Rationality in Public Sector Salary Scales: The Case of Rural Teachers in Pakistan

Shahrukh Rafi Khan

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Mailing Address: PO Box 2342, Islamabad, Pakistan.
Telephone ++ (92-51) 2278134, 2278136, 2277146, 2270674-76
Fax ++(92-51) 2278135, URL:www.sdpi.org

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Rationality in Public Sector Salary Scales: The Case of Rural Teachers in Pakistan

Shahrukh Rafi Khan[1]

Abstract

Public sector salaries, including those that apply to rural teachers in Pakistan, are rigidly determined by educational qualifications and experience. If it can be determined that educational qualifications and experience enhance teacher cognitive skills, which in turn enhance student cognitive skills, one can infer that there is some rationality to such a salary structure and that teacher incentives are compatable with teacher effectiveness. We found that some rationality does indeed exist in public sector salary scales and that the the same practice is replicated in the NGO and private sectors. However, in view of the weak links in the performance and reward structure, we recommend a more decentralized approach.

1. Introduction

Public sector salary scales in Pakistan are explicitly based on fixed rules such as linking salaries to educational qualifications and experience.[2] This applies also to the remuneration of rural school teachers. Efficiency would require that salaries be tied to productivity. Of course, there may be a hidden or overt rationality in fixed rules i.e. such fixed rules may actually reward productivity and hence be efficient and hence "rational". The purpose of this paper is to empirically identify the presence or absence of rationality in public sector salary scales. We use the case of rural teachers in Pakistan to illustrate the method.

The fixed salary rule for teacher's salaries is implicitly justified by human capital theory.[3] The fixed salary rule views educational qualifications and experience, the two central human capital variables, as enhancing productivity which in turn is expected to be rewarded by a higher salary.[4] The relevant questions are therefore the following: What represents teacher productivity or effectiveness? Does the teacher incentive structure reward teacher effectiveness?[5]

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1 The author is Executive Director, Sustainable Development Policy Institute, Islamabad. This research builds on earlier work done with Jere Behrman, David Ross and Richard Sabot as part of the USAID/IFPRI Human Capital Accumulation in Post Green Revolution Pakistan, Project and, as such, their contribution is greatfully acknowledged. Comments from Lubna Chaudhry and The Asia Foundation, for enabling follow-up research, is also greatfully acknowledged.

2 For example, the draft chapter on educatrion written for the Ninth Five Year Plan (nd., p. 22) states that "Pay scales of teachers will be linked with their qualifications," and public sector salary scales link salary increments to experience.

3 Knight and Sabot (1990, chp. 13) model public sector wage determination. See Schultz (1988) for a comprehensive review article on human capital theory.

4 Salary scales within broad categories can be calibrated to respond to merit or distinction given reasonable monitoring and enforcement costs.

5 The draft chapter on education and training for the *Ninth Five Year Plan* , Government of Pakistan (nd., p. 22) also proposes the use of moral incentives such as awards and medals.

We define teacher effectiveness in terms of the impact of teacher's skills on student cognitive skills. The advantage of this definition is that it is specific and quantifiable. Our data sets (described later) are rich enough to allow us to investigate these issues. These data sets have been used by Behrman et. al. (1997) to establish that teacher cognitive skills are significantly and positively associated with student cognitive skills. In this paper we therefore concentrate on the second issue of exploring if there is a link between teacher effectiveness and teacher incentives. We also use a second and more recent data set to investigate if rural teacher salaries in the private and NGO sectors follow similar practice to the government sector to get another perspective on this "rationality hypothesis."

Ballou and Podgursky (1992) looked at the structure of pay in private schools and the lessons these provided for public schools in the US. However, they estimated wage functions but did not have access to data that would enable them to estimate the impact of different variables, including qualifications and experience, on cognitive skills. In this regard, we have carried this investigation further by first identifying the variables that impact cognitive skills and, following that, to investigate what impact these variables have on salaries.

