

# Does It Pay to Be Educated for Prostitutes?

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## Abstract

The positive relationship between education and earnings in the conventional labor market has long been known, but the relationship in prostitution is little known. We provide a conceptual framework that suggests that education increases the price of commercial sex via the prostitute's outside option and the client's sexual pleasure. The framework also considers the bargaining power of either side but suggests that it is not a mechanism through which education increases the price. We analyze a large sample of Indonesian prostitutes and find results that are consistent with the framework. We also analyze data on comparable non-prostitutes in Indonesia and find that the earnings functions of prostitutes and non-prostitutes greatly differ. However, the rate of return to education is similar for both groups. Our findings are consistent with the growing body of research that highlights the beneficial effects of education on outcomes beyond the conventional labor market.

**Keywords:** education; prostitution; price of sex; Indonesia; bargain

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## **1. Introduction**

It has long been known that education increases earnings in the conventional labor market (Heckman et al., 2006, for a review). However, the role of education in determining the earnings of prostitutes is little known. This is surprising because prostitution is understood as the world's oldest profession; it has been with human beings across time and space. Furthermore, although the exact size of the industry is difficult to estimate due to its furtive nature, its size is believed to be large in terms of revenues, workers, and clients. For example, Dank et al.'s (2014) in-depth study summarized that the underground sex economy's worth ranged \$39.9–\$290 million across eight major cities in the US in 2007. When prostitution is related other formal and informal activities from the entertainment and tourism industry to organized crime, these estimates may be regarded as lower bounds. Despite the importance, the scant attention to the role of education in prostitution is understandable because at first glance, there seems no room for education to play in prostitution. One can be easily deceived by the notion that prostitution requires almost no skills—just lie and close eyes. This is the starting point of the seminal paper by Edlund and Korn (2002) and implicitly maintained by others.

We believe that this idea is too simplistic for prostitution. If prostitution is considered a service job, one can gain much insight into it. As there are many kinds of hairdressers, there are many kinds of prostitutes—from street prostitutes to high class call girls. They offer different sex services. For example, street prostitutes typically provide sexual pleasure during a brief encounter, while high class call girls provide intimacy, in addition to sexual pleasure, during a long session. This heterogeneity of prostitutes suggests that prostitutes can package their services in varying ways and charge prices accordingly. If more educated women use general skills gained from education and sell sex of higher quality, just as in service jobs, they

would earn more. Furthermore, as the positive relationship between education and earnings demonstrates, more educated prostitutes have more remunerative outside options. Therefore, they are likely to provide more expensive services, if they ever sell sex. Otherwise, they would not sell sex in the first place.

Using this framework, this paper tries to estimate the relationship between education and the price of commercial sex in Indonesia and identify mechanisms through which education increases the price. To the best of our knowledge, this is the first in the literature on prostitution. Edlund and Korn (2002) assumed that prostitution and marriage were exclusive and provided a theory explaining why prostitution is well paid despite being low-skill, labor intensive, and female dominated. Arunachalam and Shah (2008) challenged Edlund and Korn's central assumption, but they did not consider the role of education in prostitution. Della Guista et al. (2009a) provided another theory of prostitution, giving a central role of stigma and reputation effects. Subsequently, Della Guista et al. (2009b) tested this theory by analyzing a sample of clients of street prostitutes in the US. As the theory concerned stigma and reputation effects, education was missing in their studies. Rao et al. (2003) estimated the compensating differential for not using condoms in India. They indeed found a positive relationship between education and the price, but they did not elaborate it. They only suggested a link to a hedonic marriage market on a footnote (p. 600). Similarly, Gertler et al.'s (2005) main aim was to estimate the compensating differential for not using condoms in Mexico, so they simply reported an 11% premium for secondary education without further discussion. Moffatt and Peters (2004) drew on client reviews on a UK website and determined factors related to the price, but they did not have a variable of education. Cunningham and Kendall (2011) analyzed state level data in the US and investigated how the use of internet technology for solicitation influenced street prostitutes; again, education was

not even a tangential issue in this study.

This paper contributes to the economic literature on prostitution, which is an exciting topic and has been growing, but limitedly so due to data availability. In addition, this paper expands the literature on the role of education, which has recently investigated outcomes beyond the conventional labor market (Lance, 2011, for a review). The country of interest is also of interest because except for Rao et al.'s (2003) study, data for countries with income levels as low as Indonesia are difficult to obtain; little, beyond anecdotes, is known about prostitution in such countries. Furthermore, Indonesia exhibits very different characteristics (e.g., climate, religion, language, and culture) than those of the countries covered in the literature. The dataset is also valuable because the sample size is greater than any others in the literature.

We provide a conceptual framework that argues that the prostitute's outside option and the client's sexual pleasure are two important mechanisms through which education increases the price of commercial sex. The framework also maintains that the bargaining power of either side influences the price but is not a mechanism for education. Our empirical results are generally consistent with those the framework. Specifically, an additional year of schooling is related to a 13.1% increase in the price when no covariates are controlled for. This reduces to 10.0% (mostly due to age) when demographic variables are controlled for. When when a proxy for the outside option is controlled for, the figure considerably decreases to 5.1%, confirming that the outside option is an important mechanism for education. As expected, the client's bargaining power is negatively related to the price, while the prostitute's bargaining power is positively related to the price. Controlling for the bargaining power of either side does not change the relationship between education and the price. When all covariates are controlled for, an additional year of schooling is related to a 4.4% increase

in the price. We explain this remaining relationship by arguing that more educated prostitutes better know how to please clients. We also compare the earnings functions of prostitutes and comparable non-prostitutes and find that they differ from each other. However, interestingly, the relationship between education and earnings is the same for both groups.

