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**BROKERS AND THE EARNINGS OF FEMALE SEX WORKERS IN INDIA \***

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## BIOGRAPHIES

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## **BROKERS AND THE EARNINGS OF FEMALE SEX WORKERS IN INDIA**

### **ABSTRACT**

This study examines whether working with a broker increases or reduces the payment received for the last client among female sex workers. Building on research on the informal economy and sex work, we formulate a positive embeddedness hypothesis expecting a positive association and an exploitation hypothesis expecting a negative association. We analyze a large survey combined with intensive interview data on female sex workers in Andhra Pradesh, India. The data uniquely distinguish between the amount the sex worker actually received and the amount the client paid. The analyses show that brokers are associated with significantly lower last payment received. Although brokers are associated with a greater number of clients in the past week, this does not result in significantly higher total earnings in the past week. Further analyses suggest that much of the negative relationship with earnings is due to the fact that brokers lead to a lack of control over the amount clients are charged. At the same time, the results fail to show that brokers actually provide services of value. Ultimately, the results support the exploitation hypothesis. We conclude by encouraging the refinement of theories of embeddedness and exploitation, and greater research on workers in the informal economy of developing countries.

Sex work is widespread throughout the world and has existed for most of recorded history. Every day, tens of millions exchange sex for money (WHO 2006). Traditionally, scholars studied sex work as a matter of public health or ethics. Focusing on public health, many document the incidence of sexually transmitted infections (STIs) like HIV, and study risk behaviors like condom use (Blankenship et al. 2008; Mondal and Gupta 2013; Parrado et al. 2004). Another literature scrutinizes the ethics of whether sex work can ever be free labor (see Sanders et al. 2009). Some argue sex work is a system of domination or coercion, while others argue sex work is simply a low-income survival strategy (George et al. 2010; Sanders 2005; Sullivan 2003; Weitzer 2007). Despite the clear contributions of these literatures, a key limitation of both was the neglect of the labor market aspects of sex work – the “work of sex work” (Weitzer 2009). In an influential review, Vanwesenbeeck (2001: 242, 279) wrote, “The literature is still more about sex than it is about work. . . [the] working situation (e.g. contexts, routines, relations, conditions) has hardly been studied.” For the first literature, this neglect simply resulted from a different concentration. In the second, it was sometimes even considered problematic to call sex work “work” or a “market” because doing so uncritically frames sex work as a freely chosen vocation.

Partly in response, economists have begun to analyze sex work as a market (Arunachalam and Shah 2008, 2013; Gertler et al. 2005; Logan 2010; Moffatt and Peters 2004; Rao et al. 2003; Sahni and Shankar 2008). This literature highlights the role of human capital, and the prices for beauty, condom usage, and particular sex acts. In the past decade or so, the sociological literature on the work of sex work has also grown rapidly (e.g. Bernstein 2007; Boris et al. 2010; Brents et al. 2010; Lever and Dolnick 2010; Murphy and Venkatesh 2006; Oselin and Blasyak 2013; Rosen and Venkatesh 2008; Sanders 2005; Sanders et al. 2009). Distinctively, the sociological literature goes beyond purely economic factors to investigate gender, social relations, stigma,

and legality. Rather than viewing all sex work as domination and coercion, sociological research emphasizes the meaningful heterogeneity in domination and coercion within sex work (Hoang 2011; Morselli and Savoie-Gargiso 2014; Parrenas 2011; Zhang 2011). Because of these contributions, sex work research now spans a variety of topics. The field has answered Vanwesenbeeck's call, and now focuses considerable attention on work.

This study builds on these literatures to examine an important aspect of the work of female sex work (FSW) in Andhra Pradesh, India. Specifically, we analyze the relationship between working with a broker and the amount of payment received for the last client. Brokers are fairly common among FSWs, and play a key role in the informal economy more generally. Yet, the literature remains quite ambivalent about the costs and benefits of working with brokers. Payments received represent the compensation that FSWs receive, which is fundamental to the quality of any work. Moreover, greater payments allow FSWs to meet their economic needs while working less and having fewer clients. Thus, payments received are also relevant to public health and ethics. India provides an appropriate and useful context for exploring these issues because the majority of the world's informal sector workers, and likely FSWs, exist in the developing world.

We utilize a large survey of FSWs combined with intensive interview data. Advantageously, the survey distinguishes between the amount the sex worker actually received and the amount the client paid. Further analyses investigate the number of clients, control over working conditions, and other outcomes. Altogether, we aim to make four contributions. First, we provide one of the few large sample analyses of the earnings of FSWs (cf. Arunachalam and Shah 2013). Second, we scrutinize how one salient social relationship – between a broker and a worker – shapes the economic outcomes of sex work. Third, we apply and refine theories of

embeddedness and exploitation. Fourth, we advance understanding of the work of sex work and the informal economy more generally.

## **PAST RESEARCH ON BROKERS IN THE INFORMAL ECONOMY**

Sociologists have long studied the contractual and quasi-contractual arrangements facilitating the sale of workers' services by brokers. Brokers are especially important in informal and criminal economic activity. Informal and illegal workers depend on suppliers, coworkers channeling customers and collecting payments, and those providing corollary services like security (Bourgois 2003; Portes and Sassen-Koob 1987; Venkatesh 2006). Criminals often form "tutelage relationships" where more experienced criminals share knowledge and opportunities in exchange for a portion of earnings (Hagan and McCarthy 1997). In these often mutually beneficial tutelage relationships, the experienced criminal typically serves as both broker and mentor (McCarthy and Hagan 2001; Morselli et al. 2006). Conversely, considerable evidence suggests illegal and informal workers are vulnerable to brokers. For example, compared to those working independently, undocumented Hispanic immigrants working through sub-contractors receive lower wages and no benefits, and experience longer spells without work (Flippen 2012).

Recent research on brokers in sex work provides evidence of both benefits and harms (Morselli and Savoie-Gargiso 2014). On the one hand, brokers manage pace, schedule, and compensation; recruit, screen and collect money from clients; provide security; and mediate disputes with clients, police and other FSWs (Weitzer 2009). Morselli and Savoie-Gargiso (2014) find that most interactions between pimps and FSWs involve management (time, money, site), or involve the pimp acquiring goods, services, and information for FSWs. Some brothel owners and managers provide safer working conditions (Brents and Hausbeck 2005), and

madams often act as teachers and socializers (Heyl 1977). Further, FSWs often elect to work for brokers to avoid police harassment (Chapkis 2000). Levitt and Dubner (2009) argue pimps attract higher-paying clients, and therefore, lead to significantly higher earnings for Chicago FSWs. Zhang (2011: 526) explains that in Tijuana: “sex trade facilitators were not much different from merchants of any other type in an illicit market place, treating sex workers like a commodity.” Marcus and colleagues (2014) conclude most brokers are “facilitators,” managers, or “spot pimps” who arrange transactions with clients. They conclude pimps’ control of FSWs tends to decline over time (also Zhang 2011). Marcus and colleagues estimate that only two percent of FSWs in Atlantic City and New York were in a violent relationship with a pimp (also Sanders et al. 2009).

On the other hand, pimps might not actually provide useful services (Bernstein 2007; Maher 1997). Chapkis (1997: 98) writes, “Sex work can be radically transformed. . .when control passes from a worker to a third party (brothel owner, escort agency, manager or pimp).” Brokers are often manipulative, violent, and abusive to FSWs (Karandikar and Prospero 2010; Morselli and Savoie-Gargiso 2014; Zheng 2009). Chapkis (2000) shows that managers and brokers try to remove as much decision-making power from FSWs as possible, including in interactions with clients, scheduling, and rates of pay (also May et al. 2000; Miller 1995). Relative to female sex workers, the lower presence of pimps among male sex workers results in less coercion and violence, and greater control over working conditions (Weitzer 2009: 223) In addition, at least some FSWs are deceived or trafficked into sex work by brokers (George et al. 2010; Sullivan 2003; Weitzer 2007, 2009). Moreover, because many FSWs engage in sex work out of economic necessity and with limited legality, they may be especially vulnerable to brokers (Bowen et al. 2011; Karandikar and Prospero 2010; Vanwesenbeeck 2001).

Thus, research on brokers in sex work is ambivalent about whether they are beneficial or harmful. Moreover, there have been few rigorous analyses of the relationship between working with a broker and the payments received by FSWs.

### **POSITIVE EMBEDDEDNESS OR EXPLOITATION?**

Building on the aforementioned literatures and relevant sociological theories, we formulate two hypotheses for the relationship between brokers and payments received by FSWs. The positive embeddedness hypothesis expects that brokers increase the payments received. We label this hypothesis *positive* embeddedness to make clear that the entire embeddedness literature does not necessarily lead to the expectation of positive effects. The exploitation hypothesis expects that brokers reduce the payments received.

