This is to certify that the
dissertation entitled

ESTIMATING RETURNS TO SCHOOLING IN INDONESIA:
EVIDENCE FROM THE INDONESIA FAMILY LIFE SURVEY
1993-2000
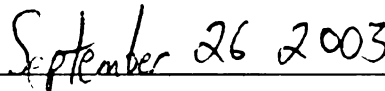
presented by

GREGORIUS DAAN VINCENT PATTINASARANY

has been accepted towards fulfillment
of the requirements for the

___Ph.D.___ _ degree in _____Economics_____

_____
Major Professor's Signature

September 26 2003

Date

PLACE IN RETURN BOX to remove this checkout from your record.
TO AVOID FINES return on or before date due.
MAY BE RECALLED with earlier due date if requested.

DATE DUE	DATE DUE	DATE DUE

ESTIMATING RETURNS TO SCHOOLING IN INDONESIA:
EVIDENCE FROM THE INDONESIA FAMILY LIFE SURVEY 1993-2000

By

Gregorius Daan Vincent Pattinasarany

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Economics

2003

ABSTRACT

ESTIMATING RETURNS TO SCHOOLING IN INDONESIA: EVIDENCE FROM THE INDONESIA FAMILY LIFE SURVEY 1993-2000

By

Gregorius Daan Vincent Pattinasarany

The rate of return to schooling investment in Indonesia is estimated using the Indonesia Family Life Survey (IFLS) of 1993, 1997 and 2000. This study explicitly takes into account measures to overcome omitted variable and sample selection biases. Parental schooling information is used to correct for omitted variable bias, while sample selection bias is corrected by modeling employment outcomes into several labor market alternatives. Returns to schooling are estimated for adults aged 25-59 years who are self-employed as well as those who are working in the public and private sectors. Separate estimates for men and women are presented for each of the cross section data of 1993, 1997 and 2000.

Some important findings of this study are the following. Individuals with more formal schooling are more favorably rewarded and, thus, have higher returns to schooling. Wage advantage increases in a convex fashion with levels of schooling. Over years, wage advantages within each level of schooling are, in general, declining. Supply shifts among individuals with more schooling might serve as one of the possible explanations for the declining rates.

Parental education captures part of individuals' family background information as the inclusion of it in the wage regression reduces estimated coefficients of individuals' schooling variables. Although the effects of parental schooling on individuals' returns

are limited, the results reveal that having educated parents is associated with an increase in earnings relative to having illiterate parents.

Sample selection bias does not turn to be important in these wage regressions. Selectivity correction terms are mainly significant in the self-employment wage regressions. Likewise, the potential bias from migration seems to be small. Individuals who were born or are currently living in urban areas do not have a wage advantage that is significantly different from their counterparts who were born or are currently living in rural areas. Stratifying individuals based on their age reveals that younger individuals (aged 25-39) who are working in the private sector have a lower rate of return in comparison to that of the older generation (aged 40-59).

To my wife, Ira, and my children, Dani and Vira,
whose love, support and encouragement made this work possible.

ACKNOWLEDGMENTS

It has been a long journey for me to get to this stage of my learning career. I have experienced many ups and downs during years as a graduate student. But the most valuable message that I get from this journey is that one should never give up in obtaining his ultimate goal. There are a lot of people that I should acknowledge for helping me during this endeavor.

I am indebted to Prof. John A. Strauss, my major advisor, not only for his guidance and support that he has given for writing this dissertation but also for the friendship that we have built during the course of time. I am also very grateful for all efforts that he has done that enabled me to finally defend my dissertation.

I would like to thank all my committee members: Prof. John Giles, Prof. Carl Liedholm and Prof. Jeff Biddle for their valuable comments in improving this dissertation.

I would like to thank the late Prof. Dr. J.L. Tamba; without his initiative I would have not have the opportunity to pursue Ph.D. degree.

I would like to thank my late father, J.D. Pattinasarany and my late mother, G.M.L. Jansz-Pattinasarany, whose inspired me a life long love of learning, and my sisters, M. Sally H.L. Pattinasarany and Fransica M.R. Pattinasarany, for giving me the support and strength when I really needed it. I would like to thank my father-in-law, Waluyo, and mother-in-law, Toeti Waluyo, for believing in me and support me along the way.

TABLE OF CONTENTS

LIST OF TABLES

1. Introduction

Education determines how individuals, communities and nations progress by improving living standards, enhancing quality of life and providing essential opportunities for all. In order for nations to survive in a rapidly changing world, especially to keep up with or ahead of the advancement in technological innovations, it is essential for a country to have a highly educated and skilled population. In developing countries, where most of the population still lives in poverty, education can also play a crucial role in combating poverty.[1]

Governments in developing countries are still the major players in financing the education sector, especially at the primary and secondary levels. Expenditure on education is one of the major categories of expenditure in the national budgets of many developing countries. According to the latest figures, developing countries spend 3.8 percent of their GNP on public education (UNDP [2000]).[2]

One obvious question regarding these huge investments in education is what is the rate of return. Psacharopoulos (1973, 1981, 1985 and 1994) and Psacharopoulos and Patrinos (2002) have compiled a comprehensive review on private and social rates of return to investment in education for both developed and developing countries during the

---

[1] In analyzing changes in the income distribution in Java between the years 1984 and 1990, Cameron (2000) finds that poverty reduction was largely associated with increased educational attainment as well as increases in the incomes of lesser educated workers and income gains to workers outside agriculture. Increased educational attainment, however, was found to be the largest determinant of the inequality. She concludes that as Indonesians gain more education and as productivity and hence incomes outside agriculture increases, poverty is expected to continue to decrease and inequality to increase.

[2] This figure varies among regions from 2.9 percent for East Asia countries to 6.1 percent for Sub-Saharan Africa countries. As a comparison, the corresponding figures for OECD countries and the world are 5.0 percent and 4.8 percent, respectively.

last 30 years.[3] In general, returns to schooling are positive and tend to be high. Some

patterns regarding the rate of returns emerge from these reviews. First, among the three

levels of education (primary, secondary and tertiary/higher), primary education exhibits

the highest returns of investment. Second, the private and social returns at all levels of

education decline with country per capita income. Third, returns to education are higher

for women than for men. Men have higher returns to primary education while women

experience higher returns to secondary education. Finally, individuals who work in the

private sector enjoy a higher rate of return than those in the public sector.

Empirical work on returns to schooling is, in general, based on Mincer-type (1974)

earnings or wage functions. In principal, this involves OLS regression of the natural

logarithm of earnings (or wage) as the dependent variable with years of schooling and

potential years of experience in the labor market and its square as independent variables.

Early studies on earnings-schooling relationship suffer from two basic problems (see

Card [1999], Schultz [1988] and Strauss and Thomas [1995] for surveys of research).

These problems, which are often dictated by the nature of the available data, are omitted

variable bias and sample selection bias.

Omitted variable bias resulted from omitted measures of ability, family background

and schooling quality. To encounter the problem of ability bias, measures that proxy for

unobserved ability such as IQ and other test results are sometimes included in the wage

---

[3] Returns to schooling can be estimated from the private and social points of view. The private rate of
return is calculated by equating (in discounted present value term) a stream of after-tax education benefits
to a stream of educational costs. In addition to the direct costs of education (education fees, book
allowance and other incidental expenses), the costs incurred by the individual also include individuals'
foregone earnings while studying. Social rate of return adds taxes and any net positive social externalities
(on the benefits side of the equation) and augment the public and private subsidies not borne by the
individual (on the costs side). To the extent that education, especially in the primary level, is highly
subsidized, social returns are therefore lower than the private returns.

function.[4] The inclusion of proxies for ability has been criticized due to its difficulty to find ability measures that are not themselves determined, and thus correlated, with schooling. Many studies have shown the importance of examining the impact of family background on earnings. The long tradition in using family background information, such as parental education and income, is intended to control for unobserved ability or to proxy human capital investment made by parents not captured by completed years of schooling. The facts that parents may send their children to better quality schools, or children who continue to the secondary and higher levels may go to better primary schools, are examples that parental background measures may also control for school quality.

Sample selection bias arises because not all individuals in the population report information about earnings or wages. If the criterion for inclusion in the sample involves the choice of occupation, labor force participation or migration, then sample selection is likely to be more important. In practice, estimation of wage functions should incorporate correction for sample selection by taking into account the fact that the decision to be in the wage labor market is a choice.

The availability of new and richer data sets as well as more sophisticated estimation techniques enables researchers to obtain better rate of return estimates.[5] Unfortunately,

---

[4] Omitting ability or its proxies from the wage function will upward biased the rate of return estimates, in most cases by no more than 5-15 percent (Schultz [1988]).

[5] Another approach in this literature is the estimation of causal effect of schooling on earnings by using institutional features of the supply side of the education system as exogenous determinants of schooling outcomes (see Card [1999] for review). Some examples of supply side variables used in the literature are variation in individual's quarter of birth (Angrist and Krueger [1992]), geographic variation in college proximity (Card [1993]), changes in legal minimum school-leaving age (Harmon and Walker [1995]), and major school construction program (Duflo [2000] and Clark and Hsieh [2000]). The basic idea of using these institutional features is to use supply-side shocks to identify demand-side parameters and, thus, places returns to schooling in a standard "supply and demand" framework.

due to the unavailability of data, studies on the returns to schooling in Indonesia that were written in the 1990s (Behrman and Deolalikar [1991, 1993 and 1995], Deolalikar [1993] and Duflo [2000]) do not explicitly control for family background.[6] This implies that we are not able to learn, for example, the effects of father or mother's schooling on returns to schooling.[7] As pointed out in Schultz (1988), since more educated parents tend to invest more in the education of their children, there is no reason why parental schooling should not be included to examine returns to schooling.[8]

In this essay I will estimate the private rate of return to schooling using there waves of Indonesia Family Life Survey (IFLS) data. Detailed information on individuals' and

---

An interesting finding of Card (2000) is that the instrumental variables (IV) estimates of the returns to schooling in this literature are typically exceeding the corresponding OLS estimates. One explanation of this upward bias in the IV estimates is due to the underlying heterogeneity in the returns to education. Many of the IV estimates that are based on supply-side institutional reforms tend to recover returns to schooling for a subset of individuals with relatively high return to education. Accessibility of schools, for example, tends to affect schooling choice of individuals who would otherwise have relatively low schooling. If the main reason that an individual has low schooling is driven by cost of schooling then IV estimates based on accessibility of schools will yield an estimate of returns to schooling that is higher than the marginal returns to schooling in the population. Although institutional feature on the supply-side of education provides a richer econometric model, the resulted IV estimates should be interpreted with caution.

[6] Bedi and Gaston (2000) is an exception. The papers by Behrman and Deolalikar do, however, control for unobserved household and community heterogeneity effects. Each of the above-mentioned studies addresses the selectivity bias problem. Deolalikar (1993), in addition to the estimation of returns to schooling, also estimates schooling enrollment rates. He finds, among others, that the schooling of head and his spouse in a male-headed household has some of the strongest effects on enrollment probabilities; and that the female household head and her spouse do not have any significant effects.

[7] Parental schooling also affects other aspect of human capital investment on their children like, for example, health status. Skoufias (1999) examines the impact of parental education on the nutritional status of pre-school school children (age 5 years and under), measured by weight-for-age Z-scores, in Indonesia. He estimates reduced form for child health status by taking into account unobserved heterogeneity at the cluster (village); this is done by controlling for the difference in prices and in the quantity and quality of available medical services. Parental schooling is found to have a significantly positive effect on the health status of children and that these effects vary in urban and rural areas as well as by child gender and child age. The estimates show that mothers with secondary education have healthier boys than those with lower levels of education. For girls, the positive health status effects exist only if mother have education above senior high school level.

[8] More educated parents also tend to provide a more favorable learning environment at home with the implication of lowering the cost of education or increasing the market productivity of attending school for a given number of year. They may also provide their children with a better social connection so that their children can get a favorable job.

on his/her parents' characteristics is gathered in the survey. Household level as well as community and facility level information enriches this survey. The richness of the data enables the construction of family background information, something that is lacking in the previous studies, to overcome the omitted variable bias problem. Realizing that most of the individuals who participate in the labor market are not working for a wage, I will model the employment outcomes in several labor market alternatives; thus correcting for selectivity bias problem. The richness of this survey, however, has to be compensated with the relatively small sample size compared to the data sets used by the above-mentioned studies.

To be more specific, I will estimate returns to investment in education by controlling for parental (father's and mother's) schooling. The rates of returns will be estimated for those who are self-employed as well as those working in the public and private sectors. Separate estimates for men and women will be presented in this essay since these rates tend to vary by gender (see Behrman and Deolalikar [1993, 1995] for the case of Indonesia). In addition, I will also utilize information on migration (in particular, the place of birth and of current residency of the respondents) in the survey to estimate the effect of migration on rate of return to investment in education (Schultz [1988]).

The utilization of samples covering three periods of time (1993, 1997 and 2000) is expected to give a better understanding of how returns to schooling investment evolved over time in Indonesia during the 1990s.[9] During that span of time, Indonesia has experience a period of remarkable growth in its economy from 1993 to 1997, a multi dimensional crisis by that started by late 1997, and a recovery period since mid-1998.

The dynamics of returns to schooling investment during this period is of interest. Although four years might not be long enough to see the difference in return to schooling, it is interesting to see whether the rates decreased as per capita expenditure increased and as the individuals became more educated during the prosperous stage of 1993-1997. The impact of the economic crisis of 1997-98 has been studied thoroughly using various data sets, including the IFLS.[10] In spite of it, comparison of returns to schooling during this period is yet to be studied. If due to the crises, a particular sector became more selective in employing their workers like increasing the minimum level of schooling attainment or experience with no significant increase in compensation structure, returns to schooling in that sector might fall. These are the issues that will be explored in this paper.

The panel nature of the data is not exploited in this paper, but it is left for future work. However, separate estimates for panel individuals for each survey year are presented in this work in addition to the estimates for cross-section individuals. The purpose of the presentation of these panel individual estimates is to provide comparison of the changes in returns to schooling between the two sets of individuals.

Some important findings of this study are the following. Individuals with more formal schooling are more favorably rewarded and, thus, have higher returns to schooling. Wage advantage increases in a convex fashion with levels of schooling. Over

---

[9] Psacharopoulos and Patrinos (2002) find that worldwide average returns to schooling during the 1990 decade have declined by 0.6 percent, while average schooling attainment during the same period have increased.

[10] Frankenberg, Thomas and Beegle (1999) look at evidence of the immediate impact of the economic shocks on a broad array of economic well being measures including children's schooling and adults' employment and wages, using IFLS2 and IFLS2+ (conducted on the second half of 1998) data sets. A more detail study on how individuals and households are affected and how did they respond to the crisis in relation to schooling of the young is reported in Thomas, Beegle, Frankenberg, Sikoki, Strauss and Teruel (2001). Another comparison of a range of well being measure three years after the crisis could be found in Strauss, Beegle, Dwiyanto, Herawati, Pattinasarany, Satriawan, Sikoki, Sukamdi and Witoelar (2002) based on IFLS2 and IFLS3 data sets.

years, wage advantages within each level of schooling are, in general, declining. Supply shifts among individuals with more schooling might serve as one of the possible explanations for the declining rates.

Parental education captures part of individuals' family background information as the inclusion of it in the wage regression reduces estimated coefficients of individuals' schooling variables. Although the effects of parental schooling on individuals' returns are limited, the results reveal that having educated parents is associated with an increase in earnings relative to having illiterate parents.

Sample selection bias does not turn to be important in these wage regressions. Selectivity correction terms are mainly significant in the self-employment wage regressions. Likewise, the potential bias from migration seems to be small. Individuals who were born or are currently living in urban areas do not have a wage advantage that is significantly different from their counterparts who were born or are currently living in rural areas. Stratifying individuals based on their age reveals that younger individuals (aged 25-39) who are working in the private sector have a lower rate of return in comparison to that of the older generation (aged 40-59).

This essay is organized as follows. In Section 2, studies on the returns to schooling in Indonesia are reviewed. Section 3 describes the model and empirical strategy, while section 4 discusses the data. Presentation of empirical results and discussions of findings starts in section 5 with sector choice model, followed by returns to schooling estimates in Section 6. In Section 7, to control for migration, I will present the estimates by taking into account the importance of place of birth and place of current residence. Since availability and quality of schooling may differ over time, in Section 8 the returns to

7

schooling are estimated by incorporating age-cohort effect. In Section 9, returns to schooling estimates with potential experience (defined as the duration since an individual finished/quit school) will be presented as an alternative to using age as approximation of out-of-school working experience. This essay concludes in section 10 with summary of findings and their policy implications.

2. Previous Empirical Studies on Indonesia

This section starts with short reviews of empirical studies on the returns to schooling in Indonesia that were written prior to 1990. Studies written during the 1990s and beyond are characterized by richer specifications as well as more sophisticated methodologies, in addition to the availability of better quality household survey data. For that reason, following the review of the earlier empirical findings, these studies will be reviewed in more detail.

2.1. Early Empirical Findings

Simanjuntak (1981) provides one of the earliest empirical results on earnings-schooling relationship in Indonesia. He finds that, in 1976, the private rates of return for individual who completed secondary and higher education are 14.5 percent and 19.7 percent, respectively.

Psacharopoulos (1985) compiles returns to schooling estimates, both private and social rates, on 61 countries. For Indonesia, in 1977, he finds that the private rates are 25.5 percent for primary school (relative to no schooling) and 15.6 percent for secondary school (relative to primary school graduate). The corresponding social rates, in 1978, are 21.9 percent for primary, 16.2 percent for secondary and 14.8 percent for higher education (relative to secondary graduate).

Clark (1983) estimates social rates of returns for secondary schooling in determining whether secondary education in Indonesia is a good investment. He uses data from a tracer study for a cohort of senior secondary school graduates covering the first two years

after finishing school in 1976. An individual who graduated from senior secondary school has a return of 24 percent if he or she can get a job right after graduating. A one-, two- and three- year waiting period will reduced the rates to 19 percent, 16 percent, and 14 percent, respectively. In addition, individuals who graduate from general secondary school have a significant advantage in the rates of returns compared to those who graduated from vocational secondary school.

Social rates of return were also estimated in McMahon and Boediono (1992). They calculate rates for 1982, 1986, 1988 and 1989 for different levels of education starting from junior secondary level using various rounds of Indonesian Labor Force Survey (SAKERNAS) data. The average return to general junior secondary education is 14.5 percent, while the corresponding figure to general senior secondary education is 15.5 percent, although the rates are falling with time.

2.2. Empirical Studies of the 1990s

Six studies on returns to schooling that were written during the 1990s and beyond will be reviewed next. Our review starts with three papers by Behrman and Deolalikar (1991, 1993 and 1995). Deolalikar (1993), Duflo (2000), Bedi and Gaston (2000) and Filmer and Lindauer (2001) will follow the review. The discussion emphasizes on the methodology used, along with its advantages and disadvantages, in order to build a better model that will be discussed in the next section.

Behrman and Deolalikar (1991, 1993 and 1995) examine the earnings-schooling relationships for individuals who report wages using the 1986 SAKERNAS data. A unique feature of their 1991 paper is the adjustment made for the time spent in each level

10

of schooling due to repetition and dropout. They develop a model based on two (very strong) assumptions since the data do not provide information about individual-specific dropout and repetition experience.[11] The first assumption, the homogeneity assumption, states that everyone who enters a given grade is subject to the same average repetition and dropout rates. Secondly, in the heterogeneity assumption, they assume that students who enter the next level of schooling have zero values for the repetition and dropout rates at all lower levels. In addition, students who do not enter the next level have appropriately adjusted repetition and dropout rates at the lower levels.

Based on these assumptions, they find that failure to control for repetition and dropout rates will significantly upward biased the returns to schooling estimates, especially for the lower levels. For example, at the subprimary level (i.e., for individuals with 1-3 years of schooling), the rate of returns to schooling is overestimated by 82-114 percent; while for individuals with completed primary schooling, the rate is overestimated by 38-78 percent. They also divide the data by sex, age, region of residence and urbanization, and find that the biases differ among subsamples. The biases are somewhat larger for females, older individuals, and those who live in rural and relatively remote areas.

Behrman and Deolalikar (1993 and 1995) analyze whether there are gender differences on the returns to education in Indonesia. The main feature of these papers is that they estimate earnings-schooling relationship by controlling, in addition to the time spent in schooling due to repetition and dropout, for unobserved household and

---

[11] The standard practice is to assign six years for completed years of schooling variable if an individual completed primary schooling since there are six grade of primary school, nine years if he or she completed junior secondary school, etc.

community heterogeneity via household fixed effects estimation. They estimate wage rate and hours supplied to the paid labor market equations in their 1993 paper, while the focus on their 1995 paper is on the wage rate and earnings equations.

Schooling variables in the two papers differ although both attempt to capture non-linear impact of schooling, the different effects of vocational and general secondary schooling, and the different effect post-secondary diploma programs and university level education on the returns to schooling. In their 1993 paper, schooling variables are represented by completed year of schooling, its square, and its interaction with dichotomous variables for vocational and diploma schooling. Behrman and Deolalikar (1995), on the other hand, represent schooling with nine dummy variables, namely no schooling, subprimary, primary completed, vocational junior secondary completed, general junior secondary completed, vocational senior secondary completed, general senior secondary completed, post-secondary diploma completed, and university completed. Potential selectivity bias is addressed by applying Olsen's least-squares correction for selectivity bias using household demographic variables, such as the number of young children and the number of older individuals in the household, to predict participation.[12]

With respect to returns to schooling, both papers find that estimates of the impact of schooling on wage rates, on hours supplied to the paid labor market and on earnings that do not control for unobserved household and community fixed effects (i.e. OLS

_____

[12] Based on results from various studies, they claim that the household fixed effects procedure may control for selectivity bias. The reason behind this observation is as follows. The use of fixed effects procedure, that controls for unobserved household and community characteristics shared by household members and included additively in the relation of interest, is intended to avoid omitted variable bias in the schooling coefficients. Many among these characteristics are also used in the determination of labor market participation (such as household unearned income and household composition). This implies that fixed effects estimates should also limit or eliminate selectivity bias.

estimates) are substantially upward biased. Therefore, controlling for household and community fixed effects is likely to control for a substantial share of the relevant unobserved factors.[13]

The marginal increases of wage rates and earnings for individuals with post-primary schooling are greater (in percentage terms) for females than for males relative to those of primary school graduates. Overall, their estimates do not suggest that females face strong discrimination in the form of lower rates of return to post-primary schooling investment. Their results, however, may indicate that private rates of return to schooling investments in females are higher than are those of males. They also find that gender earnings differentials change more over the life cycle than do the gender wage rates differentials due to gender differences in hours worked over individual's life cycle. This implies, ceteris paribus, that considerably higher wage rates and earnings for males than for females. Thus, there exists a large wedge between male and female wage rates and a larger one between male and female earnings.

Deolalikar (1993) estimates school enrollment model for four age groups: 6-11, 12-14, 15-17, and 18-23 years. These groups roughly correspond to the four levels of schooling: primary, lower secondary, higher secondary, and tertiary, respectively. He also estimates the pecuniary returns to schooling (in terms of earnings) for adult men and women aged above 15 years who have completed their schooling. The data set used in

---

[13] In their 1993 paper, the magnitudes of the biases are calculated. The results indicate that the estimated biases differ substantially between males and females, between wage rate and hours supplied to the labor market specifications, and among schooling levels. The upward bias in the wage specification for males decreases with level of schooling from almost 100 percent for males with 3 years of schooling to about 15 percent for those with 12 years of schooling. For females, returns estimates are biased upward up to 6 years of schooling and the bias become negative afterward. In the hours supplied to the paid labor market estimates the biases tend to be upward, implying that OLS estimates provide greater estimates than the fixed effects estimates. For females the magnitude of the bias falls with years of schooling, while for males no trend was found.

this study is the 1987 round of the National Socioeconomic Survey (SUSENAS). As in Behrman and Deolalikar (1995), he uses nine schooling categories and their interaction with age in wage regressions. The sample selectivity problem is corrected by using Heckman's selectivity correction method and by estimating expanded wage function using OLS.[14]

The empirical results show significant gender differences in the determinants of earnings.[15] Returns to schooling are significantly lower for men than women at the secondary and tertiary level. Age-cohort effects do matter in the wage function. Older cohorts are enjoying a significantly higher return to schooling, especially at the secondary and tertiary levels, than the younger cohorts. For illustration, the rates of return to primary school graduates for 20-, 40- and 60-year-old men are 6.8 percent, 10.9 percent and 15.0 percent, respectively, while the corresponding rates for women are, respectively, 6.0 percent, 10.1 and 14.2 percent. The corresponding rates for general higher secondary graduates are 8.8 percent, 12.9 percent and 17.1 percent for men and 10.5 percent, 14.7 percent and 18.8 percent for women. With respect to the age, the coefficients on age and age-squared differ significantly across gender. For women, the coefficient on both

---

[14] There is an identification problem with using annual earnings as dependent variable in the earnings function. To the extent that annual earnings are the product of hourly wage rate and the number of hours worked during the year, the wage function should include all the regressors in the market wage and labor supply equations. In their first earnings specification, the one with selectivity correction, the correction is identified by marital status, household non-labor income and spouse's age, with the assumption that hours worked are exogenously determined. The second one, estimated using OLS with no control for sample selectivity, is an expanded earnings function that includes marital status, non-labor income and spouse's age.

Empirical results on the first specification show that selectivity term is highly significant, implying that sample selectivity is important in influencing earnings. Schooling coefficients on both specifications are significant and have the same sign. The magnitude of the schooling coefficients, however, appears to be larger in the specification with selectivity correction. In addition, estimates on the expanded specification show a significant gender difference in the primary schooling coefficient. In light of these findings, coefficients from specification with selectivity bias correction should be interpreted with caution.

variables are not significantly different from zero, implying that age does not have additional effect on earnings other than increasing the returns to schooling. On the other hand, the coefficient on age for men is significantly positive while that on age-squared is significantly negative, indicating that earnings growth is positive and large early in the life-cycle but falls off rapidly with age, independent of schooling.

Duflo (2000) uses a very different approach.[16] In this study she examines the education and earnings trends associated with a major school construction program in Indonesia, the Sekolah Dasar INPRES program that started in 1973. She links education and wages information from a large cross-section of men born between 1950 and 1972 from the 1995 intercensal survey of Indonesia (SUPAS) combined with district-level data on the number of new school built between 1973/74 and 1978/79 in his/her region of birth. Duflo shows that average education attainment for children who entered school later in the 1970s was higher than those who finished primary school before 1974. She also shows that children who lived in districts with greater program intensity, measured by the target number of new school per primary-school age student in 1971, had, on the average, higher education attainment. Based on these findings she uses interactions between dummy variables indicating age of the individual in 1974 and the intensity of the program in his region of birth between 1973 and 1978 as exogenous variables and the instruments in the earnings equation.

OLS estimates show that the rate of return to schooling is 7.8 percent. The point estimate using 2SLS is 6.75 percent, slightly lower than and significantly different from

---

[15] The results discussed here are based on the expanded earnings function after imposing a common set of coefficient (for men and women) on the age-schooling interacted variables.

[16] This study is an example of the literature that uses changes in the (institutional) supply side of the educational system as exogenous determinants of schooling outcomes. See Card (2000) for a review.

that of OLS. Interacting the year-of-birth dummies with enrollment rate in 1971 increases the estimate to 8.1 percent. Introducing a control for the water and sanitation program further increases the estimate to 10.6 percent. These 2SLS estimates, in contrast to the general findings of literature in this genre (see Card [2000]), are not very different from the OLS estimates.

Another finding of Duflo's paper is that there is some indication that the return to schooling is not concave.[17] She also finds that the estimated marginal returns do not show significant variation for the first nine years of schooling. The marginal returns for the twelfth year (the last year of senior secondary school) and thirteenth year of schooling, however, is high, implying an indication of 'sheepskin effect'. The returns to schooling show some variation across regions. In regions with below median population density, the returns are higher (11.0 percent). The returns are also higher in regions where the average education level of individuals not exposed to the program is low (12 percent).

Realizing that only 45 percent of the individuals in the sample work for wages and most of the remaining are self-employed, Duflo corrects the possibility of sample selection bias by using a sample correction procedure and by imputing an income to self-employed individuals in the sample. The results show that sample selection is not an important problem in her study.

Bedi and Gaston (2000) investigate the effectiveness of public and private schools at the secondary level using IFLS1 data. The sample used is restricted to individuals who have 7 to 12 years of schooling, no longer attending schools, and provide information on

---

[17] This result is obtained from OLS estimation using a dummy for each year of education.

earnings; thus the sample used is selective implying that the generalization of their result is limited.[18] They start their analysis by sorting individuals into four choices of schools: public, private non-religious, private-Islamic and private-Christian schools. They take into account the fact that school-sorting process may not be exogenous by modeling it using multinomial logit. The sorting itself is based on demand and supply considerations and it reflects parental choice and selection criteria determined by school (for example, minimum test score on primary school examination to enter junior secondary school and religion). They next estimate earnings equations for each of the four school choices by including selectivity correction term from the school-sorting model. Estimates of these earnings equations are then used to decompose earnings differentials between public and private school graduates.

Since our interest is in the returns to schooling, only results from earnings equations are discussed here. Variables in the wage function control for individual characteristics, parental background, ability and school inputs. Individual characteristics include dummies whether the individual completed junior secondary and senior secondary education, age (and its square), male dummy, dummy whether Indonesian language is spoken at home, religion dummies, urban dummy, and region of residence dummies. Parental background consists of five parental education dummies. Ability measures are represented by dummies indicating whether an individual received scholarships while studying at the secondary school, and whether he or she ever failed a grade during

---

[18] Due to the small sample ($N = 1,194$), they do not separate between individuals who work for wage and those who are self-employed and between males and females. For those in the wage sector, earnings are net wages; while returns to labor and enterprise (net income after expenses) reflects earnings in the self-employment sector. A further investigation on this issue shows that, while there are some differences between the "pool" and "separate" estimates, the key result is unchanged. The same results obtained from specification checks for pooling among males and females.

primary school. Three variables capture the school inputs measures; they are the characteristics of the last school attended by the individuals. These variables are class size, length of school term, and dummy indicating whether school has dirt floor (a measure of school infrastructure).

Schooling variables, in generally, have significant positive signs. As we expect, wage functions estimates will, in addition to the effect of schooling on earnings, reveal a lot of interesting information such as the effects of parental education, ability measures, and school inputs to earnings. For example, for individuals who went to public school, those who won scholarships earn a wage that is 40 percent higher than those who have not, and those who failed a grade in primary school earn 14 percent less than those who have not. Parental education, on the other hand, has, on the average, very little effect on earnings. With regard to school inputs, individuals educated in school with poor infrastructure earn 25-75 percent less than those who went to school with adequate infrastructure do.

Finally, Filmer and Lindauer (2001) study the relationship between public/private sector compensation levels and schooling attainment using evidence from SAKERNAS 1998 and SUSENAS 1999. In comparing wage levels, they find that, on average, government (public) sector earnings exceed those of non-government (private) sector for individuals with up to senior secondary level of schooling. For individuals with schooling attainment beyond senior secondary level, private sector workers are paid more than their public sector counterparts. Overall, public sector workers earn more than those working at the private sector with private to public pay ratio of 0.7:1.

Wage regression specifications that they use consist of 5 dummy variables for schooling attainment (primary, junior secondary, senior secondary, some tertiary and

university) and their interactions with public sector dummy variable. The determination to join work force is corrected using Heckman selection model with some household composition variables as identifying instruments. They also show results based on household fixed effect model.

They find no evidence that government is a low pay employer for its average employee. For the more educated employee, even tough they earn less than they would in the private sector, the premium is not as large as commonly suspected. Based on these results they cast doubt on the proposition that low pay is an explanation for government corruption.

2.3. Discussion

The above literature review shows various ways in the estimation of returns to schooling that has been done for the case of Indonesia. The findings can be summarized as follows. First, the estimated rates of returns are positive but the magnitude varies depending on the methodology and data set used. An additional year of completed schooling for men and women with 1-3 years of schooling (sub primary) will increase wage by 2.4 to 8.0 percent, while for those with 4-6 years of schooling (primary) between 3.3 and 6.7 percent. Among individuals with secondary schooling attainment, estimated returns rates are 4.2-27.6 percent for lower secondary level (7-9 years of schooling) and 5.1-28.4 percent for upper secondary level (10-12 years of schooling). Beyond secondary level, an additional year of formal schooling is associated with a 5.4-12.2 increase in wage. Second, controlling for unobserved household and community effects results in returns to schooling estimates that are, in general, lower than those produced using OLS.

Third, selectivity sample bias does not seem to significantly change the resulted rate of return estimates, although the sample correction terms are significant in some specifications. Fourth, there are significant gender differences in the returns to schooling at all levels of schooling with females having the edge on secondary and tertiary levels. Fifth, using institutional changes in the supply side of education system as determinants of schooling outcomes is an interesting alternative in studying the returns to schooling. Finally, the use of family background, child ability and school inputs information enables researchers to reveal many interesting facts about the effects of these factors on the estimated rate of return.

The model to be developed in the next section will not use the strategy similar to that of Duflo for the following reasons. First, for the purpose of instrument identification, this procedure requires a large sample size for a population with specific age range. Second, there basically two candidates instruments for representing changes in institutional changes in education policy: (i) the launch of compulsory primary education program for 7-12 year old children (1984) and (ii) the launch of the nine year basic education program consisting of 6 years of primary education and 3 years of lower secondary education or equivalent (1994). These two instrumental variables candidates are impossible to implement because, in addition to small sample size problem, it is too early to evaluate the two education policy changes with IFLS data collected between 1993 and 2000.[19]

Controlling for unobserved household and community heterogeneity also requires a large number of data since, to be included in the sample, one needs observations with at least two individuals from each household. Besides, the issue for these effects has been

20

thoroughly explored by Behrman and Deolalikar so that additional gain of knowledge to be obtained by re-doing this exercise will be limited.

This leaves us with estimating returns to schooling by explicitly addressing the omitted variable bias and sample selectivity bias problems. The latter is captured by taking into account that the individual, in making employment decision (not working or working in a particular sector of employment), maximizes his/her utility. Parental background, in particular information on parental schooling will be utilized to encounter omitted variable bias.

---

[19] Notice that children aged 7-12 in 1984, the year when the compulsory primary education began, are of age 20-25 in 1997 and 23-28 in 2000. Thus, this law only affects a very limited number of individuals in our 1997 and 2000 data sets.

3. Model

This essay adopts the human capital investment model of Becker (1964). According to this model, an individual, in making a human capital investment decision, is assumed to maximize the discounted present value of future earnings by taking into account the opportunity cost of time and good spent in obtaining the capital and the rate of interest. The empirical strategy in estimating returns to schooling investment in this essay consists of two stages. The first is estimating sector choice model in which an individual chooses his/her path of employment. The rate of return is estimated in the second stage by the inclusion of appropriate correction terms from the first stage. This strategy follows the two-stage methodology of Lee (1983), which basically is an extension to Heckman's (1979) selectivity-correction model to the multinomial logit setting.[20]

3.1. Sector Choice Model

Selection into sector of employment differs among individuals. Individuals who choose to be self-employed might have different characteristics from public or private sector workers. I will explicitly model the individual's utility maximization process in making decision to participate the labor market and/or to choose the sector of employment by the method of Lee (1983). This method is based on estimating a multinomial logit sector choice model. Multinomial logit is the most appropriate econometric approach in estimating the probability that an individual will be found in

---

[20] In the returns to schooling literature, this approach has been applied in, for example, Strauss and Thomas (1996) for Brazil, Glick and Sahn (1997) for Guinea, Brown and Sessions (1998) for United Kingdom, and Murrugarra and Valdivia (1999) for Peru.

each sector of employment.[21] The Multinomial logit model uses a linear function of individual characteristics (own schooling attainment and age), parental characteristics (father's and mother's schooling attainment), household characteristics (household composition and assets) and some variables related to residency of the individual. In addition, to control for the effects of seasonality and price levels between months of interview, a series of month variables is also included in the model.

There are five employment paths under consideration—non-participation (the base category), self-employment, wage employment in the public sector, wage employment in the private sector and unpaid family worker. IFLS collects six categories of employment status, namely self-employment without the help of others, self-employment with the help of household members or temporary/seasonal workers, self-employment with the help of regular workers, government worker/employee, private worker/employee, and family workers. The first three categories are aggregated into self-employment sector. Family workers are those who work by helping other household member in order to earn an income or reap a profit without getting any wage/salary either in money or in kind.[22][23] To see whether these divisions are warranted, I will apply statistical testing procedure to asses the equality of slope parameter vectors associated with each pair of employment path in this general specification (Wald test).

The multinomial logit model assumes that an individual makes his/her decision to work in a sector of employment on the basis of a latent variable. The underlying latent

---

[21] See Maddala (1983) and Greene (1992) for reference on multinomial logit.