The conceptual framework is spelled out in section 2, the data sets are discussed in section 3, findings are reported in section 4 and we end with a summary.

2. Conceptual framework

Our conceptual framework is premised on the existence of a set of associations as identified by the teacher cognitive skills production function and teacher wage functions. Equation 1 below is a cognitive skills production function and the purpose of estimating it is to see if teacher education and experience enhance teacher cognitive skills. Equation 2 represents a teacher wage equation and the purpose of estimating it is to see how closely tied the salary structure is to education and experience.

1 CS = CS(G,R,PSA,ED,EX,P,TT),
2 W = E(G,R,PSA,CS,ED,EX,P,TT,TP),

where,

CS is cognitive skills;
W is wages;
G is gender;
R is region;
PSA is pre-school ability;
ED is educational qualifications;
EX is experience;
P is grade or performance at the last level of schooling attained;
TT includes pre-service and in-service teacher training;
TP is teacher position;

Equation 1 represents a cognitive skills production function.[6] The production of base cognitive skills is embedded on the right hand side and proxied by educational attainment (ED) and performance in the highest level of schooling attained (P). Other inputs such as teacher training and experience can be viewed to add to the base teacher cognitive skills.

6 A general review of the literature and discussion of issues pertaining to the educational production functions are contained in Psacharopoulos and Woodhall (1986) and Hanushek (1986) and (1995).

3. Data and variables

Starting in 1986, International Food Policy Research Institute (IFPRI), under the auspices of the Pakistan Ministry of Food and Agriculture, administered a multi-purpose survey to a panel of 800 plus rural households containing over 7,000 individuals drawn from three poor districts and one relatively prosperous one. The districts of Attock, Badin and Dir were selected on the basis of production and infrastructure indices. Faisalabad as the relatively prosperous district was selected for contrast. Human capital modules were administered in the spring of 1989, the tenth round of the survey. Within districts, village clusters and households were chosen using a stratified random sample. There were 102 schools in the sample of schools, and the school data set was based on linking household members to proximate schools. Once schools were identified, a separate data set was generated for 579 primary and middle school teachers. Our total sample of teachers was 611 because we also had teachers in the household sub-sample of 2,800. The teacher data set is the primary focus of attention for this study.

The variables that are unique to this data set merit some elaboration. Our measure of cognitive skills (CS) was generated by administering (in the regional language) to every person in our sample more than 10 years old (including teachers), and with at least four years of schooling, tests of literacy and numeracy specially designed by the Educational Testing Service, Princeton.

To obtain a measure of pre-school ability (PSA), we administered Raven's (1956) Colored Progressive Matrices (CPM), a test of reasoning ability that involves matching patterns, to everybody in the sample 10 years of age or older.[7] The test is designed so that formal schooling does not influence performance, though performance may reflect early childhood environment as well as innate capacity. The disaggregate distributions for Dir, Attock, Faisalabad and Badin are very similar. Since educational attainment differs substantially across regions, this similarity is consistent with the presumption that educational attainment does not influence performance on the Raven's CPM test.[8] While our data are not current, given the slow pace of reform, we view even the specific findings as still relevant. We also consider the findings relevant in the much broader education sector and development context.

The second data set was primarily designed for a comparative institutional analysis of government, NGO and private sector schools in rural Pakistan. We administered a sample survey that required extensive fieldwork carried out in the four provinces and a federally administered territory of Pakistan (Punjab, Sindh, Balochistan, the NWFP and the Northern Areas) between September and December 1998. The sampling design was to randomly select NGO schools from available sampling frames, since they are the smallest in number, and to then pick the closest private and NGO school. To ensure that we were comparing the same level of schooling across NGO, private and government schools, many of the listed NGO schools were excluded since they ran informal schools while the government and private sector schools are mostly formal. In all, 43 NGO schools were included in the sample and we visited 43 each of the closest government and private schools.[9]

The fieldwork involved a total of ten questionnaires which included questionnaires soliciting information from students, teachers, households and communities. We also administered tests to assess

7 Since the tests were administered to people 10 years and older, it might be more accurate to view these tests as measuring ability that is independent of schooling. Since such phraseology is cumbersome, we continue to refer to these test results as measuring pre-school ability. See Khan (1993) for a critique of the Raven's score indicator.