## **2. Conceptual Framework**

We first provide a conceptual framework that guides the subsequent empirical work. This framework is based on that of Gertler et al. (2005), but we modify it for our purposes. The starting premise is that prostitution is a service job (just work not sex). Some feminists have challenged this idea, asserting that prostitution is always oppressive for prostitutes (Grant, 2014, for a debate). However, as the prostitution rights movement demonstrates, prostitutes themselves agree that prostitution is just a work (Sanders, 2005); this argument is consistent with another term for prostitution—*sex work*. This idea is not strange, once it is understood that prostitution consists of more than physical jerks. In addition to ejaculation, the client pays for erotic, aesthetic, and emotional labor (Sanders, 2008; Pettinger, 2011). He likes the prostitute to appear sexually satisfied and grateful for his gifts of pleasure (e.g., no faking). The client pays attention not only to her naked body but also to her clothed body (e.g., sexy schoolgirl). Her personality is another important determinant of sexual pleasure; thus, good personality can compensate for her unattractive body (e.g., big, beautiful woman). Chatting also plays an important role in prostitution, since it makes the transaction feel more than the exchange of cash for sex. In addition, she can kiss and cuddle him to make him feel special. Most of all, it is always better to make the whole deal to appear genuine. Stressing non-sexual activities, a prostitute explained, “[For] a lot of the guys I see, more than anything they want some companionship. They just want somebody to sit and talk to them and make them feel

like they're interesting and that they're good people. The sex is—they want sex but it's kind of like icing on the cake, is the impression that I get (Lucas, 2005, p. 531).” All these aspects are not much different from those of emotional service jobs (e.g., secretaries, waitresses, beauty therapists, massage therapists, hairdressers, air hostesses, newsreaders and booksellers, and nursing and other caring professions), where the commodification of the female body is reproduced through workplace relations.

Once it is accepted that prostitution is a service job, we can extend this logic to the positive relationship between education and service quality (Autor and Dorn, 2013); that is, more educated prostitutes produce greater sexual pleasure. Prostitution consists of many components of labor, and therefore, success in it requires skills. In this endeavor, education in a form of general skills can help prostitutes. First, a prostitute screens and schedules with a client. This step is important to avoid violent clients and police arrests and to attract high paying clients. Once she meets her a client, she negotiates with him nicely. Once the negotiation is consummated, she selects, designs, organizes, and delivers the components to him. In addition to these client-related tasks, she has to collect fees, find and maintain workplaces, manage logistics, and most of all, keep herself attractive. Some succeed in this effort and become high class call girls; others, not as successful, become street prostitutes.

As in a service job, prostitution involves a negotiation between the client and the prostitute; commercial sex is fulfilled when both parties agree to having sex for pay. Otherwise, sex without it amounts to a rape. The negotiation mainly concerns what sorts of sex acts will be performed at what price. Of course, some prostitutes suffer from trafficking, exploitation, or violence, in which case, commercial sex is not preceded by a negotiation. However, this is the exception rather than the rule in developed countries (Sanders, 2005; Grant, 2014). The same is true for Indonesia; Hull et al. (1998: 101–102) reviewed the

literature on prostitution in Indonesia, conducted case studies in five major locations for prostitution, and finally concluded that “in the majority of cases, entry into the industry is voluntary, and motivated primarily by the desire to obtain the relatively good incomes that can be made through prostitution.”

One may still object that prostitutes in developing countries are too poor to negotiate with clients; they have to have sex to survive even when they voluntarily entered prostitution. This idea does not consider that prostitutes have other options for a living; they can work for pay or engage in self-employment; in fact, almost all women live like this even in developing countries. Pisani (2008: 211) provided an apt example of prostitutes’ bargaining power in Indonesia. According to her, just over a third of some 10,000 prostitute across Indonesia said they had asked all of their clients in the past week to use condoms, and most clients obliged. If poverty had forced them to accept having sex, they would not have even suggested condom use—particularly when condom use would decrease the price and most clients would prefer not using condoms (Rao et al., 2003; Gertler et al., 2005). Therefore, it is reasonable to assume that commercial sex involves a negotiation, which makes a Roth-Nash bargaining framework useful for finding the equilibrium price.

From this discussion, we can construct the following model. Suppose that the client negotiates the price ( $P$ ) with the prostitute, has sex with her, and enjoys sexual pleasure (i.e., utility)  $V(e)$ , where  $e$  refers to the prostitute’s education.  $V(e)$  is an increasing function of  $e$ , that is, more educated prostitutes produce higher sexual pleasure. Then, his payoff is  $V(e) - P$ . Without loss of generality, let the client’s payoff from the next-best alternative use of his time be zero. The prostitute’s payoff is simply  $P$ , and let her payoff from the next-best alternative use of her time to be  $W(e)$ .  $W(e)$  consists of what she might earn if she does not sell sex (i.e., opportunity costs) and other costs involved in selling sex, such as stigma,



risk of violence, and risk of disease.  $W(e)$  is an increasing function of  $e$ , and this is supported by the ample evidence of the positive relationship between education and earnings (Heckman et al., 2006). We choose  $P$  to maximize  $(V(e) - P)^\alpha (P - W(e))^{1-\alpha}$ , where  $\alpha$  refers to the client's bargaining power, while  $1 - \alpha$  refers to the prostitute's bargaining power. Then, the equilibrium price is

$$P = (1 - \alpha)V(e) + \alpha W(e) \quad (1)$$

The price is a weighted average of the maximum that the client is willing to pay for sex and the minimum the prostitute is willing to accept to sell sex; the weights are the prostitute's and the client's relative bargaining powers, respectively. The price is positively related to the client's sexual pleasure and the prostitute's outside option. And as her bargaining power increases relative to the client's, the price approaches his maximum willingness to pay. Given the low status of prostitutes in Indonesia, it is likely that  $V > W$ . Then, the price is positively related to the prostitute's bargaining power, and negatively to the client's. Because both  $V$  and  $W$  increase in  $e$ , the price is also positively related to her education.

### 3. Data

This paper analyzes two datasets. One is the Behavioral and Drug-Taking Risk Behavior among Female Sex Workers and Men in Mobile Occupations in Indonesia, 2002–2004 (henceforth, Pisani's dataset because it is available under her name),<sup>1</sup> which provides

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<sup>1</sup> The dataset and explanations of it are publically available online at <http://thedata.harvard.edu/dvn/dv/pisani>.

information on prostitutes. The other is the Indonesian Family Life Survey (IFLS),<sup>2</sup> which provides information on female non-prostitutes. We focus primarily on prostitutes but also consider non-prostitutes for comparison purposes.

### **3.1 Pisani's Dataset**

In 2002, the Indonesian Ministry of Health took over the system that had monitored behaviors carrying a high risk for HIV infection in groups most likely to be affected. The Indonesian Bureau of Statistics performed surveys with the help of NGOs and with technical support from Family Health International, and funded by the USAID.

Two rounds of surveillance were performed in 2002–2003 and 2004. The first round covered 10 cities, while the second round covered 15 cities. Samples were taken in two stages: the sample locations were first identified, and then, respondents within the locations were selected as randomly as possible. As prostitutes may not be honest to strangers, a number of local approaches were developed, including rapport building, before the interviews were initiated. As the name indicates, the survey aimed at obtaining information on behaviors in the target groups related to the spread of HIV/AIDS and at monitoring changes in their behaviors—it is an epidemiology survey. Therefore, there are few economic variables in the dataset, although some basic demographic variables are available.