[22] An example for family workers is a child who waits on buyers in his/her parents' shop.

[20] Individuals who works as family workers will not be included in the earnings equation because they do not report any earnings. The inclusion of family worker in the labor market participation regression as a separate choice is to learn whether an individual who works as a family worker has different characteristics from those who are self-employed or working for wage.

variable is derived from utility maximization conditional on the choice of each sector of employment. The indirect utility of individual i to be found in labor market sector j is specified as:

$$V_{ij} = \beta_j' X_i + \varepsilon_{ij} \qquad\qquad i = 1,...,N \qquad j = 1,...,M \qquad (3\text{-}1)$$

where X_i is a vector of exogenous individual characteristics such as education, age, household composition, and other factors; and ε_{ij} is the error component capturing unobserved variation in preferences not reflected in the observed variables. The individual, facing M employment sector choices, will select alternative j if it gives the maximum indirect utility:

$$V_{ij} = \max(V_{i1},...,V_{ij},...V_{iM}) \qquad\qquad (3\text{-}2)$$

The probability that individual i chooses labor market sector j is:

$$P_{ij} = \Pr(V_{ij} > V_{ik}) \text{ for all } j \neq k$$

$$= \Pr(\beta_j' X_i + \varepsilon_{ij} > \beta_k' X_i + \varepsilon_{ik}) \qquad\qquad (3\text{-}3)$$

$$= \Pr(\beta_j' X_i - \beta_k' X_i > \varepsilon_{ik} - \varepsilon_{ij}).$$

If the ε_{ij}'s are independently and identically Gumbel, their differences $(\varepsilon_{ik} - \varepsilon_{ij})$ have a logistic distribution and the probabilities take the multinomial logit form.[24] For the current application, the choice model for individual i can be defined as:

$$S_i = \begin{cases} 4 & if \quad \beta_4' X_i + \varepsilon_{i4} \geq \max(\beta_3' X_i + \varepsilon_{i3}, \beta_2' X_i + \varepsilon_{i2}, \beta_1' X_i + \varepsilon_{i1}, \beta_0' X_i + \varepsilon_{i0}) \\ 3 & if \quad \beta_3' X_i + \varepsilon_{i3} \geq \max(\beta_4' X_i + \varepsilon_{i4}, \beta_2' X_i + \varepsilon_{i2}, \beta_1' X_i + \varepsilon_{i1}, \beta_0' X_i + \varepsilon_{i0}) \\ 2 & if \quad \beta_2' X_i + \varepsilon_{i2} \geq \max(\beta_4' X_i + \varepsilon_{i4}, \beta_3' X_i + \varepsilon_{i3}, \beta_1' X_i + \varepsilon_{i1}, \beta_0' X_i + \varepsilon_{i0}) \\ 1 & if \quad \beta_1' X_i + \varepsilon_{i1} \geq \max(\beta_4' X_i + \varepsilon_{i4}, \beta_3' X_i + \varepsilon_{i3}, \beta_2' X_i + \varepsilon_{i2}, \beta_0' X_i + \varepsilon_{i0}) \\ 0 & if \quad \beta_0' X_i + \varepsilon_{i0} \geq \max(\beta_4' X_i + \varepsilon_{i4}, \beta_3' X_i + \varepsilon_{i3}, \beta_2' X_i + \varepsilon_{i2}, \beta_1' X_i + \varepsilon_{i1}) \end{cases} \qquad (3\text{-}4)$$

---

[24] See Lee (1983) for further details.

Some method of normalization is needed since, from (3-3), only the differences in utilities derived from different sectors of employment matter for the determination of the probabilities. Following standard practice, I will set the parameter vector associated with non-participation equal to zero. Parameters to be estimated by maximum likelihood are β_1', β_2', β_3', and β_4', and they are interpreted as the effects of a variable on the utility of being in sector of employment j relative to the utility from non-participation in the labor market, the base category.

A potential shortcoming of the multinomial logit model is its dependence on the independence of irrelevant alternatives (IIA). In principle, the IIA property assumes that the relative probability of two existing outcomes is not affected by the addition of a third outcome. For example, say that there are only two different sectors of employment, nonparticipation and self-employment, and that an individual is equally likely to chose between the two. Suppose that the individual is given the choice between self-employment and working for wage and assume that he or she views the two as perfect substitutes. In this case we would expect the probabilities of not working, being self-employed and working for wage to be 1/2, 1/4 and 1/4 respectively. Multinomial logit, however, does not treat the probabilities in this way. According to IIA property, it treats the probabilities as 1/3, 1/3, 1/3 in order to keep the relative probabilities of nonparticipation and self-employment constant.

Multinomial logit, due to its IIA property, may not be appropriate when there are two or more alternatives that are close substitutes.[25] Nevertheless, multinomial logit has gained favor in estimating discrete choice model due to its simplicity. In many

applications that recognize the fact that an individual making choices, for example in making decision after graduate from elementary school (whether to attend general junior high school or to attend vocational junior high school or to go directly into labor market), multinomial logit could serve as a useful framework to model the setting.

3.2. Wage Function

Bias for sample selection may arise since it is unlikely that an individual is randomly assigned to a particular sector of employment. This problem occurs when unobserved characteristics of an individual affect both the choice selection and earnings models. If these unobserved characteristics are correlated with the regressors of wage function, the estimated coefficient of this function will be biased. Following the two-stage method of Lee (1983), self-selectivity problem could be corrected by: (1) estimating the individual's self-selected sector of employment choice and (2) using those results to calculate selectivity-correction term and included that term as a regressor in the second-stage functions (the wage function) to correct for the potential self-selection bias.

The idea behind this procedure is that the selectivity-correction term for each individual (λ_{ij}) reflects the predicted probability that he or she selects a particular sector of employment. The inclusion of this term is to represent the importantance of unobservable characteristics that an individual has on his/her employment path. The appropriate correction term is defined as (dropping individual subscript for convenience):

$$\lambda_{ij} = \frac{\phi(\Phi^{-1}[P_{ij}])}{P_{ij}} \tag{3-5}$$

---

[25] Hausman and McFadden (1984) propose a specification test the validity of IIA property (to be explained in more detail in Section 5).

where $\phi(.)$ and $\Phi(.)$ are the probability density function and cumulative distribution function of the standard normal; and P_{ij} is the predicted probability that individual i chooses sector j from the multinomial logit model.

Using the estimated selectivity term defined above, $\hat{\lambda}_{ij}$, we will estimate the following Mincerian (1974) earnings function:

$$\ln w_{ij} = \gamma'_j Z_i + \tau_j \hat{\lambda}_{ij} + v_{ij} \qquad (3\text{-}6)$$

where $\ln w_{ij}$ is the natural logarithm of per hour wages or earnings of individual i in sector j; Z_i is a vector of individual's human capital characteristics, household-specific as well as community and facility information; and v_{ij} is a zero-mean disturbance terms capturing the unobserved variation in the wage function.

Another issue to be addressed in estimating wage function that contains selectivity correction term is identification. By the standard identification argument, X_i should contain one or more variables that affect employment sector choice but not directly affect earnings. Schultz (1993) argues that there exists some statistical support to use certain variables such as non-earned income (e.g. income from assets, public transfer) or assets as identifying instruments. As IFLS collects information on assets at the household level (for households whose member engaged in farm or non-farm business) and at the individual level the value of assets is available for identification purpose. The inclusion of assets variable is an advantage over only using household composition variables as the studies reviewed in Section 2. In addition, I also use a set of household composition variables to serve as identifying variables for calculating $\hat{\lambda}_{ij}$. These variables will be discussed in detail in the next section.

27

4. Data

Analysis of returns to schooling investments in Indonesia utilizes data from the Indonesia Family Life Survey (IFLS). In particular, this study uses three waves of IFLS surveys: IFLS1 (fielded in 1993), IFLS2 (1997) and IFLS3 (2000). Individuals who answered Book III, the book on adult information, are the object of this study.[26] Book III collects detailed information on a wide-range of issues at individual level for all selected adults in the household. The primary objective of this essay is to estimate returns to different levels of schooling for men and women in their working age of 25-59. The purpose of excluding individuals younger than 25 years is to avoid those whose main activities are going to school (or being full-time students). Excluding individuals aged 60 or older is to eliminate those who are retired. Thus our sample consists of productive age individuals so that the issue of having full-time students and retirees in the sample is avoided.

The number of observations in the final sample is presented on Table 4.1. Around 30-40 percent observations are dropped due to age restriction of the study. In the 1993 sample, 4 percent of observations are excluded for incomplete or missing own schooling information. Most of the individuals in the latter category have their Book III answered by proxy. Another 4 percent observations are dropped due to incomplete wage

---

[26] Some information (for example: age, marital status, highest level of school attended and highest grade completed) is recorded on both householder roster (Book I, section AR) and Book III. Householder roster is collected at the household level and administered to the spouse of the head of the household or to the head of the household. Missing information on Book III could be filled-up with the corresponding ones from householder roster. This is not the case with the sample used for this study because Book III is considered to contain more accurate and reliable information since it is given directly to the individual him/herself and can thus eliminate memory errors of the householder roster's respondent. In addition, it is also not possible to retrieve information from householder roster to be included in the final sample since the

information.[27] In the 1997 and 2000 samples, around 4-5 percent of observations are dropped due to incompleteness.

This section starts with a brief discussion on IFLS. Description on labor force participation and its stratification by human capital variables (own schooling and age) for each of the survey will follow.[28] [29] In addition, similar description on participation for individuals interviewed in all three surveys (panel respondents) as well as their work transition between surveys will also be presented. Other data, such as parental schooling, household composition, business assets, region of birth and of current residence, and earnings are to be described prior to the presentation of regression results in each respected sections.

4.1. IFLS

IFLS is a longitudinal survey of individuals, households, and communities in Indonesia. RAND, Santa Monica, CA administers the first and second waves of these surveys in collaboration with Lembaga Demografi Universitas Indonesia (LD-UI), Jakarta.[30] The third wave, IFLS3, is undertaken in cooperation with Pusat Studi Kependudukan dan Kebijakan Universitas Gajah Mada (PSKK-UGM).

---

roster does not collect essential data for empirical purpose such as work status (self-employment, public and private sectors, and unpaid family workers) and number of hours worked.

[27] Notice that information on wage or income is only collected for individuals who are self-employed or work at public and private sectors. No observations are excluded based on the availability of wage information for individuals who are not working or those working as unpaid family worker.

[28] Employment status includes those who currently are unemployed, searching for work, or temporary out of work.

[29] Throughout this essay, standard errors are adjusted for clustering at the enumeration areas due to IFLS' survey design (to be discussed in the next subsection).

[30] In the second half of 1998, a special survey of IFLS was fielded to study the immediate impact of multi-dimension crisis that hit Indonesia starting by the end 1997. This survey, IFLS2+, only covers 25 percent of the regular IFLS sample.

At the individual level, IFLS collects information on socioeconomic and demographic characteristics of respondents such as detailed information on the history of education, employment and earnings, migration, and marriage, pregnancy and child bearing. Wide-ranging health information is also collected in IFLS. This, among others, includes information on health status of respondents, utilization of health care facilities, tobacco consumption, health insurance, anthropometrics measures (such as weight, height, hemoglobin level, blood pressure, and lung capacity), and family planning. In addition, information on links with non co-resident kin, transfer and borrowing, and individual assets is also collected. At the household level, IFLS collects extensive information on consumption, assets (farm business, non-farm business, and household), non-labor income and household characteristics.

IFLS1 is based on a stratified sampling scheme on provinces and rural-urban areas within provinces. Inside these strata, enumeration areas (EA) were randomly sampled, followed by randomly sampled households within EAs. To maximize the representation of population, culture and socioeconomic diversity of Indonesia, 13 provinces from Sumatera, Java and other region were selected. These provinces are North Sumatera, West Sumatera, South Sumatera, Lampung, DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java, Bali, West Nusa Tenggara, South Kalimantan and South Sulawesi. Following this sampling procedure, over 30,000 individuals in 7,224 households from 321 EAs were sampled. Over-sampling occurred in urban EAs and EAs in smaller provinces to facilitate rural-urban as well as Java-non-Java comparisons.

For budgetary reasons, not all household members were interviewed in IFLS1. Interviews were conducted with the following household members. First, the household

head and his/her spouse. Second, two randomly selected children of the head and spouse aged 0-14 (interviewed by proxy). Third, an individual aged 50 and above and his/her spouse, randomly chosen from remaining members. Fourth, for a randomly selected 25 percent of the households, an individual aged 15-49 and his/her spouse, randomly chosen from remaining members. The sampling rules indicate that as many as six adults in each household could have been interviewed, but the maximum number of adults actually interviewed was restricted to four (see Frankenberg and Karoly [1995] for details).

In IFLS2, fielded between June and November 1997, all IFLS1 households are aimed to be re-surveyed (see Frankenberg and Thomas [2000] for documentation of IFLS2). Around 10-15 percent of households that moved from their original location are followed. In addition, IFLS2 also added approximately 900 households by tracking individuals who split-off from their original household. The strategy taken was to track an entire household or targeted individuals that moved as long as they resided in any of the IFLS provinces regardless of whether they move within or across province borders. The targeted individuals from split off households are those who were main respondents in 1993 (panel respondents –those who answered one or more IFLS1's individual questionnaires) or those who were born before 1968 (those who were at least 26 years in 1993). To control cost, not all individuals were tracked.

With respect to individuals within household, IFLS2 goal is to interview all individuals from original households. Among the split-off households, all tracked individuals were interviewed along with their spouses and any of their biological children living in the household.

The total number of households contacted is 7,629, consisting of 6,752 panel households and 877 split-off households, while the number of individuals interviewed is approximately 34,000.

In IFLS3, all original IFLS1 households and split-off households of IFLS2 and IFLS2+ (see footnote 31) became the targeted households to be found in their original locations. In addition, households that moved but still resided within IFLS provinces and Riau were tracked.[31] Individuals who moved out of their IFLS household were followed as well. Interviews were conducted with all current members of original (IFLS1) households.

Rules for following individuals who moved out of an IFLS household were expanded in IFLS3 to include: (1) IFLS1 main respondents; (2) IFLS1 household members who were born before 1968; (3) individuals born since 1993 in original households; (4) individuals born after 1988 provided that they were resident in an original households; (5) an 20% random sample of IFLS1 household members who were born between 1968 and 1988.[32]

Within household, all current members of original 1993 household were interviewed. For split-off households (whether a split-off from 1997, 1998 or new in 2000), in addition to the selection rules of IFLS2, any individuals who had lived in a 1993 household plus their spouses and biological children are also the targets of interview.

---

[31] A small number of households in Southeast Sulawesi, Central and East Kalimantan were also followed. For analysis purpose, these households are reclassified to the nearby IFLS provinces.

[32] See Strauss et.al. (2002) for further information on comparison on selection of households and respondents within households among IFLS waves.

More than 10,500 households were contacted, 6,768 of which are original households and 2,648 are new split-off households. Over 43,600 individuals were contacted in IFLS3. Main fieldwork took place from June through November 2000.

Complementing the individual and household surveys is a comprehensive community and facility survey. This survey involves interviews with local community leaders regarding services, physical and economic infrastructure, and history of schools and health facilities existence. Health service providers and schools are surveyed within each community. Health facilities surveyed in IFLS come from a probabilistic sample of facilities that actually serve households in the community. The same goes for school sampling procedure, where the list of schools comes from the actual schools being used by households with children who are currently enrolled. In addition, prices of goods and services at the community level are also collected. This rich information on community and facility may be matched with individual and household level data for individuals and households residing in these 321 communities.

4.2. Labor Force Participation for Cross Section Respondents

Non-employment and employment in four occupations are of interest in this study: non-employment, self-employment, two sectors of wage work (public and private) and unpaid family work. Individuals, at the time of survey, select themselves into one of these five states. The distribution of labor force participation is shown on Table 4.2 (see *All Individuals*). The employment rate in our sample fluctuates from 73 percent in 1993 to 71 percent in 1997 to 79 percent in 2000. Corresponding figures from SUSENAS

samples are, respectively, 76, 73 and 73 percent (see Appendix Table 4.1).[33] By gender, the table also shows that 96 percent of men and 55 percent of women engaged in some type of employment in 1993. In 1997, employment rates slightly decreased to 93 percent for men and 53 percent for women. In 2000, possibly in response to the economic crisis, the proportion of women working increased significantly to 64 percent while that of men increased slightly to 94 percent.[34] [35]

Looking at the dynamics of employment rates more closely at the three sectors for which rates of returns to schooling are going to be estimated (i.e., self-employment, public sector and private sector), one can see that the proportion of self-employed men decreases between 1993-1997 but stays at the same level between 1997-2000; while proportion of self-employed women stays the same between 1993-1997 and increases between 1997-2000. Among public sector workers, the fraction of men participating declined with time, while that of women stayed at below 5 percent. Finally, among private sector workers, the proportion of both men and women increased between 1993-2000. Although one can make inferences about transition of work between sectors, I will not discuss this issue until the presentation of results from panel respondents.

---

[33] Estimates on Appendix Table 4.1 are based on comparable characteristics such as individuals selected are of 25-59 years of age, residing in 13 IFLS provinces and are categorized into similar sector of employment. For SUSENAS 2000, public and private sector workers are merged into one sector, paid workers, because the question does not allow this distinction.

[34] Strauss et.al. (2002) found that employment rate for women between 1997 and 2000 increased at the same magnitude. Nevertheless, SUSENAS data (Appendix Table 4.1) shows that non-employment of women during the same period fell by 0.5 percent.

[35] It is also interesting to note that most of employed men are working for pay while among around a quarter is working unpaid at the family business. This proportion, however, change between years. Whereas in 1993, less than 1 percent of employed men are working unpaid, in 1997 and 2000 this proportion increased to 2.8 and 3.4 percent, respectively. Among employed women, the corresponding figures are, respectively, 28, 20 and 24 percent.

Table 4.2 also shows the distribution of labor force participation by schooling attainment.[36] [37] In 1993, around 90 percent men with 0-6 years of schooling and 80 percent of men with 7-9 years of schooling are either self-employed or working at the private sector. This pattern changes with schooling attainment where more than half of men with beyond secondary level schooling experience work at the public sector. Among women, around 65 percent with 0-3 years of schooling and 75 percent with 4-9 years of schooling are either self-employed or do not engaged in any work activities. Even around 55 percent of women with 10-12 years of schooling are still either self-employed or not working, 26 percent of them work at the public sector. Parallel to the pattern of men, around 45 percent of women with 13+ years of schooling work at the public sector, although another 27 percent of them do not work.

The patterns for the 1997 and 2000 sample are comparable to that of 1993 sample. A notable difference worth mentioning here is that there is a shift in the choice of employment sector from public sector to private sector among individuals with higher schooling attainment (10+ years). Whereas in 1993 around 52 percent of men and 46 percent of women with 13+ years of completed schooling working at public sector, in

---

[36] Own schooling information is recorded on the highest education level attended and the highest grade completed at that level. Various schooling measures, such as completed years of schooling, diploma earned, and schooling dummies, could be constructed from these two variables. For each grade *completed* at any level of schooling, years of schooling variable is increased by one. An individual who never attended school is assigned zero year of schooling, while one who attended the first grade of elementary school but never completed that grade is also assigned zero year of schooling. Completed years of schooling is constructed as 6 years for individuals whose highest schooling is completed primary, 9 years for junior secondary, 12 years for senior secondary, 13 years for Diploma-1 (D1) program, 14 years for Diploma-2 (D2) program, 15 years for Diploma-3 (D3) program and 17 years for any university degree.

[37] In IFLS1 and IFLS2, there is no additional information on whether an individual completed Bachelor, Master, or Doctorate degrees. The maximum years of schooling is thus set to be 17. In IFLS3, separate categories for Bachelor, Master, or Doctorate degrees are recorded. However, individuals with Master or Doctorate degrees only make 0.2 percent of total sample. For comparability among survey waves, maximum completed years of schooling is top coded at 17. All of the specifications in empirical section do not distinguish between the levels of schooling achieved beyond secondary due to the small number of data

2000 these proportion are cut to 36 percent for men and 39 percent for women. The proportion of private sector men increases from 27 percent in 1993 to 34 percent in 2000, while the corresponding proportions for women are 19 percent in 1993 and 28 percent in 2000. SUSENAS estimates, however, show that the proportion of workers with tertiary schooling working at the public and private sector stay at about the same level between 1993 and 2000.

Labor market experience in this study is approximated by age.[38] Table 4.3 presents fractions of labor force participation within each of the four age groups used in this essay (25-29, 30-39, 40-49 and 50-59 years). One can see from this table, for example, the fraction of the youngest age group men not engaging in any kind of work fluctuates from 3 percent in 1993 to 13 percent in 1997 and to 8 percent in 2000. One interesting fact from this table is that non-employment for the oldest individuals shrunk drastically between 1997 and 2000, from 14 to 10 percent for men and from 49 to 37 percent for women. This, again, might be interpreted as the contribution of the old individuals in coping with economic crisis. Furthermore, the fraction of non-employed women aged 40-49 years also decreased from 42 percent in 1997 to 28 percent in 2000.[39]

---

in this category (only less than 5 percent of individuals in 1993, 6 percent in 1997 and 9 percent in 2000 have post senior secondary level education).

[38] In addition to age, IFLS provides information about the year/age an individual started working full-time, defined as the year/age when working is the primary activity. Unfortunately, there exists inconsistency between age and the number of year of experience constructed from the information provided, where age is smaller than experience. Eliminating these inconsistencies reduces the number of observations significantly. In addition, including actual experience in the wage function could yield biased estimates, as this variable is not exogenous. In section 9, comparison between using age and potential experience as proxies of labor market experience will be illustrated.

[39] Panel respondents of IFLS2 and IFLS3 shows that 8.1 percent aged 55-64 in 1997 shifted from not engaging in any kind of work in 1997 to working in 2000. For women, the corresponding number is 15.6 percent (Strauss et.al. [2002]).

4.3. Labor Force Participation for Panel Respondents

Panel respondents are defined to be individuals who are in all three surveys provided that they are of age 25-52 in 1993.[40] As previously mentioned, the criteria for selecting households and individuals changed between surveys. The inclusion of new household members such as from the split-off households, for example, might be responsible for the difference in schooling attainment within different waves of the survey. It is for this reason, performing empirical exercise based on cross section as well as panel respondents might be fruitful since it will give perspective on the rates of returns to schooling investment.

Table 4.4 is the equivalent of Table 4.2 for panel respondents. The fraction of overall non-employed panel men increased between 1993-1997, similar to that of cross section sample, but stayed at the same level between 1997-2000. Among women, however, the fraction of non-employed panel respondents fell between 1997-2000, comparable to that of cross section sample. One can easily see the similarity as well as difference between employment rates within other sectors. One important difference was found among public sector workers, where the fraction of individuals with tertiary level of schooling increased within panel respondents but decreased within cross section individuals. The fact that there were no major job openings for public servant work during the mid-1990s might partly explain the decrease within cross section sample. Individuals with higher level of education might decide to stay working at the public sector while those with up to secondary schooling move to other sectors of employment during the crisis.

---

[40] This means that individuals are 29-56 years old in 1997 and 32-59 in 2000. The number of observations in the panel sample is 6,519, meaning that there is a 32 percent reduction of total 1993 sample, mostly due to age restrictions (see bottom portion of Table 4.1). The portion of cross section sample excluded from the

It is also interesting to learn the employment behavior of women by age group (see Table 4.5). One can see a drop in non-employment for the younger women (aged 25-39), a slight decrease between 1993 and 1997 and a large drop between 1997 and 2000. This is expected since women of this age, especially those aged 25-29 years, might be having children and thus will abstain from working activities. But, the fact that this trend could also be found for older women (aged 40-52), especially a 9 percent decrease in non-employment between 1997 and 2000, might suggest a crisis effect since these women might have already stopped childbearing. For older men (aged 40-52), however, the fraction of non-employment increased as they ages, with a large increase between 1993 and 1997. In contrast, non-employment of men aged 50-59 in the cross section sample decreased between 1997 and 2000.

Table 4.6 shows work transitions by sector between 1993-1997 and 1997-200 for panel respondents. Transition measures presented in this table are based on the employment status of the individual at the time of surveys only; changes in status between the two points are not taken into consideration. One can observe not only a large transition for men from private sector to self-employment but also from self-employment to private sector. During the crisis one can expect the former to take place but not the latter. Among women, we saw a large transition from non-employment to self-employment and other working activities, where the percentage changes are during the 1997-2000. One can also observe transition from private sector to self-employment and non-employment and vice versa, from non-employment and self-employment to private sector.

---

panel increases to 47 and 56 percent in 1997 and 2000, respectively, as a result of age restrictions as well as different criteria used in the selection of individuals interviewed.

Another way to look at transition is to look at whether individuals work in both years, do not work in either year, get job or lose job between years. An individual is categorized as to 'Get Job' ('Lose Job') if he/she works (does not work) in the current survey while not working (working) during previous interview. Thus, these measures do not take into account working activities transitions between surveys. Table 4.7 presents these transitions by age group and gender. For the oldest men, in accordance to previous results, the fraction of those working in both years decreased (between 1993-1997 and 1997-2000). However, this decrease goes along with an increase in those who get jobs and a decrease in those who lose jobs. A different pattern was found for women, where the fraction of those working in both years increased along with a small decrease in those not working in both years and those who lose jobs as well as an increase in those who get jobs. This supports the claim that old individuals (especially women) play an important role coping with economic crisis of 1997-98.

Some of the panel effect might be age-effect not year-effect, but it might not be true either. Without further analysis, one cannot tell which of age-, cohort- or year-effects plays an important role in the data (see Deaton [1997] for decomposition analysis).

Patterns of IFLS results (even for panel individuals) do not emerge in SUSENAS (see Appendix Table 4.1). For example, one cannot see a large drop in non-employment for women and increase in self-employment for men between 1997 and 2000. In SUSENAS these changes are only 0.5 percent or less.

5. Sector Choice Model

The employment rate in our sample fluctuates from 73 percent in 1993 to 71 percent in 1997 to 79 percent in 2000.[41] The employment rate for men is notably higher than that of women (93-96 percent for men vs. 53-64 percent for women).[42] Beyond the decision to participate or not to participate in the employment market, there is also an issue of what type of employment does an individual choose to participate in. Most of the recent studies on returns to schooling investments take into account the fact that labor market participation is not likely to be random. Individuals choosing to participate in the labor market might have different characteristics, in terms of observable and unobservable factors that affect wages, from those who decide not to work. Individual characteristics, for those choosing to work, might also vary among the choices of employment sectors in a non-random fashion. It is, therefore, necessary to control for the potential selectivity bias problem in the sample.

In this study I account for this problem by modeling sector choice by the procedure proposed by Lee (1983) based on estimation of multinomial logit sector choice model. For that purpose, I assume that individuals in our sample make decisions on whether not to work, to be self-employed, to work at the public sector, to work at the private sector or to work at the family business as an unpaid family worker. Our sample shows that men

---

[41] Recall that our each of our samples consists of adults aged 25-59 years living within 13 IFLS provinces. Corresponding figures from SUSENAS samples are, respectively, 76, 73 and 73 percent.

[42] Table 4.2 shows that 96 percent of men and 55 percent of women engaged in some type of employment in 1993. In 1997, employment rates slightly decreased to 93 percent for men and 53 percent for women. In 2000, probably in response to cope with economic crisis, work participation of women increased significantly to 64 percent while that of men increased slightly to 94 percent. Strauss et.al. (2002) found that employment rate for women between 1997 and 2000 increased at the same magnitude. Nevertheless, SUSENAS data (Appendix Table 4.2) shows that nonparticipation of women during the same period fell by only 0.5 percent.

40

who do not participate in labor force or who are working at family business are underrepresented. In the sector choice model, these two sectors are combined and served as the base category in the multinomial logit regressions. Women working at the public sector are also underrepresented in our sample. Since the interest of this study is to estimate rates of returns to schooling for men and women who are self-employed or working at the public and private sectors, pooling women respondents who are working for wage (i.e., those in the public and private sectors) will not serve the purpose. Therefore, estimation results for women in the public sector should be interpreted with caution due to small sample size.

This section will proceed with discussion of specification tests for multinomial logit results, followed by discussion of factors affecting men and women participating in a particular sector of employment for both cross-section and panel respondents.

5.1. Specification Tests

There are many tests that are commonly used to verify multinomial logit specifications (see Freese and Long [2000] for further details). Two of them are applied here: first, the Hausman-McFadden (1984) tests to assess the independence of irrelevant alternatives, and second, Wald tests to determine whether the independent variables differentiate between any two outcomes. This test is commonly used in determining whether any two outcomes can be combined.

5.1.1. Hausman-McFadden Tests

Hausman and McFadden (1984) proposed a testing procedure to evaluate the independence of irrelevant alternative (IIA) assumptions of multinomial logit regression specifications. The test is based on dropping a category from the specification and examining changes in the estimated coefficients. This test provides an indicator on the appropriateness of multinomial logit specification at hand.

The procedure for testing IIA assumptions, in principle, can be explained as follows. First, estimate the unrestricted model with all J outcomes included; these estimates are $\hat{\beta}_U$. Sample of men, in our multinomial setting, consists of four sectors of employment; this is the total number of possible outcomes. Second, estimate a restricted version by eliminating one or more outcome categories; these estimates are $\hat{\beta}_R$. For example, drop the sub-sample of men working at the public sector, which leaves us with three sectors of employment. Third, construct Hausman test statistics:

$$H_{IIA} = (\hat{\beta}_R - \hat{\beta}_U^*)'[\hat{V}(\hat{\beta}_R) - \hat{V}(\hat{\beta}_U^*)]^{-1}(\hat{\beta}_R - \hat{\beta}_U^*) \tag{5-1}$$

where $\hat{\beta}_U^*$ is a subset of $\hat{\beta}_U$ after eliminating coefficients not estimated in the restricted version. H_{IIA} has an asymptotically chi-square distribution with degrees of freedom equal to the number of rows in $\hat{\beta}_R$ if IIA is true.

Since the null hypothesis of this test is that the odds of omitting one or more outcome is independent of other alternatives in the sense that it will not change the parameter of estimates systematically, a significant value of H_{IIA} indicates that the IIA assumption has been violated. H_{IIA} might have a negative value if $\hat{V}(\hat{\beta}_R) - \hat{V}(\hat{\beta}_U^*)$ is not positive semi-definite. However, a negative H_{IIA} indicates that IIA property holds.

Table 5.1 shows the chi-square (χ^2) value of Hausman-McFadden test statistics along with its respected *p*-value. Three specifications of interest for each gender are tested. The first controls for own schooling that enters in a non-linear fashion in terms of dummy variables. The second controls for non-linear own and parental schooling attainment. This specification is hereafter referred to as the *base specification* as correction factors for wage regression on Section 6 are based upon this specification. In the third specification (*full specification*, hereafter), residency variables are also controlled for.[43] For each specification, test statistics are presented for dropping one particular sector of employment at a time. The results show that most of the H_{IIA} are not significant, implying support for IIA property of the multinomial logit models.[44] Almost half of the test statistics are negative, but these negative values support the existence of IIA property. These findings indicate that the use of multinomial logit is appropriate for modeling sector choice model for both men and women.

5.1.2. Wald Tests

Standard Wald tests are used to determine whether two outcomes can be combined. The null hypothesis to test, for example, that the coefficients of 'self employment' and 'public sector' are indistinguishable is:

---

[43] These variables are represented by dummy variables representing province of current residence and their interactions with whether the individuals reside in urban area.

[44] There are three cases of violation to the IIA property at the base specification. Dropping self-employed men in the 1993 sample, self-employed women in 1997 and private sector men in 2000 will turn H_{IIA} to be significant. Controlling for variables in stages, as mentioned in footnote 3, will not give any significant test statistics (results for the first three stages are not shown). Thus, these violations are not considered to be a major issue that can alter the general support for IIA property.

$$H_0 : (\beta_{1,self|base} - \beta_{1,public|base}) = \ldots = (\beta_{K,self|base} - \beta_{K,public|base}) = 0 \qquad (5\text{-}2)$$

where base is the base category used in the calculation.

For all three specifications (for both men and women), the Wald test statistics for all samples, presented on Table 5.2, are highly significant. This means that any two sector of employment in each of these specifications cannot be combined. These results imply that the determinants to enter into a particular segment of the labor market are unique so that, for example, characteristics of individuals choosing to be self-employed are different from those working at the private sector. In addition, these results confirm that the divisions of sectors of employment in the sector choice model are warranted.

5.2. Factors Affecting Sector Choice

Estimates for base specification of (multinomial logit) sector choice models for men and women are presented in Table 5.3A, 5.3B and 5.3C.[45] A summary of estimates for own schooling variables is shown on the upper part of Table 5.5. In addition to Table 5.5, for comparison purposes, a summary of own schooling variables from specifications in which own schooling enters as completed years of schooling (or in linear fashion) and specification in which own-schooling are non-linear, both with no control for parental schooling, are presented on the upper part of Table 5.4.[46]

Due to the panel nature of the data, cross section comparison of results among the three waves of survey should be interpreted with caution. Households as well as

---

[45] Estimation results for the 1993 sample are shown on Table 5.3A, for the 1997 sample on Table 5.3B, and for the 2000 sample on Table 5.3C. Hereafter, these tables are referred to as Table 5.3. Likewise are all the tables that follow.

[46] To obtain pattern from resulted estimates, discussion in this section are based on estimates that are at least significant at the 10 percent level.

individuals are randomly selected within the 1993 wave. In the 1997 and 2000 samples, however, individuals might not have been random due to selection rules for both households and individuals within households due (see Section 4). This also applies when we discuss results based on panel respondents.

5.2.1. Own Schooling

Own schooling plays an important role in allocating men and women to their employment path. These effects, however, work in different directions depending on the employment sector of interest. Let's look first at estimates in which schooling attainment is linear (see Appendix Table 5.1 and its summary, Table 5.4). It is clear that education appears to be negatively correlated with self-employment for men and women (except for women in 1997) and with working unpaid at family business for women, all are relative to non-employment. [47] The negative effect of schooling is stronger for 1993 relative to 2000 for men but is almost at the same level for women. On the contrary, schooling attainment is positively correlated with employment at the public sector for both men and women with stronger effect for 2000 than 1993. However, education does not affect men and women in making decision to work at the private sector relative to non-employment.

Turning to specification with non-linear own schooling attainment with no control for parental schooling (see Appendix Table 5.2 and its summary, Table 5.4) one can see that level of schooling are important in explaining the effect of schooling in sector choice model. For self-employed men in 1993, the negative effect of schooling is only true for

---

[47] Recall that the base category for men is the pool of men who are not working and men who are working at family business, while the base category for women is non-employment. Interpretation of estimated coefficients of the sector choice model for men and women should always refer to their respected base categories, even though it is not mentioned in the text.

those with schooling attainment beyond primary level. By 2000, however, schooling attainment for men with primary schooling are positively correlated with the probability of being self-employed (relative to non-employment), while schooling is negatively correlated with self-employment only for men with tertiary level education.

Among public sector workers, one can also see that the effect of schooling attainment gets stronger with level of education for both men and women. These effects tend to be stronger with time, which might support the fact that public sector employment is an education-intensive sector.

For men, schooling attainment up to secondary level is positively correlated with private sector employment (but not in 1993). Among women, however, education tends to have negative effect on employment in the private sector, where the effects are stronger in 2000 than in 1997. These results reverse the conclusion of specification with linear schooling attainment, where education does not affect employment at the private sector.

Now let's look into own schooling estimates of base specification in detail (see Table 5.3 and its summary, Table 5.5). In general, the magnitude of the estimates tends to be smaller in comparison to previous specification (the one that does not control for parental schooling), indicating that parental education does pickup some family background information of the individuals. The trends of own schooling effects, however, are similar between the two specifications.

As was previously mentioned, the magnitude of estimates, which shows the effect of own schooling on the probability of joining a particular sector, is not linear. For example, men with sub-primary schooling (4-6 years) have a 162 percent higher chance

of working in the public sector versus non-employment relative to men with zero year of schooling.[48] This likelihood increases in a non-linear fashion with schooling attainment, where odds of men with junior secondary schooling is 285 percent higher while those with senior secondary schooling is 1,546 percent higher. A similar non-linear trend is found for public sector women even though significant effect of own schooling did not exist for those with primary school education. The stronger higher odds of joining public sector as schooling attainment increases between years of survey might indicate that public sector has become increasingly education-intensive with time.

New insight could be provided when we relate own schooling estimates with the distribution of primary duties of the individuals. Occupations (primary duties) within sector of employment along with its average years of schooling are presented in Appendix Table 5.7. Professional and managerial staffs have the highest average years of schooling, followed by administration staffs. Those working as an agricultural worker or as laborer have the lowest schooling attainment.