8 Both the tests measuring cognitive skills and pre-school ability have been used successfully in research on human capital accumulation and labor markets in East and West Africa (see Knight and Sabot 1990 and Glewwe 1990). For more details on the specific use of these tests in rural Pakistan see Alderman, Behrman, Ross and Sabot (1991).

9 The details of the sampling and fieldwork are available on request.

class V students for cognitive skills in mathematics and comprehension and also administered tests to ascertain math and comprehension cognitive skills of the class teacher of class V.

4. Estimation and analysis

There are two components to the estimation and analysis of rationality in rural teacher salary structure. First, we analyze whether public sector teacher salaries are consistent with teacher effectiveness. Second, we see if similar practices prevail in the private and NGO sectors.

A. Rationality in rural teacher salary structure

1. Teacher cognitive skills production function

The question to be explored in this sub-section is whether education and experience, among other variables, enhance teachers' productivity? We found significant selectivity in the production of cognitive skills, and so the math and comprehension production functions reported are corrected for sample selection.[10] We accepted the null of equality of variances by gender (which ruled out a Chow test) and started with a full set of interaction terms. A high goodness of fit in the first step probit estimation is important for the second step. The likelihood ratio test statistic for the null, that the slope coefficients are zero, is 219.8 and is rejected at an extremely low level of significance. The supply equation correctly predicts the probability of becoming a teacher 92 percent of the time.

Table 1: Teacher cognitive skills production function adjusting for sample selection.

Variables	Math		Comprehension	
	Coefficient	T-Stat.	Coefficient	T-Stat
Constant	10.3900*	3.77	16.0430*	7.00
Attock	0.3141	0.18	0.8114	0.67
Faisalabad	1.5998	1.03	2.7174**	2.12
Dir	-3.9171*	-3.58	-5.5994*	-5.86
Pre-school ability	0.1775**	2.21	0.1117***	1.69
Gender	-7.1691*	-5.63	-10.9810*	3.91
Intermediate	3.2729*	3.45	2.1124*	2.46
Bachelors'	2.9199*	3.04	1.7197**	1.97
Masters'	3.6637*	2.93	2.1594***	1.89
First	1.5927	1.16	0.1109	0.93
Second	2.6324*	2.71	2.4600*	2.80
Experience	0.0521	1.20	-0.0416	-1.08
Teacher cert.	6.0941*	5.32	0.3806	0.35
In-service trn.	-0.8138	-0.96	2.1051*	2.48
Gender*Attock	-5.0262**	-1.96		
Gender *cert.			9.2776*	3.08
Gender *in-service trn			-4.0960**	-2.23
Lambda	-12.259*	-4.20	-6.9430*	-3.44

10 A statistical bias that one needs to adjust for in such estimation is referred to as a "sample selection bias" in the literature. If we simply concentrate on the teacher data set for the estimation, we would not be taking into account the fact that the response of teachers is conditioned by their opting for the teaching profession in the first place. To deal with this potential bias, the two step Heckman (1976) procedure is used. A data set was constructed by using gender, region, raven and cognitive skills test scores as controls to merge wage workers from the household data set with the teacher data set. The first step was to estimate a teacher supply equation by using a probit (i.e estimating the probability of a becoming a teacher), which is reported as Appendix Table I. This step is used to estimate the Inverse Mill's Ratio (lambda), which removes the bias in the second step by ensuring a normal distribution of residuals for the teacher cognitive skills and wage functions.