Sociologists have long contended that economic action is embedded in social relations (Krippner 2001; Portes and Sensenbrenner 1993; Powell and Smith-Doerr 1994; Uzzi 1996). Applying relational explanations to markets has been one of sociology's truly cumulative research programs (Krippner and Alvarez 2007). Sex work involves many of the processes that have been studied in the embeddedness research program: job search, recruitment of and interactions with clients, reputation, autonomy, hierarchy, and compensation (Chapkis 2000). Although social relations are often implicit in the sex work literature, they have rarely been explicitly theorized for the work of sex work (for an exception, see Kotiswaran 2008).

According to the positive embeddedness hypothesis, brokers should increase payments received by FSWs. To the extent FSWs are connected to, regularly work with, and are known by brokers, FSWs can be said to be "embedded with" and have network ties to brokers. Brokers should coordinate efficient exchange by bridging clients and FSWs. This is because brokers

provide information or a contact point for clients searching for FSWs, and can steer more lucrative clients to FSWs. Because brokers have knowledge of where to find FSWs, this should reduce transaction costs for clients and reduce idle time and boost demand for FSWs. By working together routinely over time, a relationship of trust and solidarity should emerge such that brokers have an interest in and obligation to paying FSWs a fair amount (Uzzi 1996). As discussed above, brokers can provide security and help FSWs avoid police harassment. As a result, brokers should enable FSWs to be mobile and work in a wider variety of settings, and to be more visible and less discreet, all of which should facilitate attracting clients and higher earnings (Bernstein 2007; Oselin and Blasyak 2013; Sanders 2005). Ultimately, embeddedness with brokers should increase payments received by FSWs.

It would be unbalanced to claim that the entire embeddedness literature would expect positive effects. That said, the embeddedness literature tends to concentrate on (a) emphasizing the relevance of social relations to economic action and (b) mapping the formal structure of networks within markets. In turn, the embeddedness literature has been criticized for focusing too much on those questions, for treating all social ties as equivalent, and for abstracting away the content from social relations (Fligstein 2001; Krippner 2001; Krippner and Alvarez 2007; Powell and Smith-Doerr 1994). In the sex work literature discussed above, social relations are not usually the idealized solidaristic and reciprocal networks featured in the embeddedness literature. Rather, vulnerable low-income workers in the informal economy, like FSWs, are more likely to have what Desmond (2012) calls “disposable ties”: opportunistically formed with loose acquaintances, temporary and without long term security or trust, and unsustainably burdened with emotions and financial demands.

Building on these critiques, we formulate the exploitation hypothesis, which expects that brokers reduce FSWs' last payment received. Exploitation is routinely invoked by sociologists in many literatures (Tilly 1998; Tomaskovic-Devey 2014; Wright 1997), but the field has made insufficient progress in defining and measuring exploitation (Sorensen 2000). As Sakamoto and Liu wrote in 2006 (p.219), "There is still no published research in modern sociology that has quantitatively measured or empirically studied exploitation in a systematic manner." To develop the exploitation hypothesis, we make six points.

First, building on Sakamoto and colleagues (Liu, Sakamoto and Su 2010; Sakamoto and Kim 2010; Sakamoto and Liu 2006), we propose brokers exploit FSWs if FSWs are underpaid relative to the value of their labor. Second, this raises the question of defining "value." Sakamoto and colleagues utilize information on workers' marginal value-added productivity, and define exploitation as "being paid less than the value of what one produces" (Sakamoto and Kim 2010: 20). Because it is likely impossible to objectively determine the marginal productivity/ value-added of a FSW in the informal economy, the best available approximation is the price the market is willing to pay. Indeed, Sakamoto and Kim (2010: 20) refer to exploitation as being underpaid relative to the "market value" of productivity. Economists often claim price is the *only* measure of value, and such a claim should be even more plausible in an informal economy with many independent transactions between many FSWs and many clients.

Third, therefore, the market price can be estimated concretely from a model predicting the last payment received conditional on the characteristics of the FSW and her working conditions. If the broker coefficient is significantly negative, on average, FSWs receive less than their value when they work with brokers.

Fourth, consistent with classic theories of exploitation, while brokers would lose out on the rewards of the exchange if FSWs do not work with them, FSWs would be better off if they did not engage with brokers (Roemer 1982).<sup>1</sup> This can be demonstrated if one finds the costs from working with a broker exceed the value of the services that brokers provide, such as wage gains because of greater safety and lessened police harassment. More simply, exploitation occurs if brokers fail to provide any valuable services while extracting resources from the FSW.

Fifth, we emphasize that exploitation is a social relation (Tomaskovic-Devey 2014; Wright 1997). Rather than simply saying FSWs are oppressed or disadvantaged, exploitation means there is an identifiable actor receiving disproportionate rewards relative to the value of brokering. As Sakamoto and Kim (2010: 20-21) explain: “*Someone else* obtains the difference without providing adequate compensation. . . part of it is being diverted to *another group of people* who are benefiting from the appropriation.” This is consistent with Tilly’s (1998: 86-87) definition of exploitation as, “Some well-connected *group of actors* controls a valuable, labor-demanding resource from which they can extract returns only by harnessing the effort of others, whom they exclude from the full value added by that effort.” Just like embeddedness, exploitation requires the FSW to be connected to, work with, and have network ties to brokers. Thus, exploitation has similarities to the embeddedness literature’s concept of the negative side of social relations (Portes and Sensenbrenner 1993).

Sixth, the concept exploitation addresses critiques of the embeddedness literature by specifying the *content* and *kind* of the social relation. Particularly important, exploitation is facilitated by “adapting” (Tilly 1998) legitimated status hierarchies devaluing women (Ridgeway 2014; Tomaskovic-Devey 2014) and gendered power relations (Miller 1995) into the *content* of broker-FSW relations. Indeed, scholars of gender inequality at work often claim exploitation –

arguing that women's labor is devalued or that employers exploit women by underpaying them relative to their value (Folbre 1982; Tilly 1998; Tomaskovic-Devey 2014). When women have limited alternative employment opportunities, their economic independence and bargaining power is undermined (Folbre 1982; Miller 1995). As sex work violates gender norms and stigmatizes FSWs, this erodes alternative employment opportunities further, which makes FSWs more dependent on sex work and more vulnerable to brokers. Partly as a result, the FSW-broker relation has strong potential to become an exploitative *kind* of relation. Some FSWs do not work freely, and some are trafficked or coerced by brokers. The prevalent threat of violence also empowers brokers over FSWs (Bourgois 2003; Miller 1995). In the marginal legality of sex work in India, brokers can insert themselves into transactions between clients and FSWs because clients may be cautious about soliciting FSWs for fear of being arrested. Because of this bridging location between clients and FSWs, brokers have leverage in the market for sex work. The market for sex work also has many imperfections (e.g. breach of payment contracts without legal recourse; opportunities to bribe police) and these imperfections create advantages for brokers. Such leverage and advantages enhance brokers' power over FSWs and facilitate exploitation.

In sum, we formulate two hypotheses. The positive embeddedness hypothesis expects that brokers will increase the last payment received by FSWs. The exploitation hypothesis expects that brokers will reduce the last payment received by FSWs.

## **THE CONTEXT OF SEX WORK IN RAJAHMUNDRY**

The data were gathered in 2006-2010, as part of a multi-method study of FSWs in the Rajahmundry area of the East Godavari district in Andhra Pradesh, India (see methods below). Rajahmundry's metropolitan area has a population of about half a million and is one of several

large urban areas in Andhra Pradesh. It is one of two major towns in the largely rural, agriculturally prosperous East Godavari district. It is an informative site because it is located on National Highway 5, a major north-south route for truckers, and is known as a location for FSWs. Although Rajahmundry is worthy of study in its own right, Rajahmundry is likely a typical case of and is plausibly representative of India's medium/smaller cities, towns, and villages (Bowen et al. 2011). Because the sample demonstrates considerable heterogeneity, it is probable that Rajahmundry captures much of the diversity of sex work that can be found in India and other developing countries (Biradavolu et al. 2009; Blankenship et al. 2008; George et al. 2010; Kotiswaran 2008; Sahni et al. 2008). That said, Rajahmundry is likely different from large metropolitan centers in developing countries, such as Mumbai, which have closer connections to the global economy and tourism (Zhang 2011; Zheng 2009).<sup>2</sup>

Biradavolu and colleagues (2009: 1542) estimate there were approximately 1500 FSWs in the area at the point in time of the first survey. In our sample described below, less than a quarter of FSWs can read or write, their average age was 31, about two-thirds were separated/divorced/widowed, and they had an average of 1.8 children (see Appendix I).