The negative association between schooling attainment and being self-employed for men, especially among those who are more able, is an indication that self-employment sector tend to be a low-technology sector so that the highly educated individuals might feel counterproductive being self-employed. This is supported by the composition of occupations within this sector where more than half of self-employed men in our 1993 sample are workers in the agriculture sector and another fifth are sales staffs (see Appendix Table 5.7). For women, only those who completed 1-3 years of schooling are more likely to be self-employed. In contrast to self-employed men, half of the self-

---

[48] The estimated coefficient for public sector men with 4-6 years of schooling is 0.964 (see Table 5.3A). This implies that the odds for men with sub-primary level of schooling to enter public sector employment is

employed women work on sales staffs while another fifth are agriculture workers. Since working as sales staff requires more schooling than being a farmer, it is possible that the positive correlation only occurred for those with 1-3 years of schooling with no association for those with higher schooling attainment. The change in the occupation compositions among self-employed individuals between surveys, with tendency toward more education-intensive type of occupation, might explain the positive effect of schooling for the lower level of schooling attainment and the negative effect for the higher level in the 1997 and 2000 samples.

Around 30-40 percent of men and 60-70 percent of women working at the public sector are professional or managerial staffs, while another 25-30 percent of men and 15-20 percent of women are administrative staffs, two intensive-education types of occupation. Therefore, it is not surprising to see a positive association between schooling and the odds of participation in public sector employment.

For women having 4-9 years of schooling is associated with a decrease in the likelihood of working in the private sector. This tendency holds in all three surveys. The private sector is dominated by occupations associated with lower level of schooling attainment such as agricultural worker and laborer. For men, however, there is no clear pattern between years in terms of schooling attainment and private sector employment. In 1993, education does not affect men deciding to join the private sector. In 1997 certain levels of schooling (4-6 and 10-12 years) appear to increase private sector participation. Positive correlation between schooling and private sector employment is found in 2000 (except for those with 13+ years of schooling). Variables other than

---

$e^{0.964}$ = 2.62 times (or 162 percent higher than) the odds of their counterparts with no formal schooling.

occupational composition might explain the change between years, although one might notice that the proportion of service staffs, an occupation with relatively high average years of schooling, almost doubles between 1997 and 2000.

Finally, being an unpaid family worker (which is available for women only) is, as expected, negatively correlated with education. Around 70-80 percent of women in this sector work in agriculture. Thus, those with higher schooling attainment are likely to avoid working at this sector that, in turn, explain the negative effect of education in participation in (unpaid) family business sector. Schooling effects diminished with time as evidenced by the non-significant effect of schooling in the 2000 sample. Table 4.2 shows a huge increase in family work employment for women with less than tertiary level of schooling (especially between 1997 and 2000).

Some recent studies in developing countries find mixed conclusion on the importance of education in determining labor participation. For the case of Indonesia, Duflo (2000) finds that the probability of working for wage for men is affected by schooling.[49] Glick and Sahn (1997), using survey data from Conakry, the capital of Guinea, find that more schooling reduces the probability that men and women become self-employed. They also find that more schooling increases the probability of men to entering public sector employment but reduces the likelihood of being a wage earner in the private sector. For women, schooling raises entry probabilities for wage work in both public and private sectors. Tansel (1999) finds that, in Turkey, educational attainment increases the probability of joining public administration, state owned enterprises and the (covered) private sectors but reduces the likelihood of entering the other employment category. In

---

[49] In her study, Duflo makes no distinction between men working in public or private sector.

contrast, King (1996) finds very small or negative effects of years of schooling on total labor force participation for women in Peru.

5.2.2. Parental Schooling

Father's education background in the 1993 sample has very limited impact on son's and daughter's employment.[50] For women, having a father who completed primary school is associated with a 25 percent increase in the probability of being self-employed but a 28 percent decrease in the likelihood of working in the private sector. Even though mother's schooling variables are jointly highly significant, individual estimates are, in general, not significant so that limited inference could be made from these individual estimates. In most cases, the direction of association between maternal schooling and the odds of employment is positive for wage earners and negative for the self-employed. Having a mother with some elementary schooling increases the likelihood of children's private sector employment and of son's employment at public sector. The relationship between parental schooling and women working as unpaid family workers is consistent among surveys. Having parents with some level of schooling is associated with a decrease in the employment at the family business. This association is expected since educated parents prefer their children not to work without pay.

In 1997, parental schooling has opposing consequences on son's and daughter's employment. Having a father with at least secondary education reduces employment of men while having a mother that at least completed primary school increases employment

---

[50] Discussion is based on estimates of base specification (see Table 5.3). For men, Wald test for the joint significance of father's schooling on son's employment is not significant for the 2000 sample and only significant at the 10 percent level in 1993.

in the private sector.[51] For women, having a primary school educated father increases the chance of working at the self-employment sector while having an educated mother decreases the odds of being self-employed.

Father's schooling still has a negative effect on son's probability of being self-employed in 2000. However, having a mother with some primary schooling education decreases men engaging in any working activities. This is also true when the specification is extended to include residency variables.

The inconsistent as well as limited effect of parental schooling on male and female employment decisions between surveys might be an implication of the limited variation in parental schooling variables, especially that of mother's. In all three surveys, around half of the individuals in the sample have mothers with no formal schooling. The only consistent effect of parental schooling is in reducing the probability of women working unpaid in family business sector. In spite of the limited effect of parental schooling, specifications that control for own and parental schooling to correct the wage regressions is of central interest of this study.

5.2.3. Other Variables

Sector participation likelihood of men and women with age follows an inverted U-shaped profile. In general, younger individuals (aged 25-39) are more likely to be engaged in any kind of employment activities, while those aged 40+ are less likely to do so. This trend is true for all sector of employment. There is, however, a noteworthy change between results from 1993 and 1997 on one hand and from 2000 on the other,

---

[51] The negative effect of father's schooling on son's employment holds even after further controlling for residency variables (full specification, see Appendix Table 5.3).

especially for men. Estimated coefficients for men aged 40-49 are either significantly negative or not significant in the 1993 and 1997 samples. In 2000, however, being 40-49 years old is associated with a 4 percent increase in self-employment work for men and women and a 10 percent increase in working at the public sector. These increases might reflect the impact of economic crisis of 1997-98 in Indonesia where older people tend to work as a way to cope with the crisis.

Household composition and business assets variables, intended to identify selection term for the second stage OLS wage regressions, are jointly significant at the 1 percent level. The presence of adult men (aged 20-49) in the household lowers employment participation for both men and women. This result, especially for self-employed individuals might indicate substitution effect for working in this sector. For women, however, this might indicate women's role in household work (or an increase in home-produced goods) and child bearing/rearing responsibilities, as our data show that a significant fraction of educated women do not participate in any work activities. Having adult women in the household increases a woman probability to work at the private sector (in 1997 and 2000) but decreases the change of being an unpaid family worker. This might imply that the existence of adult female in the household might lighten the burden of household chores and child-care activities for those working for wage but not for those working without pay.

Having an elderly man (aged 50+) in the household lowers work participation for men and women except that it increases women participating in family business work activities. The latter might indicates that the care of elderly man could be combined with some working activities at the family-owned business. The presence of elderly women

reduces male employment activities but increases women participation in wage work.

Thus, taking care of the elderly in the household might considerably cut the probability of

employment, especially for men. The same pattern of the effect of household

composition on participation emerges in all three surveys.

Non-wage income (approximated by business assets) plays a fairly significant role in

sector choice decision.[52] For men, having more assets is associated with higher

probability of being self-employed (in 1993) and lower the chance of private sector

employment (in 1993 and 2000).[53] For women, business assets have a positive

association with self- and family business employment as well as working at the public

sector (in 1993). Since both farm- and non-farm business assets are included in the

calculation of business assets, it is possible that self-employed individuals acquiring a

significant amount of assets are likely to manage their own business activities and the

same goes for women working at family-own business. The fact that in the private sector

around 70 percent of men and 50-60 percent of women are agriculture workers,

operation/production workers and laborers, a group of individuals that is expected to have

small amount of business assets, might justify this negative effect (see Appendix 5.7).

Notice that for women, business assets have negative effects on private sector

employment even though they are not statistically significant.

---

[52] Household business assets variable is constructed as sum of household's farm business (from section UT) and non-farm business (section NT) assets. IFLS provides information on values for various type assets and its ownership percentage by the household, head of household and spouse of head of household. Data on farm business assets is available if there is at least one householder who, during the past 12 months, worked in a farm-business but not as a farm worker on other household's farm. Similarly, data on non-farm business assets is recorded if there is at least one householder who worked in a family-owned, non-farm business or been self-employed in a non-farm business during the past year. Farm-business and non-farm business assets are collected for the following types of assets: land, house or buildings, vehicles, other equipment, and other. In addition, hard stem plants and livestock/poultry/ fishpond are also collected for farm-business assets while supplies/merchandise for non-farm business assets.

Sahn and Alderman (1988) find that the ownership of paddy land in rural Sri Lanka reduces labor force participation for both men and women. Significant negative effect of exogenous non-labor income on the participation in the self-employment sector is also found for women in urban Guinea (Glick and Sahn [1997]). Unearned income, house and land ownership are found to significantly reduce the likelihood of work for men and women in Malaysia (Schafgans [2000]).

The inclusion of dummy variables representing province of current residence and its interaction term with urban region are important in capturing regional differences in the probability of entering a particular sector of employment (see estimates for full specification, Appendix Table 5.3). Individuals living outside Jakarta, an all-urban area, have higher probability of being self-employed or working with no pay at family business. Within province, the chance to work at these sectors is lower in urban areas compared to rural area. This result verifies our data that the majority of self-employed individuals or those working as unpaid family worker reside in rural area.

Appendix Section 5: Sector Choice Model for Panel Respondents

Results that are based on panel respondents are interesting. In contrast to the estimates from cross section samples, estimates from a sample consisting of panel respondents will present the dynamics of the effect of schooling (as well as other covariates) in determining individuals' employment within similar set of individuals. As was discussed on section 4, the criteria for individual selection and the inclusion of new household members (such as in the split-off households) might be responsible for the

---

[53] Negative effect of business assets on the probability of working at the private sector also holds in the full specification.

difference in schooling attainment within different waves of the survey. In this section as well as the next one, comparison of estimated coefficients on own schooling between cross section and panel versions of the sample will also be discussed.

Starting from specifications with linear own schooling (see Appendix Table 5.4 and its summary, Table 5.4), one can easily observe that the sign of estimates are similar between cross-section and panel samples of the surveys. The difference, however, lies in the magnitude of these estimates. Schooling attainment effects on public sector for men are higher within panel samples in comparison to those of cross-section, although the difference shrinks with time.

A more interesting picture could be found from estimates with non-linear own schooling (see Appendix Table 5.5 and its summary, Table 5.4). Overall, the picture shows that the trend of association between own schooling and participation, except that of private sector men, is the same for both cross section and panel individuals. For self-employment sector, positive association is evidenced for individuals with low level of schooling attainment, that becomes negative for the more educated individuals. A positive correlation between the two variables of interest is found for those working at public sector as well as a negative association for private sector women and women working as family workers. The difference, in terms of trends, is found for men working for wage at the private sector in 2000. Whereas for the cross section individuals, they are positively correlated, no significant association is found for the panel individuals.

Turning to the magnitude of estimates, especially for public sector men, one can see that they are different. Estimates for women who are working for wage also show some dissimilarity although not as strong as those of public sector men. Since most of the

excluded individuals from the cross section data in the 1993 sample are of 53-59 years old, one can say that individuals aged 25-52 are more likely to work at the public sector than those of 53-59 years. This might be true since, on average, public sector individuals retired at the age of 55, although extension for public sector service beyond that age is possible in some cases. In 1997, the panel respondents are of age 29-56 while cross section sample also includes those who are 25-28 and 57-59 years as well as new individuals to the survey. The magnitude of panel sample is higher than those of cross section, except for those with 7-12 years of schooling where they are comparable. In 2000, as the panel respondent are of age 32-59, estimated coefficients are lower than those of cross section individuals.

The same conclusion is obtained from the base specification (see Appendix Table 5.6 and its summary, Table 5.5). The magnitudes of the estimates tend to be smaller in comparison to previous specification (the one with non-linear own schooling with no control for parental schooling), indicating that parental schooling variables picked up some of the family background variations of the individuals as in the cross section samples.[54]

It is hard to make definite statements about the source of the difference between the magnitude of panel and cross section estimates, especially for the 1997 and 2000 samples. It might be due to aging of the respondents, selection problems between panel

---

[54] Supporting evidence on occupation breakdown for panel respondents for analyzing the negative (positive) effect of schooling on being self-employed for men (women) as discussed on subsection 5.3.1 is shown on Appendix Table 5.8. The dynamics in the overall primary duties of panel individuals are not as large as those of cross section. For example, agriculture workers for cross section individuals are slashed from 37-40 percent in 1993 to 33 percent in 2000, while for panel individuals the proportion is unchanged at around 40 percent in both years.

and cross section samples, or other reasons. This will be an interesting topic to be

explored in future work.

6. Wage Functions

Earnings are defined as the logarithm of hourly income for self-employed workers or as the logarithm of hourly wage for wage earners (public and private). Three sets of specifications will be presented in this section.[55] The first one, the basic wage function, includes a set of dummy variables representing schooling attainment, a set of age variables (in splines), and another set of dummies of month of interview. In each of the next two specifications, a set of additional variables is added. They are dummy variables representing parental (father's and mother's) schooling and province of current residence along with its interaction term with urban region.[56] In addition to these variables, each regression includes control for self-selection into each of the labor market sector calculated from the multinomial logit sector choice model. Since income for self-employed individuals is recorded as either net profit or gross income, a dummy variable indicating whether the income measure is gross income is also included in self-employment specifications.[57] The inclusion of gross income dummy variables only occurs in the 1993 wage regressions since in IFLS2 and IFLS3 only a tiny portion of self-employment income is collected as gross income.[58]

---

[55] OLS estimates for each of these specifications are presented for the three sector of employment of interest, namely self-employment, public sector, and private sector. These are further stratified by gender.

[56] Due to small cells on some variables, especially for women, some adjustments are unavoidable. These modifications are aggregation of own schooling variable for women with 10+ completed years of schooling and the exclusion of urban interaction terms for women living in some provinces as indicated at the footnote of respected tables.

[57] Net income is defined as gross income subtracted by all business expenses.

[58] In the 1993 sample, around 27 percent of self-employment income is recorded as gross income. In the 1997 sample, the proportion decreases to only 2 percent. This proportion is further reduced to 1 percent in the 2000 sample. The inclusion of gross income dummy variables in 1993 wage regressions and the exclusion of those from the 1997 and 2000 regressions could serve as an attempt to make regression comparable between years, especially for returns to schooling for the self-employed.

IFLS collects detailed information on primary and secondary jobs for individuals aged 15 years or older. I only consider primary job information on earnings in this essay for the following reasons. First, only 43 percent of individuals with more than one job are working at the same sector of employment in both jobs in the 1993 sample. Combining, for example, gross income from self-employment (primary job) and net salary from private sector (secondary job) and divided the result by total hours worked will not be comparable to either earnings of self-employed workers nor earnings of those working at the private sector. One solution to overcome this problem is to assign a weight for each sector of employment of the primary and secondary job; but doing this will not only complicate the empirical process but also adds additional assumptions on earnings that are already measured with error. Second, the proportion of individuals with secondary jobs is roughly 22 percent.[59] Thus, ignoring information on secondary jobs is justified for consistency of the earnings measure at the expense of sacrificing some facts of individual's employment profile.

Descriptions of earnings rates will precede the presentation of estimation results. Predicted rates of returns and comparison with other studies will conclude this section. In the Appendix, I will discuss estimation results based on panel respondents. In addition, I will also compare results based on selectivity corrected estimates and OLS estimates.

---

[59] In 1997, around 17 percent of working individuals have a second job. While in 2000, the proportion increases to 25 percent.

6.1. Earnings Rate

Information on earnings for individuals who are self-employed (in terms of net profit

or gross income) and those who are working at the public and private sectors (in terms of

net salary/wage) is recorded in last month and last year figures.[60] To protect against

recall error, I will use the former. For the self-employed and wage earners with no

information on past month earnings, last year's earnings (divided by 12) is used instead.

With regard to hours worked, IFLS collects the number of hours worked the week before

the survey as well as hours worked in a normal week. I use the former in constructing

total hours worked to avoid seasonality problems, especially for self-employed

individuals.[61] [62] Earnings rate is constructed by dividing monthly earnings by total hours

worked last month.[63]

Table 6.1 shows the mean and median of earnings rate stratified by years of

schooling, sector of employment, and sex. Earnings tend to increase with schooling

attainment. As a whole, public sector workers are better compensated than their

counterparts who are self-employed or working at private sector. Earnings disparity

---

[60] In 1993, a small fraction (around 7 percent) of net salary/wage data is available in details, where the amount received is broken down into the money, food, housing, transportation, medical benefits and other portions. This is ignored here.

[61] Weekly hours worked is restricted to 94 due to the way the data is recorded. Any observations with weekly hours more than 94 are excluded from the sample. In the 1993 sample, the number of digits in both measures is two with the possibility that 95 might refer to out of range response, 96 to not applicable, 97 to refused to answer, 98 to do not know and 99 to missing. Despite of this interpretation, those responses could also represent the 'actual' hours an individual worked per week. There is no way to make sure which interpretation is the correct one. A hint can be found from time allocation module. This module collects information on time spent on working to earn wages/salary, farming or doing self-employed activities during the past week. Most (around 70 percent) of individual working 95-99 hours a week has the corresponding time allocation on working of either missing or conditional codes. This fact is a support to the 'conditional codes' interpretation. For the 1997 and 2000 samples, weekly hours are also top coded to 94. In any sample, the proportion of weekly hours of more than 94 is 3 percent or less.

[62] Hours worked last month = 4.33 * hours worked last week.

between gender does not exist among public sector workers. Let's look more closely at earnings in each sector of employment.

For the 1993 sample, I present earnings rate of self-employed workers in two categories, those who provide net profit information and those who answered self-employment income in terms of gross income. The data shows that the mean of gross income, overall, is higher than that of net profit, for both men and women. Gross income is higher for women than for men while net profit is higher (although not significant) for men than for women. In 1997 and 2000, men, on average, have higher net income than women.

There are some issues on self employment earnings worth mentioning before we precede with estimating wage functions. Information on self-employment earnings are collected by asking respondents the net profit gain (net of all business expenses) during the last month or last year. If the respondents are not able to provide net profit information then the value gross income during the last month or last year is asked instead. Acknowledging the difficulty in estimating net profit or gross income, especially in recalling the value of them for the last 12 months (or even last month), information on hourly earnings rate for the self-employed individuals might be noisy. As an implication, rates of returns to schooling for the self-employed workers should be interpreted with caution.

---

[63] Earnings/wage rate for workers in the agricultural sector (which made up half of self-employed men and a fifth of self-employed women) are influenced by seasonality problems. This problem is acknowledged by the inclusion of a series of dummy variables indicating month of interview.

Turning to public sector workers, one can see that men and women are equally compensated.[64] This, among others, might be a reflection that wage rates in the public sector are set by the government. Compensation of women in the private sector, however, is less than that of men. Although these disparities tend to decrease with schooling attainment, women, on average, are paid only about 57 percent of that received by men in 1993 and 68 percent in 1997 and 2000. This might be an indication that women are discriminated against in the private sector, although this issue will not be addressed in this study.

6.2. Wage Functions: the Effects of Own Schooling

The presentation of wage function results starts with specification that controls for schooling attainment of individuals and some other common covariates that are going to be included in subsequent specifications, such as age (in splines), month of interview and selection term calculated from multinomial logit sector choice model. Discussion on own schooling estimates are focused on estimates from specifications in which schooling attainment enters as a series of dummy variables.[65]

Prior to the discussion, to serve as a comparison, I will give a short presentation on estimates from specification with individuals' completed years of schooling (or specification with linear own schooling attainment). One needs to notice the difference in interpretation of estimates between the two specifications. Whereas own schooling in the linear specification refers the average rate of returns for each additional year of

---

[64] The only significant difference happens if the number of observation in that particular cell is small, say less than 25 individuals.

schooling regardless of the highest schooling attainment of individuals, each of the dummy variables estimates representing a range of individuals' own schooling attainment refers to the wage advantage/disadvantage of being in the group relative to the that of the excluded group.

Self-employment work might have different characteristics from that of public or private sector work. In self-employment work, one deals with managing resources of his own that might not occur if he works in the public or private sectors. Among others, it consists of managing machines, workers and other capitals, such as lands and buildings, needed to conduct the business. In addition, self-employed workers also manage their own managerial tasks such as book keeping, asset management, marketing and public relations. One implication of this is that returns to schooling among the self-employed might be different from those of public or private sector workers. In particular, self-employment rate of returns might also comprise returns to capital managerial skills, returns to capital and returns to unpaid family workers. In making returns to schooling comparison between self-employment work on one hand and public or private sector work on the other, we need to keep in mind that the two do not share similar characteristics.

6.2.1. Linear Own Schooling

The most straightforward specification in returns to schooling literature is one with linear schooling attainment. This specification follows the one used by Mincer (1974) in his seminal work in this genre. We are all aware that the downside of using this

---

[65] Within this specification, schooling attainment enters as dichotomous variables representing 0-3, 4-6, 7-9, 10-12, 13+ completed years of schooling. For some groups, as pointed out on notes of the tables,

specification is that we cannot learn about the variations in returns to schooling between those who, say, completed primary school and those who completed junior secondary school.

Estimates for wage function specification with linear own schooling are presented on Appendix Table 6.1, while a summary of own schooling estimates is shown on Table 6.3. In general, estimated coefficients for completed years of schooling is positive and statistically significant for men and women who are either self-employed or working at the private sector. Positive estimated coefficients are also found among public sector workers even though most of them are not statistically significant. The exceptions occur for public sector men in 1993, which have an 8 percent rate of return for each additional years of schooling and for public sector women in 1997, which have negative (but insignificant) rate of return. The positive and insignificant estimates might indicate wage compression among public sector workers as was found by Filmer and Lindauer (2001). Estimates based on specification with non-linear schooling attainment will provide a better explanation on this issue.

Men in the self-employment sector, on the average, have a 12.5 percent rate of return in 1993. This rate decreases to less than 9 percent by 1997 and 2000. Among self-employed women, average rates of return to one additional year of education also show a declining trend between surveys although the drop is not so remarkable compared to that of men. While in 1993 and 1997 the returns rates are comparable around 7.6-7.9 percent, by 2000 it was cut down to 6 percent. A similar declining trend is also found among men and women working at the private sector. For men, rates of return declined from 10.8

---

merging one or more age category are unavoidable due to small observations for that particular cells.

percent in 1993 to 8.4 in 2000. Among women, however, these rates decreased at a

slower pace, from 12.3 percent in 1993 to 11.4 percent in 2000.

These patterns, in a sense, confirm some of Psacharopoulos findings as mentioned on

section 1. In particular as per capita income increases, as evidenced by the high level of

economic growth between 1993 and 1997, the rate of return tends to decrease. One can

also see that due to crisis of 1997/98 which caused a slowdown in economic growth of

1997-2000, the decrease in rate of returns during this period is not as much as that of the

1993-1997 period. Another argument for the decreasing rates of return is due to supply

shift of better educated workers.

6.2.2. Non-linear Own Schooling

Estimates for wage function specification with non-linear own schooling are

presented on Table 6.2, while a summary of own schooling estimates is shown on Table

6.3. In general, the effects of schooling attainment on earnings are jointly highly

significant. This, however, does not hold for public sector women 1997 and 2000, where

the F-test statistics are not significant (p-value = .738 in 1997, and .591 in 2000). For the

public sector in 2000 the F-test has a p-value of .058.

Returns to schooling increase with the level of education in a non-linear fashion.

These wage functions are, in general, convex.[66] In 1993, self-employed men with 4-6

years of completed schooling have a 57 percent earnings advantage in comparison to

---

[66] Small number of observations prevents me from estimating semi-parametric wage functions that places
no parametric restrictions on earnings-schooling function (see, for example, Strauss and Thomas [1995]
and Lam and Schoeni [1993] for Brazil and Hungerfold and Solon [1987] for the U.S.)

their counterparts with no formal schooling.[67] The wage premium is even higher for self-employed men with junior secondary, senior secondary and tertiary education, where earnings are, respectively, 2.8, 3.9 and 8.9 higher than that of men with zero year of schooling. Likewise is the increasing trend in earnings for self-employed women although the differences in wage advantage by schooling levels are not as high as those for men.

By 1997, the earnings advantage for self-employed within each level of schooling are lower than those of 1993. Earnings premia for self-employed men are further reduced by 2000. While self-employed men with junior high education level of schooling enjoy a 178 percent earnings advantage in 1993, by 1997 and 2000 these advantages are cut to 140 and 101 percent, respectively. Among self-employed women, earnings advantages are also slashed between years of surveys although the magnitudes of the cut are not as high as those of self-employed men.

Not much can be said with regard to individual estimates on schooling attainment for public sector workers. In addition to the limited significance of the F-test statistics, estimates for public sector men and women might also suffer from small sample size in comparison those of self-employment and private sectors.[68] This is especially true for women. Wage advantage for men with upper secondary level and tertiary level of schooling in 1993 is, respectively, 76 and 151 percent. By 2000, these wage premia

---

[67] The coefficient of a dummy variable in semi-log specification cannot be interpreted as relative effect (γ) of the variable (b) on the dependent variable (see Halvorsen and Palmquist [1980]). The appropriate transformation for this purpose is $\gamma = e^b - 1$. Own schooling estimate for self-employed men with 4-6 years of schooling is 453, implying earnings that is $e^{0.453} = 1.57$ times (or 57 percent higher than) the earnings of self-employed men with zero year of schooling.

[68] Since the public sector is an education-intensive sector, only a small proportion in our sample has education attainment with less than completed primary school. For this reason, the excluded category within each of the public sector regressions is individuals with 0-5 years of completed schooling.

slightly increased to 89 and 166 percent. Among women, only estimates in the 1993 sample are significant, where wage advantage for those with lower secondary level schooling is 63 percent, while women with at least upper secondary level education enjoy a 2.3 times higher wage rate in comparison to those with less than completed primary schooling education.

Turning to private sector workers, one can observed that wage advantage increases at an increasing rate within each survey for both men and women. Own schooling estimates for men experienced a remarkable drop between 1993 and 1997 (except for those with lower secondary level of schooling). A similar decline, however, is not found between 1997 and 2000, although some small changes occurred during the span of time. Whereas wage advantage for women with 4-9 years of schooling increased between 1993 and 1997, the reverse is found among women with tertiary schooling.

The overall picture captured from these results is that, within sector of employment, schooling attainment estimates increases with level of schooling at an increasing rate. This is true for men and women who are self-employed or working at the private sector. For public sector workers, however, due to the limited significance of the resulted estimates, not much can be said. These findings indicate that individuals with more formal schooling are more favorably rewarded, and that the wage advantage increases in a non-linear fashion with levels of schooling.

Over the years, earnings/wage advantages within each level of schooling are, in general, declining. The decreases in these earnings/wage premia are noteworthy between 1993 and 1997, while between 1997 and 2000, the declines are not that large, and in some cases they are only trivial. Even so, we also saw some small increases in own

schooling estimates for a small number of cases. As previously mentioned, one can

argue that the overall economic condition of a country (measured by level of economic

growth) during the span of time might provide an explanation of the decline in wage

advantage between 1993 and 1997 as well as the relatively stable level of it between 1997

and 2000.

Another explanation for this change in rates of returns is an increasing supply of

individuals with more schooling. Our data shows that the average completed years of

schooling for all individuals included in the sample increases by survey. Whereas in

1993, men and women have an average 6.1 and 4.4 formal schooling experience, in 1997

it has increased to 6.9 and 5.2 years. These averages are further increased to 7.8 and 6.3

years by 2000.[69] Among women with higher secondary and tertiary education in 1997,

14 and 6 percent, respectively, decided to be self-employed; by 2000, these proportions

increased to 21 and 8 percent, respectively (see Table 4.2). Women with similar

schooling qualifications who worked at the private sector are 20 and 27 percent; while in

2000, the proportions are relatively unchanged: 19 and 28 percent, respectively. This

evidence might partly explain the decrease in earnings advantage between 1997 and 2000

in self-employment sector and the relatively small change of wage advantage in private

sector during the span of time. The same argument does not hold for men, indicating that

there might be some other factor(s) affecting the outcome.

In addition to schooling attainment, our specifications also include a series of age

variables (in splines), a series of dummy variables indicating month of interview, and a

---

[69] Increases in schooling attainment also occur within each sector of employment as well as its stratification by sex.

selection coefficient. Especially for the 1993 regressions, a dummy variable indicating whether the earnings of self-employed workers are based on gross income measure is also included. These variables are discussed next.

F-test for joint significance of age variables are at least significant at the 10 percent level, except for private sector women in 2000 (p-value = .321). Our results show that the slopes of splines are negative for the oldest age group (50-59 years), except for public sector women in 2000. For self-employed men in 1993 and 1997 and self-employed women in 1997, negative estimates could be found as early as being 40-49 years old. It is worth to mention that age for women might represent experience that is not comparable to that of men since women might be temporarily out of the work force and engaged in home production or childcare activities.

A series of month of interview dummy variables, intended mainly to pick up variation of seasonality in earnings, shows no influence for private sector employment for the 1993 and 1997 surveys as the F-tests are not significant even at the 10 percent level. In the 2000 sample, however, these dummy variables are jointly significant. The reverse is true for individuals working at public sector. Among self-employed workers, month of interview variables are jointly significant for the 1993 survey only. Recall that main field work for IFLS1 and IFLS2 took place similar time of the year (August-January), while IFLS3 started as early as June. Thus, the timing of survey has only limited consequence on earnings.

The selectivity term (λ) also has limited effect on earnings.[70] Within this specification, it has a positive impact on earning of self-employed women in 1993 and

---

[70] Heckman (1979) suggests that when selection correction terms are not significantly different from zero, one can accept that OLS estimates are consistent as well as preferred because they are more efficient than

negative impact on self-employed men (1993), private sector women (1997) and public sector women (2000).[71] The positive sign for self-employed women in 1993 implies that women in the self-employment sector have higher productivity than average women in terms of having higher earnings than the earnings of randomly selected women in the population. The negative sign implies the reverse.

Gross income dummy variable is only significant for women and it has a positive sign. The result indicates that using gross income as a measure of earnings instead of net income will increase wage advantage of self-employed women by 39 percent. For men, however, this variable is not significant, indicating that the usage of gross income or net income does not statistically influence wage advantage of self-employed men.[72]

Finally, the model performs best for the public sector. In 1993, for example, it explains almost 30 percent of the variation in earnings in that sector for men and almost 50 percent for women. The explanatory power of the model is relatively weak for the self-employment sector for both men and women, where only 4-12 percent of the variations in earnings are explained. This is expected due to the high measurement errors in the measurement of earnings.

---

the two-stage estimates. In spite of it, discussion of estimate results are based on the selectivity corrected version.

[71] The addition of control for parental and provincial covariates, however, changes the significance of selection terms.

[72] Extending the specification by the inclusion of parental schooling variables does not alter the results for gross income variables. Further extension of the model by the inclusion of provincial dummy variables resulted in a positive and significant estimates for both self-employed men and women.

6.3. Wage Functions: the Effects of Parental Schooling

Family background information, represented by parental schooling, is added in the specifications discussed in this sub-section (see Table 6.4 and its summary, Table 6.5). Parental schooling enters the model through a set of dummy variables with no schooling served as the omitted category. F-test for joint significance of parental schooling variables (that of father, mother as well as all parental schooling dummy variables) show some mixed and sometimes inconsistent results between surveys. While father's schooling variables are not jointly significant in the men's wage regressions in 1993, they are highly significant for self-employed men in 1997, and only marginally significant for public sector men in 1997 and self-employed men in 2000. On the other hand, mother' schooling variables as a whole are not significant in affecting earnings for women in all surveys, except for a marginal significant effect for private sector women in 1997 (p-value = 081). Putting the two sets of parental schooling variables together does not help the consistency of joint significance of these variables.

Before discussing the direct effect of parental schooling on earnings/wage, let us first focus our discussion on the effects of the inclusion of parental schooling variables in the specifications. For self-employed and private sector workers, point estimates of own schooling are, in general, lower in comparison to specifications that only control for non-linear own schooling. The magnitude of the cut varies between 1-47 percent.[73] These decreases might due to the positive correlation between own and parental schooling in the data, so that failure to control for parental schooling might resulted in biased estimates for own schooling variables. Some increases in point estimates of own schooling are also

---

[73] Percentage change is only calculated for significant estimates within the current specifications.

evidenced. These occur for self-employed men with 10+ years of schooling in 1997 and for men with higher secondary education working at the self-employment sector.[74] Among public sector men, the inclusion of parental schooling variables reverses the significance of point estimates from not significant to significant. In addition, these parental schooling additions also decrease the magnitude of wage advantage for men with 10+ years of schooling in 1993 but increase the corresponding results in 2000.

Turning to the direct effect of paternal and maternal schooling in wage regressions, one can easily find that all point estimates of parental schooling (excluding missing categories) that are significant have positive signs, implying that having educated parents is associated with an increase in earnings relative to having illiterate parents. For example, having a father with some elementary level education is associated with a 21 percent earnings advantage in comparison to having a father with no formal schooling. Due to the limited number of variables that are significant (even at the 10 percent level) between surveys, we cannot say much about the change in the direct effect of parental schooling variables across time. The only exception is for self-employed men with a mother who at least completed primary schooling education. Point estimate for these men are comparable between the first two waves of the survey (.376 in 1993 and .373 in 1997), while slightly dropped to .325 in 2000. Between any two successive surveys, however, some of the point estimates changes are quite large.

In spite of the not so convincing results of F-test for the joint significance of parental schooling variables and the limited direct effect that can be inferred, the inclusion of parental schooling is important in explaining point estimates of own schooling and, in

---

[74] The magnitude of the increase in point estimates for these cases is around 4-11 percent.

turn, rates of returns to schooling investments. However, it is hard to make any solid conclusion of whether father's schooling is more important than mother's schooling in influencing earnings of their children.

6.4. Wage Functions: the Effects of Regions of Current Residence

Specifications used in the previous sub-section are further extended by the inclusion of province of current residence along with its interaction terms with urban region (see Table 6.6 and its summary, Table 6.7). The omitted category for these regional variables is Jakarta, an all-urban region. The employment market structure as well as wage offers differs between regions. This is the effect that is expected to be pick-up in this set of specifications. F-test results show that these variables are (jointly) very highly significant, except for public sector women in the 1997 sample (p-value = .065). Adjusted R^2 are also improved, in particular for those who are self-employed. The magnitudes of own schooling estimates are also further reduced relative to those of the second set of specifications. All of these results reflect the importance of regional conditions on labor market conditions, the availability of school and its quality in the calculating rates of returns to schooling.

Own schooling estimates are also affected by the inclusion of provincial variables. Most of the effect resulted in the declines of point estimates; its magnitude varies between 1 and 43 percent. For some small number of cases, increases in point estimates are also evidenced; the magnitude of these increases is small, around 1-4 percent. This finding also verifies the importance of including regional differences in estimating rates of returns to schooling investments.

Estimated coefficients for provinces that are statistically significant are negative, implying living in that province, both in rural and urban areas, is associated with earning a lower earnings/wage than living in Jakarta. If estimated coefficients for both province and its urban interaction terms are significant, the latter is mostly positive with lower magnitude than the former. This implies that the wage disadvantage is lower for individuals living in urban area than those living in rural area of that province.

For self-employed workers, I also present specification in which household composition and household assets variables are included as covariates (see Appendix Table 6.2).[75] The purpose of this exercise is to determine whether household composition variables can explain self-employment earnings since either unpaid family worker or temporary workers assist 45 percent of self-employed workers. Possession of assets might also explain earnings, although one can argue that the accumulation of assets might be a result of previous earnings, and thus it becomes endogenous. F-test results show that household composition and assets are jointly significant at the 1 percent level. The estimated coefficient of own schooling variables changes (some increases and some decreases) by the inclusion of these variables; they are mostly small in magnitude. Household assets variables for women are significant and positive for women, implying that self-employment earnings for women increase with the amount of business assets owned by the household. Individual estimates for household composition are only sporadically significant; in general they are positive for having adults in the household.[76] The interpretation of this result is that an adult aged 20-49 might help a self-employed worker in executing his/her work, leading to an increase in earnings.

---

[75] It is possible, however, that identification for selectivity terms is not satisfied within this specification.

[76] In addition, the existence of elderly women for self-employed men in 1993 is also significant.

6.5. Predicted Rates of Returns

Rates of returns to schooling investments can be easily obtained from the specification with linear schooling attainment. In this case, the point estimates of own schooling variables are the average returns for an additional completed year of schooling. Within specifications in which schooling attainment of the individuals enters as a series of dummy variables representing level of schooling, returns could be found by simply subtracting the point estimates from adjacent levels of schooling and dividing the result by the number of years needed to complete that level of schooling.