Variables	Math		Comprehension	
	Coefficient	T-Stat.	Coefficient	T-Stat
R bar sq.	.40		.20	
F[14,564]/[16,562]	21.30*		8.09*	
N	457		457	
Math/comp. (mean/sd)	21.63	8.71	20.40	7.61

Notes:

1. The base categories are Badin (for region), male, matric and below for education (only 3.5% of the teachers had only a primary or middle degree), third division or pass (for performance), non-unionized, no teacher certificate and no in-service training.
2. Using the Breusch-Pagan test, we rejected the null of homoskadasticity and the coefficients reported have been corrected for hetroskedasticity.
3. *, **, *** represent significance at least at the 1%, 5% and 10% levels respectively.

As might be expected, pre-school ability is positively and significantly associated with the production of both math and comprehension cognitive skills. All reported levels of education contribute significantly to math skills and comprehension skills. This provides some support for basing the salary structure on educational qualifications. Experience does not appear to matter in either case. We do not reject the hypotheses that certification as a teacher contributes to math skills while in-service training contributes to comprehension skills. Thus while there is likely to be much scope for improvement, the current pre-service teacher training programs in Pakistan do not appear to be completely ineffective as is often believed to be the case.[11]

The national board exams, which come under the jurisdiction of various universities, are externally graded by individuals who are selected by the boards. Candidates can generally earn a first, second, or third division or a pass if they are successful. The division achieved is widely used in public and private sector hiring decisions both as a formal screening criteria in job advertisements and as a selection criteria for otherwise equally qualified candidates. We find that a second division, but not a first division, is a significant predictor of teacher math and comprehension scores relative to a third division or pass for both genders. Thus the cautious use of performance as relevant hiring information is justified.

B. The teacher wage functions

We did not find lambda to be statistically significant in either the male or female wage function, estimated as a bivariate probit with sample selection, which suggests that selection bias was not important. As in the case of the educational production functions, gender dummies are used with interaction terms to identify significant differences. While rural public sector school education in Pakistan comes under provincial jurisdiction, the service provided varies little across province. However, regional dummies are used to control for fixed effects in the wage equations reported in Table 2 below.

Table 2: Rural teacher and other rural worker wage functions (dependent variable is log of wages)

Variable	Teachers	Wage workers		
	Coefficient	T-Stat	Coefficient	T-Stat
Constant	6.8350*	77.54	6.3530*	70.93
Attock	0.0377	1.39	0.0539	1.45
Faisalabad	0.0063	0.17	0.0024	0.06
Dir	0.1048*	3.65	0.0698**	2.16
Pre-school ability	0.0005	0.31	0.0016	0.63
Gender	0.0526	-0.94	0.1417*	2.79

11 A teacher's certificate contributes 6.1 points to math skills, which is about 28 percent of mean math scores, and in-service training contributes 2.1 points to read skills, which is about 10 percent of mean read scores.

Intermediate	0.0573*	3.20	0.0985*	3.55
Bachelors'	0.1745*	5.28	0.2111*	6.29
Masters'	0.3014*	7.11	0.3082*	6.08
Math	0.0045*	2.58	0.0043***	1.88
Read	-0.0018	-1.18	0.0028	1.23
First	-0.0400	-1.30		
Second	-0.0266	-1.15		
Experience	0.0350*	10.29	0.0398*	
Expsq	-0.0003*	-3.35	-0.0004*	
Head teacher	0.1604*	3.96		
Teacher cert.	0.0915*	2.73		
In-service trn.	-0.0827*	-3.80		
Teacher union	-0.1410**	-2.40		
Gender*Bachelors'	0.1328**	2.11		
Teacher			0.2131*	3.72
R bar sq.	.67		.58	
F[19,437]/[13,579]	50.05*		48.21*	
N	457		593	
Wage (Mean/sd)	1579.2 /	672.5	1530.8/	1019.9

Notes: As in Table 2.