Although most report having entered sex work without trafficking, about 8 percent of our respondents report being originally "lured, cheated, or forced into sex work" and 16.2 percent started sex work when they were less than 18. Most FSWs report having entered sex work because of economic necessity and because sex work offers better earnings than alternative employment opportunities. One of our interview respondents (methods described in next section), a mid-40's street-based FSW with 15 years of experience, explains:

My husband died and the children were young. When I went for other work like daily labor, the men there asked me to sleep with them and gave me work only if I did that. I used to work as a laborer for thirty rupees and had to bear with all these things after the hard work. So I thought it would be better if I did this work alone.

I met a man and I decided it is the same mistake if it is with one or many. So I took a woman's help and came to the [city] Center. I started earning some money and brought up my children. I felt this was providing food for my children and felt this was better. When I went as a laborer, I had to work hard for forty rupees and had to sleep with the men there. The money was not sufficient. Now I can work for an hour or two and get a hundred and look after my children well.

Similarly, a street-based 30 year old FSW with 5 years of experience explains, "After the birth of four children, he [husband] died in an accident because of excess alcoholism. . .My in-laws looked after me comfortably for a year and then they forced me out of the family. We had no other source of income to survive and I decided to enter this profession to survive."

In our sample (see Appendix I), about 15 percent worked with a broker. The respondents worked an average of 3.95 out of the past seven days, and had an average of ten clients in that period. The respondents estimate nearly half of their clients in the past seven days were truckers, and about a third were college students or rickshaw drivers.<sup>3</sup> Almost a third of FSWs work at home, followed by a quarter on the highway, and smaller shares in the street, brothels, lodges, and multiple venues.

In India, and much of the world of sex work, the legality of sex work is quite ambiguous. This gives police arbitrary authority to extract resources from and harass FSWs (Biradavolu et al. 2009). Kotiswaran (2008: 589) explains it is legal for "a sole sex worker to sell sex for her own benefit in a discrete manner in a place that is not in or near any public place." However, solicitation in public is illegal and it is illegal to profit from or depend upon the sex work of others (e.g. running a brothel or working as a broker). This enables police to raid brothels and arrest FSWs arbitrarily on public nuisance charges, and in response to complaints from the general public, neighbors, and shopkeepers, or under the accusation of making money from other FSWs (Biradavolu et al. 2009; Kotiswaran 2008).<sup>4</sup> In India (Biradavolu et al. 2009) and other contexts (Levitt and Dubner 2009), FSWs may be pressured to provide sex and bribes to the

police in exchange for the opportunity to work. The police often know who FSWs are, and use the threat of arrest and shame to demand bribes and sex.

## **METHODS**

Our principal data are three cross-sectional surveys, administered in 2006, 2007, and 2009-2010, with samples of 812, 673, and 850, respectively.<sup>5</sup> All three were recruited using respondent driven sampling (RDS). Five seeds in the first and third, and 10 in the second, representing different groups of FSWs, completed the survey and distributed coupons to up to three members of their network who met the study's eligibility criteria (recruits).<sup>6</sup> Recruits then had the opportunity to distribute coupons to up to three other FSWs in their network. To ensure the final sample was independent of the initial seeds, we completed at least six recruitment waves and generated a sample size of at least 500 in each wave (Magnani et al. 2005). Despite some limitations (discussed below), RDS has proven useful for recruiting hidden populations like FSWs and there is evidence that it produces samples that are more representative than place-based sampling or other feasible alternatives (Magnani et al. 2005).

To be eligible, respondents had to report being at least 18 years old and to have exchanged sex for money at least once in the prior year. The surveys lasted 90-120 minutes, and were conducted in Telugu by trained interviewers after confirming participants' informed consent. Respondents received a modest compensation for participation and for recruiting other FSWs. We merge the three survey waves, while filtering out respondents who participated in earlier waves.<sup>7</sup> After accounting for missing data, this yields a sample of 1,669. Appendix I contains descriptive statistics and detailed definitions for the variables. Appendix II shows the correlation matrix among independent variables.

In addition, we utilize 27 intensive interviews with FSWs who were recruited from among the survey respondents. Respondents were drawn from a combination of a purposive and convenience sampling, and selected to reflect the diversity of the quantitative sample in terms of demographics, venue, and other characteristics. The interviews were semi-structured, covered life history and several topics, and included opportunities to discuss brokers.<sup>8</sup> The interviews lasted approximately 2 hours, were conducted in 2006 and 2007 in Telugu, and then were translated and transcribed into English. Respondents received additional compensation for the interview.

We utilize an “embedded design” whereby the qualitative data deepens and validates the quantitative analyses (Creswell and Plano Clark 2007). The interview transcripts were read in their entirety. Then, we examined all passages relevant to brokers or payments received as well as several other aspects of working conditions. We selected examples and quotes that are representative of the broader patterns. The qualitative interviews are used to enhance interpretation of and illustrate the quantitative results (Plano Clark et al. 2008).

### ***Dependent Variables and Estimation***

The key dependent variable is *payment received for the last client*.<sup>9</sup> This self-reported measure is the logged real (2009) rupees actually received by the FSW. To calculate this, we uniquely utilize survey questions on both what the last client paid, and how much of the money went to the respondent (e.g. as opposed to a broker). As discussed below, the payment received for the last client is significantly lower than the amount the last client paid ( $t=-5.76$  unlogged,  $t=-9.39$  logged). The mean and median is 4.85 logged real (2009) rupees, which translates to about 127 real rupees in 2009. We analyze this dependent variable with ordinary least squares (OLS) regression as the logged value is relatively normal ( $skew=.22$ ).

In addition to the main dependent variable, we analyze the number of clients and total earnings. The *number of clients* is a self-report for the past seven days. The average number of clients is 10.15 and the median is 6.<sup>10</sup> Because it is a count and exhibits over-dispersion, we analyze this dependent variable with negative binomial regression. *Total earnings* is the product of the logged payment received for the last client and the number of clients in the past seven days. This assumes that payment for last client is representative of all clients in the past week. However, as we do not have a survey question regarding payments received over time, this is the best available proxy for longer term total compensation. We estimate OLS regression with this dependent variable.

The last three dependent variables evaluate FSWs' subjective lack of control over work. Respondents were asked how frequently: "you decide the amount you charge for sex with a client"; "you decide the type of sex you have with a client"; and "you decide the number of clients you see in a week." We use these to create: *lack of control of amount charged*, *lack of control of type of sex*, and *lack of control of # of clients*. We coded the responses into 0=always, 1= usually, 2=sometimes, 3=rarely, and 4=never. We present OLS regression for these variables to make the results comparable to the other models and because the results were similar with ordinal logit (available upon request).

In supplementary analyses, we examine seven outcomes measuring services potentially provided by brokers. These models are estimated with logistic or negative binomial regression. *Paid bribe to police* is a binary measure of whether respondent has given police something to avoid trouble in past six months. *Had sex with police* is a binary measure of whether respondent has ever had sex with police to avoid trouble with them. *# of police raids* is a count in the past six months of police conducting raids in the place the respondent conducts sex work. *# times*

*arrested* is a count of the number of times in the past six months respondent has been arrested by police. *# times experienced violence* measures how often the respondent has been beaten without a weapon in the past six months (0=never, 1=once, 2=2-5 times, 3=6-10 times, 4=more than 10 times). *# times forced to have sex* measures how often the respondent has been forced to have sex in the past six months (0=never, 1=once, 2=2-5 times, 3=6-10 times, 4=more than 10 times). *# threats with weapon* measures the frequency of having been threatened with a weapon or having a weapon used against the respondent in the past six months (0=never, 1=once, 2=2-5 times, 3=6-10 times).

### ***Independent Variables***

The key independent variable is *Broker*. We code a FSW as working with a broker if she reported that someone else collected money from the last client.

We also experimented with other measures of brokers (e.g. whether respondent: resides with a “madam/owneramma”, paid someone to bring last client, paid broker to use a place for last client, gets condoms from a madam, or experienced violence from a madam). The results were robust regardless of whether we combined or separated these measures. There is very high overlap, and very few respondents have any relationship with a broker without reporting someone else collected money from the last client.<sup>11</sup> This should increase confidence in our measure. However, the high overlap inhibits comparison between multiple measures and we cannot be certain our results generalize to FSWs with brokers who did not collect money from the last client. Consistent with others (Marcus et al. 2014; Sanders et al. 2009; Zhang 2011), there is heterogeneity among brokers. For example, a few interviewees distinguish between kinds of brokers. One referred to rickshaw drivers as “commissioning agents” who are different from brokers who arrange long-term contracts, for example, at a lodge (cf. Zhang’s [2011]

“commissions” and “referral fees” in Tijuana). Unfortunately, the survey did not ask about the sex or characteristics of the broker. As Appendix II shows, working with a broker is moderately positively correlated with working in a brothel. Otherwise, however, there are no clear associations between working with a broker and the other independent variables.