There is, however, another way to calculate the returns rates that is more reliable. In addition, the estimated rates could be easily obtained from the regression results without further calculations. The only modification needed within the specifications of interest is to replace the dummy variables for own schooling with its splines. Point estimates of these splines represent the wage advantage for another completed year of schooling within the range specified by the splines.

Splines are constructed for those with 0-3, 4-6, 7-9, 10-12 and 13+ years of schooling.[77] Estimates for these specifications are shown in Appendix Table 6.3 and Appendix 6.4.[78] Predicted returns to schooling estimates are shown for specifications that only control for own schooling is shown on Table 6.8. In addition, Table 6.9 presents predicted rates when parental schooling variables are added as controls.

Overall, rate of returns are positive and significant for individuals who are self-employed or working at the private sector, meaning that completing one year of

---

[77] To make presentation of results as comparable as possible to specification with own schooling dummy variables, the same category merging strategies are used.

[78] The specifications on Appendix Table 6.3 only control for own schooling, while those of Appendix table 6.4 also control for parental schooling.

schooling within any level of education will benefit the individual in terms of increased wages. Completing one year of schooling for the first 3 grades of primary school for private sector men in 1993, for example, will increase wages by 8.7 percent. Each year of completed schooling between grade 4 and 6 of elementary will add another 11.4 percent increase in wage. Likewise, the additions to wage if one completes each year of lower secondary, higher secondary and tertiary level of schooling are, respectively, 7.9, 14.7 and 12.8 percent.

An interesting observation is found for returns among public sector men in 1993. Returns to an additional year of schooling for individuals with tertiary level schooling (8.9 percent) are lower than for those with higher secondary level (9.7 percent), although the difference is small. This is also true for private sector men in 1993 and private sector women in 1997 and 2000.

Between surveys, one can observe decreases in returns rates for self-employed men, except for those with the highest schooling attainment. Among private sector men, there are no clear patterns, some upward and downward movements existed; while among the most educated, the returns are basically unchanged.

Turning to returns from specifications that also control for parental schooling, one can see that the rates decreased by 3-26 percent among self-employed individuals and those working in the private sector. Among self-employed men in 1997 and 2000, we saw an increase in return rates.

One important finding that is related to the government program of 9-year mandatory schooling is that returns to schooling for those with junior secondary level education are higher than those who only complete primary school. This result holds for all sector of

employment and all waves of the survey, except for private sector men in the 1993 sample.

6.6. Discussion

Our results show that the wage advantage increases with schooling attainment. This is true for those who are self-employed as well as for those working for wage in the public and private sectors. Moreover, these findings are robust to the inclusion of various sets of covariates. The degree of wage advantage is reduced by the inclusion of these covariates, implying that parental schooling and regional variables have an effect on returns to schooling as they pickup some unobservable measures of ability, family background and schooling quality.

In contrast to worldwide compilation of rates of returns (Psacharopoulos, 1994), in which primary education exhibits the highest returns among the three levels of education, our show the ever-increasing pattern of returns with schooling attainment. A similar conclusion is found among African countries (Schultz, 1998), in particular Ghana and Burkina Faso, where returns are higher at the secondary and post-secondary school levels than at primary level. The same is also true for the case of Botswana (Siphambe, 2000). In Asia, Schafgans (2000) finds increasing returns to educational attainment among men and women in Malaysia, and that women have lower returns than men although this inequality not true among Malay natives. For the case of Turkey, Tansel (1999) find that return rate for state owned enterprise workers and private sector workers are higher among individuals with middle- and high school level of education than those with

primary level education. The same conclusion also found in Taiwan (Liu, Hammit and Lin, 2000).

6.6.1. Comparison with OLS Results

Given that selectivity correction terms are often not significant it will be interesting to compare estimation results that are based on OLS specifications that do not control for selection bias and those that do. In particular, I will compare estimates from specifications that control for parental schooling and sample selection (hereafter, selectivity corrected specification; see Table 6.4) and those that control for parental schooling but not for sample selection (hereafter, OLS specification; see Appendix Table 6.5).

Point estimates for own schooling variables among self-employed men, as expected, are lower in the OLS specification in comparison to those of selectivity corrected specification since selection coefficient in the latter is negative. The difference is only minimal among men with primary level of schooling and gets higher with schooling attainment, meaning that selection among the self-employed men only affects those who are more educated. Among self-employed women, estimated own schooling variables between the two specifications are basically similar except in the 1993 sample when the selection term is significant and positive. With respect to the latter, own schooling estimates are higher in the OLS specification.

Among private sector workers, schooling attainment effect between the two specifications are similar since selection terms in the selectivity corrected specifications are not statistically significant. Estimates for public sector men show a different trend

even though selection terms are not significant. Among men, while OLS estimates are higher than selectivity corrected estimates in the 1993 sample, by 1997 they are comparable. By 2000, OLS estimates lower than those of selectivity corrected estimates. The magnitude of selectivity term might be a suspect for these results (-.154 in 1993, .016 in 1997 and .147 in 2000).

In sum, even though the findings show that selection is not such a big issue in estimating wage functions, as evidenced by the limited significance of selectivity correction terms, the inclusion of these terms might give better estimates than the exclusion of them. This is especially true for the self-employed individuals.

Appendix Section 6: Wage Functions for Panel Respondents

As in sector choice model, I will also provide results of some basic regressions of wage functions using panel respondents. Discussion for panel respondents will be focused on point estimates of own schooling attainment, detailed estimates are left for the readers to explore. In particular, the discussion will point out the difference between estimates of panel- and cross-section respondents. The discussion will cover estimates for specifications with linear completed years of schooling (Appendix Table 6.6 and its summary, Table 6.3), specifications in which schooling attainment enter as a series of dummy variables (Appendix Table 6.7 and Table 6.3), and specifications that control for the inclusion of parental schooling variables in addition to non-linear schooling attainment (Appendix Table 6.8 and Table 6.4). In addition, predicted returns to schooling will also be discussed for specifications with schooling attainment only (Table

6.7) and specifications that control for parental schooling in addition to own schooling attainment (Table 6.8).

Within the specification with linear own schooling (in terms of completed years of schooling), point estimates for an additional year of schooling in all sector of employment in 1993 are somewhat lower in comparison to those from the cross-section. For example, while self-employed panel men have an average 10.1 percent returns, cross-section respondents have a slightly higher returns, 12.5 percent. Since most of the excluded individuals from the cross section data in the 1993 sample are of 53-59 years old, it is possible that these older individuals drive-up returns within the cross-section sample due to, among other things, advantage in working experience. We also see that for private sector workers and self-employed men, schooling returns based on panel respondents are higher than those of cross section for both 1997 and 2000 sample. These differences are, however, small. Among panel men, point estimates are similar within each sector of employment between years of survey, indicating that returns to schooling are basically unchanged over time.

Similar trends in returns to schooling are found from specifications in which schooling attainment is non-linear. For example, each of the statistically significant estimates for self-employed panel men is lower than their corresponding cross-section estimates in 1993, while the reverse is true in 1997 and 2000. Likewise is the case for private men, where point estimates in 1993 are lower for the panel respondents while they are higher in 1997 and 2000. One important observation worth mentioning here is that the difference between individual estimates from cross-section and panel samples is

not that big so that, at least within this specification, returns rates for cross-section and panel respondents are close one to another.

Extending the specification with parental schooling does not alter the trends from specifications that only control for own schooling attainment. As expected, magnitude of these estimates is mostly lowered. Thus, parental schooling affected returns rates for cross-section and panel samples. Comparing the magnitude own schooling estimates between cross-section and panel samples, one can learn that returns rates are lower for panel individuals, especially for self-employed workers in 1993.

Predicted rates of returns gives a more interesting picture. Whereas returns for self-employed panel men are lower in 1993, they are higher by 2000. A closer look at the most educated group of self-employed men shows that there exists a different trend. Whereas in the cross-section sample, the returns increased between 1993 and 1997 (from 18.9 to 20.9 percent for an additional completed years of tertiary schooling), by 2000 it decreased to 13.2 percent. Among panel sample, however, returns rates decreased between 1993 and 1997 (from 24.3 to 14.9 percent), and increased to 23.8 percent by 2000. It is hard to give a precise answer to this phenomenon. One possible answer would be that due to the prosperous economic condition in Indonesia during 1993-1997, there might be a technological progress or innovation (say, in the agriculture sector) that affected earnings of self-employed workers. Since the cross section sample in 1997 consists of younger individuals with possibly more recent knowledge of the technology, one might expect that returns for the most educated group in the cross-section sample increased while that of panel sample decreased since have yet to catch-up with the new technology. Economic crisis might caused that technology to be not applicable due to,

among others, cost considerations, and the old agricultural technology are once again broadly used. This might resulted in the increase of returns for panel individuals while that of cross-section are adversely affected.

Adding parental schooling variables to the specifications does not change the trends of returns rates. In general, predicted rates are lowered by the inclusion of these family background information.

As in sector choice model, evidence on hand is not enough to pinpoint the source of difference between the magnitude of panel and cross section estimates, especially for the 1997 and 2000 samples. Aging of the respondents and selection problems between panel and cross section samples might be responsible for these differences. But, there might be other factors causing this result that future work may explore.

7. Migration

It is widely known that individuals with more human capital, say those who are better educated, are more likely to migrate than those with less. In low-income countries, net migration tends to take place from the rural to the urban sector. Higher real wages in urban areas and inadequate opportunities for educated individuals from rural areas will attract these individuals to migrate to urban areas. In addition, migration of individuals from the rural to urban areas might reflect their attempt diversify risk against adverse condition that might affect agricultural work and production in the rural areas such as drought, flooding and fire. The question posted in this section is whether individuals who self-select themselves to migrate from rural to urban do actually possess a higher rate of returns to schooling investments than those who do not. In other words, the exercise undertaken in this section is intended to discover whether migration selection is a potential problem in calculating rates of returns.

To see migration profiles and their relation to individual's schooling attainment in our samples, I divide the data into 6 regions of birth and 6 regions of current residency. These regions are Sumatera, Java and other islands, each are further stratified by rural and urban area. Table 7.1 shows the distribution of migration between regions by schooling attainment. [79] It is clear that the more educated individuals are more likely to migrate. In 1993, among individuals with no formal schooling, 79 percent of those born in rural Sumatera are currently living in the same region and only 20 percent moved to urban Sumatera, the corresponding figures for individuals born in rural Java are 71 and

---

[79] Notice that migration that took place between birth and time of survey is not taken into consideration in these tables.

18 percent, while for other islands are 85 and 14 percent. Compare these figures to those of individuals with beyond primary school schooling attainment. Around 43 percent of individuals born in rural Sumatera migrated to urban Sumatera and another 11 percent to urban Java, leaving 46 percent staying in the region where they were born. In Java, six-tenths of individuals born in rural regions are currently living in urban regions of Java. Similar patterns are found for the 1997 and 2000 samples. Looking at the migration profile of all individuals, we can see that the numbers between years are not that far off. There exists, however, more out migration among individuals born in rural Bali, West Nusa Tenggara, South Kalimantan and South Sulawesi (provinces included in the other islands region) in 2000 than in 1993 or 1997. While among individuals born in the urban areas of Sumatera and Java, there is more migration to the rural areas in 2000 compared to that of 1993 and 1997. The latter might reflect the 1997 crisis effect: as factories in the urban areas are closed and workers are laid-off, migration from urban to rural areas are accentuated. Frankenberg, Smith and Thomas (2002) find that the bottom quarter of households (ranked by their per capita expenditure, PCE) in urban areas lost household members during the crisis while urban households with above median PCE gained members. Household size was expanding in the rural areas with the smallest expansion for the poorest rural households.

Schultz (1988) argues that when migration occurs, the interpretation of proportional shift in wage function associated with an additional year of schooling as the private rate of returns to schooling investment might no longer hold since several working assumptions are violated. In other words, migration selection might raise a problem in the calculation of rates of returns to schooling. He suggests estimating rate of return by

splitting the sample with respect to individual's place of schooling or place of birth and by individual's place of current residence. Following his suggestion, in this section I will divide individuals into two groups, the first consists of those born in rural area while the second of those born in urban. I will also split up individuals based on whether they are currently residing in a rural or urban region. The resulting estimates are expected to indicate differences in returns to schooling that are due to migration patterns of individuals in the samples.[80]

This sections starts with a description of schooling attainment and earnings with respect to place of birth and of current residency. A short explanation of the specification to be used for empirical purpose will follow. Discussion of estimated results will conclude the section.

7.1. Schooling Attainment and Earnings

Average years of schooling of individuals stratified by their region of birth and by current residence are presented in Table 7.2. In general, individuals born in urban areas have more formal schooling than their counterparts born in rural areas. Our data shows that average completed years of schooling increased between surveys. It also shows that the gap between individuals born in urban and those born in rural areas in terms of years of formal schooling completed slightly increased between surveys, from 2.7 years in 1993 to 3.1 years in 2000. Similar patterns of schooling attainment are found among individuals with respect to their region of current residence.

---

[80] There is no study on returns to schooling for the case of Indonesia that explicitly taking into account the importance of migration by splitting up the data by region of birth and region of current residency. Some recent studies in this genre include Schultz and Mwabu (1998) for South Africa and Duraisamy (2000) for India.

Average completed years of schooling among individuals born in rural areas is higher than those currently residing in rural; this is also true for urban born individuals in comparison to those of urban residence. Migration of the (mostly) more educated individuals from rural to urban might drive down schooling attainment of the remaining rural residence. Since there might also be individuals with low schooling attainment who migrated from rural to urban, the average years of schooling of urban residence is pushed down.

Moving to hourly wages, there are no statistically significant differences between rural- and urban born public sector workers (Table 7.3) and between rural- and urban residence public sector workers (Table 7.4). The only exception exists in the 1993 sample, where urban residence public sector workers have, on average, a marginally significant higher hourly wage than those of rural residence. The similarity of wage rates between regions of birth as well as of residence might be due to the fact that wages in this sector are set by the government which in principle, does not differentiate between regions.

Among self-employed and private sector workers, however, urban-rural differences in average hourly wages are significant both by birth and by residence. With respect to place of birth, the ratio of wages between urban and rural declined between 1993 and 2000.[81] Whereas within the self-employed the ratio decreased from 1.8 in 1993 to 1.4 in 2000, the wage ratio decline among private sector workers is not as large, from 1.7 in 1993 to 1.5 in 2000. A similar downturn in the urban-rural wage ratio occurred between surveys occurred for workers in the self-employment and private sectors, stratified by

their region of residence. For self-employed workers the ratio fell from 2 in 1993 to 1.4 in 2000, while that of private sector workers decrease from 2.4 to 1.5 during the same period. It interesting to see that the wage rate disparity between urban and rural individuals by birth and by residence is reduced with time in spite of the slightly increase in disparity of schooling attainment (in terms of absolute difference of average years of schooling).

Another interesting observation worth mentioning here is that the average wage rates are lower among rural residents than among rural born individuals. This is also true among urban individuals although the difference is not as large as those of rural individuals except for the 2000 sample, where they are similar.

7.2. Model

The specifications used in estimating the effects of migration on returns to schooling are easier than those of section 6. In particular, no parental schooling information enters the specification. Parental schooling for individuals born in rural areas, as expected, is highly concentrated on the no-schooling category, higher than when all individuals are included in the sample.[82] Parental schooling variables will be excluded on that ground as they have very limited effect in the wage regressions (see section 6). Out-of-school experience (approximated by age) enters the model in quadratic form instead of splines. In some categories, especially public sector, the number of observations is very small;

---

[81] Notice that wage rates are presented in nominal terms so that no direct comparison of these rates between surveys could be presented. Urban-rural wage rates ratios along with their comparison between surveys are shown instead.

[82] Individual living in rural area whose father has no formal schooling makes up 70-78 percent of the data, while those living in urban area 52-58 percent. The corresponding figures for unschooled mother are 56-63 percent for rural area and 39-42 percent for urban area.

therefore, no province variables are included in the specification to conserve degree of freedom.

To be more specific, all individuals, regardless of their region of birth, are pooled in the regressions instead of running separate regression for individuals born in rural and those born in urban. I include interaction terms between all covariates and a dummy variable indicating whether the individual was born in an urban area. One advantage of using this specification is that it allows one to statistically check whether the estimated coefficients are indeed different between regions of birth of the individuals. In addition, using this specification will increase the number of observations in comparison to the separate specifications of rural- or urban born individuals. A similar set of regressions is also run for individuals with respect to their region of current residency.

7.3. Discussion

The discussion of regression results consists of two parts; the first one reports estimates for individuals based on birthplace and the second based on residence. Estimated coefficients of wage functions for individuals born in rural and urban regions are presented on Appendix Table 7.1 for specifications in which schooling attainment variables enter in linear fashion as completed years of schooling. The corresponding estimates with non-linear schooling attainment are shown on Table 7.5. Summary of own schooling point estimates for these specifications are found on Table 7.6.

The linear model results show that holding everything else constant, individuals born in urban areas do not have a higher return to additional completed year of schooling. Point estimates for years of schooling interacted with the born-in-urban dummy variable

are, in general, not statistically significant. Exceptions are for self-employed women in the 1993 sample and for private sector men and women in the 2000 sample, although the latter is only marginally significant. Point estimates among these groups are positive indicating that being born in an urban area is associated with additional returns to schooling investments. Among self-employed women in the 1993 sample, the rate of return for an additional year of schooling is 5.4 percent for those born in rural areas while an additional 6.3 percentage points existed for urban born women. Likewise is the additional 2.3 percentage points returns for an another year of formal schooling enjoyed by private sector workers men (in the 2000 sample) on top of the 7.2 percent returns among those born in rural. The rate of returns decreased over the years for self-employed and private sector men, while for women they remained practically unchanged.[83]

Point estimates for own schooling variables among rural born individuals within the non-linear specifications are positive and increasing with higher levels of education attained. Interaction variables are mostly not significant, implying that no wage premia exist for being born in urban region in comparison to rural born individuals. Even though not significant, these interaction variables are mostly negative. A negative interaction term indicates that the wage premium for individuals born in urban areas are lower than that of rural born individuals. The only occurrence where both schooling attainment and its interaction term are statistically significant at 5 percent or better is found for private sector men with lower secondary level of schooling in the 1993 sample. This group of men enjoys a 134 percent wage advantage over those who never completed a single year

---

[83] Point estimates for public sector workers are, in general, not statistically significant for both specifications in which schooling attainment variables enter in a linear- and non-linear fashion. These are also true for regression results in which individuals are stratified by their region of residence. Small

of formal schooling, while being born in urban area decreases the wage premium to only 66 percent. The finding that region of birth does not affect the wage advantage in general is supported by F-test statistics for joint significance of interaction of schooling and age variables that are mostly not significant.

Over years, these schooling estimates decreased among men and women. For self-employed women with at least high secondary schooling attainment, the earnings advantage increased from 94 percent relative to unschooled women in the 1993 sample to 120 percent in 2000.

Turning to specifications for individuals that take into account region of residence, similar findings emerges. Similar in the sense that the interaction terms are in general not significant so that returns rates for investments in education are not statistically different between individuals residing in rural and urban settings.

Linear specification estimates show that a year of completed schooling gives 10-11 percent returns for self-employed men and 7-8 percent for private sector men (see Appendix Table 7.2 with summary on Table 7.8). Among self-employed women, especially in the 1993 and 1997 samples, living in an urban area is associated with more than doubled returns rate than those living in rural. While private sector women living in urban area in our 1993 sample are getting an extra 4.3 percentage points returns in comparison to their counterparts living in rural area.

Non-linear specifications provide limited evidence of the advantage or disadvantage in terms of earnings for living in urban area (see Table 7.7 with summary on Table 7.8). Living in rural area for the most educated private sector men in the 1993 sample is

---

observations might be responsible for these results. For this reason I will not discuss results for public sector workers.

associated with a wage premia that is three times as much as those with zero year of schooling; while living in urban areas significantly increases wage advantage among this group. Likewise is the case for the most educated women working at self-employment sector in the 1993 sample and private sector women with lower secondary schooling level of education in the 1997 sample. For these groups of women, no wage premia for living in rural area in comparison to those of unschooled women, while living in urban is associated with a wage advantage of, respectively, 210 and 166 percent.

Experience, proxied by age and age-squared, plays a limited role in explaining wage difference for self-employed and private sector workers for both sets of specifications. The sign of these age variables, provided that they are significant, are positive while those of age-squared are negative, implying the increasing effect (at a decreasing rate) of experience in the wage functions. Selection coefficients, as in Section 6, have only limited effect on wage of the workers.

In sum, information on the region of birth (whether an individual was born in rural or urban area) and on the region of current residence (whether an individual resides in rural or urban area) plays a limited role in determining wage and, in turn, the rates of returns to schooling investment. Notice that stratifying individuals based on region of birth is intended to capture, among other things, the variance of schooling availability and quality between rural and urban area in determining income. The second set of regressions, that stratified the individuals based on their region of residence, is aimed at explaining the difference of labor market conditions and wage structure in determining earnings. Our results show that migration selection is not a potential problem in calculating returns to

schooling. The bias in the estimated returns is minimal if one does not include variables

that represent migration behavior of individuals for the case of Indonesia within the time

period considered. Of course this conclusion might change with time, as new datasets are

available.

One reason for the limited role of migration variables might due to the definition of

urban and rural region, which was taken from the BPS (the Central Bureau of Statistics),

is imprecise. For example, the high population densities of the urban and rural areas are

causing the difference between the two areas unclear. This problem affects the region of

current residence. In addition, since information on urban-rural region of birth is

collected based on recollection of individuals, it might also be possible that the

respondents did not provide accurate response with regard to their region of birth.

Some of current studies exploring migration issues in the context of developing

countries only stratify individuals based on their residency since information on place of

birth might not be available. Duraisamy (2000) finds, for the case of India, that returns to

per year of schooling are higher in rural than in urban areas for primary and secondary

levels of schooling as well as those with technical diploma/certificate. The results hold

for both men and women.[84] Schultz and Mwabu (1998) find that among African natives

in South Africa, returns are higher in rural than in urban areas.[85] They identified that

limited access of Africans to secondary and higher education as well as to working

opportunities under the Apartheid government as the explanation of the results. Both of

these studies, however, obtained separate estimates for individuals living in urban or rural

---

[84] In this study, however, no distinction between the sectors of employment was made.

[85] The study estimates returns rate for Africans, colored, Indian and white groups of individuals.

areas. No direct comparison on returns rates between the two groups is presented as was

done in this study.

8. Returns to Schooling by Age Cohorts

Our sample consists of individuals aged 25-59 years in each of the three waves considered. This implies that respondents were born between 1934 and 1978 for the IFLS1 sample, 1938-1982 for the IFLS2 sample and 1941-1985 for the IFLS3 sample. During this span of time, Indonesia went from movements to gain her freedom to the implementation of a series of comprehensive development programs (called the five-year development plan, Repelita). Schooling availability during this period changed drastically. During the Dutch-Indies administration, school admission was only awarded to children whose parents worked for or had close relations with the administration. In 1950, around 5 million children were enrolled in primary schools while another 6 million children were not (Oey-Gardiner, 2000). The number of enrolled student increased ever after. In 1973 the government started a major school construction program especially at the primary level in 1973 (see Duflo [2000]). The goal of this program was to achieve universal enrollment during the fourth Repelita of 1984-1989. School quality, in addition to schooling availability, also improved during this span of time. Improvement in the availability of schoolbooks as well as improvement in the quality of teachers, especially at the primary level, testified to this enhancement in school quality. In addition, there also exists a national-based curriculum for each level of schooling that is revised on a regular basis, which might also affect the quality of students across time.

In light of the progress in schooling availability and quality, different cohorts in our sample may have gone through schooling of different quality. One way to account for the disparity of schooling quality in estimating rate of return to schooling investment is to

re-estimate the rates separately for different cohorts.[86] [87] For that purpose, in this section

I will split individuals in our sample into two age cohorts – a young cohort (individuals

aged 25-39) and an old cohort (40-65).[88] One problem in aggregating individuals over

such a wide-range of age is to assume that individuals within a cohort have the same

schooling and labor market conditions. For empirical purpose, it is better to have a

smaller class interval of age grouping but small sample (especially for public sector

workers) prevents me from splitting up the data into more than two age cohort groups.

Section 8 starts with a description of schooling attainment and earnings among these

two age cohorts groups. It is followed by a brief explanation of the specifications used

and concludes with discussion of wage regression results.

8.1. Schooling Attainment and Earnings

Table 8.1 shows schooling attainment (in terms of years of schooling) for the young

and old cohorts by sex and sector of employment. The table shows that individuals

belonging to the young cohort are more educated than their old cohort counterparts.

Average years of completed schooling for each cohort increases with time. However, the

years of formal schooling disparity between cohorts is also increasing, indicating that

schooling attainment of the younger individuals increases at a faster rate than that of the

---

[86] In the United States, this literature focuses on the effects on earnings of the baby-boomers and other generation as they entered labor market and over time. Welch (1979), for example, shows that as the large cohort of baby boom generation went into employment, their entry-level market wages were depressed although the effects diminished over time.

[87] For developing countries setting, recent studies include Schultz and Mwabu (1998) for South Africa, Baraka (1999) and Vere (2002) for Taiwan, Duraisamy (2000) for India, and Aromolaran (2002) for Nigeria.

[88] Average age of IFLS1 sample is 40.5 years for men and 39.6 years for women; while for IFLS2 sample, these averages are 39.6 and 39.4 years, respectively. Men in IFLS3 sample is, on average, a year younger (38.5 years) than those in IFLS2 sample; while the corresponding women are half year younger (38.8 years).

older. By 1993, the disparity between cohorts is 1.4 years with young individuals having, on average, 5.3 years of schooling while their older counterparts 4.4 years. These averages increased to 8.1 and 5.5 years by 2000, causing the disparity to increase to 2.6 years. Major school construction started to show some results in increasing schooling attainment of individuals in the 2000 sample. Extension to the criteria used in interviewing respondents (see Section 4) might also responsible for the increase given that the average age of individuals decreases with time of survey (see footnote 88) and that younger individuals are expected to have more formal schooling.

Hourly earnings between young and old cohorts who are self-employed are not significantly different. Average earnings are, however, slightly higher for the younger individuals. Among private sector workers, wage rate are at parity in the 1993 and 1997 samples. Younger workers are paid 10 percent higher wage than older individuals by 2000. As expected, among public sector workers, it is the older individuals that are favorably paid in comparison to their younger counterparts. Between years, older individuals within this sector are paid a third more than what is earned by the young cohort. Given the fact that earnings for public sector worker are set by the government, the earnings advantage of the old cohort might reflect their tenure as public sector servant.

8.2. Model

Similar specifications as those of Section 7 are utilized to study the effect of cohorts in estimating returns rates. Whereas the model in previous section interacts all covariates with a dummy variable indicating whether the individual were born in urban area or are

currently living in urban area, in this section the interaction dummy variable indicates

whether the individual belongs young cohort or is of age 25-39 years at time of survey.[89]

8.3. Discussion

Point estimates of covariates of wage functions for young and old cohorts are

presented on Appendix Table 8.1 for specification in which schooling attainment

variables enter in linear fashion as completed years of schooling. Corresponding

estimates with non-linear schooling attainment are shown on Table 8.2. Summary of

own schooling point estimates for these specifications are found on Table 8.3.[90]

The linear model results show that belonging to the young cohort among private

sector men is associated with a lower return to an addition year of school completed. In

1993, older individuals within this group have returns rates of 13.2 percent while that of

younger individuals is 3.9 percentage points lower. Likewise are the returns in the 1997

and 2000 surveys that are, respectively, 10.3 and 10.2 percent for older individuals,

representing a 2.7 and 2.4 percentage points advantage over the younger individuals.

Thus, between years, the difference between returns of old and young cohorts decreased

from 3.9 percentage points in 1993 to 2.4 percentage points by 2000.

Among self-employed workers, younger men in the 1993 are unfavorably rewarded in

terms of returns rates. Whereas older individuals have a return of 15.6 percent for each

---

[89] Similar to specification on Section 7, some aggregation of schooling attainment (0-6 years for men and 0-9 years for women) is unavoidable due to the small number of observations within these categories, especially for those belonging to the young cohort.

[90] For the similar reasons mentioned on Section 7, I will not discuss results for public sector workers. Within the linear specifications, returns for old cohort women in the 1997 sample is 14.6 percent, while that of younger cohort is 28.2 percent lower, with both point estimates are statistically significant. The latter means that returns rate for younger women is negative. A closer look at the number of observations used for this regression is quite small, 309, in which 196 belonging to old cohort and the remaining, 113, to young cohort.

year of formal schooling, returns for young cohort are 4.1 percentage points lower (p-value = .054). Beyond these groups, returns rates are at parity between the two cohorts.

Turning to the non-linear schooling attainment specifications, point estimates for own schooling are mostly positive and increasing with level of education for both men and women. Interaction terms of schooling attainment with young cohort dummies are negative and mostly significant for private sector men. Among private sector women, these interaction terms are mostly negative but the degree of significance is limited. Interaction terms among self-employed workers are not significant (except for men in 1993) but their magnitudes are also mostly negative. These negative interaction terms imply that the young cohort tends to have lower wage premia in comparison to the old one. For example, in the 1997 sample, private sector older men with higher secondary schooling have wage advantage of 3.5 times those of unschooled men, while belonging to young cohort reduced this advantage to only 1.5 times.

Following Schultz and Mwabu (1998), interpretation of the negative interaction terms is that the supply of younger workers relative to its derived demand may be higher than the supply of older workers relative to its derived demand in the private sector. Data in Table 8.1, as previously mentioned, supports the finding. Average years of schooling of young cohort are higher than that of old cohort, while hourly earnings for the two groups are (mostly) at parity. These patterns would suggest higher returns to schooling for older men working at private sector.

Between 1993 and 1997, the magnitude of interaction terms among private sector men tends to decrease, while the reverse is true between 1997 and 2000. Among private sector women with at least higher secondary level of education, the disparity of the wage

advantage between cohorts increased between 1993 and 1997 and decreased between 1997 and 2000, in contrast to that of private sector men.

In sum, stratifying the samples by individuals' age and comparing their returns rates show that the younger individuals working at private sector have lower wage advantage, and thus, rates of return in their schooling investments in comparison to those of the old generation. These differences are more pronounced among men than women indicating that wage advantage is more evenly spread between cohorts among women than among men. Among the self-employed, however, no statistically significant differences were found.

Recent studies on returns to schooling investments between cohorts in the context of developing countries show mixed results. Duraisamy (2000) finds that the returns to primary, middle and secondary schooling in India are lower for the younger cohorts (i.e., the 15-29 and 30-44 years old individuals) than for the oldest cohort (45-65 years). However, for higher secondary, college and technical diploma the opposite is true. Aromolaran (2002), for the case of Nigeria, finds that wage returns to an additional year of post secondary schooling are significantly higher for younger workers (25-34 years) than for older workers (45-64 years). De Brauw and Rozelle (2002) find that the returns to another year of formal schooling for off-farm workers in rural China is 9.3 percent for individuals younger that 35 years and 3.4 percent those aged 35 and older.

9. Returns to Schooling using Potential Experience

So far, labor market experience (or out-of-school experience) in all empirical exercises for estimating returns to investment in schooling is approximated using age of individuals. In developing countries, as dictated by the data, it is common to use age as an approximation of out-of-school experience while in developed countries experience is used instead. Mincer (1979) notes that even though age may represent a depreciation factor in the wage function it is not a good measure of accumulated post-school investments, and that the latter are better represented by actual experience in the labor market.

There are some variations to the approximation of labor market experience. One of them, which is commonly applied, is by constructing experience variable from age minus completed years of schooling and six, the latter comes from the assumption that individuals start school at the age of 6. This approach is not utilized in this essay due to grade repetition and dropout rate, which is quite significant for developing countries, including Indonesia.[91] In this section, labor market experience is approximated by 'potential experience' constructed by reducing the individual's age by the age at which he/she finished or quit school. IFLS is probably the only survey in Indonesia that collects information on age an individual finished or quit school which enables one to construct the potential experience variable. It is expected that the use of potential experience will take into account the issue of grade repetition which, as noted by Behrman and Deolalikar (1991), is important in explaining returns to schooling. Information on

individual's schooling history is only collected for those aged 15-49 years so that age at which one finished or quit school is not available for those aged 50-59 years. For this reason, return rates are calculated for individuals aged 25-49 instead of 25-59 as was in previous sections.

This measure is, of course, not a perfect representation of 'true' labor market experience, especially among women. For example, potential experience still suffers from the issue of individuals who temporarily quit school and working for a certain period of time due to economic hardship. Among women who are in the middle of having children and taking care of them, the way potential experience is calculated might for sure not accurately representing labor market experience. The purpose of doing this exercise is to learn whether returns to schooling are sensitive to the use of different measure of labor market experience.

Specifications utilized to describe these differences are simplified versions of the ones use in Section 6. In particular, age and potential experience enter the specification in quadratic terms. In addition, no controls for parental schooling and province of residence are included in the wage regressions. Own schooling enters as number of years of schooling completed (linear) and as a set of dummy variables representing level of schooling (non-linear). Point estimates for the former are presented in Appendix Table 9.1 and for the latter in Table 9.1. Summary of schooling attainment covariates are shown on Table 9.2. As previously mentioned, in order to make comparison between returns estimates with age and potential experience as labor market experience, individuals with incomplete information on potential experience are excluded from the

---

[91] As noted on Section 2, Behrman and Deolalikar (1991) find that failure to control for repetition and dropout rates will significantly upward bias the returns to schooling estimates, especially for the lower

regressions. Thus, samples in this section are relatively younger than those of Section 6.[92]

Starting from the linear specification, one can see that an additional year of formal schooling will result in consistently higher rates within specification with potential experience than that with age.[93] The differences are, however, not large; the largest difference existed for public sector men in the 1993 sample, where returns using potential experience are 3.7 percent higher than that using age (12.8 vs. 9.2 percent). The difference in point estimates among self-employed and private sector men stays at the same level between years of surveys. Corresponding differences among women fluctuate with time.

Turning to specifications in which schooling attainment variables are non-linear, one can easily observe that wage advantages among self-employed and private sector men are higher in the potential experience specification than in that using age.[94] The magnitudes of these differences are, in general, small. Among women, however, some of the corresponding differences are positive (i.e., higher) and some are negative (i.e., lower). Again, these differences are small in terms of magnitude. Private sector women in 2000 have lower wage advantage if potential experience is used as proxy for labor market experience that if age is use instead.

---

levels.

[92] As an aside, one can make comparison between the 'full' sample (i.e., consisting of individuals aged 25-59) and sample of individuals aged 25-49 (see Appendix Table 6.1 and Appendix Table 9.1 for linear specification, or Table 6.2 and Table 9.1 for non-linear specification, or its summary, Table 6.3 and Table 9.2). Excluding individuals aged 50-59 does not change point estimates of own schooling by much, for both linear and non-linear specifications. Especially for self-employed women, an additional year of schooling gives basically identical rates of returns.

[93] The difference in own schooling estimates between the two specifications is reported only if both point estimates are statistically significant at 5 percent or better.

A higher point estimate in the potential experience specification than in the age specification means that using age as proxy for labor market experience might downwardly bias returns to schooling. A lower point estimates indicates the reverse. Our results show that returns for self-employed and private sector men are downward biased if age is use as approximation of labor market experience.

---

[94] It is not easy to make inference for public sector men since point estimates are only sporadically significant.

10. Summary

This study estimates private rates of return to schooling investment in Indonesia using three waves of Indonesia Family Life Survey (IFLS): 1993, 1997 and 2000. Two features that distinguish the study from similar studies in this genre for the case of Indonesia are the following. First, it starts from the assumption that individual maximizes his/her utility in making decision not to participate in the labor force, to be self-employed, to work for wage in the public sector, to work for wage in private sector, or to take part in the unpaid family-owned business. This feature is implemented by modeling a sector choice model using multinomial logit, following Lee (1983). Second, it takes into account the fact that better educated individuals, especially those from rural areas, are more likely to migrate to urban areas since returns to schooling may be higher in the urban areas. Following Schultz (1988) observations are divided on the basis of whether the individual was born in rural-urban regions and on the basis of whether the individual currently residing in rural-urban regions.

While the first feature is intended to resolve the problem of sample selection bias, the second one is meant, to some extent, to overcome omitted variable bias from omitting cost of living (and thus real wages) variation between rural-urban regions or from variation in school quality where the individual obtain his/her formal education. In addition, omitted variable bias resulted from omitted measures of ability and family background is also taken into account by the inclusion of parental schooling information in the wage specification. Parental schooling attainment is rarely included in estimating returns to schooling in Indonesia because of lack of data.