The dependent variable is the amount of money received by the prostitute at the last commercial sex. The last commercial sex was referred to because it is more accurate to recall

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<sup>2</sup> The dataset and explanations of it are publically available online at <http://www.rand.org/labor/FLS/IFLS.html>.

the last transaction than all transactions for the last day, week, month, or year. Unfortunately, it is unclear whether the price includes the cut for the pimp. Even if the cut is included, so the disposable part of the price is exaggerated, the exaggeration is likely to be small because the prostitute typically receives free accommodation, free meals, regular medical check-up, easy loans with low interest, and assistance related to the line of work (laundry and security).

In the first round, prostitutes in Jakarta, Riau, and Sumut were only asked about payment by non-regular clients, but no distinction was made for the other cities in the first round and all cities in the second round. We control for city and year fixed effects to alleviate concerns stemming from this inconsistency, but as shown below, the results are not sensitive to this. The variable of years of schooling is constructed by combining the highest education level that the prostitute attended or was attending and the highest grade attended or attending at that school. This combination addresses the problem of counting a grade repetition as an additional year of schooling, which is not a small issue in developing countries. We select covariates that correspond to those in the conceptual framework as closely as possible. We explain them, as we discuss the results.

We consider only women under age 45 (this restriction excludes only 147 workers) since they constitute the absolute majority of prostitutes in this dataset and probably everywhere. When observations with missing values are excluded, the sample size is 8,817, which is substantially greater than those of other studies. For example, Rao et al. (2003) examined 608 prostitutes in India, Gertler et al. (2005) 1,029, Arunachalam and Shah (2008) 2,925 in Ecuador and 1,083 in Mexico, and Cunningham and Kendall (2011) 395–521 in the US (online survey with a response rate lower than 5%).

### **3.2 IFLS**

The IFLS is a longitudinal survey, beginning in 1993 with more than 22,000 individuals in 13 provinces of Indonesia's 26 provinces. The sampling scheme stratified on provinces then randomly sampled respondents within provinces. Follow-up surveys were performed in 1997, 1998, 2000, and 2007. As our goal is to compare the earnings function of prostitutes with that of non-prostitutes, we employ the last survey (IFLS4); it includes more respondents than any other IFLS surveys.

The IFLS is a general social science survey, so it covers men and women at all ages and includes many economic and demographic variables. However, to make non-prostitutes in IFLS4 comparable with prostitutes in Pisani's dataset, we consider only women under age 45 residing in urban areas. We also select variables similar to those used for prostitutes. We explain these variables, as we discuss the results. When observations with missing values are excluded, the sample size is 2,322.

The dependent variable is hourly earnings. Since hourly earnings are not available in the dataset, we construct this variable by dividing earnings during the last month by four  $\times$  normal hours of work per week (if missing, hours of work in the past week). Earnings refer to salaries and wages (including the value of all benefits) for paid employees and net profits (excluding all business expenses) for the self-employed. The independent variable of interest is years of schooling. This variable is constructed in the same ways as for that of prostitutes. We control for county fixed effects for non-prostitutes, which is similar to controlling for city fixed effects for prostitutes.

In addition, since we consider monetary values in four different years, we adjust the price of commercial sex in Pisani's dataset and hourly wages in IFLS4 with the consumer price index provided by the World Bank (2010=100).

#### 4. Empirical Methods

Our basic specification for OLS is as follows:

$$y_i = \beta_1 e_i + X_i \beta_2 + u_i, \quad (2)$$

where  $y_i$  refers to the price of sex received by sex worker  $i$ ,  $e$  to her years of schooling,  $X$  to individual covariates and city and year fixed effects,  $u$  to the error term,  $\beta_1$  and  $\beta_2$  to a coefficient and coefficient vector, respectively, to be estimated. Proxies for  $(1 - \alpha)$ ,  $\alpha$ , and  $W$  in (1) are included in  $X$ . A proxy for  $V$  is not available in the dataset, but we discuss it later.

We do not attempt to estimate the causal effect of education on the price because it is not our aim. In addition, we are not aware of any quasi-experimental situations to exploit for the exercise. As the large literature on this issue demonstrates (Meghir and Rivkin, 2011, for a review), it is a difficult task. However, Duflo (2001) exploited a major school construction program in Indonesia and estimated the causal effect of education on wages. Her findings indicated that the effects measured by OLS and 2SLS were not statistically significantly different. Thus,  $\beta_1$  may not too differ from the causal ones if one cares about the causal estimate at all.

Nor do we attempt to account for selection bias, that is, bias stemming from selection into prostitution. It is difficult to account for selection into the labor force, but it is doubly so for selection into the labor force and then into commercial sex. To the best of our knowledge, no study in the literature on prostitution has attempted to account for the double stages. In addition, the direction of bias is ambiguous if high ability women select into the labor force but low ability women select into prostitution. We acknowledge this limitation and leave it to future research.

Our strategy is to control for relevant variables and find mechanisms through which

education increases the price—given selection into prostitution. This strategy has been often used in economics. For example, Case and Paxson (2008) found a positive relationship between height and earnings, given selection into working for pay. Once they controlled for cognitive skills, they observed that the relationship lost statistical significance and concluded that cognitive skills were the primary mechanism through which height increased earnings. Equation (1) suggests that controlling for the outside option ( $W$ ) would reduce  $\beta_1$  since  $W$  is a function of education. Equation (1) also suggests that the prostitute's bargaining power ( $1 - \alpha$ ) is positively related to the price, and the opposite is true for the client's bargaining power ( $\alpha$ ). Recall that the bargaining power of either side is not a function of education; thus, we expect that controlling for it would not influence  $\beta_1$ .

## 5. Results

### 5.1 Institutional Context

Because prostitution in Indonesia has been little investigated in a scholarly literature, a brief description of its institutional context would improve the understanding of our results. Albeit published about two decades ago, Hull et al.'s study (1998) provides a good starting point. Pisani's (2008) study is more recent, but it concerns mostly on sexual behaviors related to HIV/AIDS. Nevertheless, both agree that prostitution is quasi-legalized in Indonesia.

Specifically, in Indonesia, a prostitute (*pelacur*) is referred to as *WTS* or *wanita tuna susila* in the laws and regulations, which is literally translated as a woman lacking in morals. Thus, the basic attitude of government officials toward prostitution is not to accept it as a valid category of employment; prostitutes are simply treated as one type of women. This attitude is revealed by the fact that prostitution as such is not prohibited, although helping and facilitating illegal sexual activities are prohibited by the criminal law. Prohibited or not,

however, all participants in prostitution— prostitutes, pimps, clients, and law enforcement agents—ignore the law to a large degree. There are occasional police crackdowns, but they are more symbolic than real in response to complaints from the public. The closure of the places are immediately followed by the normal operation, and operators who know powerful clients are not touched by such crackdowns.