We begin by adjusting the models for the FSW’s characteristics. We include dummies for the *wave 2* (2007) and *wave 3* (2009) surveys (reference=2006). Because venue is a central stratifier (Murphy and Venkatesh 2006; Sanders et al. 2009; Weitzer 2009), we include dummies indicating if the FSW works in a *brothel*, *street*, *lodge* or *highway* (reference = home).<sup>12</sup> Many show human capital increases wages in the informal economy similar to the formal economy (McCarthy and Hagan 2001; Hoang 2011; McKeever 1998). As a result, we include *age* in years,<sup>13</sup> which incorporates both the value of increasing experience, skills and knowledge with age and/or the desirability/beauty attached to younger FSWs. We also include *literacy* with a binary measure of whether respondents can read or write (reference=neither). There is evidence that FSWs utilize social networks to learn how to increase earnings and select clients (Bretns et al. 2010; Hagan and McCarthy 1997; Murphy and Venkatesh 2006; Sanders 2005). Hence, we include the *# of sex workers (SW) known*.

Much literature shows family and kin are “proximal foreground” priorities for FSWs and informal sector workers (Hagan and McCarthy 1997; Venkatesh 2006). On one hand, families provide support and resources (e.g. income and unpaid labor like childcare), which likely raise reservation wages such that sex work is only worthwhile for higher payments. For instance, cohabiting allows criminals to ease up on illegal earnings (Uggen and Thompson 2003) and married FSWs tend to earn more than unmarried FSWs (Arunachalam and Shah 2008). On the other hand, families create needs and may pressure women into sex work (Sahni and Shankar

2008; Vanwesenbeeck 2001). For example, Davis (1993) finds that FSWs receive little monetary or emotional support from families, and that women often enter sex work because of parental rejection or pressure. Lim (1998) concludes that women turn to sex work after the departure of a husband.<sup>14</sup> In turn, we include five measures of the household. *Other contributors in the household* is a binary measure for whether another contributes income. Marital status is measured with dummies for *married* and *separated/ divorced/widowed* (reference = never married).<sup>15</sup> We also include *# of children* and a binary variable for *parent(s) in household*.

We next adjust for working conditions. In these models, we include the number of clients. In the final set, we also include the measures of lack of control over work. We include binary variables for *always use condoms* and *usually use condoms* in the past seven days (reference= sometimes, rarely, or never).<sup>16</sup> Studies in India and elsewhere find FSWs tend to sacrifice pay if using condoms (Arunachalam and Shah 2013; Gertler et al. 2005; Rao et al. 2003). By contrast, recent research in southern India finds there is now a premium for safe sex (Mondal and Gupta 2013).

The initial entry into sex work is a critical juncture that has been shown to have lasting consequences much later in the working conditions of sex work (Bowen et al. 2011; Cobbina and Oselin 2011). At least some are pressured, deceived, or trafficked into sex work, and often this occurs by entering sex work at a young age. Trafficked FSWs experience lower autonomy, and greater risks for STIs and sexual assault (Sullivan 2003). Therefore, we include a binary measure of *started SW at young age* coded one if the respondent reported having begun sex work before the age of 18.<sup>17</sup> Extensive literatures show violence, abuse and rape are widespread among FSWs and informal-sector workers (Bourgeois 2003; Karandikar and Prospero 2010; Miller 1995; Oselin and Blasyak 2013; Zheng 2009). For instance, Hagan and McCarthy (1997) find that

violence, sexual assault and demands of sex as payment for shelter and food are common for homeless youths. Murphy and Venkatesh (2006) find that even among indoor sex workers in New York, violence, threats and rape are prevalent. FSWs often organize their work to reduce the risk of physical harm, and such tactics have ramifications for earnings (Bernstein 2007; Oselin and Blasyak 2013; Sanders 2005). Hence, we include three of the aforementioned measures of experiences with violence and rape: *# of experiences of violence*, *# of times forced to have sex*, and *# of threats with weapon*.<sup>18</sup>

## RESULTS

### *Last Payment Received*

Table 1 shows the OLS models of last payment received. In the first model, we include the broker variable and the basic characteristics. In the second model, we add the measures of working conditions (minus the measures of lack of control, which we add later). We report standardized or semi-standardized (for binary independent variables) coefficients and t-scores.

[ Table 1 about here ]

In both models, having a broker is significantly negatively associated with last payment received. In model 2, having a broker is expected to reduce last payment received by about .144 standard deviations, holding all other variables constant at their means. These results are consistent with the exploitation hypothesis and contradict the positive embeddedness hypothesis.

Among the FSW's characteristics, working in the street or on the highway is associated with significantly lower payments received than working at home. By contrast, working in a lodge is associated with significantly greater payments. Age and being separated/divorced/widowed are associated with lower payments received, while literacy, and having other

contributors or parent(s) in the household are associated with higher payments. Among the measures of working conditions, the number of clients and having started sex work at a young age are negatively associated with last payment received.

The largest coefficients are for literacy and venue. The coefficient for having a broker is slightly smaller but comparable to a standard deviation increase in age, having other contributors or parent(s) in the household, being separated/divorced/widowed, and having started sex work at a young age. The coefficient for having a broker is considerably larger than a standard deviation increase in the number of clients in the past seven days.<sup>19</sup>

In the intensive interviews, several FSWs report having madams or pimps, and others were brought clients by intermediaries like rickshaw drivers. Some describe working “on contract,” which means they worked in a lodge or brothel where they were paid a fixed amount or rate per client for a time period. For some FSWs, brokers were paid a portion of earnings in exchange for delivering the FSW to a lodge. Across these heterogeneous brokers, FSWs repeatedly criticize the brokers’ high fees. One FSW reports that clients pay 110 rupees at lodges, but she only receives 40. Another reports that rickshaw drivers receive 20-30 rupees per 100, and that the madam and the FSW share the remaining 70-80. One FSW explains that rickshaw drivers charge one-third the payment for bringing clients from the rail station. Others explain that the client pays 500-1000 rupees to the madam, but the FSW only receives 200-300.

Indeed, a widely shared sentiment was that madams and brokers were extracting an unfair amount. A 56 year old home-based FSW who had 10 clients in the past week explains:

There is a company owner. We go there if she sends word. She collects one hundred rupees from the client and pays us twenty five rupees. And she lies to us that the client gave her only fifty rupees out of which she was taking twenty five and giving us twenty five.

A 30 year old FSW working in multiple venues who had 13 clients in the past week:

Respondent: The rickshaw drivers and the brokers bring customers. If the deal is made for five hundred we have to give one hundred and fifty rupees to the broker and with the remaining three-fifty we have to pay for the room, and give the room boy some amount. We have some amount left. For all this procedure, we don't go for the rickshaw parties. We talk on our own. Then even if we give for the room we have three hundred left. It will be difficult to share the amount with three people. They just bring customers and it is us that do the hard work. So we don't keep agreements with the rickshaws.

Interviewer: If a broker gets a five hundred rupees deal, how much will you get?

Respondent: We get one hundred and fifty or two hundred. If a friend does not get any customers then we give the fifty to them and keep the one fifty for us.

Interviewer: Are there any benefits because of these brokers?

Respondent: They take commission. If they come directly to us we will get the full amount. If we have these brokers we have to give thirty percent to them.

Interviewer: Is there any advantage with them?

Respondent: No, it is a loss of money.

Thus, consistent with the exploitation hypothesis, the survey and interviews both provide evidence that working with a broker is associated with lower payments received.

Given these results, one may ask why FSWs work with brokers. Several FSWs claim they do not willingly engage with brokers. Rather, brokers have occupied an intermediary position that enables clients to locate FSWs, and brokers leverage this position to extract a fee regardless of the FSWs' preferences. Still, at least a few interviewees report voluntarily entering into contracts or engaging with brokers. We now turn to this issue.

### ***# of Clients and Total Earnings***

One reason that FSWs may work with brokers is that brokers bring clients to the FSWs, and thus increase the number of clients for FSWs. If such an increase in clients is large, it could overwhelm the negative effect on the last payment received and result in greater total earnings.

Table 2 examines these issues.

[ Table 2 about here ]

The first model in Table 2 examines the number of clients in the past seven days. This model shows that having a broker significantly increases the number of clients. However, the influence of brokers is not terribly large. Having a broker is expected to increase the number of clients by a factor of 1.16. Having a broker has a comparable influence to being married or having started SW at a young age, and a larger influence than the number of times forced to have sex, being separated/divorced/widowed, the number of experiences of violence, age, and the number of sex workers known. Brokers have a smaller influence than always using a condom, or working on the highway, in a lodge, or in a brothel.