This study adopts the human capital investment model of Becker (1964). According to this model, an individual makes human capital investment decisions by maximizing the discounted present value of future earnings with respect to years of schooling subject to the opportunity cost of time and goods spent (in acquiring such capital) and the rate of interest. The wage function used to estimate the rate of return is a Mincerian (1974) function with some modifications. To be specific, an individual's schooling attainment enters the specification through a set of dummy variables representing a range of completed years of schooling. Parental background is represented by a set of father's and mother's schooling attainment dummy variables. Experience, approximated by age of the individuals, comes in splines. In addition, a selectivity error term to correct for sample selection bias is also included in the specification. This error term is calculated from the sector choice model, which serves as the first leg of the two-stage multinomial logit-ordinary least squares procedure of Lee (1983). Returns to schooling are estimated based on adult men and women in their working age of 25-59. Separate estimates of returns to schooling are calculated for men and women to get insight into factors affecting employment participation decisions as well as the determinant of returns to schooling by gender and to learn whether there are differences in returns to schooling by gender.[95]

This section starts with summarizing empirical results for both sector choice model and wage regressions. It follows by explaining some policy implications from empirical findings. Agenda for future works concludes the section.

---

[95] Schultz (2001) provides explanations why returns to schooling estimates are different by gender, while Alderman and King (1998) explore explanation of gender differences in parental investment in schooling,

10.1. Empirical Results

10.1.1. Sector Choice Model

Sector choice estimates show the importance of education in allocating men and women to their employment paths and that the effect of schooling attainment is not linear.[96] Schooling effects, however, work in different directions depending on the employment sector of interest. Among self-employed men in the 1993 sample, a negative effect of schooling is evidenced for those with at least lower secondary level education, and these negative effects get stronger with higher level of schooling. By 2000, however, schooling attainment for men with primary schooling is positively correlated with the probability of being self-employed with no significant effect of schooling attainment beyond the primary level. Among self-employed women, a positive association between schooling and the odds of joining the sector is found only for those with primary level education; these patterns hold for all three waves of survey. Therefore, those who are more able in terms of their education avoid being self-employed, while those with less formal schooling prefer self employment work. The effect of schooling attainment for public sector employment gets stronger with level of education for both men and women. The fact that these effects tend to be stronger with time might indicate that public sector employment has become increasingly education-intensive with time.

---

which has implications to the disparity of return rates between sexes.

[96] Results are based on 'base specification' estimates. Base specification refers to specification that includes non-linear individuals' own schooling attainment, parental schooling, a set of household compositions variables and business assets. Selectivity terms that are included in the wage regressions are calculated based on these base specifications.

Among men working in the private sector, we see no association between schooling and employment within the sector in 1993. By 2000, however, positive and significant associations emerged for those with up to secondary level education. Among private sector women, negative associations were found for those with 4-9 years of completed schooling. The fact that private sector employment is dominated by occupations associated with lower levels of schooling attainment such as paid agricultural workers might explain the negative effect of schooling attainment on private sector employment for women. Being an unpaid family worker among women is, as expected, negatively correlated with education. Around 70-80 percent of women in this sector work are engaged in agriculture work. Thus, those with higher schooling attainment are likely to avoid working at this sector and which, in turn, explains the negative effect of education in participation in (unpaid) family business sector.

Parental schooling covariates have, in general, limited effects on employment decisions of children. Not much can be said about the direct effect of father's or mother's schooling. For example, in the 1993 sample, having a father who completed primary school is associated with a 25 percent increase in the probability of being self-employed but a 28 percent decrease in the likelihood of working in the private sector. These associations, however, do not hold across surveys. In some cases, parental education has a counterintuitive effect on employment path of children. For example, in the 1997 sample, having a father with at least secondary schooling is associated with a decrease in the probability of any working activity for men. The only solid association across years is found among women working at the family business sector where effect of parental father's and mother's schooling are negative. This is expected since educated

parents prefer their children not to work unpaid. Limited variation in parental schooling variables, especially that of mother's, might be responsible for the unusual results. In spite of these shortcomings, parental schooling variables are jointly significant. In addition, the inclusion of these variables captured some of the family background information in making the employment decision as evidenced by the decrease in the magnitude of own schooling point estimates.

Sector participation probabilities of men and women follows an inverted U-shaped profile with respect to age, with younger individuals (aged 25-39) more likely to participate in any kind of employment activities compared to their older counterparts (aged 40-59). Household composition and business asset variables, intended to identify selection term for the second stage OLS wage regressions, are jointly significant at the 1 percent level. The presence of adult men (aged 20-49) in the household lowers employment participation for both men and women. This, among self-employed men might indicate substitution effect for working in this sector, while among women the finding might indicate women's role in household work (or an increase in home-produced goods) and child bearing/rearing responsibilities. Having an adult woman in the household increases a woman probability to work at the private sector (in 1997 and 2000), implying that the existence of adult female in the household might lighten the burden of household chores and child-care activities. The presence of an elderly woman (aged 50+) reduces men employment activities but increases women participation in wage work. Having an elderly man (aged 50+) in the household lowers work participation for men and women except that it increases women participating in family business work activities. The latter might indicates that the care of elderly man could be

combined with some working activities at the family-owned business. With respect to business assets, men having more assets are associated with higher probability of being self-employed (in 1993) but a lower the chance of private sector employment (in 1993 and 2000). Among women, business assets have positive association with self- and family business employment as well as working at the public sector (in 1993).

Individuals living outside Jakarta, an all-urban area, have higher probability of being self-employed or working with no pay at family business. Within province, the chance to work at these sectors is lower in urban area compared to those living in rural area.

10.1.2. Wage Regressions

Our results show that the wage advantage increases with schooling attainment. This is true for those who are self-employed as well as for those working for wages in the public and private sectors. Moreover, these findings are robust to the inclusion of various sets of covariates. The degree of wage premia are reduced by the inclusion of these covariates, implying that parental schooling and regional variables have an effect on returns to schooling as they pick-up some unobservable measures of ability, family background and schooling quality.

In 1993, a self-employed men with 4-6 years of completed schooling has a 44 percent earnings advantage in comparison to their counterparts with no formal schooling. The wage premiums are even higher for self-employed men with junior secondary, senior secondary and tertiary education, where earnings are, respectively, 2.5, 3.5 and 7.6 higher than that of men with zero years of schooling. There is an increasing trend in earnings for self-employed women although the differences in wage advantage by schooling levels

are not as high as those for men. By 1997, the earnings advantage for the self-employed within each level of schooling are lower than those of 1993. Earnings premia for self-employed men are further reduced by 2000. Among self-employed women, earnings advantages are also slashed between years of surveys although the magnitudes of the cut are not as high as for self-employed men.

Schooling attainment estimates for public sector workers are positive for men with at least upper secondary level education, while among women these estimates are in general not significant. In addition to the limited significance of the F-test statistics, estimates for public sector women (as well as men) might also suffer from small sample sizes in comparison those of self-employment and private sectors.

Wage premia among private sector workers increase with level of schooling at an increasing rate within each survey for both men and women. Own schooling estimates for men experienced a remarkable drop between 1993 and 1997 (except for those with lower secondary level of schooling). A similar decline, however, is not found between 1997 and 2000, although some small changes occurred during that span of time.

The overall picture captured from these wage regressions indicates that individuals with more formal schooling are more favorably rewarded, and that the wage advantage increases in a convex (non-linear) fashion with levels of schooling. Over years, earnings/wage advantages within each level of schooling are, in general, declining. The decreases in these earnings/wage premia are noteworthy between 1993 and 1997, while between 1997 and 2000, the declines are not as large, and in some cases they are only trivial. One can argue that the overall economic condition of a country (measured by level of economic growth) during the span of time might provide an explanation of the

110

decline in wage advantage between 1993 and 1997 as well as the relatively stable level of it between 1997 and 2000. Another explanation for this change in rates of returns is due to supply shift in individuals with more schooling. The (overall) average completed years of schooling in the 1993 sample is 6.1 years for men and 4.4 years for women; by 2000, the corresponding numbers are 7.8 and 6.3 years, respectively.

Turning to estimated rate of returns to investment in schooling, our results show that returns are positive and significant for individuals who are self-employed or working at the private sector, meaning that completing one year of schooling within any level of education will benefit the individual in terms of increase earnings/wages (refer to Table 6.9 to obtain the magnitude of these rates among levels of schooling, employment sectors as well as years of survey). Completing one year of schooling for the first 3 grades of primary school for private sector men in 1993, for example, will increase wage by 8.6 percent. Each year of completed schooling between grade 4 and 6 of elementary will add another 10.8 percent increase in wage. Likewise, the additions to increase in wage if he/she completes each year of lower secondary, higher secondary and tertiary level of schooling are, respectively, 7.4, 13.4 and 11.7 percent. Between surveys, one can observe decreases in returns for self-employed men, except for those with the highest schooling attainment. Among private sector men, there are no clear patterns, some upward and downward movements existed; while among the most educated, the returns are basically unchanged.

One important finding that is related to the government program of 9-year mandatory schooling program is that returns to schooling for those with junior secondary level education is higher than those who only complete primary school. This result holds for

111

all sectors of employment and all waves of the survey with one exception: for private sector men in the 1993 sample.

With respect to age, our results show that the slopes of splines are negative for the oldest age group (50-59 years), except for public sector women in 2000. A series of month of interview dummy variables, intended mainly to pick up variation of seasonality in earnings, has only limited consequences on earnings. The selectivity term (λ) also has limited effect on earnings.

F-tests for the joint significance of parental schooling variables show some mixed and sometimes inconsistent results between surveys. While father's schooling variables are not jointly significant in the men's wage regressions in 1993, they are highly significant for self-employed men in 1997, and only marginally significant for public sector men in 1997 and self-employed men in 2000. Mother' schooling variables as a whole are not significant in affecting earnings for women in all surveys except for a marginal significant effect for private sector women in 1997. Point estimates (or direct effect) of paternal and maternal schooling in wage regressions shows that all statistically significant results are positive, implying that having educated parents is associated with an increase in earnings relative to having illiterate parents. However, the existence of these statistically significant estimates is sporadic. In spite of the not so convincing results of F-test for the joint significance of parental schooling variables and the limited direct effect that can be inferred, the inclusion of parental schooling is important in explaining point estimates of own schooling and, in turn, rates of return to schooling investments.

Cost of living differences and difference in employment market structure might also affect wage premia. F-test results show that region dummy variables are (jointly) very

highly significant. Results show that living in a province outside Jakarta, both in rural and urban areas, is associated with lower wage than living in Jakarta. In addition, results also find that wage disadvantage is lower for individuals living in urban area than those living in rural area of that province.

One final point worth mentioning here is a comparison between the results of this study and that of Filmer and Lindauer (2001) as shown in Table 10.1. In order to make results comparable among studies, wage premia from this study are weighted by the number of individuals (men and women) in each level of schooling. OLS estimates of this study refer to results from specification with no control for parental schooling and sample selection. The findings show that individuals with junior high (or lower secondary, 7-9 years of schooling) is more favorably rewarded than that of Filmer and Lindauer, while wage premia for individuals with schooling attainment beyond lower secondary are comparable among studies. Adding parental schooling information and selectivity correction terms show that the difference in estimated own schooling attainment between the two studies are not that far off.

10.1.3. Migration and Age Cohort

The effect of migration in this study is captured by stratifying individuals based on region of birth and of current residence. The former is intended to capture, among others, the variance of schooling availability and quality between rural and urban areas in determining income, while the other is aimed at explaining the difference of labor market conditions and cost of living in determining earnings. Our results show that neither region of birth nor region of current residence play an important role in determining

wages and, in turn, the rates of return to schooling investment. The finding verifies that migration selection is not a potential problem in calculating returns to schooling or at least that the bias in the estimated returns are minimal if one does not include variables that represent migration behavior of individuals.

Since individuals of different cohorts in our sample may have gone through schooling of different quality as well as availability, individuals are stratified into two age cohorts – young cohort (individuals aged 25-39) and old cohort (40-65) to account for these disparities. Our regression results show that the younger individuals working in the private sector have a lower wage advantage, and thus, rates of return in their schooling investments in comparison to those of the old generation. These differences are more in evidence among men than women indicating that the wage advantage is more evenly spread between cohorts among women than among men. No statistical significant differences between cohorts were found among men and women working in the self-employment sector. Interpretation of the negative interaction terms is that the supply of younger workers relative to its derived demand may be higher than the supply of older workers relative to its derived demand in the private sector.

10.2. Policy Implications

There are a number of ways in which analysis of rates of returns in schooling investments are useful for policy making. On one hand, social returns may provide an indication of which level of schooling the government should invest in most. For example, if the returns to primary education are significantly higher than those of secondary education, then policy makers, which in the case of developing countries are

the governments, can allocate more resources to primary education. On the other hand, returns to schooling can also help the government in seeking the most appropriate education policy that is consistent with the development of human capital of its country. For example, if return rates are low for a certain level of education, then analysis of returns to schooling might provide an explanation of the causes of the low returns. Likewise if the returns across years are declining, then an explanation of the source of the decline might be very useful for policy making.

Empirical findings illustrate that returns to schooling investments are, in general, positive and increasing with level of education. In relation to the 9-year mandatory schooling program, our results show that returns for attending a year of secondary level education is high, especially for women. The result might serve as a motivation for the central government and/or local authorities to make comprehensive plan in administering the operation of education at the secondary level, especially, the junior secondary level. The plan, in addition to provision of schooling infrastructures, should also deal with the preparation of curriculum, books and other instructional equipments as well as human resource planning for the teachers at this level of schooling. Moreover, special attention should be given to overcome the urban-rural gap and rich-poor gap in the enrollment rates at the junior secondary school level.[97] An indication of variations of returns within province as well as its rural-urban differences as shown from wage regressions might serve as valuable information for the government.

Following conventional wisdom, returns might fall as Indonesia's economy developes and Indonesians, on average, gain more education. For example, if the growth of supply

115

of secondary level graduates in the employment market is ahead of its demand, the high

returns for secondary level education might not persist. It is also possible that at some

point in the future tertiary education graduates might drive secondary level graduates to

lower paying job, causing increase in unemployment. Therefore, not only should the

government make an accurate plan of junior secondary schooling system as dictated by

the commitment to implement 9-year compulsory schooling program, but it also has to

plan employment creation for these future graduates.

10.3. Future Agenda

From an empirical point of view, estimates of returns to schooling in this study have

some shortcomings. First, the small number of observations is causing low predictive

power for some estimates. As an example, it is difficult to make clear-cut statements at

the disaggregated level for those working in the public sector. Second, the nature of

parental schooling data that has not much variation is also causing the same problem,

especially in the 1993 wave of IFLS. Third, this study compares cross section individuals

between years of survey instead of exploiting the panel nature of IFLS data, even though

some comparison of results using panel individuals between years are shown for sector

choice and wage regressions.

The first path for future agenda is to redo this exercise using more sophisticated panel

data econometric tools. This gives the opportunity of actually learn behavioral change

within individuals. Decomposition techniques of factors affecting the decline in returns

across years might add richness to our knowledge as well as provide valuable input for

---

[97] Oey-Gardiner (2000) finds that in 1999 the urban-rural gap in age-specific enrollment rates is high
among junior secondary age (88 percent in urban vs. 74 percent in rural) and that the gap between the rich

policy makers. Realizing that individuals might migrate due to better work opportunities or schooling availability and quality gives rise to the prospect of endogenizing migration in estimating schooling returns.

Although the focus of this study is to learn the effects of family background and migration on the estimation of returns to schooling, I realized that there is more that can be done with the rich nature of the data. The first extension is to use the national final examination (EBTANAS) scores to proxy for ability. Off course not all individuals interviewed have an EBTANAS score which will significantly reduce the number of observations. Since IFLS also collects information on non-co resident kin, it is possible to get the effect of siblings, for example, to enrich our specification. Another possibility is to link with information from community and facility survey of IFLS to get information on schooling quality.[98]

---

and poor is disturbing (93 percent for riches quintile vs. 66 percent for the poorest quintile).

[98] See Betts (1999) for a review on the literature on the returns to quality of education.

Table 4.1
Summary of Number of Observations

	Observations		Percentage
	Dropped	**Remained**	**of Book III Respondents aged 25-59**
IFLS1			
Individuals answering Book III		14,418	-
Observations dropped due to:			
- Age restrictions (age<25 or age>59)	3,887	10,531	100.0
- Incomplete schooling attainment a)	457	10,074	95.7
- Incomplete sector of employment	11	10,063	95.6
- Wage missing	395	9,668	91.8
- Wage outlier (wage<10 or wage>20,000)	38	9,630	91.4
IFLS2			
Individuals answering Book III		21,562	-
Observations dropped due to:			
- Age restrictions (age<25 or age>59)	8,665	12,897	100.0
- Incomplete schooling attainment	65	12,832	99.5
- Incomplete sector of employment	1	12,831	99.5
- Wage missing	586	12,245	94.9
- Wage outlier (wage<10 or wage>20,000)	55	12,190	94.5
IFLS3			
Individuals answering Book III		26,731	-
Observations dropped due to:			
- Age restrictions (age<25 or age>59)	11,190	15,541	100.0
- Incomplete schooling attainment	8	15,533	99.9
- Incomplete sector of employment	5	15,528	99.9
- Wage missing	559	14,969	96.3
- Wage outlier (wage<10 or wage>40,000)	108	14,861	95.6
Panel Respondents b)			
IFLS1	3,111	6,519	67.7
IFLS2	5,671	6,519	53.5
IFLS3	8,342	6,519	43.9

Source: IFLS1, IFLS2 and IFLS3.
a) 411 respondents have their Book III answered by proxy.
b) Percentages on the last colomn are relative to final observations of respected surveys.

Table 4.2
Distribution of Employment by Schooling Attainment, Sector and Gender
Cross Section Respondents

	Non-emp.		Self Emp.		Public Sector		Private Sector		Family Worker		Observations	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
IFLS1												
0 year	4.2	43.3	60.6	23.3	2.3	0.6	31.7	13.7	1.2	19.1	568	1,493
	(0.88)	(2.12)	(2.95)	(1.53)	(0.67)	(0.26)	(2.73)	(1.29)	(0.51)	(2.02)		
1-3 years	3.3	39.1	63.7	27.2	1.7	0.9	30.1	12.5	1.3	20.3	788	1,089
	(0.65)	(2.13)	(2.48)	(1.59)	(0.46)	(0.50)	(2.33)	(1.23)	(0.38)	(2.11)		
4-6 years	3.4	49.8	58.5	26.3	5.9	0.8	31.5	8.7	0.7	14.3	1,376	1,573
	(0.55)	(1.87)	(1.95)	(1.30)	(0.83)	(0.37)	(1.79)	(0.89)	(0.25)	(1.47)		
7-9 years	5.2	53.9	45.1	23.4	12.9	2.7	35.9	8.4	0.9	11.7	576	514
	(0.93)	(2.51)	(2.65)	(1.96)	(1.91)	(0.75)	(2.33)	(1.24)	(0.38)	(2.04)		
10-12 years	3.6	42.2	22.4	15.7	36.2	26.0	37.3	12.7	0.6	3.5	697	543
	(0.69)	(2.36)	(1.81)	(1.66)	(2.28)	(2.14)	(2.36)	(1.60)	(0.28)	(1.07)		
13+ years	4.4	27.3	14.8	6.3	52.2	45.5	27.4	18.9	1.1	2.1	270	143
	(1.27)	(4.00)	(2.44)	(2.16)	(3.04)	(4.46)	(2.73)	(2.94)	(0.64)	(1.19)		
All Individuals	3.8	44.9	49.3	23.8	13.4	4.7	32.5	11.5	0.9	15.2	4,275	5,355
	(0.32)	(1.38)	(1.69)	(0.88)	(0.96)	(0.49)	(1.38)	(0.70)	(0.15)	(1.29)		
IFLS2												
0 year	7.0	46.4	53.4	23.4	2.7	0.4	33.0	15.7	3.9	14.1	698	1,626
	(1.05)	(2.17)	(2.65)	(1.66)	(0.63)	(0.19)	(2.64)	(1.32)	(0.89)	(1.61)		
1-3 years	6.7	43.6	55.5	27.4	1.3	0.6	34.4	14.7	2.2	13.7	777	1,079
	(0.84)	(2.16)	(2.22)	(1.80)	(0.51)	(0.39)	(2.24)	(1.40)	(0.53)	(1.56)		
4-6 years	6.1	49.3	49.4	26.6	3.9	0.5	37.7	12.1	3.0	11.5	1,747	1,974
	(0.62)	(1.76)	(1.63)	(1.27)	(0.55)	(0.28)	(1.62)	(0.97)	(0.44)	(1.17)		
7-9 years	8.2	58.6	39.0	19.3	9.3	2.5	41.1	11.4	2.4	8.4	752	695
	(0.99)	(2.15)	(2.11)	(1.61)	(1.25)	(0.68)	(2.04)	(1.27)	(0.63)	(1.45)		
10-12 years	6.6	46.3	24.5	14.1	24.7	15.6	42.0	19.7	2.2	4.4	1,170	910
	(0.74)	(1.78)	(1.55)	(1.29)	(1.53)	(1.32)	(1.91)	(1.49)	(0.54)	(0.86)		
13+ years	11.2	23.4	15.3	6.0	40.8	42.5	31.1	27.1	1.5	1.0	463	299
	(1.53)	(2.64)	(1.77)	(1.45)	(2.63)	(2.96)	(2.48)	(2.62)	(0.56)	(0.57)		
All Individuals	7.1	47.1	41.3	22.5	11.5	4.7	37.4	15.1	2.6	10.7	5,607	6,583
	(0.42)	(1.24)	(1.30)	(0.85)	(0.68)	(0.40)	(1.18)	(0.74)	(0.31)	(0.90)		
IFLS3												
0 year	7.4	30.3	56.5	28.4	0.9	0.3	31.4	18.8	3.9	22.2	570	1,271
	(1.13)	(1.81)	(2.66)	(1.75)	(0.39)	(0.16)	(2.75)	(1.63)	(0.90)	(1.92)		
1-3 years	3.9	28.8	57.1	32.2	1.0	0.5	35.4	16.8	2.5	21.7	865	1,156
	(0.67)	(1.69)	(2.22)	(1.55)	(0.34)	(0.24)	(2.18)	(1.38)	(0.56)	(1.82)		
4-6 years	3.9	36.1	52.4	29.4	2.6	0.4	37.8	16.9	3.3	17.2	2,099	2,439
	(0.43)	(1.33)	(1.55)	(1.21)	(0.41)	(0.16)	(1.55)	(1.11)	(0.46)	(1.28)		
7-9 years	5.8	47.7	41.9	27.4	5.5	1.2	43.2	12.2	3.6	11.5	1,101	983
	(0.71)	(1.82)	(1.79)	(1.54)	(0.79)	(0.38)	(1.76)	(1.19)	(0.63)	(1.30)		
10-12 years	6.1	42.8	27.9	21.2	17.6	8.7	45.0	19.4	3.4	7.8	1,774	1,339
	(0.60)	(1.46)	(1.39)	(1.11)	(1.07)	(0.86)	(1.50)	(1.14)	(0.47)	(0.90)		
13+ years	8.4	22.7	20.8	8.1	35.5	38.6	33.8	28.4	1.5	2.1	736	528
	(1.17)	(1.87)	(1.67)	(1.20)	(1.96)	(2.28)	(1.92)	(2.05)	(0.44)	(0.61)		
All Individuals	5.5	35.8	42.3	26.5	9.8	4.6	39.2	17.8	3.2	15.3	7,145	7,716
	(0.33)	(0.93)	(1.16)	(0.77)	(0.52)	(0.31)	(1.09)	(0.75)	(0.26)	(0.91)		

Source: IFLS1, IFLS2 and IFLS3.
Estimates are in percentage. Standard errors (in parentheses) are robust to clustering at the community level.

Table 4.3

Distribution of Employment by Age, Sector and Gender

Cross Section Respondents

	Non-employment		Self Employment		Public Sector		Private Sector		Family Worker		Observations	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
IFLS1												
25-29 years	2.9	52.7	39.1	16.4	9.5	3.9	46.1	13.2	2.5	13.8	560	915
	(0.81)	(2.29)	(2.79)	(1.37)	(1.46)	(0.68)	(2.70)	(1.44)	(0.64)	(1.88)		
30-39 years	1.6	44.4	47.2	23.1	13.1	6.8	37.6	11.9	0.5	13.8	1,554	1,953
	(0.32)	(1.59)	(1.97)	(1.19)	(1.20)	(0.81)	(1.83)	(0.86)	(0.18)	(1.33)		
40-49 years	2.8	40.4	52.1	26.3	16.7	4.4	27.9	11.7	0.5	17.2	1,143	1,203
	(0.48)	(1.91)	(2.10)	(1.38)	(1.43)	(0.73)	(1.65)	(1.04)	(0.21)	(1.71)		
50-59 years	8.9	44.1	55.0	27.7	12.5	2.3	22.5	9.5	1.1	16.4	1,018	1,284
	(0.96)	(1.92)	(2.25)	(1.43)	(1.34)	(0.45)	(1.63)	(0.93)	(0.34)	(1.72)		
IFLS2												
25-29 years	13.4	55.8	26.7	13.0	3.7	2.4	48.9	21.0	7.3	7.9	989	1,217
	(1.08)	(1.71)	(1.67)	(1.22)	(0.72)	(0.45)	(1.84)	(1.47)	(0.99)	(1.07)		
30-39 years	3.9	44.8	38.1	21.3	11.7	6.9	44.1	16.5	2.2	10.5	2,030	2,424
	(0.47)	(1.49)	(1.58)	(1.08)	(0.93)	(0.68)	(1.56)	(0.98)	(0.37)	(1.03)		
40-49 years	2.9	42.2	49.4	27.2	16.4	4.8	30.3	13.2	1.1	12.6	1,526	1,628
	(0.43)	(1.76)	(1.77)	(1.30)	(1.19)	(0.67)	(1.54)	(1.06)	(0.27)	(1.24)		
50-59 years	13.5	49.2	49.5	27.6	11.3	2.7	24.3	9.3	1.4	11.3	1,062	1,314
	(1.14)	(1.88)	(2.02)	(1.52)	(1.12)	(0.49)	(1.44)	(0.88)	(0.38)	(1.26)		
IFLS3												
25-29 years	7.7	46.1	30.2	15.8	3.9	2.4	52.0	22.9	6.2	12.8	1,545	1,599
	(0.75)	(1.37)	(1.47)	(1.02)	(0.54)	(0.40)	(1.66)	(1.22)	(0.72)	(1.12)		
30-39 years	4.4	34.9	40.0	25.2	9.2	5.6	43.8	19.5	2.6	14.8	2,567	2,795
	(0.41)	(1.16)	(1.39)	(1.05)	(0.72)	(0.50)	(1.42)	(1.01)	(0.33)	(1.06)		
40-49 years	2.8	27.9	48.6	33.6	14.5	6.1	32.6	15.8	1.6	16.6	1,886	2,015
	(0.38)	(1.33)	(1.57)	(1.23)	(0.99)	(0.61)	(1.37)	(1.05)	(0.30)	(1.25)		
50-59 years	9.6	37.0	53.5	31.8	11.4	2.7	22.5	11.2	3.0	17.4	1,147	1,307
	(0.92)	(1.73)	(1.86)	(1.46)	(1.04)	(0.51)	(1.48)	(1.04)	(0.59)	(1.33)		

Source: IFLS1, IFLS2 and IFLS3.

Estimates are in percentage. Standard errors (in parentheses) are robust to clustering at the community level.

Table 4.4
Distribution of Employment by Schooling Attainment, Sector and Gender
Panel Respondents

	Non-emp.		Self Emp.		Public Sector		Private Sector		Family Worker		Observations	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
IFLS1												
0 year	2.5	43.3	61.2	20.9	1.5	0.8	33.9	15.3	0.9	19.7	325	852
	(0.85)	(2.61)	(3.56)	(1.97)	(0.69)	(0.35)	(3.44)	(1.66)	(0.52)	(2.40)		
1-3 years	1.9	40.3	61.5	24.9	1.2	1.0	34.0	13.1	1.4	20.7	517	794
	(0.60)	(2.38)	(2.88)	(1.73)	(0.47)	(0.56)	(2.72)	(1.50)	(0.50)	(2.26)		
4-6 years	1.4	49.2	57.7	25.8	6.1	1.0	34.0	9.2	0.8	14.9	929	1,190
	(0.38)	(2.01)	(2.23)	(1.43)	(0.98)	(0.49)	(2.13)	(1.04)	(0.28)	(1.53)		
7-9 years	1.3	53.3	44.7	22.9	14.6	3.1	38.9	9.4	0.5	11.4	378	385
	(0.59)	(2.83)	(3.11)	(2.19)	(2.30)	(0.87)	(2.84)	(1.54)	(0.37)	(2.33)		
10-12 years	2.3	38.3	21.7	14.1	41.6	30.1	34.0	13.3	0.4	4.2	488	405
	(0.65)	(2.53)	(2.09)	(1.69)	(2.68)	(2.54)	(2.65)	(1.89)	(0.29)	(1.39)		
13+ years	2.5	27.1	11.9	2.1	56.3	51.0	27.5	17.7	1.9	2.1	160	96
	(1.24)	(4.47)	(2.63)	(1.45)	(3.99)	(5.24)	(3.46)	(3.73)	(1.07)	(1.45)		
All Individuals	1.8	44.6	48.2	22.3	14.9	5.6	34.3	12.1	0.9	15.4	2,797	3,722
	(0.24)	(1.50)	(1.83)	(0.96)	(1.12)	(0.60)	(1.56)	(0.82)	(0.18)	(1.38)		
IFLS2												
0 year	4.7	41.5	57.7	25.4	3.1	0.3	33.0	17.9	1.6	14.9	385	973
	(1.13)	(2.51)	(3.34)	(2.03)	(0.91)	(0.18)	(3.19)	(1.72)	(0.70)	(2.06)		
1-3 years	3.4	39.3	57.4	28.2	1.3	0.9	36.3	17.2	1.5	14.5	465	699
	(0.83)	(2.42)	(2.82)	(2.18)	(0.60)	(0.60)	(2.80)	(1.86)	(0.62)	(1.86)		
4-6 years	3.0	47.3	56.3	29.7	5.5	0.7	34.6	10.8	0.7	11.5	926	1,172
	(0.59)	(2.03)	(2.11)	(1.59)	(0.91)	(0.45)	(1.94)	(1.07)	(0.26)	(1.35)		
7-9 years	4.4	56.7	44.3	23.5	13.7	3.4	36.6	7.7	1.1	8.7	366	379
	(1.22)	(2.86)	(3.25)	(2.30)	(2.14)	(1.01)	(2.88)	(1.36)	(0.54)	(1.79)		
10-12 years	3.8	41.4	26.3	13.7	38.7	25.5	31.1	14.0	0.2	5.4	476	372
	(0.98)	(2.71)	(2.34)	(1.93)	(2.49)	(2.44)	(2.53)	(2.06)	(0.21)	(1.41)		
13+ years	1.7	22.1	14.0	3.9	59.2	55.9	25.1	17.3	0.0	0.8	179	127
	(0.94)	(3.83)	(2.52)	(1.73)	(3.69)	(4.56)	(3.43)	(3.25)	-	(0.78)		
All Individuals	3.5	43.8	47.3	25.2	14.6	5.3	33.7	14.1	0.9	11.7	2,797	3,722
	(0.41)	(1.48)	(1.67)	(1.08)	(1.00)	(0.55)	(1.41)	(0.89)	(0.21)	(1.10)		
IFLS3												
0 year	5.3	27.5	63.0	30.4	1.6	0.4	29.2	18.5	1.0	23.2	305	799
	(1.15)	(2.04)	(3.25)	(2.23)	(0.74)	(0.22)	(3.26)	(1.89)	(0.53)	(2.09)		
1-3 years	2.8	27.0	63.2	32.4	1.0	0.7	31.1	15.9	1.8	24.1	495	748
	(0.75)	(1.96)	(2.64)	(1.79)	(0.45)	(0.29)	(2.54)	(1.73)	(0.65)	(2.06)		
4-6 years	2.9	33.7	61.7	33.6	3.5	0.7	30.1	14.6	1.8	17.4	938	1,242
	(0.54)	(1.73)	(2.19)	(1.59)	(0.65)	(0.31)	(1.98)	(1.33)	(0.43)	(1.68)		
7-9 years	4.6	46.6	48.4	29.9	10.4	1.5	34.5	7.6	2.1	14.4	374	395
	(1.09)	(2.77)	(3.10)	(2.36)	(1.76)	(0.62)	(2.97)	(1.37)	(0.73)	(2.10)		
10-12 years	4.6	38.1	30.6	24.1	32.3	17.1	31.3	13.0	1.3	7.8	480	386
	(0.97)	(2.76)	(2.30)	(2.35)	(2.27)	(2.11)	(2.26)	(1.73)	(0.51)	(1.64)		
13+ years	4.9	13.8	14.6	7.2	62.0	67.8	18.5	11.2	0.0	0.0	205	152
	(1.82)	(2.95)	(2.49)	(2.00)	(3.46)	(4.07)	(2.70)	(2.46)	-	-		
All Individuals	3.8	32.1	51.6	30.2	13.0	5.2	30.1	14.6	1.5	18.0	2,797	3,722
	(0.41)	(1.24)	(1.60)	(1.05)	(0.85)	(0.46)	(1.36)	(0.93)	(0.23)	(1.19)		

Source: IFLS1, IFLS2 and IFLS3.
Estimates are in percentage. Standard errors (in parentheses) are robust to clustering at the community level.

Table 4.5
Distribution of Employment by Age, Sector and Gender
Panel Respondents

	Non-employment		Self Employment		Public Sector		Private Sector		Family Worker		Observations	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
IFLS1												
25-29 years	2.5	53.3	40.0	15.6	10.2	4.2	44.8	12.3	2.5	14.6	433	755
	(0.74)	(2.48)	(2.99)	(1.51)	(1.65)	(0.78)	(2.98)	(1.49)	(0.75)	(2.01)		
30-39 years	1.1	44.1	47.7	21.7	14.0	7.5	36.7	12.5	0.5	14.2	1,222	1,609
	(0.29)	(1.72)	(2.12)	(1.20)	(1.31)	(0.91)	(1.96)	(1.00)	(0.20)	(1.43)		
40-49 years	1.9	39.4	51.2	26.7	18.9	4.6	27.7	11.7	0.3	17.7	875	983
	(0.46)	(2.06)	(2.22)	(1.49)	(1.64)	(0.80)	(1.79)	(1.21)	(0.20)	(1.85)		
50-52 years	3.8	42.9	53.6	26.9	13.5	3.5	27.7	10.9	1.5	15.7	267	375
	(1.15)	(3.00)	(3.81)	(2.43)	(2.58)	(1.00)	(2.98)	(1.64)	(0.73)	(2.13)		
IFLS2												
25-29 years	2.8	50.3	41.3	20.4	11.8	3.8	43.2	16.7	0.9	8.7	433	755
	(0.79)	(2.28)	(2.87)	(1.60)	(1.71)	(0.71)	(2.76)	(1.61)	(0.46)	(1.55)		
30-39 years	2.2	40.8	45.3	25.1	14.4	7.2	37.4	14.3	0.7	12.7	1,222	1,609
	(0.44)	(1.76)	(1.92)	(1.31)	(1.22)	(0.91)	(1.83)	(1.14)	(0.27)	(1.20)		
40-49 years	3.2	42.9	52.0	27.4	17.9	4.3	25.8	12.6	1.0	12.8	875	983
	(0.65)	(2.03)	(2.18)	(1.57)	(1.53)	(0.77)	(1.73)	(1.26)	(0.37)	(1.62)		
50-52 years	12.0	45.9	50.6	29.3	9.4	2.7	27.3	11.7	0.8	10.4	267	375
	(2.07)	(2.69)	(3.74)	(2.57)	(2.05)	(0.82)	(2.60)	(1.58)	(0.53)	(1.75)		
IFLS3												
25-29 years	2.8	35.4	46.2	28.2	11.1	4.1	38.6	16.3	1.4	16.0	433	755
	(0.78)	(2.13)	(2.84)	(1.79)	(1.63)	(0.76)	(2.82)	(1.62)	(0.56)	(1.71)		
30-39 years	2.2	29.8	50.5	29.7	13.3	7.2	33.0	15.6	1.1	17.7	1,222	1,609
	(0.41)	(1.44)	(1.93)	(1.35)	(1.17)	(0.71)	(1.72)	(1.22)	(0.29)	(1.36)		
40-49 years	3.3	31.1	54.2	32.3	16.7	3.9	24.1	13.5	1.7	19.2	875	983
	(0.62)	(1.92)	(2.15)	(1.66)	(1.43)	(0.74)	(1.66)	(1.39)	(0.43)	(1.66)		
50-52 years	14.2	37.3	56.6	30.9	3.0	1.9	22.9	10.1	3.4	19.7	267	375
	(2.57)	(2.84)	(3.53)	(2.50)	(1.14)	(0.79)	(2.88)	(1.63)	(1.12)	(2.22)		

Source: IFLS1, IFLS2 and IFLS3.
Age in 1993. Estimates are in percentage. Standard errors (in parentheses) are robust to clustering at the community level.