This situation is inevitable because local governments themselves (working with military authorities) are pimps. They operate official red light districts called *lokalisasi*, which are a cluster of brothels along one or a few streets. Their origin can be traced to the law by the Dutch government in 1852, which acknowledged prostitution but set out a series of regulations to limit the spread of venereal disease. Two decades later, the regional governments took over the responsibility for supervising brothels from the central government. They were further entrenched during the Japanese occupation to serve Japanese soldiers. The current form of *lokalisasi* was shaped in the early 1960s to promote social discipline and control. The ostensible reason for the operation of *lokalisasi* is to localize prostitution to promote public health, safety, and order and to rehabilitate prostitutes. However, it fails to reduce prostitution in other areas. It also fails to promote public health, as the epidemic of AIDS demonstrates. In addition, since most local governments do not keep records regarding the rehabilitation or, if any, do not make them public, they probably fail to rehabilitate prostitutes. In fact, the operation is meant to fail because *lokalisasi* provide substantial revenues to local governments. Thus, the illegal nature of prostitution and its consequences that are often observed in many other countries do not exist in Indonesia—de facto. Furthermore, violence in prostitution is almost non-existent. Of 11,504 prostitutes under 45 years of age in Pisani's only 399 prostitutes (3.5%) said that they had been forced to have sex even though they did not want to and were not paid to by clients in the past year.

Considering these together with the low entry barrier to prostitution (e.g., little capital is needed, and standing on the street is enough), prostitution in Indonesia probably behaves like a competitive market. Our results need to be understood in this context. In addition, this feature can answer what would happen if prostitution is legalized in countries where it is illegal.

## **5.2 Descriptive Statistics**

As statistics of prostitutes in Indonesia are not well known to the public, it is of interest to read descriptive statistics in Table 1. However, for saving space, explanations are limited to some variables. We explain other variables when necessary, as we discuss the results. One can gain more insight into prostitutes when they are compared with non-prostitutes; therefore, descriptive statistics of non-prostitutes in IFLS4 (Table 2) are compared. Because Rao et al. (2003) examined prostitutes in India and India's per capita income is similar to that of Indonesia, their statistics are also compared. If possible, Gertler et al.'s (2005) Mexican sample is also compared.

The mean price is Rp. 314 thousands, which is 43 times as great as the mean hourly earnings for non-prostitutes (Table 2). If we assume that one session of commercial sex takes one hour, the price clearly demonstrates the premium that prostitutes enjoy. The mean years of schooling for prostitutes is 7.5, which is lower than that for non-prostitutes (10.5). The lower mean suggests that low ability women are likely to enter prostitution. Note that the mean age for prostitutes is 26.8, which is smaller than that for non-prostitutes (30.5). Given that the younger are on average more educated in Indonesia (Sohn, 2013), negative selection into prostitution appears severe. One could object that the lower mean years of schooling for prostitutes results from a large proportion of prostitutes who did not complete education.



However, when attention is paid to workers under 20—because schooling is largely completed by age 19 in developing countries, including Indonesian (Sohn, 2013), the proportion of sex workers under 20 is 9.8%, which is small in itself and only slightly greater than that of non-prostitutes (6.5%). Thus, the lower mean of years of schooling is likely to reflect the lower ability of prostitutes. The mean age for prostitutes in Pisani's dataset is older than that of Rao et al.'s sample (23.3), but similar to that of Gertler et al.'s sample (27.8).

The mean age at first sex for prostitutes is 17.3, which is older than that for Gertler et al.'s sample (15.7), possibly because Indonesia's Islamic culture discourages girls from having sex early. The mean age at menarche for non-prostitutes in IFLS4 is 13.7 (independently estimated). If the mean age at menarche for prostitutes is the same as that for non-prostitutes,<sup>3</sup> it appears that prostitutes do not engage in prostitution immediately after menarche.

The mean length of time selling sex is 2.8 years; the median is 2 years, and the 90 percentile is 6.3 years. Therefore, prostitution in Indonesia does not provide a long career prospect. This impression is reinforced when it is contrasted to the mean tenure of non-prostitutes (4.7). Considering that the length of time selling sex is analogous to work experience, the career horizon of prostitutes is rather short. The mean length of time selling in

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<sup>3</sup> The difference in age at menarche between the two groups is ambiguous. The higher years of schooling of non-prostitutes suggest that their family background is better than that of sex-workers. In this case, the mean age at menarche would be lower for non-prostitutes. However, if girls who experienced menarche early are more likely to enter prostitution, the mean age at menarche would be lower for sex workers.

Indonesia is short even compared with that of prostitutes in the red-light area examined by Rao et al. (2003) (3.9 years). The short-term nature of prostitution in Indonesia remains the same even when only prostitutes working in brothels are considered. Relatedly, the mean number of clients during the last day is only 1.6; the median is 1, and the 90 percentile is 3. These small numbers suggest that prostitution in Indonesia appears to be a part-time job, whether intended or not. These numbers are almost identical even when examined by year (not shown).

Among prostitutes, 12.8% are married, which is lower than that of non-prostitutes (66.0%). Nevertheless, the non-negligible proportion of married prostitutes is inconsistent with Edlund and Korn's (2002) central assumption that prostitutes cannot marry. Thus, our dataset is more consistent with Arunachalam and Shah's (2008) argument that prostitutes can marry, although our marriage rate is smaller than their 29.3% for Ecuador and 20.0% for Mexico.

Regarding condom use, 57.2% of prostitutes used a condom for the last commercial sex. The figure is similar to that of Rao et al.'s sample (47.3%). In addition, 38.7% of prostitutes always asked clients to use condoms during the past week.

Pisani's dataset is valuable in that direct prostitutes (e.g., working in brothels and on the streets) account for about a half the sample, and the remaining half consists of indirect prostitutes (e.g., working in hotels, massage parlors, and bars). Thus, the composition of prostitutes is balanced.<sup>4</sup> In contrast, other studies typically rely on one type of prostitutes.

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<sup>4</sup> Internet prostitution constitutes a major part of the industry in developed countries (Cunningham and Kendall, 2011), but it is not in Indonesia; in 2004, only 2.6 per 100

For example, Rao et al.'s (2003) sample exclusively consisted of prostitutes in brothels. Of Gertler et al.'s (2005) sample, prostitutes working in bars or clubs accounted for 82%. Cunningham and Kendall's (2011) sample included online prostitutes.