Of course, some of these results may reflect that the number of clients causes the independent variable. Because our data is cross-sectional, we cannot convincingly identify the causal order of these relationships. It is plausible that FSWs with a higher number of clients are more likely to know other FSWs, always use condoms, and be exposed to greater violence and forced sex. Indeed, FSWs with many clients may be visible to and pursued by brokers. Conversely, some of the independent variables occurred prior to the past week, and thus precede the number of clients.

That said, the interviews also provide evidence that FSWs working with brokers have more clients. However, one theme that emerges is that this greater number of clients diminishes autonomy for the FSW and enhances control for the broker. For example, a 36 year old FSW with 20 years of experience who had 14 clients in the past week recalls, “When I was on contract I was made to work for more, without rest, even at midnight they used to wake me up and ask me to work.” A 19 year old street-based FSW with one year of experience, who had 30 clients in the past week and works for a broker explains:

Respondent: Once we go there, we have to work whether we like it or not. She [madam] does not even allow us to go if we want to go home in the afternoon when we are sick. It is very problematic.

Interviewer: Do they decide the number of clients you have to serve?

Respondent: They decide.

Interviewer: Does she send the clients though you refuse to serve?

Respondent: Yes, she sends them to me though I refused to serve.

A 36 year old highway-based FSW with 18 years of experience adds:

They [brokers] even send us to the beggars. We had our heart broken and came out to do the business at the highway. They make us do sex work all through the night and don't give proper food. They take all the money. How much can we bear? We get tired if we take two or three "parties," and the madam makes us do the business all the night. She makes us sit on the steps at the entrance of the house at five in the evening and we have to call the men to come and take them all through the night until five in the early morning. We were taken to [various cities] on contract. If it is on the highway [working without a broker], we earn two hundred and come back if we feel tired. It is not possible with the owners. They say "He took ten thousand for keeping you here: you have to work until the advance is cleared."

Thus, while brokers result in a higher number of clients, this appears to come at the expense of autonomy and control over work. Still, if this higher number of clients results in greater total earnings, FSWs could be compensated for this greater work effort and diminished autonomy.

Do brokers result in greater total earnings? The second model in Table 2 shows that having a broker is not associated with a greater total earnings in the past seven days ( $t=-.5$ ). Total earnings is positively associated with working in a lodge, literacy, the number of FSWs known, being married, having other contributors or parent(s) in the household, always using a condom, and the number of times forced to have sex; and negatively associated with working in the street and age. However, and despite a positive relationship with the number of clients, FSWs do not receive greater total earnings when working with brokers.

### ***Lack of Control Over Work***

As discussed above, one of the critiques of the embeddedness literature is the neglect of the content of ties. As the interviews illustrate, a key aspect of the content of the FSW-broker relation is control over working conditions. In turn, to understand why brokers result in a lower payment received, Table 3 investigates whether the control over work mediates the relationship between brokers and lower last payments received. The first three models predict lack of control of the amount charged, the type of sex, and the number of clients. Having a broker is positively associated with a lack of control of the amount charged and a lack of control of the number of clients. That is, brokers undermine control over the amount charged and the number of clients. Having a broker is not associated with a lack of control of the type of sex.

[ Table 3 about here ]

In the final model, we include these measures of lack of control in a model of payment received for the last client. This model would suggest a mediating relationship if: a) the broker coefficient is smaller and less significant, and b) lack of control significantly influences last payment received. Indeed, lacking control of the amount charged is significantly negatively associated with the last payment received. Perhaps because FSWs exchange control of the type of sex for higher payments, lack of control of type of sex is significantly positive. In this model with the measures of lack of control, having a broker now becomes insignificant. Because having a broker is positively associated with a lack of control of the amount charged, this suggests that lack of control of the amount charged mediates the relationship between having a broker and lower payments received. A plausible interpretation is that brokers take control of the amount charged away from FSWs, and this loss of control results in FSWs receiving a lower payment.

Indeed, many interviewees characterized brokers in a way consistent with this interpretation. A recurring narrative was that brokers secured a higher amount from the clients,

but the broker deceived the FSW by saying it was for a lower amount, and then giving a share of the lower amount to the FSW. This loss of control results partly because the broker typically negotiates with the client over price, and this typically occurs outside the view of the FSW. For example, the aforementioned 56 year old FSW explains:

Respondent: We will have whatever the client gave us inside. And the woman who offers us business will take the major amount and will pay us very little.

Interviewer: How much does she take?

Respondent: She takes 75 out of a hundred. . .She would give us 25. . .

Interviewer: Does she call you when the client approaches her?

Respondent: Yes. . .when we asked him to pay for the work, he would tell us that he had already paid it to the room owner. Then we would tell him that it was separate. When the client is gone, the woman would say, “Dongamunda Koduku [son of a bitch], he gave only fifty rupees.”

Interviewer: She says so even after taking one hundred [from the client].

Respondent: Yes, after taking one hundred. Then we would think to ourselves, “She is the real Dongamunda.”

In sum, brokers are associated with having less control over sex work. This loss of control manifests as weakened decision-making power over the amount charged and the number of clients. The loss of control over the amount charged then explains why working with a broker results in lower payments received.

### ***Do Brokers Provide Services of Value?***

As a final empirical question, we investigate whether there are any additional benefits of brokers. Beyond increasing the number of clients, there could be other reasons FSWs choose to work with brokers. If these services have clear value, brokers could offset the lower last payments received by insuring safety or allowing FSWs to eschew police harassment. Indeed, some evidence suggests brokers serve a function consistent with Levitt and Dubner’s (2009: 38) account of Chicago FSWs. While we did not specifically ask interviewees what service brokers provide, some respondents voluntarily explain that brokers negotiate with police and manage risk with potentially violent clients. For example, one FSW reports that the madam settles “police

problems at her own cost” by paying for release or bribing the police to avoid arrest and harassment. Another FSW explains, “In the highways we have to provide for our release [from the police]. In the houses, the madam brings money and speaks to the police and tells him she has some heart problems and could not earn in any other way, so she brought these two girls and was doing the business when the constable arrested them. She offers the money and brings the girls back.”

However, the claim that brokers provide valuable services is contradicted by the survey data. Analyses summarized in Table 4 examine a variety of services that brokers could have provided a FSW in the past six months. If brokers provide valuable services, we should observe a negative relationship with the outcomes in Table 4.

[ Table 4 about here ]

The results show working with brokers actually significantly *increases* the odds of having paid a bribe to the police and having had sex with the police. Working with a broker is also nearly significantly *positively* associated with the number of police raids FSWs have experienced.<sup>20</sup> At the same time, working with a broker is not significantly associated with the number of times arrested by the police. Further, FSWs working with a broker had been the victim of a significantly *greater* incidence of forced sex, and the coefficient for a broker is not significant for the number of experiences of violence or threats. Of course, the causal direction is uncertain. It certainly could be that FSWs who have experienced more police harassment or greater violence may be more likely to select into brokers. Still, consistent with the exploitation hypothesis, the surveys provide no evidence that brokers protect FSWs from police or violence.

The final potential service of value is that brokers may attract higher paying clients (Levitt and Dubner 2009). We stress that our dependent variable is a more accurate measure of

the earnings of FSWs because, as noted in the methods section, the last payment received is significantly lower than the amount the last client paid ( $t=-5.76$  unlogged,  $t=-9.39$  logged). Still, it is worth considering if brokers actually result in higher paying clients. Table 5 summarizes the relevant results, including model 2 of Table 1 for comparison.

[ Table 5 about here ]

In contrast to the first model, the second model shows that brokers result in a significantly higher amount the last client paid. Indeed, working with a broker raises this amount by .4 standard deviations, which is substantively larger than most independent variables (except the control for Wave 2). Thus, brokers do attract higher paying clients. However, even if working with a broker raises the amount the client pays, the premium appears to go entirely to the broker and the FSW receives less than if she had not worked with a broker. These results support the exploitation hypothesis and demonstrate it is essential to distinguish between the amount the FSW received as opposed to the amount the client paid.

## **DISCUSSION**

This study examines the relationship between working with a broker and the payments received by a sample of FSWs in Andhra Pradesh, India. Payment received is a central economic outcome for FSWs and speaks to well-being and working conditions. Brokers are fairly common among FSWs, and have been shown to play a key role in the informal economy. Yet, the literature remains quite ambivalent about their costs and benefits. This study utilizes literatures on embeddedness and exploitation to investigate this salient social relationship. In the process, we provide one of the few large sample analyses of the earnings of FSWs. We also deepen understanding of the quantitative results with intensive interview data.