Table 4.6
Transition in Work by Sector and Gender
Panel Respondents

	All Individuals						Men						Women					
	Non-emp.	Self Emp.	Public	Private	Family Worker	Total	Non-emp.	Self Emp.	Public	Private	Family Worker	Total	Non-emp.	Self Emp.	Public	Private	Family Worker	Total
1993 and 1997 a)																		
Non-employment	17.5	4.3	0.1	2.5	1.9	26.2	0.5	0.6	0.0	0.6	0.0	1.8	30.2	7.0	0.2	4.0	3.3	44.6
Self Employment	3.6	23.7	0.3	4.5	1.3	33.4	1.3	37.6	0.5	8.2	0.5	48.2	5.3	13.3	0.1	1.7	2.0	22.3
Public Sector	0.3	0.3	8.2	0.8	0.0	9.6	0.4	0.6	12.6	1.2	0.0	14.9	0.2	0.0	4.8	0.6	0.0	5.6
Private Sector	2.2	4.2	0.8	14.1	0.4	21.6	1.2	8.0	1.5	23.5	0.1	34.3	2.9	1.3	0.2	7.0	0.7	12.1
Family Worker	3.0	2.2	0.0	0.6	3.4	9.1	0.1	0.5	0.0	0.2	0.1	0.9	5.2	3.5	0.0	0.9	5.8	15.4
Total	26.5	34.7	9.3	22.5	7.0	100.0	3.5	47.3	14.6	33.7	0.9	100.0	43.8	25.2	5.3	14.1	11.7	100.0
1997 and 2000 a)																		
Non-employment	14.3	5.2	0.1	2.9	4.0	26.5	1.1	1.2	0.0	1.0	0.2	3.5	24.1	8.3	0.2	4.3	6.9	43.8
Self Employment	2.4	26.3	0.3	3.4	2.2	34.7	1.0	39.1	0.5	5.9	0.8	47.3	3.5	16.7	0.2	1.5	3.4	25.2
Public Sector	0.3	0.4	7.6	0.9	0.1	9.3	0.4	0.8	11.8	1.5	0.1	14.6	0.2	0.1	4.4	0.5	0.0	5.3
Private Sector	1.8	5.5	0.6	13.8	0.8	22.5	1.2	9.7	0.8	21.7	0.4	33.7	2.3	2.4	0.5	7.8	1.2	14.1
Family Worker	1.1	1.9	0.0	0.3	3.7	7.0	0.0	0.7	0.0	0.1	0.1	0.9	2.0	2.7	0.0	0.5	6.5	11.7
Total	19.9	39.4	8.5	21.3	10.9	100.0	3.8	51.6	13.0	30.1	1.5	100.0	32.1	30.2	5.2	14.6	17.9	100.0

Source: IFLS1, IFLS2 and IFLS3.

a) Year on the left refers to row's sector of employment, on the right to colomn's.

Observations for All Individuals = 6,519; Men = 2,797; Women = 3,722.

123

Table 4.7
Transition in Work by Age and Gender
Panel Respondents

	All Individuals				Men				Women			
	Work in both years	No work in either year	Get Job	Lose Job	Work in both years	No work in either year	Get Job	Lose Job	Work in both years	No work in either year	Get Job	Lose Job
1993 and 1997 a)												
25-29 years	55.6	23.3	11.4	9.7	95.2	0.5	2.1	2.3	32.8	36.4	16.8	13.9
30-39 years	67.0	16.7	8.8	7.4	96.9	0.2	0.9	2.0	44.4	29.3	14.9	11.5
40-49 years	69.1	15.1	6.7	9.1	95.5	0.7	1.3	2.5	45.6	27.9	11.5	15.1
50-52 years	58.6	17.0	9.7	14.8	86.1	1.9	1.9	10.1	38.9	27.7	15.2	18.1
Total	64.7	17.5	8.8	9.1	95.2	0.5	1.3	3.0	41.8	30.2	14.4	13.6
1997 and 2000 a)												
25-29 years	61.4	17.8	15.2	5.6	95.2	0.7	2.1	2.1	42.0	27.7	22.6	7.7
30-39 years	70.7	12.8	11.4	5.2	96.1	0.5	1.7	1.7	51.5	22.1	18.7	7.8
40-49 years	70.6	12.8	11.4	5.2	94.3	0.8	2.4	2.5	49.4	23.5	19.4	7.6
50-52 years	58.9	18.4	13.4	9.3	79.8	6.0	6.0	8.2	44.0	27.2	18.7	10.1
Total	67.8	14.3	12.3	5.7	93.8	1.1	2.4	2.6	48.3	24.1	19.7	8.0

Source: IFLS1, IFLS2 and IFLS3.

a) Year on the left refers to row's sector of employment, on the right to colomn's.

Transition in work is based on employment status at the time of survey. It measures whether the individual being employed in some capacity at the time of interview (see text for details). An individual is categorized as to 'Get Job' ('Lose Job') if he/she works (does not work) in the current survey while not working (working) during previous interview.

Age in 1993. Observations for All Individuals = 6,519; Men = 2,797; Women = 3,722.

Appendix Table 4.1
Distribution of Employment by Schooling Attainment, Sector and Gender
SUSENAS

	Non-emp.		Self Emp.		Public Sector		Private Sector		Family Worker		Observations	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Susenas 1993												
0 year	4.7	38.3	73.0	25.5	0.4	0.2	18.0	11.8	3.9	24.2	12,624	30,127
	(0.19)	(0.28)	(0.40)	(0.25)	(0.06)	(0.02)	(0.34)	(0.19)	(0.17)	(0.25)		
1-3 years	2.4	38.9	71.2	25.5	0.8	0.2	22.3	10.5	3.3	24.9	20,912	26,628
	(0.11)	(0.30)	(0.31)	(0.27)	(0.06)	(0.03)	(0.29)	(0.19)	(0.12)	(0.26)		
4-6 years	2.5	45.7	65.2	23.2	3.2	0.3	24.9	8.2	4.3	22.7	44,071	42,541
	(0.07)	(0.24)	(0.23)	(0.20)	(0.08)	(0.03)	(0.21)	(0.13)	(0.10)	(0.20)		
7-9 years	4.6	57.5	50.5	21.1	10.5	1.8	30.3	6.2	4.1	13.5	15,057	11,735
	(0.17)	(0.46)	(0.41)	(0.38)	(0.25)	(0.12)	(0.37)	(0.22)	(0.16)	(0.31)		
10-12 years	6.1	45.9	27.5	11.0	32.6	25.4	30.4	11.4	3.5	6.4	20,369	13,036
	(0.17)	(0.44)	(0.31)	(0.27)	(0.33)	(0.38)	(0.32)	(0.28)	(0.13)	(0.21)		
13+ years	14.1	33.8	11.3	5.4	45.6	37.6	26.7	20.5	2.3	2.7	6,388	3,346
	(0.44)	(0.82)	(0.40)	(0.39)	(0.62)	(0.84)	(0.55)	(0.70)	(0.19)	(0.28)		
All Individuals	4.2	43.3	55.9	22.3	10.7	3.9	25.4	10.0	3.8	20.5	119,421	127,413
	(0.06)	(0.14)	(0.14)	(0.12)	(0.09)	(0.05)	(0.13)	(0.08)	(0.06)	(0.11)		
Susenas 1997												
0 year	6.3	42.9	70.7	23.3	0.7	0.2	18.4	10.6	4.0	23.0	9,280	22,510
	(0.25)	(0.33)	(0.47)	(0.28)	(0.09)	(0.03)	(0.40)	(0.21)	(0.20)	(0.28)		
1-3 years	3.2	42.9	71.0	23.5	0.9	0.3	22.0	10.3	3.0	22.9	16,370	22,283
	(0.14)	(0.33)	(0.35)	(0.28)	(0.07)	(0.04)	(0.32)	(0.20)	(0.13)	(0.28)		
4-6 years	3.1	49.6	64.0	21.3	2.8	0.4	26.3	8.4	3.9	20.3	45,566	47,341
	(0.08)	(0.23)	(0.22)	(0.19)	(0.08)	(0.03)	(0.21)	(0.13)	(0.09)	(0.18)		
7-9 years	5.3	61.1	51.3	18.5	8.4	1.1	31.0	6.6	4.0	12.8	18,106	14,841
	(0.17)	(0.40)	(0.37)	(0.32)	(0.21)	(0.08)	(0.34)	(0.20)	(0.15)	(0.27)		
10-12 years	6.7	51.5	30.3	11.1	26.6	18.6	32.9	11.8	3.5	7.0	26,034	18,199
	(0.16)	(0.37)	(0.28)	(0.23)	(0.27)	(0.29)	(0.29)	(0.24)	(0.11)	(0.19)		
13+ years	12.1	32.7	12.4	4.9	46.0	39.3	27.8	20.5	1.7	2.6	8,095	5,048
	(0.36)	(0.66)	(0.37)	(0.30)	(0.55)	(0.69)	(0.50)	(0.57)	(0.14)	(0.22)		
All Individuals	5.0	48.2	53.1	19.7	11.0	4.5	27.3	9.9	3.6	17.8	123,451	130,222
	(0.06)	(0.14)	(0.14)	(0.11)	(0.09)	(0.06)	(0.13)	(0.08)	(0.05)	(0.11)		
Susenas 2000 a)												
0 year	7.3	41.4	70.0	23.3	19.3	12.2			3.4	23.2	8,455	18,771
	(0.28)	(0.36)	(0.50)	(0.31)	(0.43)	(0.24)			(0.20)	(0.31)		
1-3 years	4.1	41.9	69.8	23.9	23.4	11.3			2.7	22.9	14,308	19,901
	(0.17)	(0.35)	(0.38)	(0.30)	(0.35)	(0.22)			(0.14)	(0.30)		
4-6 years	3.9	48.4	64.0	21.3	28.1	9.7			4.0	20.6	43,812	47,289
	(0.09)	(0.23)	(0.23)	(0.19)	(0.21)	(0.14)			(0.09)	(0.19)		
7-9 years	6.4	58.4	52.7	18.9	36.7	9.2			4.1	13.6	19,351	16,578
	(0.18)	(0.38)	(0.36)	(0.30)	(0.35)	(0.22)			(0.14)	(0.27)		
10-12 years	9.0	53.2	34.9	12.7	52.6	26.4			3.4	7.6	28,439	20,650
	(0.17)	(0.35)	(0.28)	(0.23)	(0.30)	(0.31)			(0.11)	(0.18)		
13+ years	12.5	32.6	17.7	6.2	67.4	58.0			2.4	3.2	9,023	6,180
	(0.35)	(0.60)	(0.40)	(0.31)	(0.49)	(0.63)			(0.16)	(0.22)		
All Individuals	6.3	47.7	53.2	19.6	36.8	15.2			3.6	17.5	123,388	129,369
	(0.07)	(0.14)	(0.14)	(0.11)	(0.14)	(0.10)			(0.05)	(0.11)		

Source: Susenas 1993, 1997, and 2000.
a) Public and Private sector workers are merged into one category.
Estimates are in percentage.

Table 5.1
Hausman-McFadden Tests
for Independence of Irrelevant Alternative Property
of Multinomial Sector Choice Model

Omitted Category	Specification that controls for					
	Non-linear Own Schooling		Non-linear Own and Parental Schooling (base)		Non-linear Own Schooling, Parental Schooling and Residency (full)	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
IFLS1						
Men						
Self Employment	-15.74	-	-15.63	-	-287.15	-
Public Sector	-2.40	-	65.94	0.093	-1.46	-
Private Sector	51.10	0.076	-8.92	-	-7.32	-
Women						
Self Employment	19.58	1.000	3.34	1.000	1.52	1.000
Public Sector	1.16	1.000	0.31	1.000	3.70	1.000
Private Sector	4.14	1.000	-10.94	-	22.32	1.000
Family Worker	-6.47	-	-1.51	-	1.13	1.000
IFLS2						
Men						
Self Employment	1.50	1.000	12.84	1.000	278.58	0.000
Public Sector	0.23	1.000	1.90	1.000	2.98	1.000
Private Sector	4.71	1.000	-2.63	-	-56.11	-
Women						
Self Employment	-3.99	-	10.79	1.000	-0.42	-
Public Sector	0.01	1.000	0.79	1.000	0.17	1.000
Private Sector	-6.54	-	-0.68	-	3.15	1.000
Family Worker	6.03	1.000	86.61	0.169	0.80	1.000
IFLS3						
Men						
Self Employment	-16.92	-	-54.00	-	7.13	1.000
Public Sector	3.57	1.000	-20.72	-	-12.77	-
Private Sector	7.49	1.000	-29.33	-	-27.45	-
Women						
Self Employment	1.75	1.000	-17.91	-	-0.26	-
Public Sector	0.05	1.000	0.60	1.000	-0.26	-
Private Sector	4.28	1.000	-0.40	-	-20.44	-
Family Worker	136.23	0.000	-0.51	-	4.31	1.000

Source: IFLS1, IFLS2 and IFLS3.

A negative value of χ^2 statistics indicates that Independence of Irrelevant Alternative property holds (see text for details).

Omitted Category	Non-linear Own Schooling		Non-linear Own and Parental Schooling (base)		Non-linear Own Schooling, Parental Schooling and Residency (full)	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
IFLS1						
Men						
Self-Public	530.34	0.000	545.83	0.000	666.35	0.000
Self-Private	181.03	0.000	206.80	0.000	455.28	0.000
Self-Non-emp./Family Worker	161.01	0.000	179.04	0.000	274.97	0.000
Public-Private	276.05	0.000	286.21	0.000	409.01	0.000
Public-Non-emp./Family Worker	224.80	0.000	239.60	0.000	348.56	0.000
Private-Non-emp./Family Worker	176.46	0.000	191.30	0.000	285.38	0.000
Women						
Self-Public	375.46	0.000	428.29	0.000	590.19	0.000
Self-Private	88.26	0.000	103.23	0.000	178.62	0.000
Self-Family Worker	136.10	0.000	163.99	0.000	334.48	0.000
Self-Non-emp.	149.71	0.000	164.62	0.000	400.94	0.000
Public-Private	169.15	0.000	226.28	0.000	393.50	0.000
Public-Family Worker	306.01	0.000	401.76	0.000	466.56	0.000
Public-Non-emp.	378.36	0.000	454.33	0.000	664.12	0.000
Private-Family Worker	117.37	0.000	141.94	0.000	333.56	0.000
Private-Non-emp.	88.76	0.000	100.70	0.000	225.16	0.000
Family Worker-Non-emp.	140.85	0.000	170.05	0.000	393.21	0.000
IFLS2						
Men						
Self-Public	588.39	0.000	639.95	0.000	841.89	0.000
Self-Private	291.07	0.000	343.17	0.000	616.29	0.000
Self-Non-emp./Family Worker	410.65	0.000	452.38	0.000	557.32	0.000
Public-Private	497.93	0.000	522.67	0.000	680.12	0.000
Public-Non-emp./Family Worker	519.03	0.000	545.18	0.000	633.73	0.000
Private-Non-emp./Family Worker	366.06	0.000	440.27	0.000	579.55	0.000
Women						
Self-Public	290.53	0.000	358.33	0.000	505.92	0.000
Self-Private	252.76	0.000	268.08	0.000	389.13	0.000
Self-Family Worker	82.92	0.000	104.42	0.000	284.64	0.000
Self-Non-emp.	207.38	0.000	224.73	0.000	442.44	0.000
Public-Private	267.61	0.000	312.98	0.000	474.76	0.000
Public-Family Worker	277.73	0.000	332.22	0.000	632.85	0.000
Public-Non-emp.	388.57	0.000	434.42	0.000	629.02	0.000
Private-Family Worker	150.05	0.000	179.00	0.000	372.32	0.000
Private-Non-emp.	138.74	0.000	146.83	0.000	334.39	0.000
Family Worker-Non-emp.	152.53	0.000	164.54	0.000	568.95	0.000
IFLS3						
Men						
Self-Public	602.17	0.000	611.74	0.000	765.46	0.000
Self-Private	347.11	0.000	385.20	0.000	560.70	0.000
Self-Non-emp./Family Worker	458.49	0.000	494.19	0.000	617.90	0.000
Public-Private	506.61	0.000	542.41	0.000	718.22	0.000
Public-Non-emp./Family Worker	512.41	0.000	536.69	0.000	654.42	0.000
Private-Non-emp./Family Worker	299.24	0.000	302.19	0.000	382.61	0.000
Women						
Self-Public	303.61	0.000	308.53	0.000	502.61	0.000
Self-Private	250.57	0.000	287.76	0.000	423.90	0.000
Self-Family Worker	133.51	0.000	161.52	0.000	343.42	0.000
Self-Non-emp.	266.52	0.000	276.52	0.000	437.77	0.000
Public-Private	316.42	0.000	353.36	0.000	479.08	0.000
Public-Family Worker	415.70	0.000	433.30	0.000	540.10	0.000
Public-Non-emp.	381.44	0.000	394.23	0.000	588.59	0.000
Private-Family Worker	183.28	0.000	215.12	0.000	455.84	0.000
Private-Non-emp.	143.49	0.000	164.75	0.000	353.64	0.000
Family Worker-Non-emp.	213.65	0.000	239.30	0.000	555.97	0.000

Source: IFLS1, IFLS2 and IFLS3.

	Men			Women			
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.109	-0.249	-0.059	0.355 ***	0.419	-0.054	0.167
	(0.40)	(0.51)	(0.20)	(2.94)	(1.13)	(0.37)	(1.33)
4-6 years	0.021	0.964 **	-0.008	0.101	-0.011	-0.673 ***	-0.339 **
	(0.08)	(2.25)	(0.03)	(0.84)	(0.03)	(4.45)	(2.07)
7-9 years	-0.593 *	1.347 ***	-0.254	-0.049	1.106 *	-0.784 ***	-0.501 **
	(1.93)	(2.91)	(0.81)	(0.29)	(1.83)	(3.72)	(2.14)
10-12 years	-1.043 ***	2.801 ***	-0.024	-0.163	3.917 ***	0.023	-1.340 ***
	(3.14)	(6.00)	(0.07)	(0.89)	(6.38)	(0.11)	(3.62)
13+ years	-1.843 ***	2.846 ***	-0.488				
	(4.42)	(5.36)	(1.27)				
Father's Schooling							
Some Elementary	0.0001	-0.273	-0.144	0.118	0.459	-0.237	0.042
	(0.00)	(0.96)	(0.53)	(1.00)	(1.47)	(1.40)	(0.29)
Completed Elementary	-0.312	-0.304	-0.357	0.224 *	0.387	-0.329 *	-0.113
	(1.13)	(1.03)	(1.26)	(1.74)	(1.13)	(1.79)	(0.69)
Secondary/Tertiary	-0.256	-0.466	-0.364	-0.111	-0.002	-0.034	-0.639 **
	(0.73)	(1.25)	(1.02)	(0.52)	(0.01)	(0.16)	(2.08)
Missing	-0.476 *	-0.933 ***	-0.284	-0.002	0.042	-0.225	-0.293 *
	(1.81)	(2.91)	(1.10)	(0.02)	(0.13)	(1.34)	(1.74)
Mother's Schooling							
Some Elementary	0.284	0.860 ***	0.627 **	-0.137	0.021	0.422 **	0.014
	(0.94)	(2.65)	(2.02)	(1.07)	(0.08)	(2.38)	(0.09)
Completed Elementary/ Secondary/Tertiary	-0.127	0.191	0.312	-0.231	0.273	0.109	-0.374 *
	(0.39)	(0.57)	(0.97)	(1.60)	(1.14)	(0.60)	(1.86)
Missing	-0.213	0.093	-0.130	-0.112	0.147	-0.014	0.254
	(0.81)	(0.31)	(0.50)	(0.85)	(0.60)	(0.07)	(1.64)
Age (spline)							
25-29 years	0.094	0.240 *	0.134	0.063	0.451 ***	0.019	0.018
	(0.85)	(1.76)	(1.18)	(1.26)	(3.96)	(0.34)	(0.33)
30-39 years	0.091 **	0.141 ***	0.062	0.072 ***	0.041	0.028	0.004
	(2.29)	(3.34)	(1.53)	(4.55)	(1.52)	(1.42)	(0.20)
40-49 years	-0.068 *	-0.039	-0.102 ***	0.004	-0.039	-0.005	0.019
	(1.78)	(0.93)	(2.62)	(0.22)	(1.18)	(0.21)	(1.01)
50-59 years	-0.144 ***	-0.204 ***	-0.193 ***	-0.052 **	-0.154 **	-0.108 ***	-0.097 ***
	(3.79)	(4.04)	(4.60)	(2.43)	(2.27)	(3.15)	(3.54)
HH Composition and Business Assets							
# men, aged 20-49	-0.476 ***	-0.276 **	-0.381 ***	-0.353 ***	-0.331 ***	-0.365 ***	-0.063
	(4.17)	(2.07)	(3.17)	(5.30)	(2.97)	(3.98)	(1.01)
# women, aged 20-49	0.073	0.279	0.111	-0.030	-0.147	0.036	-0.454 ***
	(0.46)	(1.53)	(0.67)	(0.43)	(1.10)	(0.40)	(4.56)
# men, aged 50+	-0.597 **	-0.448	-0.338	-0.532 ***	-0.301	-0.513 ***	0.363 ***
	(2.22)	(1.37)	(1.22)	(4.86)	(1.32)	(3.69)	(3.80)
# women, aged 50+	-0.204	-0.123	-0.135	0.220 **	0.606 ***	0.221	-0.406 ***
	(1.30)	(0.63)	(0.82)	(2.07)	(2.82)	(1.50)	(2.75)
Business Assets (million)	0.512 ***	0.213	-0.957 **	0.057 *	0.071 *	-0.523	0.096 **
	(2.79)	(1.04)	(1.96)	(1.69)	(1.68)	(1.48)	(2.53)
Constant	0.660	-8.089 **	-1.010	-2.710 *	-17.495 ***	-1.312	-0.946
	(0.22)	(2.12)	(0.33)	(1.86)	(5.48)	(0.83)	(0.59)
Wald test							
Own Schooling	433.34			235.40			
	(0.000)			(0.000)			
Father's Schooling	19.50			28.33			
	(0.077)			(0.029)			
Mother's Schooling	22.34			24.73			
	(0.008)			(0.016)			
Parental Schooling	44.13			51.10			
	(0.002)			(0.005)			
Age	115.74			110.57			
	(0.000)			(0.000)			
HH Composition	33.33			117.54			
	(0.001)			(0.000)			
HH Composition and Assets	41.97			124.65			
	(0.000)			(0.000)			
Pseudo R^2	0.168			0.099			
Observations	4,275			5,355			

Source: IFLS1.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own and parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

128

	Men			Women			
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.305 *	-0.549	0.237	0.311 **	0.241	-0.127	0.067
	(1.67)	(1.24)	(1.16)	(2.59)	(0.46)	(0.95)	(0.42)
4-6 years	0.353 **	0.686 **	0.374 *	0.222 *	0.074	-0.567 ***	-0.136
	(2.02)	(2.21)	(1.90)	(1.89)	(0.17)	(4.36)	(0.92)
7-9 years	0.078	1.484 ***	0.315	-0.155	1.559 ***	-0.869 ***	-0.468 **
	(0.37)	(4.32)	(1.37)	(0.98)	(2.85)	(5.17)	(2.23)
10-12 years	0.143	3.103 ***	0.710 ***	-0.056	4.348 ***	-0.031	-0.670 ***
	(0.73)	(10.02)	(3.25)	(0.34)	(7.54)	(0.20)	(2.65)
13+ years	-0.654 **	3.198 ***	0.080				
	(2.35)	(9.44)	(0.29)				
Father's Schooling							
Some Elementary	-0.285	-0.158	-0.087	0.193 *	0.451	0.130	-0.025
	(1.59)	(0.61)	(0.50)	(1.74)	(1.49)	(1.03)	(0.17)
Completed Elementary	-0.231	0.054	-0.056	0.256 **	0.364	0.162	-0.226
	(1.16)	(0.22)	(0.27)	(2.12)	(1.23)	(1.14)	(1.18)
Secondary/Tertiary	-0.740 ***	-0.519 *	-0.517 **	0.211	0.166	0.338 **	-0.787 ***
	(3.14)	(1.85)	(2.20)	(1.25)	(0.53)	(1.98)	(3.09)
Missing	-0.475 *	-0.536	-0.077	0.108	-0.400	0.116	-0.316
	(1.93)	(1.63)	(0.33)	(0.78)	(1.03)	(0.68)	(1.44)
Mother's Schooling							
Some Elementary	-0.042	0.238	-0.029	-0.252 **	-0.023	-0.084	-0.068
	(0.25)	(1.10)	(0.18)	(2.23)	(0.09)	(0.62)	(0.43)
Completed Elementary/	0.092	0.438 *	0.467 **	-0.361 ***	0.387 *	0.075	-0.219
Secondary/Tertiary	(0.44)	(1.69)	(2.27)	(3.03)	(1.81)	(0.52)	(1.24)
Missing	0.136	0.240	0.445 *	-0.359 **	0.265	0.038	0.160
	(0.52)	(0.71)	(1.81)	(2.53)	(0.67)	(0.22)	(0.70)
Age (spline)							
25-29 years	0.336 ***	0.518 ***	0.262 ***	0.068	0.225 **	-0.051	-0.066
	(5.89)	(4.96)	(5.03)	(1.38)	(2.09)	(1.22)	(1.00)
30-39 years	0.089 ***	0.216 ***	0.055 **	0.093 ***	0.225 ***	0.010	0.075 ***
	(3.54)	(7.43)	(2.19)	(6.52)	(8.71)	(0.66)	(3.69)
40-49 years	0.020	0.023	-0.026	-0.004	-0.124 ***	-0.032 *	-0.040 **
	(0.75)	(0.74)	(1.00)	(0.27)	(3.60)	(1.88)	(2.23)
50-59 years	-0.140 ***	-0.226 ***	-0.177 ***	-0.042 **	0.008	-0.114 ***	-0.065 **
	(4.88)	(5.97)	(6.21)	(2.21)	(0.15)	(4.05)	(2.38)
HH Composition and Business Assets							
# men, aged 20-49	-0.313 ***	-0.292 ***	-0.228 ***	-0.228 ***	-0.344 ***	-0.176 ***	-0.192 ***
	(5.22)	(3.67)	(3.89)	(4.85)	(4.23)	(3.41)	(3.52)
# women, aged 20-49	-0.055	0.004	-0.019	-0.069	-0.144	0.079 *	-0.181 ***
	(0.81)	(0.05)	(0.28)	(1.40)	(1.52)	(1.68)	(2.69)
# men, aged 50+	-0.718 ***	-0.655 ***	-0.601 ***	-0.301 ***	-0.184	-0.104	0.379 ***
	(5.67)	(3.83)	(4.99)	(3.83)	(1.10)	(1.13)	(3.94)
# women, aged 50+	-0.464 ***	-0.408 ***	-0.231 **	0.124	0.277 *	0.305 ***	-0.046
	(4.35)	(3.34)	(2.31)	(1.52)	(1.83)	(3.59)	(0.37)
Business Assets (million)	0.015	-0.022	-0.111	0.025 *	-0.015	-0.028	0.031 *
	(1.02)	(0.63)	(1.44)	(1.70)	(0.68)	(0.82)	(1.92)
Constant	-7.419 ***	-16.949 ***	-5.577 ***	-3.036 **	-12.479 ***	0.493	0.544
	(4.67)	(5.68)	(3.88)	(2.15)	(4.08)	(0.42)	(0.30)
Wald test							
Own Schooling	441.35			208.70			
	(0.000)			(0.000)			
Father's Schooling	22.96			35.83			
	(0.028)			(0.003)			
Mother's Schooling	23.19			30.64			
	(0.006)			(0.002)			
Parental Schooling	88.75			75.59			
	(0.000)			(0.000)			
Age	413.17			309.71			
	(0.000)			(0.000)			
HH Composition	136.37			110.43			
	(0.000)			(0.000)			
HH Composition and Assets	139.64			117.45			
	(0.000)			(0.000)			
Pseudo R^2	0.146			0.091			
Observations	5,607			6,583			

Source: IFLS2.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own and parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.596 **	0.772	0.644 **	0.196 *	0.494	-0.174	0.012
	(3.00)	(1.28)	(3.03)	(1.70)	(0.88)	(1.37)	(0.08)
4-6 years	0.532 **	1.793 ***	0.606 **	-0.008	0.072	-0.437 ***	-0.362 **
	(3.16)	(3.62)	(3.00)	(0.07)	(0.11)	(3.53)	(2.69)
7-9 years	0.244	2.579 ***	0.506 **	-0.220	1.178 **	-1.083 ***	-0.908 ***
	(1.30)	(5.14)	(2.46)	(1.61)	(2.18)	(7.03)	(4.88)
10-12 years	-0.069	3.954 ***	0.487 **	-0.230	4.376 ***	-0.345 **	-1.047 ***
	(0.36)	(7.94)	(2.32)	(1.60)	(8.17)	(2.40)	(5.04)
13+ years	-0.178	4.797 ***	0.302				
	(0.74)	(9.28)	(1.22)				
Father's Schooling							
Some Elementary	0.175	0.178	0.100	0.157	0.286	0.168	0.138
	(1.02)	(0.77)	(0.58)	(1.47)	(1.08)	(1.28)	(1.16)
Completed Elementary	0.041	0.113	0.074	0.074	0.240	-0.143	-0.286 **
	(0.26)	(0.56)	(0.48)	(0.78)	(1.14)	(1.26)	(2.49)
Secondary/Tertiary	-0.377 **	-0.205	-0.150	-0.115	0.008	0.081	-0.518 **
	(1.99)	(0.89)	(0.82)	(0.92)	(0.03)	(0.58)	(2.69)
Missing	-0.203	-0.599 **	-0.138	0.121	-0.477	0.139	-0.032
	(1.07)	(2.24)	(0.69)	(1.14)	(1.48)	(1.02)	(0.21)
Mother's Schooling							
Some Elementary	-0.494 **	-0.426 **	-0.361 **	0.049	0.024	0.003	-0.001
	(3.26)	(2.15)	(2.43)	(0.45)	(0.12)	(0.03)	(0.00)
Completed Elementary/ Secondary/Tertiary	-0.263 *	-0.151	0.121	-0.147	0.027	0.179	-0.264 **
	(1.75)	(0.82)	(0.82)	(1.53)	(0.15)	(1.61)	(2.00)
Missing	-0.119	-0.295	0.109	-0.428 ***	-0.578	-0.177	-0.379 **
	(0.56)	(1.01)	(0.51)	(3.69)	(1.64)	(1.23)	(2.28)
Age (spline)							
25-29 years	0.221 ***	0.354 ***	0.141 **	0.156 ***	0.106	-0.011	0.088 *
	(4.70)	(3.97)	(3.16)	(3.67)	(1.10)	(0.31)	(1.91)
30-39 years	0.039 *	0.161 ***	0.010	0.067 ***	0.271 ***	0.034 **	0.015
	(1.85)	(6.25)	(0.50)	(5.12)	(10.24)	(2.34)	(0.89)
40-49 years	0.040 *	0.097 ***	0.004	0.036 **	-0.067 **	-0.040 **	0.001
	(1.76)	(3.67)	(0.17)	(2.68)	(2.23)	(2.28)	(0.05)
50-59 years	-0.101 ***	-0.224 ***	-0.174 ***	-0.075 ***	-0.050	-0.099 ***	-0.069 **
	(3.64)	(5.55)	(5.64)	(4.04)	(1.05)	(4.09)	(3.14)
HH Composition and Business Assets							
# men, aged 20-49	-0.273 ***	-0.334 ***	-0.172 ***	-0.187 ***	-0.264 ***	-0.152 ***	-0.104 **
	(6.01)	(5.16)	(3.66)	(5.21)	(3.52)	(3.94)	(2.55)
# women, aged 20-49	-0.057	-0.051	-0.017	0.003	0.017	0.083 **	-0.156 **
	(1.08)	(0.79)	(0.33)	(0.09)	(0.25)	(2.16)	(3.33)
# men, aged 50+	-0.692 ***	-0.682 ***	-0.491 ***	-0.234 **	-0.107	-0.016	0.351 ***
	(5.98)	(4.72)	(4.48)	(3.21)	(0.66)	(0.20)	(4.60)
# women, aged 50+	-0.422 ***	-0.399 **	-0.325 **	0.051	-0.030	0.217 **	-0.067
	(4.70)	(3.40)	(3.46)	(0.75)	(0.22)	(2.98)	(0.79)
Business Assets (million)	0.024	-0.0001	-0.095 *	0.010 *	0.016	-0.017	0.015 **
	(1.52)	(0.01)	(1.71)	(1.84)	(1.48)	(1.02)	(2.48)
Wald test							
Own Schooling	502.89			316.13			
	(0.000)			(0.000)			
Father's Schooling	18.21			42.95			
	(0.109)			(0.000)			
Mother's Schooling	32.60			30.86			
	(0.000)			(0.002)			
Parental Schooling	72.49			92.83			
	(0.000)			(0.000)			
Age	403.05			370.83			
	(0.000)			(0.000)			
HH Composition	210.80			110.60			
	(0.000)			(0.000)			
HH Composition and Assets	215.52			115.53			
	(0.000)			(0.000)			
Pseudo R^2	0.138			0.084			
Observations	7,145			7,716			

Source: IFLS3.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own and parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
A. Cross Section Sample							
Linear Own Schooling							
IFLS1	-0.114 ***	0.265 ***	-0.015	-0.027 **	0.411 ***	-0.024	-0.109 ***
IFLS2	-0.042 ***	0.297 ***	0.022	-0.017	0.469 ***	0.009	-0.074 ***
IFLS3	-0.062 ***	0.306 ***	0.000	-0.032 ***	0.467 ***	-0.008	-0.113 ***
Non-linear Own Schooling							
IFLS1							
1-3 years	0.061	-0.302	-0.088	0.363 ***	0.498	-0.060	0.165
4-6 years	-0.019	0.968 **	-0.015	0.111	0.156	-0.686 ***	-0.391 **
7-9 years	-0.657 **	1.351 ***	-0.250	-0.064	1.319 **	-0.788 ***	-0.656 ***
10-12 years a)	-1.135 ***	2.805 ***	-0.027	-0.250	4.117 ***	0.059	-1.681 ***
13+ years	-1.965 ***	2.831 ***	-0.472				
IFLS2							
1-3 years	0.253	-0.548	0.230	0.303 **	0.319	-0.102	0.029
4-6 years	0.288 *	0.748 **	0.389 **	0.216 *	0.246	-0.509 ***	-0.234
7-9 years	-0.036	1.564 ***	0.317	-0.177	1.826 ***	-0.758 ***	-0.665 ***
10-12 years a)	-0.021	3.174 ***	0.705 ***	-0.102	4.678 ***	0.160	-1.052 ***
13+ years	-0.896 ***	3.240 ***	0.062				
IFLS3							
1-3 years	0.566 **	0.735	0.633 **	0.189	0.498	-0.167	-0.024
4-6 years	0.499 **	1.793 ***	0.617 **	0.001	0.163	-0.420 **	-0.443 **
7-9 years	0.155	2.547 ***	0.515 **	-0.246 *	1.276 **	-1.041 ***	-1.090 ***
10-12 years a)	-0.246	3.883 ***	0.501 **	-0.328 **	4.498 ***	-0.240 *	-1.429 ***
13+ years	-0.474 **	4.688 ***	0.325				
B. Panel Sample							
Linear Own Schooling							
IFLS1	-0.079 **	0.341 ***	0.020	-0.027 **	0.435 ***	-0.018	-0.104 ***
IFLS2	-0.023	0.351 ***	0.045	-0.046 ***	0.470 ***	-0.048 ***	-0.082 ***
IFLS3	-0.095 ***	0.327 ***	-0.024	-0.055 ***	0.483 ***	-0.073 ***	-0.126 ***
Non-linear Own Schooling							
IFLS1							
1-3 years	0.024	-0.210	0.050	0.335 **	0.263	-0.104	0.146
4-6 years	0.367	1.843 ***	0.471	0.191	0.084	-0.655 ***	-0.339 *
7-9 years	0.244	2.831 ***	0.806	0.016	1.201 **	-0.660 ***	-0.704 ***
10-12 years a)	-0.679	3.957 ***	0.451	-0.271	4.072 ***	0.170	-1.456 ***
13+ years	-2.027 ***	3.569 ***	-0.297				
IFLS2							
1-3 years	0.252	-0.667	0.358	0.229	1.044 *	0.011	0.053
4-6 years	0.499 *	1.058 **	0.603 **	0.089	0.655	-0.669 ***	-0.345 *
7-9 years	-0.206	1.523 ***	0.242	-0.310 *	2.172 ***	-1.199 ***	-0.786 ***
10-12 years a)	-0.263	3.188 ***	0.515	-0.604 ***	4.981 ***	-0.059	-0.996 ***
13+ years	0.028	4.505 ***	1.378 **				
IFLS3							
1-3 years	0.243	-0.254	0.317	0.073	0.593	-0.256	-0.029
4-6 years	0.163	0.927 *	0.314	-0.106	0.479	-0.559 **	-0.564 ***
7-9 years	-0.361	1.789 **	0.162	-0.555 **	0.930	-1.527 ***	-1.087 ***
10-12 years a)	-0.861 **	2.957 ***	-0.011	-0.608 **	4.428 ***	-0.570 **	-1.589 ***
13+ years	-1.334 **	3.992 ***	-0.138				

Source: Based on estimates of Appendix 5.1A, 5.1B, 5.1C, Appendix Table 5.2A, 5.2B, 5.2C, Appendix Table 5.4A, 5.4B, 5.4C, and Appendix Table 5.5A, 5.5B, 5.5C.
a) 10+ years for women.