### 5.3 Baseline Results

Table 3 presents the results of specification (2). When no covariate is controlled for (Column 1),  $\beta_1$  is positive and statistically significant at 0.131; when city and fixed year effects are added,  $\beta_1$  slightly decreases to 0.120 (Column 2). Education is negatively related to age with a correlation coefficient of -0.27 because the growing income levels have allowed more children received education longer. In addition, youth is highly valued in the sex industry, so age group dummies are further controlled for (Column 3). Then,  $\beta_1$  decreases 0.104. As youth is highly valued in prostitution, it is not surprising to observe that age is negatively related to the price. Specifically, compared with women under 20, women aged 20–24 do not exhibit any age penalty, but women aged 25–29 earn 18.6% ( $= \exp(-0.205) - 1$ ) less; the corresponding figures for women aged 30–34, 35–39, and 40–44 are 32.2%, 41.0%, and 37.4%, respectively.

In Column 4, more demographic variables are controlled for, and  $\beta_1$  remains the same. This identical estimate is not because the additional variables are unrelated to the price (i.e., some random variables). In fact, all (except for one) are statistically significantly related to the price. Married women earned 7.4% more, possibly because the fact that she is married indicates that she has some desirable features for sex. In addition, although the magnitude is

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Indonesian people had access to the worldwide network.

small, women who had first sex later earned more: an additional year of deferment is related to a 1.1% increase in the price. This is consistent with the high value of virgin in prostitution in the sense that later first sex means that the client is closer to the time when she was a virgin. Similarly, the longer she sells sex, she earns less. Both linear and square terms are statistically significant, so at first glance, it appears that the relationship is U-shaped.

However, the turning point is 10.6 years, and only 299 of 8,817 prostitutes in the dataset sold sex longer than 10.6 years. Thus, the relationship is essentially linear. This finding is notable because age is already controlled for; thus, given age, a more experienced worker earns less. When the length of time selling sex is analogous to work experience in non-prostitution, this is opposite to what one expects from non-prostitution, where work experience increases earnings, albeit at a decreasing rate. Human capital in the form of work experience in prostitution behaves more like physical capital in non-prostitution since both depreciate over time. It is also notable that in prostitution, the behavior of work experience is opposite to that of education, as the latter is positively related to the price. It seems that unlike human capital in the form of work experience, human capital in the form of education increases productivity in prostitution.

In Column 5, sex-related variables are further entered, and  $\beta_1$  only marginally changes to 0.092, suggesting that an additional year of schooling is associated with a 9.2% increase in the price. Also note that all the sex-related variables are statistically significantly related to the price. If liquor and drugs are complements to sex, consumption of these goods with the client increase the price. The data do not provide whether the prostitute had a drink or used drugs with her last client but do provide whether the prostitute had used illegal drugs and ever been drunk. To the extent that these indicators reflect the prostitute's tendency with her clients, we can use these variables as proxies for the use of the goods. The results indicate

that having used illegal drugs is related to a 26.2% increase in the price. Similarly, having ever been drunk is related to an 18.2% increase in the price. Number of clients during the last day can provide information on the prostitute's selling strategy: that is, a small number of high-paying clients vs. a large number of low-paying clients. It can also indicate her exhaustion level: that is, if she received many clients before the last client during the day, her productivity (consequently, the price) for the last client was probably low. Consistent with these ideas, an additional client is related to an 8.9% decrease in the price.

Some attention has been paid to the relationship between condom use and the price. For example, Rao et al. (2003) exploited a natural experiment and estimated that using condoms reduced the price per act by 66% in Calcutta, India. Gertler et al. (2005) provided subtler results for Morelos and Michoacan, Mexico. According to them, prostitutes provided sex to clients who requested not using condoms for a 23% higher price, but clients who preferred condom use paid a 9% premium to use condoms. In addition, prostitutes who did not want to use condoms reduced the price by 20%. Our data do not provide information on condom use to such a detail, so it is ambiguous whether the prostitute or her client suggested using or not using a condom. Our finding indicates that if a condom was used, the price increases by 5%. Considering Gertler et al.'s findings, our 5% is likely to be a mixture of positive and negative premiums of condom use.

Table 3 presents many interesting baseline results. When attention is paid to  $\beta_1$ , it decreases from 0.131 to 0.092, primarily due to age. Nevertheless,  $\beta_1$  remains statistically and economically significant. Thus, the demographic and sex-related variables account for some proportion of the positive relationship between education and the price, but much is left to be explained.

## 5.4 Outside Option and Bargaining Power

Our conceptual framework suggests that one mechanism through which education increases the price is the outside option. One proxy for the outside option is the location of selling sex, when the location is regarded as a firm. The prostitute whose outside option is great would work for a firm that pays much. Consistent with this idea, when location dummies are controlled for,  $\beta_1$  considerably decreases to 0.051 (Column 1 of Table 4). This drop indicates that more educated prostitutes work for or at places where high paying clients gather. The highest paying location consists of karaoke bars, disco bars, and drinking bars (one category), where most hostesses double as prostitutes or freelance prostitutes congregate. Relative to prostitutes in brothels, prostitutes in bars received a 219% higher price for the last commercial sex. Note that prostitutes in massage parlors and salons (one category) and hotels, motels, and cottages (one category) also earn 80–90% more than those in brothels. These groups of prostitutes are typically referred to as indirect prostitutes as opposed to direct prostitutes selling sex in brothels and on the streets. Indirect prostitutes sell not only sex but some also other services such as massage, singing, and dancing. Therefore, one may argue that the price for them contain fees for such additional services. We cannot entirely ignore this possibility, but it is unlikely because the questionnaire specifically refers to commercial sex.

Next, our conceptual framework suggests that the price is negatively related to the client's bargaining power and positively to the prostitute's. One proxy for the client's bargaining power is his residency: the farther away the client is from home, the lower his bargaining power is. If he is away from home, he may not have access to regular sex with his wife or girlfriend and feel lonely. Moreover, he lacks local information such as the going price for commercial sex. This situation is similar to that where tourists pay more for the

same good than do locals. We add residency dummies for residency to specification (2) and confirm this idea (Column 2). Compared to local residents, Indonesians from other provinces pay 12.3% more, and foreigners 37.4% more.