A high proportion of the total wage variance is explained by the earnings functions [R^2 (.67)]. Despite rigidities in the salary structure, there are important insights that emerge from estimating the wage equations. Central to this paper is exploring the direct and indirect reward for teacher productivity. The direct reward would be higher earnings based on higher cognitive skills. The indirect reward would be a higher earnings associated with teacher characteristics that produce higher cognitive skills. We established in Table 1 that teacher education and teacher certification were positively associated with teacher cognitive skills. Thus, rationality in the incentive structure would require that higher earnings be associated with these characteristics.

The earning function estimated in Table 2 allows us to explore these direct and indirect associations of teacher productivity and earnings. Math, but not comprehension, skills are positively associated with earnings, but the size of the coefficient is very small. Therefore exploring the indirect reward to teacher productivity assumes greater importance. The "pure" human capital variables -- i.e. education and experience -- do in a broad sense have a positive impact on earnings. However, some qualifications are in order.

First, those with an intermediate, bachelors' and masters' degree earn more than those who possessed only a matric degree. Since these higher degrees contribute to higher cognitive skills, there is justification for the higher wages. However, we did not find a progressively higher contribution to cognitive skills with educational qualification and so inferring higher teacher productivity with a higher degree is not possible. Second, while we did not find that experience contributed to cognitive skills, experience is rewarded in the form of a higher salary. Third, we found that performance on the last degree had an impact on cognitive skills but has no association with teacher salary.

The other important human capital variable is teacher training. Attaining teachers' certification is positively and significantly associated with wages while the reverse is the case for in-service training. Table 1 showed that teacher certification significantly contributed to producing higher math skills while in-service training contributed to producing higher comprehension skills. The negative association of in-service training with earnings results because individuals needing in-service training are probably on a slower track or holding ad hoc positions. Our analysis provides support for this conjecture. When in-service training is substituted by

temporary teachers (temp) and the interaction of temp and in-service training, the coefficient of the latter is negative and highly significant.

After each of the three initial education levels, there are options to move to vocational tracks.[12] The primary teacher certificate (PTC) is a nine month vocational option after matriculation. After the intermediate level, students can opt either for the professional or technical streams, which once again include pre-service teacher training. Those wanting to teach middle school are required to earn a teachers' certificate (CT), which again entails nine months of training.

Most descriptive accounts suggest that teacher training in Pakistan is not cost effective. The quality of pre-service teacher instruction is described as poor by both government [*Seventh Five Year Plan*, (pp. 359-60), National Education Policy, 1998-2000 (1998, pp. 47-48] and non-government sources [Warick et. al. (1991) and The World Bank, (1988, p. 26)]. In service training appears to be taken lightly and government sources describe these courses as being attended "in a holiday mood" and of poor quality.[13]

Within the set salary structure there is in reality a dual track. On the fast track, a teacher with the right educational and teaching qualifications starts with a regular appointment (tenured). Those who do not fully qualify can be given "ad hoc" positions if there is a shortage of teachers, which has been the case in rural areas. Ad hoc positions can be regularized on the recommendation of the head teacher and the district educational officer (DEO) in the annual review of teachers. One condition for a positive recommendation for regularization is having successfully met the required qualifications while in service. Since teachers can stay ad hoc for a long time, significant salary differences could in principle emerge, particularly when a teacher reaches the upper end of a salary scale.[14] Other things equal, we did not find that temporary teachers earned less than permanent teachers, but only five percentage of teachers in our sample were temporary or ad hoc.
One last point relates to the higher salary of the head teacher. We used a probit model (not reported) to investigate the determinants of promotion. The most striking finding is that math skills are inversely associated with promotion while the reverse was true for comprehension skills. Not surprisingly, experience is a highly significant predictor of promotion even though we did not find it positively associated with cognitive skills.

Other rural wage workers wage functions are also reported, since these occupations could be representing the opportunity cost for the teachers. In this regard, the fact that the coefficients for education and experience are very similar to those of teachers again suggests rationality in the public sector teacher salary scales.