131

Table 5.5
Multinomial Logit for Sector Choice Model:
Summary of the Effects of Non-linear Own Schooling and Parental Schooling

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
A. Cross Section Sample							
IFLS1							
1-3 years	0.109	-0.249	-0.059	0.355 ***	0.419	-0.054	0.167
4-6 years	0.021	0.964 **	-0.008	0.101	-0.011	-0.673 ***	-0.339 **
7-9 years	-0.593 *	1.347 ***	-0.254	-0.049	1.106 *	-0.784 ***	-0.501 **
10-12 years a)	-1.043 ***	2.801 ***	-0.024	-0.163	3.917 ***	0.023	-1.340 ***
13+ years	-1.843 ***	2.846 ***	-0.488				
IFLS2							
1-3 years	0.305 *	-0.549	0.237	0.311 **	0.241	-0.127	0.067
4-6 years	0.353 **	0.686 **	0.374 *	0.222 *	0.074	-0.567 ***	-0.136
7-9 years	0.078	1.484 ***	0.315	-0.155	1.559 ***	-0.869 ***	-0.468 **
10-12 years a)	0.143	3.103 ***	0.710 ***	-0.056	4.348 ***	-0.031	-0.670 ***
13+ years	-0.654 **	3.198 ***	0.080				
IFLS3							
1-3 years	0.596 **	0.772	0.644 **	0.196 *	0.494	-0.174	0.012
4-6 years	0.532 **	1.793 ***	0.606 **	-0.008	0.072	-0.437 ***	-0.362
7-9 years	0.244	2.579 ***	0.506 **	-0.220	1.178 **	-1.083 ***	-0.908
10-12 years a)	-0.069	3.954 ***	0.487 **	-0.230	4.376 ***	-0.345 **	-1.047
13+ years	-0.178	4.797 ***	0.302				
B. Panel Sample							
IFLS1							
1-3 years	-0.029	-0.264	-0.042	0.318 **	0.247	-0.103	0.125
4-6 years	0.318	1.733 ***	0.374	0.174	0.025	-0.653 ***	-0.284
7-9 years	0.205	2.695 ***	0.672	0.025	1.138 *	-0.691 ***	-0.564 **
10-12 years a)	-0.687	3.833 ***	0.331	-0.211	4.006 ***	0.071	-1.152 ***
13+ years	-2.103 ***	3.422 ***	-0.521				
IFLS2							
1-3 years	0.317	-0.602	0.381	0.236	0.911	0.002	0.101
4-6 years	0.524 *	1.023 **	0.556 *	0.098	0.439	-0.694 ***	-0.202
7-9 years	-0.120	1.498 ***	0.219	-0.274	1.915 ***	-1.233 ***	-0.530 **
10-12 years a)	-0.133	3.184 ***	0.528	-0.522 **	4.734 ***	-0.115	-0.562 *
13+ years	0.084	4.411 ***	1.285 *				
IFLS3							
1-3 years	0.178	-0.326	0.234	0.089	0.638	-0.265	0.029
4-6 years	0.129	0.862	0.215	-0.110	0.468	-0.592 **	-0.450 **
7-9 years	-0.362	1.719 **	0.037	-0.544 **	0.947	-1.566 ***	-0.842 ***
10-12 years a)	-0.747 **	2.958 ***	-0.116	-0.576 **	4.486 ***	-0.620 **	-1.133 ***
13+ years	-1.168 **	4.001 ***	-0.254				

Source: Based on estimates of Table 5.3A, 5.3B, 5.3C, and Appendix Table 5.6A, 5.6B, 5.6C.
a) 10+ years for women.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling	-0.114 ***	0.265 ***	-0.015	-0.027 **	0.411 ***	-0.024	-0.109 ***
	(5.57)	(9.68)	(0.70)	(2.28)	(6.95)	(1.36)	(4.98)
Age (spline)							
25-29 years	0.092	0.252 *	0.136	0.068	0.414 ***	0.001	0.020
	(0.85)	(1.80)	(1.23)	(1.35)	(3.62)	(0.02)	(0.35)
30-39 years	0.100 **	0.140 ***	0.061	0.071 ***	0.040	0.028	0.005
	(2.54)	(3.40)	(1.53)	(4.57)	(1.55)	(1.40)	(0.28)
40-49 years	-0.070 *	-0.038	-0.103 ***	0.001	-0.024	0.001	0.013
	(1.81)	(0.93)	(2.65)	(0.06)	(0.81)	(0.04)	(0.71)
50-59 years	-0.142 ***	-0.203 ***	-0.191 ***	-0.057 ***	-0.128 **	-0.097 ***	-0.107 ***
	(3.74)	(4.01)	(4.58)	(2.71)	(1.98)	(2.88)	(3.84)
HH Composition and Business Assets							
# men, aged 20-49	-0.470 ***	-0.298 **	-0.383 ***	-0.337 ***	-0.349 ***	-0.391 ***	-0.056
	(4.23)	(2.31)	(3.23)	(5.13)	(3.32)	(4.20)	(0.91)
# women, aged 20-49	0.054	0.259	0.099	-0.036	-0.211	0.032	-0.444 ***
	(0.34)	(1.44)	(0.59)	(0.51)	(1.57)	(0.34)	(4.44)
# men, aged 50+	-0.673 **	-0.570 *	-0.374	-0.522 ***	-0.347	-0.522 ***	0.350 ***
	(2.51)	(1.72)	(1.34)	(4.78)	(1.62)	(3.80)	(3.62)
# women, aged 50+	-0.246	-0.186	-0.179	0.187 *	0.518 ***	0.190	-0.341 **
	(1.60)	(1.01)	(1.10)	(1.90)	(2.68)	(1.47)	(2.41)
Business Assets (million)	0.535 ***	0.251	-0.976 *	0.056	0.076	-0.533	0.091 **
	(2.86)	(1.20)	(1.94)	(1.63)	(1.64)	(1.47)	(2.32)
Month of Interview							
October	-0.158	0.162	0.240	-0.128	0.393	0.034	-0.588
	(0.50)	(0.45)	(0.82)	(0.61)	(0.98)	(0.16)	(1.36)
November	-0.172	0.501	0.211	0.366 *	0.924 **	0.364 *	-0.197
	(0.57)	(1.57)	(0.73)	(1.74)	(2.17)	(1.66)	(0.52)
December	0.103	0.157	0.042	0.345	0.474	0.211	0.669 *
	(0.35)	(0.53)	(0.14)	(1.62)	(1.18)	(0.98)	(1.75)
January	0.390	0.885 **	0.487	-0.190	0.106	-0.361	0.100
	(1.04)	(2.27)	(1.46)	(0.71)	(0.23)	(1.20)	(0.21)
Constant	0.845	-9.067 **	-1.108	-2.614 *	-17.574 ***	-1.019	-0.876
	(0.28)	(2.33)	(0.37)	(1.81)	(5.44)	(0.64)	(0.55)
Wald test							
Age	119.86			103.28			
	(0.000)			(0.000)			
HH Composition	36.58			114.44			
	(0.000)			(0.000)			
HH Composition and Assets	44.52			120.71			
	(0.000)			(0.000)			
Month of Interview	20.43			49.07			
	(0.059)			(0.000)			
Pseudo R^2	0.161			0.087			
Observations	4,275			5,355			

Source: IFLS1.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling	-0.042 ***	0.297 ***	0.022	-0.017	0.469 ***	0.009	-0.074 ***
	(3.10)	(14.75)	(1.52)	(1.45)	(9.79)	(0.73)	(4.43)
Age (spline)							
25-29 years	0.326 ***	0.553 ***	0.264 ***	0.070	0.284 **	-0.033	-0.068
	(5.76)	(5.20)	(5.11)	(1.44)	(2.56)	(0.81)	(1.04)
30-39 years	0.087 ***	0.206 ***	0.052 **	0.096 ***	0.214 ***	0.006	0.076 ***
	(3.48)	(7.01)	(2.11)	(6.68)	(8.38)	(0.43)	(3.71)
40-49 years	0.026	0.024	-0.025	-0.009	-0.111 ***	-0.032 *	-0.038 **
	(0.98)	(0.78)	(0.99)	(0.65)	(3.57)	(1.89)	(2.11)
50-59 years	-0.136 ***	-0.219 ***	-0.169 ***	-0.050 ***	0.019	-0.101 ***	-0.069 **
	(4.80)	(5.89)	(6.01)	(2.68)	(0.35)	(3.56)	(2.54)
HH Composition and Business Assets							
# men, aged 20-49	-0.314 ***	-0.273 ***	-0.212 ***	-0.223 ***	-0.321 ***	-0.186 ***	-0.199 ***
	(5.22)	(3.50)	(3.61)	(4.77)	(4.17)	(3.58)	(3.64)
# women, aged 20-49	-0.078	-0.016	-0.024	-0.077	-0.207 **	0.105 **	-0.195 ***
	(1.12)	(0.20)	(0.35)	(1.57)	(2.40)	(2.26)	(2.92)
# men, aged 50+	-0.724 ***	-0.685 ***	-0.607 ***	-0.283 ***	-0.218	-0.072	0.385 ***
	(5.71)	(4.00)	(5.03)	(3.63)	(1.27)	(0.80)	(3.97)
# women, aged 50+	-0.487 ***	-0.444 ***	-0.291 ***	0.136 *	0.172	0.328 ***	-0.049
	(4.59)	(3.59)	(2.92)	(1.67)	(1.11)	(4.02)	(0.40)
Business Assets (million)	0.014	-0.027	-0.121	0.024 *	-0.021	-0.030	0.030 *
	(0.97)	(0.84)	(1.50)	(1.70)	(0.89)	(0.86)	(1.86)
Month of interview							
October	0.059	0.060	-0.236	0.205	0.480 *	0.117	0.247
	(0.31)	(0.23)	(1.19)	(1.29)	(1.85)	(0.63)	(0.80)
November	0.125	0.343	-0.089	0.081	0.805 ***	0.116	0.269
	(0.65)	(1.23)	(0.44)	(0.51)	(2.62)	(0.58)	(0.83)
December	-0.017	-0.074	0.016	0.153	0.296	0.201	0.342
	(0.08)	(0.26)	(0.08)	(0.78)	(1.11)	(0.99)	(0.99)
January	-0.295	0.009	-0.083	-0.550 ***	-0.049	0.068	-0.235
	(1.11)	(0.03)	(0.32)	(2.85)	(0.15)	(0.34)	(0.69)
Constant	-6.936 ***	-18.683 ***	-5.358 ***	-2.935 **	-15.489 ***	-0.242	0.613
	(4.45)	(6.16)	(3.77)	(2.11)	(4.87)	(0.21)	(0.34)
Wald test							
Age	407.81			289.49			
	(0.000)			(0.000)			
HH Composition	149.21			126.63			
	(0.000)			(0.000)			
HH Composition and Assets	154.34			133.66			
	(0.000)			(0.000)			
Month of Interview	16.60			31.44			
	(0.165)			(0.012)			
Pseudo R^2	0.134			0.083			
Observations	5,607			6,583			

Source: IFLS2.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	**Public Sector**	**Private Sector**	**Self Employment**	**Public Sector**	**Private Sector**	**Family Worker**
Own Schooling	-0.062 ***	0.306 ***	0.000	-0.032 ***	0.467 ***	-0.008	-0.113 ***
	(4.90)	(17.06)	(0.03)	(3.52)	(14.25)	(0.75)	(8.22)
Age (spline)							
25-29 years	0.218 ***	0.358 ***	0.141 **	0.148 ***	0.148	0.001	0.076 *
	(4.67)	(3.95)	(3.12)	(3.53)	(1.42)	(0.04)	(1.68)
30-39 years	0.042 **	0.162 ***	0.011	0.070 ***	0.274 ***	0.035 **	0.016
	(2.03)	(6.28)	(0.55)	(5.27)	(9.88)	(2.43)	(0.98)
40-49 years	0.047 **	0.102 ***	0.007	0.033 **	-0.045	-0.040 **	0.000
	(2.07)	(3.86)	(0.31)	(2.47)	(1.61)	(2.34)	(0.00)
50-59 years	-0.100 ***	-0.226 ***	-0.176 ***	-0.083 ***	-0.068	-0.089 ***	-0.075 **
	(3.65)	(5.78)	(5.73)	(4.53)	(1.38)	(3.73)	(3.37)
HH Composition and Business Assets							
# men, aged 20-49	-0.274 ***	-0.338 ***	-0.166 **	-0.185 ***	-0.200 **	-0.160 ***	-0.107 **
	(5.85)	(5.14)	(3.42)	(5.19)	(2.59)	(4.15)	(2.63)
# women, aged 20-49	-0.073	-0.076	-0.026	-0.003	-0.041	0.093 **	-0.168 ***
	(1.39)	(1.17)	(0.49)	(0.10)	(0.56)	(2.49)	(3.57)
# men, aged 50+	-0.708 ***	-0.707 ***	-0.496 ***	-0.226 **	-0.126	0.001	0.358 ***
	(6.14)	(4.86)	(4.48)	(3.10)	(0.73)	(0.02)	(4.71)
# women, aged 50+	-0.431 ***	-0.407 **	-0.344 ***	0.076	-0.048	0.242 **	-0.034
	(4.76)	(3.40)	(3.61)	(1.13)	(0.32)	(3.34)	(0.40)
Business Assets (million)	0.022 *	-0.005	-0.099 *	0.010 *	0.010	-0.017	0.015 **
	(1.68)	(0.33)	(1.71)	(1.93)	(0.90)	(1.01)	(2.66)
Month of interview							
October	-0.023	-0.184	-0.042	0.326 **	0.466	0.386 **	0.230
	(0.15)	(0.76)	(0.24)	(2.38)	(1.57)	(2.50)	(1.04)
November	0.006	-0.229	-0.124	0.404 **	0.363	0.277 *	0.369
	(0.04)	(0.97)	(0.73)	(3.04)	(1.41)	(1.77)	(1.61)
December	-0.095	-0.115	0.139	0.434 **	0.252	0.271	0.286
	(0.56)	(0.48)	(0.70)	(2.87)	(0.87)	(1.50)	(1.17)
January	0.047	-0.313	0.397 *	0.246 *	-0.273	0.432 **	0.317
	(0.24)	(1.00)	(1.86)	(1.66)	(0.84)	(2.64)	(1.31)
Constant	-3.413 **	-13.086 ***	-1.618	-4.820 ***	-12.520 ***	-0.984	-2.420 *
	(2.67)	(5.10)	(1.30)	(4.12)	(4.17)	(1.01)	(1.91)
Wald test							
Age	413.46			331.29			
	(0.000)			(0.000)			
HH Composition	222.38			116.43			
	(0.000)			(0.000)			
HH Composition and Assets	227.89			121.69			
	(0.000)			(0.000)			
Month of Interview	20.22			26.83			
	(0.063)			(0.043)			
Pseudo R^2	0.130			0.083			
Observations	7,145			7,716			

Source: IFLS3.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for month of interview is June/July. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.061	-0.302	-0.088	0.363 ***	0.498	-0.060	0.165
	(0.23)	(0.63)	(0.31)	(2.98)	(1.38)	(0.41)	(1.25)
4-6 years	-0.019	0.968 **	-0.015	0.111	0.156	-0.686 ***	-0.391 **
	(0.07)	(2.34)	(0.05)	(0.93)	(0.39)	(4.61)	(2.36)
7-9 years	-0.657 **	1.351 ***	-0.250	-0.064	1.319 **	-0.788 ***	-0.656 ***
	(2.25)	(3.03)	(0.83)	(0.40)	(2.43)	(3.86)	(2.82)
10-12 years	-1 135 ***	2.805 ***	-0.027	-0.250	4.117 ***	0.059	-1.681 ***
	(3.76)	(6.39)	(0.09)	(1.46)	(7.68)	(0.32)	(4.73)
13+ years	-1.965 ***	2.831 ***	-0.472				
	(4.85)	(5.58)	(1.26)				
Age (spline)							
25-29 years	0.097	0.260 *	0.138	0.062	0.453 ***	0.014	0.014
	(0.88)	(1.91)	(1.22)	(1.22)	(3.95)	(0.24)	(0.25)
30-39 years	0.094 **	0.137 ***	0.062	0.073 ***	0.036	0.028	0.007
	(2.39)	(3.29)	(1.53)	(4.66)	(1.37)	(1.41)	(0.40)
40-49 years	-0.068 *	-0.036	-0.103 ***	0.005	-0.038	-0.005	0.016
	(1.77)	(0.87)	(2.66)	(0.32)	(1.18)	(0.20)	(0.89)
50-59 years	-0.140 ***	-0.199 ***	-0.191 ***	-0.052 **	-0.148 **	-0.106 ***	-0.102 ***
	(3.68)	(3.98)	(4.59)	(2.42)	(2.20)	(3.12)	(3.73)
HH Composition and Business Assets							
# men, aged 20-49	-0.476 ***	-0.284 **	-0.380 ***	-0.351 ***	-0.322 ***	-0.368 ***	-0.071
	(4.28)	(2.18)	(3.22)	(5.29)	(2.86)	(3.99)	(1.14)
# women, aged 20-49	0.039	0.248	0.090	-0.036	-0.152	0.026	-0.439 ***
	(0.25)	(1.40)	(0.55)	(0.52)	(1.12)	(0.29)	(4.42)
# men, aged 50+	-0.653 **	-0.574 *	-0.373	-0.532 ***	-0.324	-0.519 ***	0.347 ***
	(2.46)	(1.78)	(1.35)	(4.86)	(1.45)	(3.75)	(3.58)
# women, aged 50+	-0.240	-0.147	-0.177	0.192 *	0.577 ***	0.183	-0.336 **
	(1.58)	(0.80)	(1.09)	(1.95)	(3.15)	(1.42)	(2.40)
Business Assets (million)	0.534 ***	0.239	-0.958 *	0.057 *	0.071 *	-0.528	0.096 **
	(2.85)	(1.15)	(1.95)	(1.67)	(1.70)	(1.49)	(2.51)
Month of interview							
October	-0.158	0.164	0.226	-0.101	0.270	0.023	-0.564
	(0.50)	(0.46)	(0.77)	(0.48)	(0.61)	(0.11)	(1.29)
November	-0.183	0.503	0.207	0.380 *	0.764	0.355 *	-0.185
	(0.61)	(1.57)	(0.71)	(1.81)	(1.56)	(1.65)	(0.48)
December	0.085	0.141	0.018	0.363 *	0.323	0.187	0.682 *
	(0.29)	(0.47)	(0.06)	(1.72)	(0.74)	(0.86)	(1.77)
January	0.415	0.941 **	0.492	-0.139	-0.037	-0.407	0.148
	(1.11)	(2.47)	(1.48)	(0.52)	(0.07)	(1.32)	(0.31)
Constant	0.438	-8.676 **	-1.128	-2.684 *	-17.335 ***	-1.184	-0.901
	(0.15)	(2.27)	(0.37)	(1.84)	(5.40)	(0.74)	(0.56)
Wald test							
Own Schooling	524.67			273.06			
	(0.000)			(0.000)			
Age	119.09			113.76			
	(0.000)			(0.000)			
HH Composition	37.08			113.29			
	(0.000)			(0.000)			
HH Composition and Assets	45.49			121.96			
	(0.000)			(0.000)			
Month of Interview	21.07			46.24			
	(0.049)			(0.000)			
Pseudo R^2	0.163			0.095			
Observations	4,275			5,355			

Source: IFLS1.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own schooling is no schooling and for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.253	-0.548	0.230	0.303 **	0.319	-0.102	0.029
	(1.38)	(1.22)	(1.12)	(2.45)	(0.60)	(0.75)	(0.18)
4-6 years	0.288 *	0.748 **	0.389 **	0.216 *	0.246	-0.509 ***	-0.234
	(1.66)	(2.45)	(1.98)	(1.78)	(0.59)	(3.86)	(1.43)
7-9 years	-0.036	1.564 ***	0.317	-0.177	1.826 ***	-0.758 ***	-0.665 ***
	(0.18)	(4.72)	(1.41)	(1.12)	(3.69)	(4.57)	(3.18)
10-12 years	-0.021	3.174 ***	0.705 ***	-0.102	4.678 ***	0.160	-1.052 ***
	(0.11)	(10.69)	(3.28)	(0.62)	(9.40)	(1.11)	(4.30)
13+ years	-0.896 ***	3.240 ***	0.062				
	(3.37)	(10.13)	(0.23)				
Age (spline)							
25-29 years	0.330 ***	0.520 ***	0.258 ***	0.071	0.227 **	-0.052	-0.066
	(5.79)	(4.98)	(4.97)	(1.44)	(2.14)	(1.25)	(1.01)
30-39 years	0.092 ***	0.213 ***	0.059 **	0.094 ***	0.219 ***	0.010	0.075 ***
	(3.66)	(7.34)	(2.34)	(6.58)	(8.78)	(0.71)	(3.64)
40-49 years	0.022	0.020	-0.027	-0.005	-0.134 ***	-0.034 **	-0.036 **
	(0.85)	(0.66)	(1.04)	(0.37)	(3.92)	(2.04)	(2.04)
50-59 years	-0.136 ***	-0.224 ***	-0.171 ***	-0.045 **	0.012	-0.111 ***	-0.068 **
	(4.78)	(5.93)	(5.98)	(2.41)	(0.22)	(3.92)	(2.48)
HH Composition and Business Assets							
# men, aged 20-49	-0.325 ***	-0.291 ***	-0.224 ***	-0.229 ***	-0.331 ***	-0.170 ***	-0.201 ***
	(5.36)	(3.65)	(3.80)	(4.88)	(3.98)	(3.28)	(3.66)
# women, aged 20-49	-0.067	0.000	-0.017	-0.075	-0.138	0.088 *	-0.190 ***
	(0.98)	(0.00)	(0.26)	(1.52)	(1.48)	(1.85)	(2.86)
# men, aged 50+	-0.720 ***	-0.670 ***	-0.607 ***	-0.286 ***	-0.159	-0.101	0.389 ***
	(5.68)	(3.94)	(5.04)	(3.68)	(0.96)	(1.10)	(4.02)
# women, aged 50+	-0.460 ***	-0.416 ***	-0.267 ***	0.140 *	0.223	0.294 ***	-0.042
	(4.32)	(3.40)	(2.68)	(1.75)	(1.49)	(3.48)	(0.35)
Business Assets (million)	0.017	-0.023	-0.118	0.025 *	-0.014	-0.030	0.030 *
	(1.12)	(0.61)	(1.46)	(1.71)	(0.66)	(0.83)	(1.85)
Month of interview							
October	0.051	0.056	-0.243	0.208	0.437 *	0.129	0.249
	(0.27)	(0.21)	(1.22)	(1.31)	(1.94)	(0.69)	(0.80)
November	0.093	0.337	-0.110	0.072	0.652 **	0.129	0.266
	(0.49)	(1.21)	(0.54)	(0.46)	(2.11)	(0.64)	(0.82)
December	-0.028	-0.036	0.013	0.175	0.342	0.210	0.359
	(0.13)	(0.13)	(0.06)	(0.88)	(1.47)	(1.03)	(1.03)
January	-0.250	0.111	-0.040	-0.530 ***	-0.023	0.015	-0.206
	(0.94)	(0.33)	(0.15)	(2.74)	(0.08)	(0.08)	(0.60)
Constant	-7.431 ***	-17.015 ***	-5.416 ***	-3.120 **	-12.401 ***	0.564	0.492
	(4.69)	(5.71)	(3.77)	(2.23)	(4.11)	(0.48)	(0.27)
Wald test							
Own Schooling	518.71			264.31			
	(0.000)			(0.000)			
Age	423.95			313.13			
	(0.000)			(0.000)			
HH Composition	145.98			109.80			
	(0.000)			(0.000)			
HH Composition and Assets	149.83			117.95			
	(0.000)			(0.000)			
Month of Interview	15.70			26.76			
	(0.205)			(0.044)			
Pseudo R^2	0.139			0.087			
Observations	5,607			6,583			

Source: IFLS2.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own schooling is no schooling and for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.566 **	0.735	0.633 **	0.189	0.498	-0.167	-0.024
	(2.85)	(1.24)	(3.00)	(1.64)	(0.89)	(1.28)	(0.17)
4-6 years	0.499 **	1.793 ***	0.617 **	0.001	0.163	-0.420 **	-0.443 **
	(2.96)	(3.67)	(3.08)	(0.01)	(0.25)	(3.36)	(3.16)
7-9 years	0.155	2.547 ***	0.515 **	-0.246 *	1.276 **	-1.041 ***	-1.090 ***
	(0.83)	(5.15)	(2.52)	(1.86)	(2.44)	(6.76)	(5.84)
10-12 years	-0.246	3.883 ***	0.501 **	-0.328 **	4.498 ***	-0.240 *	-1.429 ***
	(1.33)	(8.01)	(2.46)	(2.43)	(8.71)	(1.73)	(7.29)
13+ years	-0.474 **	4.688 ***	0.325				
	(2.07)	(9.45)	(1.41)				
Age (spline)							
25-29 years	0.228 ***	0.359 ***	0.145 **	0.151 ***	0.106	-0.013	0.082 *
	(4.87)	(4.03)	(3.24)	(3.57)	(1.10)	(0.36)	(1.78)
30-39 years	0.043 **	0.164 ***	0.012	0.067 ***	0.270 ***	0.033 **	0.015
	(2.10)	(6.42)	(0.61)	(5.10)	(10.19)	(2.26)	(0.91)
40-49 years	0.043 *	0.096 ***	0.005	0.034 **	-0.078 **	-0.041 **	0.000
	(1.90)	(3.65)	(0.23)	(2.58)	(2.64)	(2.40)	(0.01)
50-59 years	-0.098 ***	-0.225 ***	-0.174 ***	-0.079 ***	-0.048	-0.099 ***	-0.071 **
	(3.53)	(5.71)	(5.65)	(4.23)	(1.02)	(4.10)	(3.21)
HH Composition and Business Assets							
# men, aged 20-49	-0.280 ***	-0.335 ***	-0.169 ***	-0.189 ***	-0.256 **	-0.153 ***	-0.110 **
	(6.02)	(5.16)	(3.53)	(5.30)	(3.44)	(3.97)	(2.71)
# women, aged 20-49	-0.063	-0.054	-0.018	0.001	0.012	0.088 **	-0.163 ***
	(1.20)	(0.84)	(0.34)	(0.02)	(0.17)	(2.30)	(3.50)
# men, aged 50+	-0.703 ***	-0.681 ***	-0.494 ***	-0.233 **	-0.084	-0.013	0.352 ***
	(6.10)	(4.72)	(4.47)	(3.19)	(0.51)	(0.17)	(4.62)
# women, aged 50+	-0.424 ***	-0.402 **	-0.338 ***	0.078	-0.023	0.221 **	-0.035
	(4.70)	(3.40)	(3.57)	(1.16)	(0.17)	(3.04)	(0.41)
Business Assets (million)	0.023	0.000	-0.098 *	0.010 *	0.017 *	-0.018	0.015 **
	(1.61)	(0.02)	(1.72)	(1.89)	(1.65)	(1.03)	(2.55)
Month of Interview							
October	-0.011	-0.138	-0.033	0.331 **	0.404	0.397 **	0.238
	(0.07)	(0.57)	(0.19)	(2.41)	(1.48)	(2.57)	(1.08)
November	0.012	-0.220	-0.125	0.411 **	0.404 *	0.295 *	0.379 *
	(0.08)	(0.93)	(0.74)	(3.08)	(1.72)	(1.86)	(1.66)
December	-0.104	-0.096	0.130	0.437 **	0.253	0.288	0.292
	(0.61)	(0.40)	(0.66)	(2.89)	(0.97)	(1.61)	(1.20)
January	0.045	-0.282	0.390 *	0.249 *	-0.069	0.433 **	0.319
	(0.23)	(0.91)	(1.82)	(1.68)	(0.24)	(2.62)	(1.32)
Constant	-4.319 **	-13.265 ***	-2.255 *	-5.018 ***	-9.432 **	-0.264	-2.662 **
	(3.36)	(5.23)	(1.81)	(4.23)	(3.43)	(0.27)	(2.07)
Wald test							
Own Schooling	606.58			366.01			
	(0.000)			(0.000)			
Age	428.71			380.66			
	(0.000)			(0.000)			
HH Composition	222.09			113.66			
	(0.000)			(0.000)			
HH Composition and Assets	226.65			118.88			
	(0.000)			(0.000)			
Month of Interview	19.97			25.00			
	(0.068)			(0.070)			
Pseudo R^2	0.133			0.080			
Observations	7,145			7,716			

Source: IFLS3.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own schooling is no schooling and for month of interview is June/July. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

138

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.104	-0.328	-0.140	0.402 ***	0.535	-0.026	0.137
	(0.39)	(0.67)	(0.50)	(3.45)	(1.50)	(0.18)	(1.16)
4-6 years	0.134	0.928 **	-0.124	0.185	0.190	-0.688 ***	-0.249 *
	(0.48)	(2.14)	(0.44)	(1.57)	(0.39)	(4.62)	(1.74)
7-9 years	-0.366	1.353 ***	-0.383	0.016	1.322 *	-0.817 ***	-0.406 *
	(1.15)	(2.84)	(1.19)	(0.10)	(1.74)	(3.93)	(1.92)
10-12 years	-0.699 **	2.912 ***	-0.028	-0.020	4.281 ***	-0.029	-1.111 ***
	(2.08)	(5.97)	(0.08)	(0.10)	(5.62)	(0.13)	(3.28)
13+ years	-1.384 ***	3.004 ***	-0.509				
	(3.28)	(5.47)	(1.31)				
Father's Schooling							
Some Elementary	-0.159	-0.339	-0.258	0.039	0.501	-0.261	-0.142
	(0.59)	(1.15)	(0.92)	(0.32)	(1.59)	(1.57)	(0.93)
Completed Elementary	-0.382	-0.366	-0.472 *	0.288 **	0.598	-0.314 *	0.044
	(1.36)	(1.26)	(1.65)	(2.08)	(1.62)	(1.69)	(0.26)
Secondary/Tertiary	-0.316	-0.579	-0.519	-0.068	0.245	0.023	-0.493
	(0.87)	(1.54)	(1.43)	(0.32)	(0.68)	(0.10)	(1.51)
Missing	-0.523 **	-0.940 ***	-0.385	-0.016	0.166	-0.248	-0.304 *
	(1.97)	(3.02)	(1.49)	(0.13)	(0.51)	(1.45)	(1.66)
Mother's Schooling							
Some Elementary	0.274	0.830 **	0.615 **	-0.131	-0.014	0.442 **	-0.147
	(0.88)	(2.51)	(1.97)	(0.98)	(0.06)	(2.50)	(0.85)
Completed Elementary/	-0.015	0.208	0.280	-0.135	0.335	0.145	-0.249
Secondary/Tertiary	(0.04)	(0.62)	(0.86)	(0.90)	(1.28)	(0.78)	(1.10)
Missing	-0.244	0.010	-0.159	-0.072	0.096	0.035	0.148
	(0.93)	(0.03)	(0.62)	(0.55)	(0.37)	(0.19)	(0.82)
Age (spline)							
25-29 years	0.119	0.242 *	0.118	0.063	0.530 ***	0.018	0.026
	(1.04)	(1.73)	(1.00)	(1.26)	(4.46)	(0.31)	(0.44)
30-39 years	0.103 **	0.153 ***	0.059	0.081 ***	0.054 *	0.027	0.022
	(2.53)	(3.53)	(1.43)	(5.04)	(1.84)	(1.34)	(1.23)
40-49 years	-0.068 *	-0.044	-0.097 **	0.005	-0.035	0.000	0.003
	(1.78)	(1.07)	(2.49)	(0.30)	(1.01)	(0.01)	(0.17)
50-59 years	-0.145 ***	-0.199 ***	-0.197 ***	-0.046 **	-0.132 *	-0.108 ***	-0.085 ***
	(3.71)	(3.90)	(4.65)	(2.02)	(1.86)	(3.12)	(2.72)
HH Composition and Business Assets							
# men, aged 20-49	-0.395 ***	-0.234 *	-0.418 ***	-0.327 ***	-0.335 ***	-0.349 ***	0.080
	(3.40)	(1.72)	(3.42)	(4.73)	(2.79)	(3.85)	(1.04)
# women, aged 20-49	0.109	0.312 *	0.112	0.027	-0.016	0.075	-0.243 **
	(0.68)	(1.73)	(0.68)	(0.39)	(0.12)	(0.83)	(2.25)
# men, aged 50+	-0.572 **	-0.423	-0.440	-0.587 ***	-0.389 *	-0.587 ***	0.441 ***
	(2.06)	(1.30)	(1.58)	(5.41)	(1.75)	(4.23)	(3.89)
# women, aged 50+	-0.182	-0.166	-0.181	0.224 **	0.571 ***	0.178	-0.276 *
	(1.13)	(0.86)	(1.09)	(2.04)	(2.70)	(1.21)	(1.79)
Business Assets (million)	0.456 ***	0.156	-0.734 *	0.040	0.076 *	-0.484	0.105 **
	(2.79)	(0.83)	(1.83)	(1.35)	(1.67)	(1.47)	(2.58)
Province of Residence							
North Sumatera	2.892 ***	1.054	0.282	1.445 ***	1.270 **	0.165	4.139 ***
	(4.54)	(1.34)	(0.34)	(3.01)	(2.10)	(0.31)	(6.52)
North Sumatera * Urban	-1.816 ***	-0.093	-0.106	-0.940 *	0.647	-0.486	-2.153 ***
	(2.69)	(0.09)	(0.12)	(1.92)	(0.58)	(0.76)	(3.52)
West Sumatera	1.775 ***	0.972	0.355	1.126 ***	1.545 ***	0.749 **	3.300 ***
	(3.75)	(1.36)	(0.67)	(3.55)	(2.88)	(2.56)	(6.86)
West Sumatera * Urban	-1.656 **	-0.023	0.097	-0.314	1.034	-0.090	-2.299 **
	(1.98)	(0.02)	(0.13)	(0.88)	(1.49)	(0.24)	(2.35)
South Sumatera	2.263 ***	0.557	-0.206	0.875 **	0.910	-0.807 *	3.236 ***
	(3.81)	(0.83)	(0.39)	(2.36)	(0.71)	(1.71)	(6.17)
South Sumatera * Urban	-1.371 *	0.634	0.181	-1.203 ***	-0.822	0.348	-3.191 ***
	(1.81)	(0.78)	(0.26)	(2.88)	(0.63)	(0.53)	(4.46)

(continued)

139

Appendix Table 5.3A (continued)
Multinomial Logit for Sector Choice Model:
The Effects of Linear Own Schooling, Parental Schooling and Residency (Full Specification)
IFLS1