The frequency of proposing condoms to clients during the last week can be a proxy for the prostitute's bargaining power. Since the reference period in the question is short, this variable can partially reflect her bargaining power for the last client. Typically, clients want to have sex without condoms because sex without condoms is more pleasurable, while prostitutes want to have sex with condoms to protect herself from STDs (Rao et al., 2003). It is possible that clients propose condoms, while sex workers do not propose; however, this is rare. In Gertler et al. (2005) data, only 63 of 1,029 cases involved clients proposing condoms, and 18 involved prostitutes not proposing condoms. Thus, in a typical situation, the prostitute who more frequently proposes condoms would have more bargaining power. Also recall that Pisani (2008: 211) found that when proposed, most clients obliged. In Column 2, dummies for the frequency of proposing condoms are also added—we refer to the set of covariates in this column as the full set of covariates. Consistent with the idea, the frequency is positively related to the price, so prostitutes who always propose condoms earn 11.3% more than those who never propose. Although the two sets of dummies for bargaining power are strongly related to the price, adding them does not affect  $\beta_1$  at all. Table 4 suggests that bargaining power is not a main mechanism through which education increases the price, but the outside option is.

### **5.5 Explaining the Remainder of $\beta_1$**

Table 3 suggests that age partially explains the positive relationship between education and the price, and Table 4 suggests that the outside option is an important explanatory factor

for the relationship. However, the non-negligible magnitude of  $\beta_1$ , even after controlling for the full set of covariates, suggests that there are other mechanisms through which education increases the price.

One possibility is that more educated sex workers sell sex to more educated (and richer) clients. Rao et al. (2003) considered this possibility when they explained the positive relationship between education and earnings among prostitutes in India. According to them, if sex is regarded as a hedonic good, education allows more educated prostitutes to match assortatively with more educated clients, leading to a segmented labor market with higher equilibrium prices charged in more educated segments—just as in the marriage market. We can check this possibility using the client’s occupation, but this information is available only for year 2004. Thus, we first analyze the data for the year, controlling for the full set of covariates (Column 1 of Table 5).  $\beta_1$  is 0.048, which is almost identical to that for all years. Then, we add dummies for the client’s occupation (Column 2). Not surprisingly, compared with clients whose occupations are unknown, traders (a rich group in Indonesia) pay 24.2% more. The figure is similar to that of policemen, military men, and civil servants (government jobs are most aspired to in developing countries, see Banerjee and Duflo, 2011: ch. 9); private sector workers pay 13.4% more. But payment by students, laborers, unemployed workers, and others is not statistically significantly different from that of the reference group. Nevertheless, the addition of the dummies does not change  $\beta_1$ . Thus, the client’s wealth (proxied by his occupation) may not be an important mechanism through which education increases the price.

In this case, although not testable with the data, we speculate that  $V(e)$  can account for the remainder of  $\beta_1$ . When we present the conceptual framework, we stress that commercial sex is more than ejaculation and a variety of components are packaged in varying ways. Table



1 provides some evidence that intimacy is exchanged: 93% of prostitutes knew where the clients came from,<sup>5</sup> and 62% of prostitutes knew what their last client did for a living. Also recall that more educated prostitutes tend to be indirect prostitutes; thus, they are apt to perform some activities before and after sex. Analogous to workers in service jobs, more educated prostitutes may perform these activities better in such a way to increase sexual pleasure even in the same place for the same pool of clients. Unfortunately, the data do not allow us to identify what exactly these activities are. We can conjecture that they depend on clients, and even for the same client, his mood for the day. All of them require sophisticated interpersonal skills, and education can help in this regard. We believed that only profitable prostitutes know the secrets.

## **5.6 Checking Nonlinearity**

Up to this point, we assume a linear relationship between education and the price because this is an empirical regularity in the non-sex business. We check whether this is the case for prostitution in Table 6. First, we add the square of years of education, controlling for the full set of covariates (Column 1). The coefficient on the linear term is not statistically significant, but the one on the square term is. This suggests that the positive relationship between education and the price increases with education at an increasing rate. In Column 2, we exclude the linear term and find that the coefficient on the square term becomes larger and remains statistically significant. This nonlinear relationship motivates us to use a more

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<sup>5</sup> Even when foreigners are excluded, since it is easy to tell them by physical appearance, the percentage still stands at 92%.

flexible form of education. Thus, instead of the linear and square terms of years of schooling, we enter dummies for the highest completed level of education (Column 3). These results are consistent with those in Column 2. Compared with sex workers who did not complete primary school, those who completed primary school earned 13.7% more. The corresponding figures for those who completed junior high school and senior high school or above are 30.0% and 60.9%, respectively.

### **5.7 Comparisons with the Non-Prostitution Sector**

One may wonder how the earnings-generating functions differ between the prostitution and non-prostitution sectors. For the non-prostitution sector, we draw on IFLS4 and use an OLS specification similar to specification (2). Work experience is not available in the IFSL4, and it is implausible to assume that female work experience is equal to age - years of schooling - 6 (potential work experience), as conventionally done for men in labor economics. Career interruptions due to marriage, childbearing, and childrearing make this approximation too inaccurate. However, self-reported tenure is available in the data. Since the length of time selling sex is very short, and Sohn (2015) explained that tenure fits the Mincerian specification better than potential work experience, tenure is used here. IFLS4 also includes 8 job requirements and industries, which help one understand the earnings function. However, there is no variable for bargaining power in IFLS4, so it is not considered.

Table 7 presents the results. Not surprisingly, education and hourly earnings are positively related, with the coefficient on years of schooling being 0.084, which is similar to that for sex workers before the location variable is controlled for (i.e., 0.092). Similarity ends here, however. In stark contrast to the case of sex workers, earnings increase in age. For example, women aged 40–44 earn 62.9% more than women under 20. Note that the

corresponding figure for prostitutes is 37.5% less (Column 4 of Table 3). In addition, there is no marriage premium for non-prostitutes, which is opposite to the case of prostitutes. The relationship between tenure and earnings is an inverted U-shape for non-prostitutes, as well-known, but it is mainly linear for prostitutes. Non-prostitutes who moved to different provinces since the last survey earned 50.8% more than those who did not, but for prostitutes, working outside the provinces of origin is little related to the price.