Table 3 below reports wage functions for NGO and private schools for the more recent data set.[15]

Table 3: NGO and private sector wage functions

12 Like most educational structures, formal education in Pakistan is composed of the primary, secondary and post-secondary or higher levels. However, the sub-levels at the secondary and higher levels make the educational structure unusual. Five years of secondary education follow five years in primary school. After three years in secondary school, middle school is completed, and after two more years, the successful completion of national board exams earns the candidate a matric degree. For formal education, there are three additional national board examinations each after two years. After the first two years the candidates appear for the intermediate examination (also referred to as F.A./F.Sc. or higher secondary), for the bachelor's examination after two more years and for the master's examination after an additional two years.

13 Government of Pakistan, Planning Commission, (1987a, p. 62) and (nd., p.22).

14 The Federal and Provincial governments approved a "move-over" plan which allows the continuation of annual increments beyond the ceiling for a particular grade even without a formal promotion to the next grade.

15 The government schools wage equation did not prove to be be sifnificant and hence is not reported. Also, these equations are not exactly comparable with Table 2 since data on all the variables were not available.

	NGO	Private
Constant	7.6511* (11.51)	5.6011* (16.27)
Intermediate	0.1026 (0.28)	0.7875* (5.11)
Bachelors'	0.9123** (2.49)	1.2286* (5.26)
Masters	0.3886 (1.29)	1.1637* (4.53)
Certificate of teaching (CT)	- 0.1844 (0.96)	- 0.6046* (3.21)
Higher teaching certificates	0.3456 (1.61)	0.9600 (1.54)
In-service training	0.0923 (0.47)	0.0901 (0.38)
Experience	0.0519** (2.55)	0.0327* (13.25)
Math	0.0432 (0.94)	0.0087 (0.33)
Read	- 0.0463*** (1.70)	0.0184 (1.13)
R bar sq	.25	.60
F [9, 33]	2.54**	8.02*
N	43	43

Notes:

1 The base categories are matric (class X) for teacher qualifications, and primary teacher certificate for teacher training certification.

2. *, **, ***, represent significance at least at the 1%, 5% and 10% levels respectively. Experience squared was insignificant in both cases.

Table 3 above indicates a similar pattern to Table 2. Teachers qualifications and experience are the main significant predictors accounting for higher earnings. The private sector wage function has better explanatory power and it shows average expected earnings of teachers with an intermediate, bachelors and masters degree of 79 percent, 122 percent and 116 percent more respectively than matriculate teachers. Experience counts, and again as evident from Table 2, one year additional experience adds about 3 percent to the mean expected salary. Since the NGO and private sectors are not bound by government rules and are free to innovate, they are either bound by tradition or the tried and tested formula of basing salaries on qualifications and experience works. In both NGO and private schools, mathematic and comprehension skills do not directly translate into higher earnings.

5. Summary

The object of this paper was to explore the existence of some "rationality" in the public sector salary structure for rural teachers. The salary structure is stated to be tied to teacher educational qualifications and experience, and we were able to empirically confirm this tie. Such a salary structure could be justified on efficiency grounds if indeed it could be demonstrated that educational qualifications and experience are positively associated with teacher effectiveness.

We define teacher effectiveness as teacher cognitive skills in math and comprehension, which were identified by a specially administered test designed by the Educational Testing Service, Princeton. The justification of viewing these skills as a measure of teacher effectiveness is the positive and significant association of teacher cognitive skills and student cognitive skills on the same test.

We found that higher educational qualifications are positively associated with teacher effectiveness and we find that the same pattern prevails in NGO and private schools in rural Pakistan. We investigated pre-service and in-service teacher training as possible control variables to enhance teacher cognitive skills and, contrary to what is widely believed, find pre-service and in-service training do enhance teacher cognitive skills.