We provide evidence that working with a broker is associated with significantly lower payments received. Working with a broker does significantly increase a FSW's number of clients in the past seven days. However, working with a broker does not lead to greater total earnings in the past seven days. We find that working with a broker is associated with a lack of control over working conditions, and this partly explains why working with a broker is associated with a lower last payment received. Specifically, a lack of control over the amount the client is charged appears to mediate the relationship between working with a broker and last payments received. Finally, we find little evidence that brokers provide valuable services in terms of security, safety, or avoidance of police harassment.

Therefore, the analyses mostly confirm the exploitation hypothesis and contradict the positive embeddedness hypothesis. Consistent with the positive embeddedness hypothesis, working with a broker is associated with a greater number of clients. Only analyzing the amount the client pays as opposed to the amount the FSW receives also would imply that working with a broker benefits FSWs. However, most of the evidence shows that working with a broker results in a FSW being paid less than the value of her labor, and that brokers fail to provide valuable services that offset this cost.

While research on sex work once concentrated on public health or ethics, economic and sociological literatures on the work of sex work have grown in recent years. We advance these literatures in at least three ways. First, we provide one of the few large sample analyses of the earnings of FSWs. By uniquely distinguishing between what the last client paid and what share went to the FSW (e.g. as opposed to a broker), we more accurately assesses the earnings FSWs actually receive. Second, although social relations are often implicit in the literature, our study thoroughly investigates how one key social relation – working with a broker – matters to the

work of sex work. Third, our use of both quantitative and qualitative data deepens understanding of the work of sex work. For instance, past research shows the salience of human capital and venue for a variety of aspects of sex work, including violence, autonomy, well-being, and health. Consistent with that research, in a pattern that is robust to omitting the broker variable, the most important predictors of FSWs' earnings are literacy and venue.

Within economic sociology, we bring further attention to informal and illegal workers in developing countries. Like the embeddedness literature, our results demonstrate the salience of social relations above and beyond purely economic factors. As noted above, previous economic research on sex work highlights human capital and the prices for beauty, condom usage, and particular sex acts. Our results show that working with a broker has effects that are comparable to age (a proxy for beauty) and more important than condom usage (which was not significant).<sup>21</sup> Thus, a social relation with a broker is at least as salient as these far more studied economic variables. This affirms that social relations shape economic behavior, and demonstrates the value of situating economic actors in relation to other actors. Relatively unique to the embeddedness literature, we scrutinize the kind and content of social relations (i.e. exploitation). Greater attention to the kind and content of social relations moves us beyond the often implicit, but questionable, assumption that all social ties are equivalent (Krippner and Alvarez 2007).

This study also advances theories of exploitation. Exploitation is routinely invoked by sociologists in a variety of literatures, but the field has made insufficient progress in defining and measuring exploitation. Some even argue sociology should abandon the concept exploitation because it is mainly normative (Goldthorpe 2000). Instead of abandoning the concept, we build on recent efforts to provide a more concrete and measurable definition (Sakamoto and Kim 2010; Tilly 1998; Tomaskovic-Devey 2014). In particular, we advance the definition of exploitation as

a relation in which there is underpayment relative to value. Of course, our claim that FSWs are underpaid relative to their value depends on the quality of the measure of value and the quality of the earnings model. Still our study empirically demonstrates how to model exploitation and the questions to answer in order to claim exploitation. Thus, our study is one step toward more concrete theories and measures of exploitation.

Because we focus on one group of exploited workers (FSWs) and one group of exploiters (brokers), our analyses are simpler than when analyzing multiple groups of workers and exploiters within the complexity of modern firms (Sakamoto and Kim 2010). We propose this simpler case clarifies how to apply theories of exploitation to gender inequality more generally. Gender inequality scholars often invoke exploitation (Folbre 1982; Tomaskovic-Devey 2014), and our study illustrates one way to substantiate such arguments. When women are compensated below their value, arguments for exploitation should identify the actors receiving disproportionate rewards (e.g. investors, managers, other employees). It would be productive to demonstrate how women are not receiving services of value in exchange for being compensated below their value, and how women could be better off without working in a particular setting. Finally, scholars should clarify the mechanisms by which gender shapes the content and kind of relations that result in women's exploitation (Tomaskovic-Devey 2014).

Further research is needed to address the limitations of our study. First, although RDS is useful for reaching hidden populations like FSWs, RDS performs less well than random sampling (Goel and Salganik 2010). While random sampling is not likely to be feasible with FSWs, it would be valuable to compare our results with those from place-based or other sampling techniques. Because about 30 percent of our sample works at home (and those respondents are significantly different), place-based sampling would likely miss an important

segment of FSWs. Second, because our data is cross-sectional, one should be cautious in drawing causal inferences. While some results may reflect selection, this concern should partly be alleviated because last payment received measures the most recent client and several independent variables occur earlier in time (e.g. in the past six months).

Third, our evidence implies Rajahmundry is representative of India's medium-sized and smaller cities, and towns and villages. Comparisons with other studies also suggest Rajahmundry likely captures much of the diversity of sex work in India and developing countries. Of course, there are probably differences between our sample and FSWs in more cosmopolitan settings like Mumbai, Tijuana or New York. However, such cosmopolitan settings, especially in rich countries, are likely to be unrepresentative of the broader population of FSWs in developing countries. Because most of the world's FSWs are in developing countries, Rajahmundry provides a useful contribution to the literature. Nevertheless, the sex work literature could advance with studies comparing across settings in both rich and developing countries.

Fourth, because we find that brokers do not lead to higher total earnings or provide services of value, it remains unclear why FSWs work with brokers. It is important to acknowledge that there is often an involuntary and coercive aspect of this relationship, so it is not simply that FSWs "choose" to work brokers. However, for at least some FSWs, brokers could provide some benefit or service that is difficult to measure or detect or that is simply not captured by the outcomes we studied. Future research should investigate why FSWs work with brokers. In addition to the outcomes we examined, brokers could provide some non-pecuniary benefits, including being able to minimize negotiations with clients, maintain some degree of secrecy, signal to clients, or gain social status among FSWs.

We conclude by encouraging further research on informal-sector workers in developing countries. Such workers represent a large share of the world's workforce (Martin and Brady 2007). The FSWs in this study are some of the most vulnerable workers in the world, and their vulnerability is compounded by their gender and the stigmatized and legally marginalized nature of sex work. Nevertheless, even though sociology focuses considerable attention on inequalities, populations like these remain relatively understudied (Brady and Burton 2015). Therefore, greater attention to vulnerable workers at the margins of the global economy would be valuable.

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**Table 1.** OLS Models of Payment Received for Last Client (Logged Real 2009 Rupees) (N=1669): Standardized or Semi-Standardized Coefficients and (T-scores).

	<i>Model 1</i>	<i>Model 2</i>
Broker	-.136* (-2.029)	-.144* (-2.150)
<i>Venue</i>		
Brothel	-.096 (-1.239)	-.058 (-.746)
Street	-.276** (-4.719)	-.277** (-4.759)
Lodge	.211** (2.789)	.220** (2.907)
Highway	-.298** (-5.715)	-.267** (-5.029)
<i>Human Capital</i>		
Age	-.158** (-6.913)	-.164** (-7.100)
Literacy	.352** (6.677)	.356** (6.757)
# SW Known	.018 (.810)	.035 (1.543)
<i>Household</i>		
Other Contributors in HH	.190** (3.547)	.196** (3.671)
Married	.102 (1.343)	.124 (1.640)
Separated/Divorced/Widowed	-.178** (-3.055)	-.199** (-3.386)
# Children	-.035 (-1.516)	-.036 (-1.587)
Parent(s) in HH	.156** (2.957)	.158** (2.999)
<i>Working Conditions</i>		
# of Clients in Past 7 Days		-.069** (-2.960)
Always Use Condom		.014 (.259)
Usually Use Condom		.283 (1.802)
Started SW at Young Age		-.164** (-2.643)
# of Times Experienced Violence in Past 6 Mos.		-.028 (-1.186)
# of Times Forced to Have Sex in Past 6 Mos.		.035 (1.519)
# of Threats with Weapon in Past 6 Mos.		-.002 (-.098)
Wave 2	.229** (4.061)	.225** (3.821)
Wave 3	.580** (10.990)	.548** (9.813)
R-squared	.222	.233

Notes: Constants not shown. References: wave 1, works exclusively at home, cannot read or write, never married, no other contributors in HH, no parents in HH, never/rarely use condom, and started sex work at older age.

\*\* p<0.01, \* p<0.05

**Table 2.** Negative Binomial Model of # of Clients and OLS Model of Total Earnings in Past 7 Days (Logged Real 2009 Rupees) (N=1669): Coefficients and (Z-scores or T-scores).