Overall, prostitutes and non-prostitutes face vastly different earnings functions. It is no wonder that prostitutes are largely young women and they work for a short time in prostitution. In addition, the differing functions suggest that prostitutes will eventually transit to the non-prostitution sector after their selling appeals sufficiently depreciate. If stigma prevents them from entering formal paid employment, they can still resort to self-employment, which accounts for about a half of the labor force.<sup>6</sup>

It is worth noting that despite the great differences in the earnings functions between the two sectors, the relationship between education and earnings is similar. The similarity can be formally tested by merging the two datasets and using similar covariates. This exercise is also of interest because we can estimate the premium that prostitutes enjoy over non-prostitutes by including a dummy for a prostitute. We employ the following covariates: years of schooling, age group dummies, a dummy for being married, tenure, tenure squared, and their interactions with a dummy for being a prostitute. Table 8 shows that the coefficient on the

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<sup>6</sup> According to the LABORSTA, the total labor force consists of employees, employers, own-account workers, and contributing family workers. When contributing family workers are excluded from the total labor force, own-account workers accounted for 57.2% of the total labor force in 2008.

interaction between the prostitute dummy and education is not statistically significant. This finding implies that the rate of return of education does not have a boundary between prostitution and non-prostitution.

The coefficient on the prostitute dummy indicates that the premium is 12,500%, after controlling for some relevant characteristics. This incredibly large premium is not so incredible in that the median number of clients in the last week is only 4 (calculated using the raw data). 6.8% of sex workers did not even have one client. It is not clear whether the low number reflects a genuine lack of clients or the part-time schedule of some prostitutes. Regardless, when this fact is taken into account, the premium is within a reasonable range. For example, if we assume that commercial sex takes one hour, then the median of 4 clients means 4 hours of work per week. As the median hours of work per week of non-prostitutes in IFLS4 is 42, the premium of 12,500% on an hourly earnings basis needs to be divided by 10.5 to estimate the premium on a weekly earnings basis, which yields 1,200% or 13 times. This is plausible compared with others. For example, Hull et al. (1998: 91–92) summarized that prostitutes' earnings at the upper end of the range in Indonesia were much greater than those of middle-level civil servants and other occupations requiring a high level of education (Edlund and Korn, 2002: Table 1 for a summary).

## **6. Conclusions**

Despite the well-known positive relationship between education and earnings in the conventional labor market, the relationship in prostitution is little known. We argue that once prostitution is regarded as a service job, we can expect a positive relationship between them in prostitution, where education does not appear to play a role in determining the price of commercial sex. Our conceptual framework suggests that education is positively related to

the price of commercial sex via the client's sexual pleasure and the prostitute's outside option. The bargaining power of either side is also considered, but it is not expected to be a mechanism through which education increases the price. We draw on data on Indonesian prostitutes and produce results consistent with these ideas. Furthermore, evidence suggests that the earnings functions of prostitutes and non-prostitutes are very different but (roughly speaking) the rate of return to education is similar for both groups. Our findings are consistent with the growing body of research that highlights the beneficial effects of education on outcomes beyond the conventional labor market.

We acknowledge that the proxies for the outside option and bargaining power are crude. It would be better if the dataset contained more than one proxy for each for robustness checks. For the same reason, we cannot even roughly investigate the mechanism of sexual pleasure. Possibility of selection bias is yet to be addressed. Nevertheless, we believe that this paper contributes to the literature by shedding light on the role of education in an underground, but well-known industry (prostitution) with a dataset of a large sample size (8,817) for a variety of worker types (direct and indirect prostitutes) in a low-income country (Indonesia). Future research with more customized data can address these concerns, although the furtive nature of prostitution would make it difficult to do. If possible, it would be of interest to estimate the causal effect of education on the price using plausible IVs and compare the difference between IV and OLS estimates.

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Table 1 Descriptive Statistics for Pisani's Dataset

Continuous Variable	Mean (SD)
Price of commercial sex <sup>a</sup> (Rp.)	313,630 (471,085)
Ln(Price of commercial sex)	12.14 (0.95)
Years of schooling	7.5 (3.3)
Age	26.8 (6.2)
Age at first sex	17.3 (2.8)
Length of time selling sex (yr)	2.8 (3.2)
# of clients last day	1.6 (1.3)
Discrete Variable	%
Age < 20	9.8
20 ≤ Age < 25	31.6
25 ≤ Age < 30	26.8
30 ≤ Age < 35	18.0
35 ≤ Age < 40	10.0
40 ≤ Age < 45	3.8
Not married	87.2
Married	12.8
Working In the province of origin	57.5
Working outside the province of origin	42.5
Have not had illegal drugs	85.8
Have had illegal drugs	14.2
Have not been drunk	61.2
Have been drunk	38.9
Not used a condom for the last sex	42.9
Used a condom for the last sex	57.2
Brothel	41.1
Street or park	10.0
Hotel, motel, or cottage	4.1
Massage parlor or salon	17.3
Karaoke, disco, or drinking bar	25.3
Other	2.2
Local resident	51.0
Indonesian from another province	34.0
Foreigner	8.0
Unknown	7.0
Never ask condom use	22.1
Occasionally ask condom use	17.8
Often ask condom use	21.4
Always ask condom use	38.7
Client's occupation, only for year 2004 <sup>b</sup>	
Unknown	37.7
Student, laborer, unemployed worker, and other	13.2
Policemen, military men, and civil servant	8.6
Private sector worker	25.0

Trader	15.6
Year 2002	28.2
2003	23.4
2004	48.4
<hr/>	
N	8,817

Notes: a: It is adjusted by the consumer price index provided by the World Bank (2010=100).  
b: the sample size is 4,267.

Table 2 Descriptive Statistics for IFLS4

Continuous Variable	Mean (SD)
Hourly earnings <sup>a</sup>	7,362 (14,238)
Ln(Hourly earnings)	8.31 (1.07)
Years of schooling	10.5 (3.9)
Age	30.5 (7.4)
Tenure in years	4.7 (5.5)
Discrete Variable	%
Age < 20	6.5
20 ≤ Age < 25	18.5
25 ≤ Age < 30	23.1
30 ≤ Age < 35	19.8
35 ≤ Age < 40	17.4
40 ≤ Age < 45	14.8
Not married	34.0
Married	66.0
Stayed in the same province	91.6
Moved to another province since the last survey	8.4
Self-employed or casual workers	35.2
Paid employees	64.8
Job requirements <sup>b</sup>	
Not often lots of physical effort	63.0
Often lots of physical effort	37.0
Not often lifting heavy loads	85.5
Often Lifting heavy loads	14.5
Not often stooping, kneeling, or crouching	63.6
Often Stooping, kneeling, or crouching	36.4
Not often good eyesight	37.4
Often Good eyesight	62.6
Not often intense concentration or attention	35.1
Often intense concentration or attention	64.9
Not often dealing with people	23.9
Often dealing with people	76.1
Not often computer use	82.9
Often computer use	17.2
Not often a lot of stress	91.7
Often a lot of stress	8.3
Industry	
Manufacturing	21.1
Wholesale, retail, restaurants, and hotels	38.2
Social services	36.9
Others	3.8
N	2,327

Notes: a: It is adjusted by the consumer price index provided by the World Bank (2010=100).  
b: the exact frequency in the questionnaire is all/almost all the time or most of the time for “often” and some of the time or none/almost none of the time for “not often.”

