counterparts who have children studying in Bengali medium schools. English medium schools offer such form of education which is only seen by the socio-economic elites to provide their children a competitive edge (Mousumi & Kusakabe, 2017). The curriculum of the English medium schools is different and upgraded from the Bengali medium schools. Therefore, tutors in this sector need to be academically more sound and efficient in teaching the subjects offered in the school or college and can bargain strongly with the employer households to trigger a good deal in their favor. And as of pure economics, the higher the transportation cost, the higher should be the salary.

Hours devoted to private tutoring can be viewed as the opportunity cost of giving tuition to the tutors. These hours could be allocated to study, skill development, entertainment and even to socializing in digital platforms that could yield them utility. More hours devoted to tutoring by tutors should bring them the high salary. But this is not the case as we have seen in our study. Academic background of the tutors has no significant impact on their salary although the general supposition is tutors from science background should be paid more. In Bangladesh, usually students having good results in mathematics and general science take science discipline in secondary level. High achieving students, if decide to take private tutoring, spend more on tutoring than their counterparts (Liu & Bray, 2016). Thus we expected that tutors from science background should have earned more from teaching students from science background privately albeit that was not the case. Taking tutors from business studies discipline as the reference category, tutors from humanities and science discipline do not earn significantly more than the tutors from business studies discipline. Tutors minimum level of expected salary also doesn't have any distinguishable impact on getting above average salary.

6. Conclusion

This study re-establishes the fact that wealthy guardians spend more on private supplementary tutoring in line with other studies focusing household expenditures on private tutoring cited above. But we analyzed this fact from the somewhat different angle by investigating the salary structure of the tutors rather than examining demand side of private tutoring. The likelihood of getting above average salary is measured in terms of devoted hours to tuition, transportation cost, expected minimum salary, tutors academic background and type of tutees academic institution. The payments those the tutors get are taken as the reflector of household expenditure on tutoring. Elites from higher income bracket whose children read in English medium or English version institutions give the tutors above average salary. A high transportation cost is associated with a high remuneration received by the tutors while the academic background of the tutor, their expected minimum salary level and devoted hours to tuition have nothing important to add on the salary they actually get. Most of the participants were from business studies background and pivoted results might be derived if equal ration of tutors from three different disciplines could be maintained. However, this study inspects the salary structures of university students solely who work as the private tutor and doesn't include engineering and medical students who work as tutors. Further research can be directed toward inclusion of those tutors as participants.

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