	<i># of Clients in Past 7 Days</i>	<i>Total Earnings in Past 7 Days</i>
Broker	.135* (2.186)	-.042 (-.516)
<i>Venue</i>		
Brothel	.301** (4.282)	.167 (1.771)
Street	.035 (.661)	-.204** (-2.901)
Lodge	.337** (5.002)	.387** (4.237)
Highway	.452** (9.653)	.0678 (1.074)
<i>Human Capital</i>		
Age	-.007* (-2.414)	-.0253** (-7.181)
Literacy	-.082 (-1.701)	.284** (4.471)
# SW Known	.004** (4.007)	.005** (3.299)
<i>Household</i>		
Other Contributors in HH	-.059 (-1.227)	.154* (2.384)
Married	.165* (2.404)	.194* (2.123)
Separated/Divorced/Widowed	.119* (2.222)	-.093 (-1.308)
# Children	.052* (2.461)	-.011 (-.406)
Parent(s) in HH	.039 (.829)	.202** (3.170)
<i>Working Conditions</i>		
Always Use Condom	.491** (10.360)	.400** (6.414)
Usually Use Condom	.537** (3.885)	.790** (4.170)
Started SW at Young Age	.140* (2.565)	-.046 (-.618)
# of Times Experienced Violence in Past 6 Mos.	.061* (2.559)	.033 (1.054)
# of Times Forced to Have Sex in Past 6 Mos.	.108** (3.652)	.153** (3.764)
# of Threats with Weapon in Past 6 Mos.	-.016 (-.276)	.005 (.062)
Wave 2	-.057 (-1.049)	.164* (2.309)
Wave 3	-.339** (-6.582)	.371** (5.509)
R <sup>2</sup>		.202

Notes: Constants not shown. References: wave 1, works exclusively at home, cannot read or write, never married, no other contributors in HH, no parents in HH, never/rarely use condom, and started sex work at older age.

\*\* p<0.01, \* p<0.05

**Table 3.** OLS Models of Payment of Lack of Control of Work Conditions and Payment Received for Last Client (N=1669): Coefficients and (T-scores).

	<i>Lack of Control of Amount Charged</i>	<i>Lack of Control of Type of Sex</i>	<i>Lack of Control of # of Clients</i>	<i>Payment Received for Last Client</i>
Broker	1.082** (8.796)	.110 (.919)	.392** (3.482)	-.069 (-1.005)
Lack of Control of Amount Charged				-.067** (-4.807)
Lack of Control of Type of Sex				.047** (3.318)
Lack of Control of # of Clients				-.022 (-1.477)
<i>Venue</i>				
Brothel	.266 (1.846)	-.180 (-1.278)	.330* (2.507)	-.025 (-.322)
Street	-.085 (-.790)	.114 (1.094)	-.262** (-2.674)	-.297** (-5.075)
Lodge	-.115 (-.823)	.335* (2.460)	.177 (1.384)	.203** (2.665)
Highway	-.037 (-.380)	-.044 (-.458)	.106 (1.183)	-.268** (-5.034)
<i>Human Capital</i>				
Age	-.004 (-.723)	.011* (2.120)	.003 (.685)	-.022** (-7.390)
Literacy	-.089 (-.919)	.069 (.725)	.090 (1.013)	.352** (6.672)
# SW Known	-.006* (-2.567)	-.003 (-1.392)	-.001 (-.332)	.001 (1.342)
<i>Household</i>				
Other Contributors in HH	.026 (.268)	.154 (1.605)	-.130 (-1.450)	.190** (3.541)
Married	-.289* (-2.079)	.134 (.990)	.285* (2.242)	.106 (1.391)
Separated/Divorced/Widowed	-.005 (-.045)	.050 (.476)	.166 (1.681)	-.200** (-3.396)
# Children	.088* (2.110)	.045 (1.101)	-.003 (-.076)	-.033 (-1.434)
Parent(s) in HH	-.124 (-1.283)	.159 (1.684)	.115 (1.292)	.146** (2.765)
<i>Working Conditions</i>				
# of Clients in Past 7 Days	-.006 (-1.778)	.004 (1.406)	.003 (.951)	-.006** (-3.282)
Always Use Condom	-.366** (-3.809)	-.086 (-.919)	-.134 (-1.520)	-.010 (-.186)
Usually Use Condom	.192 (.667)	.579* (2.055)	.205 (.777)	.276 (1.752)
Started SW at Young Age	-.298** (-2.623)	-.029 (-.260)	.016 (.150)	-.184** (-2.956)

*Table 3 Continued...*

# of Times Experienced Violence in Past 6 Mos.	.023 (.470)	.153** (3.256)	.034 (.782)	-.036 (-1.381)
# of Times Forced to Have Sex in Past 6 Mos.	-.119 (-1.929)	.022 (.369)	.007 (.126)	.043 (1.265)
# of Threats with Weapon in Past 6 Mos.	.052 (.437)	.155 (1.328)	-.026 (-.233)	-.011 (-.166)
Wave 2	-.357** (-3.307)	-.768** (-7.282)	-.199* (-2.015)	.235** (3.923)
Wave 3	-.342** (-3.336)	-.960** (-9.579)	-.269** (-2.860)	.571** (9.910)
R <sup>2</sup>	.113	.101	.046	.247

Notes: Constants not shown. References: wave 1, works exclusively at home, cannot read or write, never married, no other contributors in HH, no parents in HH, never/rarely use condom, and started sex work at older age.

\*\* p<0.01, \* p<0.05

**Table 4.** Models of Potential Services Provided by Brokers in Past Six Months: Coefficients and (Z-scores).

	<i>Paid Bribe to Police</i>	<i>Had Sex with Police</i>	<i># of Police Raids</i>	<i># Times Arrested</i>	<i># Times Experienced Violence</i>	<i># Times Forced to Have Sex</i>	<i># Threats with Weapon</i>
Broker	.685** (3.43)	.749** (3.52)	.305 (1.88)	.216 (.93)	.113 (.86)	.527** (2.96)	.266 (.91)
N	1669	1666	1667	1667	1669	1669	1669
Technique	Logit	Logit	Negative Binomial	Negative Binomial	Negative Binomial	Negative Binomial	Negative Binomial

Notes: All models control for all variables in model 2 of Table 1, except the dependent variable in a given model.

\*\* p<0.01, \* p<0.05

**Table 5.** OLS Models of Payment Received for Last Client, Amount Last Client Paid, and the Difference (Logged Real 2009 Rupees): Semi-Standardized Coefficients and (T-scores).

	<i>Payment Received for Last Client</i> <i>(Model 2, Table 1)</i>	<i>Amount Last Client Paid</i>
Broker	-.144* (-2.15)	.404** (6.134)
R <sup>2</sup>	.233	.270
N	1669	1664

Notes: All models control for all variables in model 2 of Table 1.

\*\* p<0.01, \* p<0.05

**Appendix I.** Definitions and Descriptive Statistics for Variables.

	<i>Mean</i>	<i>S.D.</i>	<i>Definition</i>
<i>Dependent Variables</i>			
Payment Received for Last Client	4.847	1.011	Logged real (2009) rupees received from last client
Number of Clients in Past 7 Days	10.152	13.028	R's report of number in past week
Total Earnings in Past 7 Days	6.927	1.186	Product of payment received and number of clients
Lack of Control of Amount Charged	1.893	1.708	R decides amount charged clients: 0=always, 1=usually, 2=sometimes, 3=rarely, 4=never
Lack of Control of Type of Sex	1.694	1.657	R decides type of sex with clients: 0=always, 1=usually, 2=sometimes, 3=rarely, 4=never
Lack of Control of # of Clients	1.149	1.509	R decides # of clients seen in a week: 0=always, 1=usually, 2=sometimes, 3=rarely, 4=never
<i>Key Independent Variable</i>			
Broker	.150	.358	1=Someone else collected money from last client, reference=client paid money directly to respondent
<i>Venue</i>			
Brothel	.107	.309	1=work in brothel, reference=work at home
Street	.183	.387	1=work in street, reference=work at home
Lodge	.093	.290	1=work in lodge, reference=work at home
Highway	.246	.431	1=work on highway, reference=work at home
<i>Human Capital</i>			
Age	31.522	7.892	Years
Literacy	.240	.427	1=read or write, reference=neither
# SW Known	9.693	18.916	The number of sex workers that respondent personally knows
<i>Household</i>			
Other Contributors in HH	.237	.426	1=someone else contributes to HH income, reference=not
Married	.155	.362	1=married, reference=never married
Separated/Divorced/Widowed	.651	.477	1=separated/divorced/widowed, reference=never married
# Children Parent(s) in HH	1.787	1.007	Number of children of FSW
	.236	.425	1=parent(s) resides in HH, reference=not
<i>Working Conditions</i>			
Always Used Condom	.295	.456	1=self-report of always used with clients in past seven days, reference=sometimes, rarely, never
Usually Used Condom	.020	.141	1=self-report of usually used with clients in past seven days, reference=sometimes, rarely, never

*Appendix I Continued...*

Started SW at Young Age	.162	.369	Began SW before age 16, reference=at or after 16
# of Experiences of Violence in Past 6 Mos.	.493	.906	# times someone beat (e.g. hit, slapped, pushed, kicked, choked, or burned) R in past six months
# of Times Forced to Have Sex in Past 6 Mos.	.268	.685	# times someone forced R to have vaginal, anal, or oral sex against R's will in past six months
# of Threats with Weapon in Past 6 Mos.	.084	.359	# times someone has threatened R with knife, gun, or other weapon or had weapon used against R
Wave 2	.241	.428	1=2007=1, reference=2006 & 2009
Wave 3	.295	.456	1=2009=1, reference=2006 & 2007
<i>Supplementary Outcomes</i>			
Paid Bribe to Police	.144	.352	1=paid bribe in past six months, 0=reference
Had Sex With Police	.110	.313	1=ever had sex with police to avoid trouble with them, 0=reference
# of Police Raids	2.202	12.163	# of times place where respondent conducts sex work was raided by police in past six months
# Times Arrested	.358	1.383	# of times arrested in past six months

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Note: The Ns for these descriptive statistics are the same as in the tables.