Table 3 Relationship between Education and the Price of Commercial Sex

	1	2	3	4	5
Years of schooling	0.131 (0.003)***	0.120 (0.003)***	0.104 (0.003)***	0.100 (0.003)***	0.092 (0.003)***
Ages 20–24			-0.008 (0.031)	-0.017 (0.032)	0.002 (0.031)
Ages 25–29			-0.205 (0.032)***	-0.213 (0.033)***	-0.178 (0.032)***
Ages 30–34			-0.390 (0.034)***	-0.394 (0.035)***	-0.330 (0.035)***
Ages 35–39			-0.528 (0.038)***	-0.528 (0.040)***	-0.449 (0.040)***
Ages 40–44			-0.469 (0.051)***	-0.469 (0.053)***	-0.399 (0.053)***
Married				0.071 (0.025)***	0.072 (0.024)***
Age at first sex				0.011 (0.003)***	0.011 (0.003)***
Time selling sex (yr) (/10)				-0.195 (0.058)***	-0.281 (0.057)***
Time selling sex sq. (/1000)				0.916 (0.336)***	1.244 (0.336)***
Working outside the province of origin				-0.018 (0.019)	-0.013 (0.019)
Has used illegal drugs					0.233 (0.026)***
Has been drunk					0.167 (0.018)***
# Clients last day					-0.089 (0.010)***
Used a condom					0.048 (0.018)***
Constant	11.16 (0.02)***	11.26 (0.03)***	11.57 (0.04)***	11.45 (0.06)***	11.50 (0.06)***
City and Year Fixed Effects	No	Yes	Yes	Yes	Yes
Adj. R Sq.	0.211	0.331	0.364	0.366	0.397

Notes: The sample size is 8,817. Robust standard errors are in parentheses. \*: p-value<0.10,  
\*\*: p-value<0.05; \*\*\*: p-value<0.01.

Table 4 Considering Outside Option and Bargaining Power

	1	2
Years of schooling	0.051 (0.003)***	0.050 (0.003)***
Location		
Brothel	Reference	Reference
Street, park	0.056 (0.030)*	0.050 (0.029)*
Hotel, motel, cottage	0.600 (0.045)***	0.598 (0.045)***
Massage parlor, salon	0.651 (0.022)***	0.645 (0.022)***
Karaoke bar, disco bar, drinking bar	1.160 (0.022)***	1.129 (0.023)***
Other	0.319 (0.058)***	0.343 (0.058)***
Client's Origin		
Local resident		Reference
Indonesian from another province		0.116 (0.016)***
Foreigner		0.318 (0.030)***
Unknown		-0.085 (0.025)***
Proposed condoms to clients last week		
Never		
Occasionally		0.049 (0.023)**
Often		0.064 (0.024)***
Always		0.107 (0.024)***
Covariates in Column 5 of Table 3	Yes	Yes
City and year fixed effects	Yes	Yes
Adj. R Sq.	0.568	0.578

Notes: The sample size is 8,817. Robust standard errors are in parentheses. \*: p-value<0.10, \*\*: p-value<0.05; \*\*\*: p-value<0.01.

Table 5 Considering the Client's Occupation

	1	2
Years of schooling	0.048 (0.004)***	0.044 (0.004)***
Client's occupation		
Unknown		Reference
Student, laborer, unemployed workers, others		0.022 (0.031)
Policemen, military men, civil servant		0.203 (0.040)***
Private sector worker		0.126 (0.025)***
Trader		0.217 (0.030)***
Covariates in Column 5 of Table 3	Yes	Yes
City fixed effects	Yes	Yes
Adj. R Sq.	0.604	0.610

Notes: The sample size is 4,267. Robust standard errors are in parentheses. \*: p-value<0.10, \*\*: p-value<0.05; \*\*\*: p-value<0.01.

Table 6 Checking Nonlinearity of Education

	1	2	3
Years of schooling (/100)	0.852 (0.728)		
Schooling sq. (/100)	0.299 (0.052)***	0.353 (0.018)***	
Highest completed level			
Not primary school			Reference
Primary school			0.128 (0.018)***
Junior high school			0.260 (0.021)***
Senior high school or above			0.475 (0.027)***
Covariates in Column 5 of Table 3	Yes	Yes	Yes
City and year fixed effects	Yes	Yes	Yes
Adj. R Sq.	0.579	0.579	0.576

Notes: The sample size is 8,817. Robust standard errors are in parentheses. \*: p-value<0.10, \*\*: p-value<0.05; \*\*\*: p-value<0.01.

Table 7 Relationship between Education and Hourly Earnings in ILFS4

Variable	Coefficient
Years of schooling	0.084 (0.007)***
Ages 20–24	0.196 (0.081)**
Ages 25–30	0.257 (0.089)***
Ages 30–34	0.264 (0.098)***
Ages 35–40	0.356 (0.100)***
Ages 40–44	0.488 (0.105)***
Married	0.055 (0.050)
Tenure (/10)	0.499 (0.096)***
Tenure sq. (/1000)	-1.189 (0.434)**
Moved to a different province since last survey	0.411 (0.069)***
Paid employed	-0.013 (0.061)
Constant	7.05 (0.13)***
8 job requirements	Yes
Industry and county fixed effects	Yes
Adj. R Sq.	0.291

Notes: The sample size is 2,327. Cross-sectional sampling weights are applied. Robust standard errors are in parentheses. \*: p-value<0.10, \*\*: p-value<0.05; \*\*\*: p-value<0.01.



Table 8 Premium of Sex Workers over Non-Sex Workers

Variable	Coefficient
Sex worker	4.84 (0.09)***
Years of schooling	0.113 (0.006)***
Sex worker $\times$ Schooling	0.003 (0.006)
Adj. R Sq.	0.785

Notes: The sample size is 11,144. Pisani's data and IFLS4 are merged. The following variables are controlled for but not listed for brevity: age group dummies, a dummy for being married, tenure, tenure squared, and their interactions with a dummy for sex worker. Robust standard errors are in parentheses. \*: p-value<0.10, \*\*: p-value<0.05; \*\*\*: p-value<0.01.