Thus there appears to be an overall rationality in the rural teacher incentive structure. However, the rigidity of the system becomes evident from closer examination. First, while experience is rewarded with higher wages and promotion, we found no association of experience with teacher cognitive skills. Second, wages progressively increase the higher the degree earned while we found no such linear association of the level of the degree and teacher cognitive skills. Third, performance in the last degree is associated with higher teacher cognitive skills but not with higher earnings. These findings suggest that rigid public sector salary rules have limitations and are unable to adequately reward what produces the best results. There are no simple solutions. However, interestingly, the military in Pakistan routinely tests officers to decide about promotion and the less able are passed over or weeded out. Moving to a test based system for confirming teachers from temporary to permanent and for promoting them from junior to senior teachers would be a step towards ensuring good teaching, although currently the capacity to do this does not exist.

Various proposals to reform teacher training in Pakistan have been made.[16] We would endorse these and also suggest that building in a positive incentive in the salary structure to encourage teachers to enhance their skills. Such incentives might induce greater effort and productivity among existing teachers.

To sum up, we assume that rationality (i.e. linking reward to contribution) in teaching is desirable because it leads to a better teaching outcome. We also show that existing teacher salary structures can lay some claim to being rational. However, we also showed that there are too many rigidities in this salary structure, tied to qualifications and experience, to be able to claim that it is the best approach. Personal experience and observation indicates that teaching is a gift and not necessarily found among those with higher qualifications. This gift could be honed and polished with good training. However, if we want to encourage those who have such a gift to become and stay on as teachers, the government would need to experiment with a much more decentralized reward system rather than rely on rigid rules. In this regard, a better outcome may be possible by tapping in to the special knowledge of communities and parents regarding teacher performance via empowered school management committees. In view of the current attempt at devolution of power to the grassroots level, this suggestion is much more paractical than it would otherwise have been.

The focus of this paper has been on the economic rationality of the public sector salary structure for teachers in rural Pakistan. However, we believe that our conceptual framework, tailored to specific institutional context, would carry over well to an analysis of other sectors, LDCs and indeed industrialized countries.

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Appendix

Table I: Teacher supply equation for selectivity control estimated as a probit with binary teacher or otherwise as the binary dependent variable.

Variables	Coefficient	T-Stat	Significance
Constant	-0.9030	-1.41	0.14
Attock	-0.6269	-2.25	0.02
Faisalabad	-1.3632	-4.30	0.00
Dir	0.0703	0.25	0.80
Pre-school ability	0.0661	3.69	0.00
Gender	2.3962	5.57	0.00
Household head	0.1102	0.52	0.60
Distance To Work	0.0298	0.57	0.57
Born in village	-1.7334	-6.08	0.00
Math	0.0715	4.12	0.00
Comprehension	-0.0118	-0.74	0.46
Wage	0.0002	1.18	0.24
Log-liklihood	-100.95		
Chi-squared (11)		219.80	0.00
N	559		
Correct predictions	92%		

Table II OLS teacher wage equations by gender with log of wages as the dependent variable.

	Female	Male
CONSTANT	6.502* (24.70)	6.309* (59.13)
Attock	-0.7E-03 (0.01)	-0.007 (0.17)
Faisal	0.069 (0.57)	0.066 (1.40)
DIR	0.197 (0.69)	0.041 (1.21)
PSA	-0.001 (0.17)	0.002 (0.62)
Yrsed	0.058 (1.30)	0.122* (9.43)
Math	0.015** (2.00)	0.002 (0.74)
Comprehension	-0.3E-03 (0.03)	-0.4E-03 (0.19)
Exp	0.060* (4.22)	0.036* (7.54)
Expsq	-0.001* (3.07)	-0.3E-03*** (1.83)
R bar sq	.30	.61
F-statistic	5.02	59.08
N	84	329

Note: t-statistics are reported in the parentheses. One, two and three asterisks represent significance at the 1,5 and 10 percent levels.