**Appendix II.** Correlation Matrix for Independent Variables (N=1669).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1) Broker																			
2) Brothel	.38																		
3) Street	-.06	-.08																	
4) Lodge	.06	.00	.01																
5) Highway	-.07	-.08	-.12	-.01															
6) Age	-.12	-.06	-.01	-.10	-.00														
7) Literacy	.07	.07	-.08	.01	-.09	-.02													
8) # SW Known	-.00	.01	-.04	.02	.06	.05	.13												
9) Other Contributors in HH	.03	.07	-.03	.04	-.09	-.02	.04	-.02											
10) Married	-.00	-.01	-.12	.02	-.09	.03	.16	.06	.13										
11) Sep./Div./Wi d.	-.02	-.02	.15	-.02	.15	-.02	-.15	-.04	-.23	-.59									
12) # Children	-.11	-.10	.01	-.04	.00	.24	-.09	-.03	.06	-.09	.04								
13) Parent(s) in HH	.11	.05	-.04	.03	-.04	-.19	.08	-.00	.05	.05	.00	-.11							
14) # Clients	.10	.14	-.01	.09	.17	-.06	-.00	.17	-.02	.01	.03	-.01	.03						
15) Always Used Condom	.06	.12	-.00	.06	-.04	-.04	.08	.00	.09	.09	-.07	-.06	.09	.16					
16) Usually Used Condom	.07	.06	.03	.01	.02	-.03	-.04	-.02	.03	.02	-.03	-.03	.05	.04	-.09				
17) Started SW at Young Age	.00	.04	-.05	-.04	-.03	-.03	.12	.12	.10	.21	-.24	-.13	.06	.05	.06	.01			
18) # of Experiences of Violence	.08	.12	-.01	.05	.09	-.11	.01	.05	.01	-.01	-.08	-.01	.01	.11	-.05	.03	.08		
19) # Times Forced to Have Sex	.12	.07	.02	.03	.00	-.09	.05	.06	-.02	-.03	.03	-.04	.06	.10	.01	.05	.03	.21	
20) # Threats w/ Weapon	.05	.07	-.01	.05	.05	-.09	-.00	.13	.02	-.01	-.01	-.01	.02	.07	-.01	.00	.06	.30	.27

## ENDNOTES

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<sup>1</sup> Wright (1997) refers to this as the “inverse interdependent welfare principle”: the material welfare of the exploiter depends on the labor of the exploited but not vice versa.

<sup>2</sup> Though our respondents exhibit greater age variation and some were trafficked, Rajahmundry appears similar to Hoang’s (2011: 376, 378) “low-end sector” which she describes as “single mothers. . .who had no more than a grade school education. They were poor, urban women or rural migrants. . .many entered and continued to do this work as a means to escape poverty.”

<sup>3</sup> These do not sum to 100 as respondents were first asked how many clients they had in the past week, and then asked how many were of each kind.

<sup>4</sup> An experienced, older street-based FSW reports, “They [police] took me and another girl. They complained that I was doing business with the girls. I said I did not need girls as I was doing my own business. The police got angry and beat me. . .They took us to the court and we paid fifty rupees fine. . .Earlier it was the cases; wherever they saw us they used to book a case and make us pay a fine. Now they come to the lodge when the customer is there and demand more money. They are taking the fifty or hundred and sending us away empty handed. The customer is also afraid to come again and we are at a loss. The police have taken the food from our mouth.”

<sup>5</sup> For further information on the survey and interview data, and code, the reader should contact the authors.

<sup>6</sup> Prior to the first wave, an ethnographic team had already been in place in Rajahmundry for well over a year. One objective was to understand the local context of sex work. To capture the diversity of sex work, we determined that seed selection had to take into account the solicitation venue, area of residence and/or work, and the extent of participation in “Nari-SAKSHAM” (the local sex worker mobilization).

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<sup>7</sup> Sensitivity analyses confirm this is a conservative strategy. If we include those who participated in earlier waves, the N would be 2306. Working with a broker would have an even more significant and larger negative coefficient.

<sup>8</sup> For instance, interviewers were instructed to probe about brokers after: “Tell me about the different ways that you get clients.” “Who decides the rate? Who negotiates what the rate will be?” “When deciding the final cost, do you take into account other people that you have to pay? What are the other costs for the encounter?” “Do you discuss sex work business issues with other sex workers?”

<sup>9</sup> Unfortunately, the survey did not ask about mean payment per client. However, payment from last client is plausibly less prone to recall error and has precedent (Lever and Dolnick 2010).

<sup>10</sup> Because eight respondents reported 100 or more clients, we experimented with top-coding this variable at 100 or the 99<sup>th</sup> percentile of 65 clients. The results were consistent.

<sup>11</sup> For example, only one respondent reported living with a madam but did not have someone else collect money from the last client. Only five respondents reported experiencing violence from a madam but did not have someone else collect money from the last client.

<sup>12</sup> The venues are not mutually exclusive, and about 7.8 percent reported multiple venues. However, including a dummy for multiple venues produced similar results.

<sup>13</sup> We tested for a nonlinear relationship with age, but found a linear relationship fits the data best. Obviously, many FSWs are less than 18 years old. However, a prerequisite for participation in the survey was reporting being at least 18.

<sup>14</sup> The literature on how husbands and family influence sex work contradicts an economics literature positing sex work and marriage are incompatible. For example, Edlund and Korn (2002: 186, 182) claim: “a woman cannot be both a prostitute and a wife.” Our and others’

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analyses demonstrate that marriage and partners are common among FSWs (Arunachalam and Shah 2008). Indeed, several interviewees said husbands pressured them into sex work.

<sup>15</sup> We also tested whether the husband was present in household (including “legal” and “temporary husbands” and “boyfriend” or “lover”). These measures were not significant and marital status captures most of the variation.

<sup>16</sup> Though these measures are based on questions for both “regular” and “occasional” clients, the results were consistent if we decomposed them. Unfortunately, the survey did not ask whether a condom was used with the last client. It is also not possible to determine whether the payment received from the last client refers to a regular or occasional client. Reassuringly, almost all who report always using a condom also report that they used a condom the last time they had sex with a regular client and an occasional client.

<sup>17</sup> One respondent was missing on age, but answered affirmatively to a question about whether she entered sex work before puberty. For that one respondent, we imputed that she was less than 18 at entry. We also experimented with a question on whether the respondent reported being “lured, cheated or forced into the business.” Only about 8 percent of respondents answered yes, and it is not significantly associated with payments received ( $r=.01$ ).

<sup>18</sup> If the respondent answered affirmatively about violence, forced sex, or threats, the survey asked who did this. For violence, almost half identified clients, while less than 5 percent identified “madam or other broker.” For forced sex, the overwhelming majority identified clients and none identified madams/brokers. For threats, the typical response was clients, and very few identified madams/brokers. After clients, the most common response for all three was police.

<sup>19</sup> In other analyses, we experimented with interaction effects between broker and the other independent variables. For the most part, the interaction effects were insignificant.

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<sup>20</sup> This might not seem surprising as police are more likely to raid brothels, and FSWs in brothels are more likely to work with brokers (see Appendix II). However, these models control for venue, so this result is net of working in brothels.

<sup>21</sup> The insignificance of condom usage (and near significant positive sign of usually using condoms) is notable as some find it lowers price (but see Mondal and Gupta 2013). Only about 2 percent of respondents usually use condoms (see Appendix I). Also, our measures are for the past seven days, and we do not know if the FSW used a condom with the last client. See fn. 16.