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Lampung	2.114 ***	-0.141	-0.884 *	0.964 ***	0.794	-0.451	4.377 ***
	(4.61)	(0.20)	(1.78)	(3.54)	(0.90)	(1.26)	(7.16)
Lampung * Urban	-1.011 **	-0.607	0.557				
	(2.44)	(0.84)	(0.95)				
West Java	2.266 ***	1.612 **	0.688	0.087	1.343 **	-0.289	2.563 ***
	(4.19)	(2.42)	(1.21)	(0.32)	(2.01)	(0.92)	(5.62)
West Java * Urban	-1.803 ***	-0.948	-0.920	-0.187	-0.313	0.047	-1.630 ***
	(3.41)	(1.61)	(1.62)	(0.68)	(0.49)	(0.16)	(2.84)
Central Java	1.315 ***	0.988 **	-0.001	0.934 ***	1.812 ***	0.321	2.369 ***
	(3.78)	(2.59)	(0.00)	(3.58)	(3.87)	(1.20)	(5.70)
Central Java * Urban	-0.149	0.186	0.532	-0.005	-1.082 *	0.112	-0.805 **
	(0.28)	(0.30)	(1.05)	(0.02)	(1.87)	(0.32)	(2.30)
Yogyakarta	1.072 **	1.093 **	-0.407	2.696 ***	3.360 ***	1.929 ***	4.633 ***
	(2.06)	(2.03)	(0.54)	(8.19)	(7.00)	(3.10)	(7.55)
Yogyakarta * Urban	-0.767	-0.745	0.489	-0.990 **	-2.223 ***	-0.617	-2.715 ***
	(1.27)	(1.16)	(0.60)	(2.46)	(4.20)	(0.87)	(4.18)
East Java	0.984 **	-0.161	-0.006	0.621 **	1.071 *	0.624 **	1.507 ***
	(2.57)	(0.29)	(0.01)	(2.58)	(1.66)	(2.06)	(3.83)
East Java * Urban	-0.424	0.371	-0.118	-0.137	-0.260	-0.300	-0.946 **
	(1.01)	(0.59)	(0.26)	(0.57)	(0.42)	(0.85)	(2.24)
Bali	0.779 *	0.352	-1.474 ***	1.096 ***	1.898 ***	0.060	-0.451
	(1.85)	(1.03)	(2.90)	(4.14)	(3.83)	(0.15)	(0.68)
Bali * Urban	1.401	2.646 **	2.873 ***				
	(1.30)	(2.06)	(2.62)				
West Nusa Tenggara	1.054 **	0.892 **	-0.553	1.453 ***	2.742 ***	0.328	3.274 ***
	(2.51)	(2.33)	(1.32)	(5.41)	(5.06)	(1.41)	(6.75)
West Nusa Tenggara * Urban	-0.895	-0.236	-0.613	0.318	0.186	0.083	-1.336 **
	(1.17)	(0.27)	(0.86)	(0.78)	(0.20)	(0.16)	(2.23)
South Kalimantan	2.577 **	2.221 ***	-0.201	1.782 ***	2.337 ***	-0.318	3.685 ***
	(2.53)	(2.75)	(0.17)	(5.93)	(3.88)	(0.57)	(7.52)
South Kalimantan * Urban	-0.780	-0.666	0.160	-0.733 **	-0.221	0.120	-3.442 ***
	(0.62)	(0.78)	(0.12)	(2.13)	(0.34)	(0.19)	(2.88)
South Sulawesi	1.176 **	0.639	-1.537 **	-0.059	1.935 ***	-1.521 ***	1.654 ***
	(2.45)	(1.04)	(2.36)	(0.20)	(4.52)	(4.31)	(3.52)
South Sulawesi * Urban	-0.823	-0.586	0.343	0.281	-1.291 *	0.499	-0.790
	(1.31)	(0.69)	(0.48)	(0.64)	(1.92)	(0.74)	(1.34)
Constant	-1.712	-8.983 **	-0.206	-3.164 **	-21.613 ***	-1.027	-4.768 ***
	(0.55)	(2.30)	(0.06)	(2.15)	(6.45)	(0.64)	(2.69)

Wald test

Own Schooling	360.67			234.14			
	(0.000)			(0.000)			
Father's Schooling	17.88			27.59			
	(0.119)			(0.035)			
Mother's Schooling	17.87			20.50			
	(0.037)			(0.058)			
Parental Schooling	37.09			55.42			
	(0.016)			(0.002)			
Age	126.93			123.83			
	(0.000)			(0.000)			
HH Composition	26.13			99.19			
	(0.010)			(0.000)			
HH Composition and Assets	36.74			114.66			
	(0.001)			(0.000)			
Residency	528.13			1123.49			
	(0.000)			(0.000)			
Pseudo R^2	0.222			0.174			
Observations	4,275			5,355			

Source: IFLS1.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own and parental schooling is no schooling and for province of residence is Jakarta. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling and no urban interaction terms for the province of Lampung and Bali. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.286	-0.617	0.121	0.370 ***	0.286	-0.070	0.168
	(1.53)	(1.37)	(0.58)	(3.10)	(0.57)	(0.50)	(1.08)
4-6 years	0.395 **	0.658 **	0.212	0.283 **	0.154	-0.601 ***	0.062
	(2.15)	(2.04)	(1.05)	(2.52)	(0.35)	(4.51)	(0.49)
7-9 years	0.266	1.601 ***	0.174	-0.119	1.620 **	-0.955 ***	-0.264
	(1.16)	(4.35)	(0.73)	(0.75)	(2.56)	(5.60)	(1.21)
10-12 years	0.317	3.141 ***	0.500 **	0.007	4.499 ***	-0.110	-0.378 *
	(1.50)	(9.47)	(2.21)	(0.04)	(6.93)	(0.69)	(1.75)
13+ years	-0.436	3.233 ***	-0.183				
	(1.48)	(8.79)	(0.64)				
Father's Schooling							
Some Elementary	-0.309 *	-0.146	-0.196	0.127	0.438	0.023	-0.146
	(1.69)	(0.55)	(1.09)	(1.16)	(1.45)	(0.18)	(1.07)
Completed Elementary	-0.217	0.022	-0.202	0.227 *	0.449	-0.026	-0.257
	(1.09)	(0.09)	(0.98)	(1.95)	(1.53)	(0.19)	(1.38)
Secondary/Tertiary	-0.627 ***	-0.528 *	-0.658 ***	0.242	0.270	0.189	-0.769 ***
	(2.61)	(1.85)	(2.77)	(1.44)	(0.89)	(1.12)	(2.98)
Missing	-0.420 *	-0.520	-0.180	0.085	-0.367	-0.041	-0.345
	(1.73)	(1.55)	(0.78)	(0.62)	(0.96)	(0.24)	(1.55)
Mother's Schooling							
Some Elementary	0.006	0.298	-0.037	-0.189	-0.080	-0.023	0.052
	(0.04)	(1.43)	(0.22)	(1.63)	(0.29)	(0.17)	(0.32)
Completed Elementary/	0.171	0.589 **	0.392 *	-0.193	0.478 **	0.175	0.115
Secondary/Tertiary	(0.78)	(2.31)	(1.90)	(1.58)	(2.21)	(1.19)	(0.64)
Missing	0.185	0.445	0.435 *	-0.270 *	0.309	0.173	0.201
	(0.71)	(1.27)	(1.76)	(1.83)	(0.86)	(0.95)	(0.88)
Age (spline)							
25-29 years	0.347 ***	0.526 ***	0.264 ***	0.088 *	0.217 **	-0.055	-0.033
	(6.02)	(4.88)	(4.99)	(1.72)	(1.99)	(1.33)	(0.48)
30-39 years	0.097 ***	0.222 ***	0.043 *	0.101 ***	0.245 ***	0.007	0.098 ***
	(3.85)	(7.68)	(1.70)	(6.84)	(9.38)	(0.45)	(4.84)
40-49 years	0.021	0.026	-0.022	-0.003	-0.123 ***	-0.029 *	-0.041 **
	(0.77)	(0.84)	(0.84)	(0.22)	(3.59)	(1.69)	(2.20)
50-59 years	-0.133 ***	-0.226 ***	-0.181 ***	-0.032 *	0.024	-0.111 ***	-0.058 **
	(4.51)	(5.78)	(6.25)	(1.65)	(0.40)	(3.85)	(2.00)
HH Composition and Business Assets							
# men, aged 20-49	-0.257 ***	-0.267 ***	-0.251 ***	-0.184 ***	-0.321 ***	-0.162 ***	-0.110 *
	(4.32)	(3.37)	(4.31)	(4.10)	(3.88)	(3.23)	(1.86)
# women, aged 20-49	-0.013	0.026	-0.034	-0.018	-0.088	0.098 **	-0.045
	(0.18)	(0.31)	(0.49)	(0.37)	(0.78)	(2.09)	(0.68)
# men, aged 50+	-0.733 ***	-0.654 ***	-0.651 ***	-0.356 ***	-0.184	-0.177 *	0.309 ***
	(5.57)	(3.74)	(5.37)	(4.35)	(1.09)	(1.89)	(3.13)
# women, aged 50+	-0.484 ***	-0.456 ***	-0.295 ***	0.086	0.213	0.236 ***	0.027
	(4.50)	(3.55)	(2.93)	(1.01)	(1.42)	(2.70)	(0.22)
Business Assets (million)	0.005	-0.031	-0.086	0.015	-0.021	-0.025	0.026 *
	(0.35)	(0.91)	(1.47)	(1.09)	(0.93)	(0.96)	(1.83)
Province of Residence							
North Sumatera	1.417 ***	0.326	-0.942 **	1.154 ***	1.402 ***	-0.686	3.256 ***
	(4.82)	(0.66)	(2.45)	(3.29)	(2.99)	(1.27)	(5.53)
North Sumatera * Urban	-0.894 ***	0.452	0.901 **	-1.018 ***	0.042	0.193	-3.452 ***
	(2.68)	(0.60)	(2.07)	(2.65)	(0.04)	(0.33)	(4.74)
West Sumatera	1.256 ***	1.089 **	0.117	0.921 ***	1.364 ***	0.082	1.762 ***
	(4.57)	(2.48)	(0.35)	(3.14)	(2.92)	(0.20)	(4.00)
West Sumatera * Urban	0.073	0.818	0.533	-0.277	0.604	0.243	-0.898
	(0.17)	(1.24)	(1.38)	(0.68)	(1.08)	(0.56)	(0.86)
South Sumatera	1.146 ***	0.601	-0.718 *	0.328	0.378	-1.076 ***	2.210 ***
	(2.83)	(1.10)	(1.69)	(0.96)	(0.53)	(3.35)	(4.72)
South Sumatera * Urban	-0.596	0.372	0.600	-0.411	-0.691	0.184	-1.855 ***
	(0.83)	(0.66)	(1.05)	(0.93)	(0.78)	(0.41)	(2.70)

(continued)

141

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Lampung	1.334 ***	-0.706	-1.011 ***	0.507 **	1.116 *	-1.177 ***	2.667 ***
	(4.06)	(1.29)	(3.29)	(2.08)	(1.94)	(3.46)	(6.94)
Lampung * Urban	-0.252	1.132	1.033 ***				
	(0.54)	(1.41)	(2.60)				
West Java	1.421 ***	1.388 ***	0.186	-0.057	0.309	-0.935 ***	-0.065
	(5.17)	(3.60)	(0.66)	(0.21)	(0.56)	(4.54)	(0.16)
West Java * Urban	-0.662 **	0.004	0.530 *	0.043	0.674	0.817 ***	-0.552
	(2.02)	(0.01)	(1.72)	(0.18)	(1.35)	(3.75)	(1.26)
Central Java	1.447 ***	1.452 ***	0.237	1.697 ***	2.206 ***	0.551 **	2.731 ***
	(4.68)	(3.85)	(0.80)	(6.12)	(4.79)	(2.01)	(6.36)
Central Java * Urban	-0.095	-0.027	0.444	-0.538 **	-0.928 *	0.067	-0.841 **
	(0.25)	(0.06)	(1.38)	(2.02)	(1.84)	(0.21)	(2.25)
Yogyakarta	1.255 ***	1.291 *	0.001	2.660 ***	2.290 ***	1.365 **	3.913 ***
	(3.08)	(1.92)	(0.00)	(6.80)	(4.15)	(2.56)	(9.08)
Yogyakarta * Urban	-0.154	0.168	0.968	-1.306 ***	-0.847	-0.357	-2.144 ***
	(0.35)	(0.24)	(1.38)	(3.20)	(1.39)	(0.62)	(5.15)
East Java	1.116 ***	0.439	-0.054	0.249	0.973 **	0.154	1.378 ***
	(4.24)	(1.00)	(0.17)	(1.06)	(2.14)	(0.56)	(3.23)
East Java * Urban	0.504	1.307 **	1.146 ***	0.084	0.070	0.194	-0.307
	(1.53)	(2.38)	(2.76)	(0.38)	(0.17)	(0.68)	(0.72)
Bali	2.177 ***	2.455 ***	0.210	1.964 ***	2.288 ***	0.178	2.904 ***
	(6.54)	(5.10)	(0.64)	(5.75)	(3.80)	(0.69)	(5.55)
Bali * Urban	-0.369	0.334	0.675	-0.509	-0.349	0.391	-1.889 ***
	(1.01)	(0.47)	(1.22)	(1.35)	(0.38)	(1.12)	(3.50)
West Nusa Tenggara	1.625 ***	1.540 ***	-0.253	1.264 ***	2.050 ***	0.276	3.256 ***
	(4.45)	(3.89)	(0.57)	(4.44)	(5.04)	(0.78)	(7.94)
West Nusa Tenggara * Urban	-0.836	0.500	-0.088	-0.041	0.168	-0.298	-1.677 **
	(1.44)	(0.83)	(0.17)	(0.09)	(0.24)	(0.53)	(2.37)
South Kalimantan	1.457 ***	1.893 ***	-0.606	1.044 ***	1.787 ***	-0.176	2.578 ***
	(4.34)	(3.78)	(1.21)	(3.93)	(3.43)	(0.43)	(5.20)
South Kalimantan * Urban	-0.546	-0.365	0.219				
	(0.84)	(0.50)	(0.34)				
South Sulawesi	1.021 ***	1.451 ***	-1.341 ***	-0.191	0.911 **	-1.644 ***	-1.997 ***
	(3.54)	(4.15)	(3.32)	(0.65)	(2.38)	(5.61)	(2.94)
South Sulawesi * Urban	-0.285	-0.068	0.791 *				
	(0.77)	(0.15)	(1.68)				
Constant	-9.049 ***	-18.473 ***	-5.239 ***	-4.009 ***	-13.534 ***	1.023	-2.067
	(5.56)	(5.98)	(3.60)	(2.75)	(4.19)	(0.86)	(1.06)
Wald test							
Own Schooling	390.70			230.27			
	(0.000)			(0.000)			
Father's Schooling	19.47			34.75			
	(0.078)			(0.004)			
Mother's Schooling	17.67			26.29			
	(0.039)			(0.010)			
Parental Schooling	64.89			66.15			
	(0.000)			(0.000)			
Age	464.23			381.63			
	(0.000)			(0.000)			
HH Composition	123.57			83.28			
	(0.000)			(0.000)			
HH Composition and Assets	128.14			92.54			
	(0.000)			(0.000)			
Residency	569.69			919.63			
	(0.000)			(0.000)			
Pseudo R^2	0.188			0.158			
Observations	5,607			6,583			

Source: IFLS2.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own and parental schooling is no schooling, for province of residence is Jakarta, and for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling and no urban interaction terms for the province of Lampung, South Kalimantan and South Sulawesi. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

Appendix Table 5.3C
Multinomial Logit for Sector Choice Model:
The Effects of Non-linear Own Schooling, Parental Schooling and Residency (Full Specification)
IFLS3

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.628 **	0.845	0.571 **	0.224 *	0.613	-0.185	0.034
	(3.09)	(1.38)	(2.65)	(1.93)	(1.09)	(1.42)	(0.25)
4-6 years	0.616 **	1.896 ***	0.496 **	0.048	0.229	-0.505 ***	-0.224 *
	(3.48)	(3.76)	(2.38)	(0.42)	(0.34)	(4.04)	(1.73)
7-9 years	0.377 *	2.797 ***	0.348	-0.135	1.473 **	-1.168 ***	-0.647 ***
	(1.93)	(5.50)	(1.61)	(0.99)	(2.64)	(7.45)	(3.76)
10-12 years	0.110	4.148 ***	0.268	-0.093	4.729 ***	-0.438 **	-0.627 **
	(0.55)	(8.20)	(1.19)	(0.65)	(8.53)	(2.89)	(3.38)
13+ years	0.045	4.978 ***	0.044				
	(0.18)	(9.48)	(0.17)				
Father's Schooling							
Some Elementary	0.128	0.263	0.072	0.074	0.284	0.123	0.044
	(0.73)	(1.08)	(0.42)	(0.70)	(1.05)	(0.94)	(0.37)
Completed Elementary	0.083	0.166	0.034	0.060	0.299	-0.228 **	-0.257 **
	(0.53)	(0.80)	(0.22)	(0.61)	(1.37)	(1.97)	(2.17)
Secondary/Tertiary	-0.287	-0.144	-0.237	-0.102	0.185	0.0004	-0.426 **
	(1.46)	(0.60)	(1.26)	(0.79)	(0.77)	(0.00)	(2.16)
Missing	-0.159	-0.461 *	-0.162	0.128	-0.407	0.051	-0.004
	(0.81)	(1.67)	(0.79)	(1.23)	(1.22)	(0.38)	(0.02)
Mother's Schooling							
Some Elementary	-0.471 **	-0.396 **	-0.323 **	0.022	0.091	0.018	-0.084
	(3.09)	(1.97)	(2.13)	(0.20)	(0.43)	(0.15)	(0.62)
Completed Elementary/ Secondary/Tertiary	-0.150	0.019	0.136	-0.065	0.132	0.168	-0.147
	(0.98)	(0.11)	(0.89)	(0.67)	(0.69)	(1.47)	(1.11)
Missing	-0.058	-0.223	0.151	-0.444 ***	-0.530	-0.172	-0.454 **
	(0.27)	(0.77)	(0.71)	(3.64)	(1.47)	(1.19)	(2.66)
Age (spline)							
25-29 years	0.236 ***	0.348 ***	0.137 **	0.171 ***	0.127	-0.021	0.114 **
	(4.92)	(3.82)	(3.04)	(4.00)	(1.22)	(0.59)	(2.34)
30-39 years	0.044 **	0.172 ***	0.003	0.065 ***	0.288 ***	0.030 **	0.022
	(2.08)	(6.60)	(0.16)	(5.06)	(10.46)	(2.05)	(1.29)
40-49 years	0.039 *	0.098 ***	0.001	0.043 **	-0.065 **	-0.037 **	0.014
	(1.71)	(3.61)	(0.06)	(3.16)	(2.08)	(2.10)	(0.81)
50-59 years	-0.097 ***	-0.225 ***	-0.174 ***	-0.075 ***	-0.044	-0.106 ***	-0.074 **
	(3.49)	(5.62)	(5.55)	(4.02)	(0.92)	(4.33)	(3.38)
HH Composition and Business Assets							
# men, aged 20-49	-0.250 ***	-0.313 ***	-0.189 ***	-0.153 ***	-0.224 **	-0.136 ***	-0.041
	(5.15)	(4.93)	(3.97)	(4.24)	(2.76)	(3.58)	(0.93)
# women, aged 20-49	-0.037	-0.041	-0.017	0.042	0.092	0.090 **	-0.047
	(0.68)	(0.61)	(0.32)	(1.17)	(1.30)	(2.17)	(0.96)
# men, aged 50+	-0.699 ***	-0.664 ***	-0.497 ***	-0.293 ***	-0.168	-0.056	0.263 **
	(6.09)	(4.47)	(4.49)	(3.96)	(1.03)	(0.71)	(3.27)
# women, aged 50+	-0.422 ***	-0.437 ***	-0.338 ***	0.048	-0.018	0.227 **	0.001
	(4.67)	(3.67)	(3.62)	(0.71)	(0.13)	(3.00)	(0.01)
Business Assets (million)	0.021 *	-0.004	-0.071	0.007	0.014	-0.013	0.015 **
	(1.67)	(0.28)	(1.49)	(1.53)	(1.24)	(1.12)	(2.47)
Province of Residence							
North Sumatera	0.904 **	0.431	-0.368	1.142 **	2.284 **	0.105	2.736 ***
	(2.60)	(0.56)	(0.77)	(3.14)	(3.43)	(0.24)	(6.48)
North Sumatera * Urban	-0.479	-0.076	0.139	-0.899 **	-1.589 **	-1.123 **	-2.450 **
	(1.25)	(0.10)	(0.28)	(2.29)	(2.22)	(2.47)	(3.33)
West Sumatera	0.482 *	0.588 *	-0.572 *	0.876 **	1.568 **	-0.596 *	1.321 ***
	(1.79)	(1.71)	(1.93)	(2.72)	(3.26)	(1.71)	(3.58)
West Sumatera * Urban	-0.408	0.565	0.706	-0.354	0.552	0.259	-0.481
	(1.00)	(1.00)	(1.56)	(1.04)	(0.96)	(0.64)	(1.09)
South Sumatera	0.725 *	0.025	-0.954 *	0.830 **	0.494	-0.960 **	2.627 ***
	(1.77)	(0.04)	(1.76)	(2.78)	(0.65)	(2.73)	(7.68)
South Sumatera * Urban	-0.336	0.721	1.428 **	-0.791 *	-0.420	0.468	-1.735 ***
	(0.60)	(1.02)	(2.29)	(1.95)	(0.51)	(0.99)	(4.02)

(continued)

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Lampung	1.701 ***	0.688	0.007	0.997 **	1.439	-0.866 **	2.872 ***
	(4.43)	(1.31)	(0.01)	(3.43)	(1.64)	(2.22)	(7.29)
Lampung * Urban	-1.150 *	0.246	-0.023	-0.558	0.189	0.627	-2.059 ***
	(1.80)	(0.32)	(0.03)	(1.35)	(0.15)	(1.13)	(4.35)
West Java	0.391	0.812 **	-0.396	-0.112	1.418 **	-0.542 **	0.960 **
	(1.51)	(2.26)	(1.52)	(0.54)	(2.96)	(2.81)	(3.19)
West Java * Urban	-0.549 **	-0.274	0.383	-0.208	-0.429	0.272	-0.884 **
	(2.02)	(0.75)	(1.43)	(0.88)	(0.98)	(1.30)	(3.00)
Central Java	0.627 **	1.179 **	-0.261	1.168 ***	2.226 ***	0.035	2.115 ***
	(2.47)	(3.42)	(0.85)	(4.43)	(5.79)	(0.13)	(6.46)
Central Java * Urban	-0.114	-0.443	0.389	-0.328	-0.979 **	0.139	-1.220 ***
	(0.34)	(1.17)	(1.02)	(1.26)	(2.26)	(0.41)	(3.73)
Yogyakarta	0.273	0.538	-0.527	1.687 ***	2.890 ***	0.446	3.180 ***
	(0.87)	(0.92)	(0.89)	(5.78)	(6.28)	(0.96)	(6.43)
Yogyakarta * Urban	0.154	0.436	1.012 *	-0.608 *	-1.478 **	0.213	-1.590 **
	(0.40)	(0.71)	(1.65)	(1.90)	(3.02)	(0.43)	(3.21)
East Java	0.488 **	0.062	-0.288	0.596 **	1.589 ***	0.230	1.914 ***
	(2.24)	(0.17)	(1.09)	(3.37)	(3.71)	(1.27)	(6.61)
East Java * Urban	-0.406 *	0.310	0.259	-0.495 **	-0.765 *	-0.307	-1.592 ***
	(1.68)	(0.72)	(0.88)	(2.36)	(1.74)	(1.43)	(4.01)
Bali	1.031 **	1.676 ***	-0.400	0.874 ***	1.645 **	-1.227 **	0.841 **
	(2.76)	(3.79)	(1.15)	(3.94)	(3.16)	(3.32)	(2.65)
Bali * Urban	-0.026	0.752	0.698	-0.254	0.583	1.122 **	-0.755
	(0.05)	(1.17)	(1.42)	(0.75)	(0.67)	(2.58)	(1.15)
West Nusa Tenggara	0.891 ***	1.372 ***	-0.196	0.461 *	2.277 ***	-0.369	1.821 ***
	(4.07)	(4.26)	(0.57)	(1.77)	(6.00)	(1.33)	(6.59)
West Nusa Tenggara * Urban	-0.457	-0.151	-0.088	0.272	-0.467	-0.170	-1.024 ***
	(1.57)	(0.37)	(0.22)	(0.98)	(0.77)	(0.36)	(3.93)
South Kalimantan	0.932 **	1.722 ***	-0.757 *	0.900 ***	2.079 **	-1.284 **	2.601 ***
	(2.57)	(3.56)	(1.96)	(4.29)	(3.02)	(3.07)	(9.45)
South Kalimantan * Urban	-0.796 *	-0.499	0.002	-0.437	-0.376	0.718	-2.445 ***
	(1.71)	(0.91)	(0.00)	(1.33)	(0.51)	(1.38)	(4.89)
South Sulawesi	0.509 **	0.995 **	-1.853 ***	-0.390	1.216	-1.840 ***	0.829 **
	(2.12)	(2.76)	(4.39)	(0.97)	(1.64)	(6.08)	(2.12)
South Sulawesi * Urban	-0.019	0.711	1.439 **	0.011	-0.224	0.379	-0.715 *
	(0.06)	(1.49)	(2.97)	(0.03)	(0.30)	(1.15)	(1.71)
Constant	-5.015 ***	-13.903 ***	-1.531	-5.814 ***	-11.719 ***	0.391	-5.056 ***
	(3.74)	(5.36)	(1.21)	(4.89)	(4.00)	(0.39)	(3.67)
Wald test							
Own Schooling	461.82			291.91			
	(0.000)			(0.000)			
Father's Schooling	11.67			36.02			
	(0.473)			(0.003)			
Mother's Schooling	24.05			23.44			
	(0.004)			(0.024)			
Parental Schooling	44.73			71.68			
	(0.002)			(0.000)			
Age	443.67			428.46			
	(0.000)			(0.000)			
HH Composition	172.05			79.21			
	(0.000)			(0.000)			
HH Composition and Assets	176.21			87.33			
	(0.000)			(0.000)			
Residency	331.55			829.93			
	(0.000)			(0.000)			
Pseudo R^2	0.169			0.132			
Observations	7,145			7,716			

Source: IFLS3.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own and parental schooling is no schooling, for province of residence is Jakarta, and for month of interview is June/July. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are

144

	Men			Women			
	Self Employment	**Public Sector**	**Private Sector**	**Self Employment**	**Public Sector**	**Private Sector**	**Family Worker**
Own Schooling	-0.079 **	0.341 ***	0.020	-0.027 **	0.435 ***	-0.018	-0.104 ***
	(2.40)	(8.48)	(0.59)	(2.03)	(6.96)	(0.89)	(4.54)
Age in 1993 (spline)							
25-29 years	0.084	0.242	0.143	0.064	0.438 ***	0.062	0.014
	(0.67)	(1.47)	(1.10)	(1.11)	(3.58)	(0.97)	(0.24)
30-39 years	0.147 ***	0.203 ***	0.114 **	0.080 ***	0.033	0.025	0.013
	(2.79)	(3.72)	(2.13)	(4.59)	(1.12)	(1.16)	(0.66)
40-49 years	-0.122 **	-0.115 *	-0.172 ***	-0.011	-0.066	0.008	0.028
	(2.03)	(1.80)	(2.88)	(0.49)	(1.52)	(0.29)	(1.24)
50-52 years	0.189	0.417	0.323	0.023	0.160	-0.226	-0.283 **
	(0.73)	(1.50)	(1.27)	(0.22)	(0.68)	(1.47)	(2.23)
HH Composition and Business Assets							
# men, aged 20-49	-0.708 ***	-0.309	-0.537 ***	-0.366 ***	-0.308 **	-0.449 ***	-0.064
	(3.87)	(1.45)	(2.85)	(4.40)	(2.21)	(3.97)	(0.83)
# women, aged 20-49	-0.039	0.264	0.072	0.059	-0.160	0.011	-0.409 ***
	(0.11)	(0.68)	(0.19)	(0.63)	(1.00)	(0.09)	(3.02)
# men, aged 50+	-1.210 ***	-1.526 ***	-0.968 ***	-0.460 ***	-0.294	-0.518 ***	0.174
	(3.71)	(3.99)	(2.85)	(3.19)	(1.13)	(3.29)	(1.31)
# women, aged 50+	-0.057	0.018	0.029	0.111	0.399 *	0.247 *	-0.326 *
	(0.20)	(0.06)	(0.10)	(0.88)	(1.77)	(1.72)	(1.76)
Business Assets (million)	0.377	-0.163	-1.101 *	0.051	-0.066	-0.416	0.080 *
	(1.59)	(0.63)	(1.78)	(1.22)	(0.95)	(1.15)	(1.79)
Month of Interview							
October	-0.259	-0.043	0.100	-0.192	0.283	-0.107	-0.708
	(0.57)	(0.08)	(0.24)	(0.76)	(0.66)	(0.41)	(1.50)
November	-0.196	0.456	0.109	0.428 *	0.871 *	0.281	-0.397
	(0.44)	(0.96)	(0.27)	(1.69)	(1.92)	(1.05)	(0.95)
December	-0.179	-0.108	-0.423	0.478 *	0.340	0.070	0.508
	(0.42)	(0.24)	(1.07)	(1.86)	(0.82)	(0.27)	(1.23)
January	0.594	1.040 *	0.428	-0.298	-0.084	-0.420	-0.028
	(1.05)	(1.77)	(0.80)	(0.90)	(0.16)	(1.26)	(0.06)
Constant	1.442	-8.965 **	-1.009	-2.710	-18.181 ***	-2.599	-0.604
	(0.42)	(1.98)	(0.28)	(1.63)	(5.24)	(1.43)	(0.37)
Wald test							
Age	79.86			67.33			
	(0.000)			(0.000)			
HH Composition	49.69			57.27			
	(0.000)			(0.000)			
HH Composition and Assets	58.41			65.03			
	(0.000)			(0.000)			
Month of Interview	22.61			51.61			
	(0.031)			(0.000)			
Pseudo R^2	0.172			0.092			
Observations	2,797			3,722			

Source: IFLS1.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

145

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling	-0.023	0.351 ***	0.045	-0.046 ***	0.470 ***	-0.048 ***	-0.082 ***
	(0.89)	(10.85)	(1.60)	(3.35)	(6.91)	(2.62)	(3.82)
Age in 1993 (spline)							
25-29 years	-0.089	0.154	0.025	0.066	0.495 ***	0.102 *	0.157 **
	(0.62)	(0.95)	(0.18)	(1.25)	(3.68)	(1.93)	(2.12)
30-39 years	0.067	0.086 *	0.002	0.052 ***	0.019	-0.003	0.027
	(1.45)	(1.76)	(0.04)	(3.27)	(0.57)	(0.14)	(1.36)
40-49 years	-0.065	-0.027	-0.084	-0.055 **	-0.042	-0.042	-0.060 *
	(1.17)	(0.43)	(1.44)	(2.49)	(1.65)	(1.53)	(1.95)
50-52 years	-0.253	-0.587 **	-0.246	0.087	0.157	-0.046	-0.033
	(1.45)	(2.34)	(1.32)	(0.89)	(0.66)	(0.36)	(0.23)
HH Composition and Business Assets							
# men, aged 20-49	-0.308 ***	-0.284 **	-0.275 **	-0.239 ***	-0.311 **	-0.268 ***	-0.211 ***
	(2.79)	(2.03)	(2.43)	(4.00)	(2.55)	(3.58)	(3.19)
# women, aged 20-49	-0.204	0.031	-0.168	-0.006	-0.247 *	0.008	-0.229 ***
	(1.41)	(0.20)	(1.12)	(0.10)	(1.84)	(0.10)	(2.62)
# men, aged 50+	-0.604 **	-0.814 ***	-0.496 *	-0.212 *	-0.061	-0.283 **	0.388 ***
	(2.17)	(2.62)	(1.78)	(1.81)	(0.26)	(2.06)	(3.13)
# women, aged 50+	-0.179	-0.020	-0.112	0.216 **	0.051	0.265 **	-0.183
	(0.81)	(0.08)	(0.50)	(1.99)	(0.23)	(2.20)	(1.05)
Business Assets (million)	-0.007	-0.205 ***	-1.215 ***	0.046	-0.004	-0.352	0.055
	(0.31)	(3.07)	(3.43)	(1.26)	(0.13)	(1.38)	(1.39)
Month of interview							
October	0.348	0.303	0.093	0.177	0.604 **	0.292	0.094
	(1.02)	(0.77)	(0.29)	(1.03)	(2.02)	(1.27)	(0.29)
November	0.452	0.711 *	0.299	0.103	1.025 **	0.110	0.010
	(1.29)	(1.67)	(0.91)	(0.59)	(2.56)	(0.44)	(0.03)
December	0.386	0.359	0.422	0.310	0.487	0.389	0.344
	(0.89)	(0.73)	(1.01)	(1.40)	(1.43)	(1.41)	(0.91)
January	-1.390 ***	-0.481	-0.971 **	-0.713 **	0.522	0.205	-0.482
	(3.20)	(0.98)	(2.31)	(2.42)	(1.19)	(0.68)	(1.03)
Constant	5.579	-6.041	2.339	-2.299	-20.234 ***	-3.517 **	-5.187 **
	(1.38)	(1.33)	(0.60)	(1.55)	(5.54)	(2.37)	(2.32)
Wald test							
Age	73.44			56.10			
	(0.000)			(0.000)			
HH Composition	22.18			76.26			
	(0.036)			(0.000)			
HH Composition and Assets	42.34			82.95			
	(0.000)			(0.000)			
Month of Interview	28.39			23.12			
	(0.005)			(0.111)			
Pseudo R^2	0.159			0.084			
Observations	2,797			3,722			

Source: IFLS2.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling	-0.095 ***	0.327 ***	-0.024	-0.055 ***	0.483 ***	-0.073 ***	-0.126 ***
	(4.16)	(10.89)	(0.98)	(4.28)	(10.03)	(4.38)	(6.73)
Age in 1993 (spline)							
25-29 years	-0.065	0.113	0.071	0.040	0.397 **	0.156 **	0.074
	(0.50)	(0.71)	(0.53)	(0.86)	(3.00)	(2.57)	(1.25)
30-39 years	0.101 **	0.157 **	0.050	0.057 **	0.059 *	0.011	-0.009
	(2.30)	(3.20)	(1.14)	(3.14)	(1.71)	(0.49)	(0.44)
40-49 years	-0.152 **	-0.157 **	-0.194 ***	-0.058 **	-0.095 *	-0.078 **	-0.026
	(3.05)	(2.49)	(3.67)	(2.55)	(1.85)	(2.41)	(1.03)
50-52 years	-0.238	-1.233 **	-0.153	-0.035	0.037	-0.149	-0.171
	(1.54)	(3.46)	(0.89)	(0.37)	(0.16)	(0.96)	(1.57)
HH Composition and Business Assets							
# men, aged 20-49	-0.230 **	-0.206 *	-0.229 **	-0.182 ***	-0.362 **	-0.193 **	-0.091 *
	(2.80)	(1.93)	(2.80)	(3.98)	(2.93)	(3.06)	(1.71)
# women, aged 20-49	-0.233 **	-0.202	-0.172	-0.053	-0.286 **	-0.163 **	-0.261 ***
	(2.17)	(1.63)	(1.49)	(1.04)	(2.27)	(2.24)	(4.01)
# men, aged 50+	-0.251	-0.257	-0.115	-0.348 **	-0.527 **	-0.351 **	0.410 ***
	(0.94)	(0.78)	(0.40)	(3.37)	(2.31)	(2.65)	(3.87)
# women, aged 50+	-0.197	-0.103	-0.219	0.108	0.094	0.133	-0.190
	(1.18)	(0.51)	(1.20)	(0.97)	(0.43)	(0.98)	(1.42)
Business Assets (million)	0.190 **	0.145 *	-0.231 *	0.019 *	-0.019	-0.128	0.026 **
	(2.26)	(1.68)	(1.76)	(1.68)	(0.78)	(1.57)	(2.01)
Month of Interview							
October	0.067	-0.148	0.036	0.478 **	0.666 **	0.518 **	0.239
	(0.25)	(0.45)	(0.13)	(2.80)	(2.07)	(2.51)	(0.98)
November	-0.093	-0.378	-0.166	0.619 ***	0.728 **	0.412 *	0.469 *
	(0.33)	(1.10)	(0.56)	(3.69)	(2.43)	(1.84)	(1.78)
December	0.027	-0.142	0.145	0.795 ***	0.692 *	0.491 *	0.456
	(0.08)	(0.39)	(0.46)	(4.11)	(1.96)	(1.88)	(1.57)
January	-0.164	-0.465	0.122	0.352 *	0.403	0.370	0.198
	(0.44)	(0.94)	(0.32)	(1.75)	(0.88)	(1.41)	(0.68)
Constant	5.337	-4.963	1.031	-1.219	-17.344 ***	-4.452 **	-1.938
	(1.45)	(1.12)	(0.28)	(0.92)	(4.60)	(2.65)	(1.16)
Wald test							
Age	94.52			61.20			
	(0.000)			(0.000)			
HH Composition	22.22			105.50			
	(0.035)			(0.000)			
HH Composition and Assets	45.87			118.36			
	(0.000)			(0.000)			
Month of Interview	5.52			27.14			
	(0.938)			(0.040)			
Pseudo R^2	0.170			0.094			
Observations	2,797			3,722			

Source: IFLS3.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for month of interview is June/July. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

Appendix Table 5.5A
Multinomial Logit for Sector Choice Model:
The Effects of Non-linear Own Schooling
Panel Respondents, IFLS1

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.024	-0.210	0.050	0.335 **	0.263	-0.104	0.146
	(0.06)	(0.29)	(0.13)	(2.16)	(0.62)	(0.59)	(0.93)
4-6 years	0.367	1.843 ***	0.471	0.191	0.084	-0.655 ***	-0.339 *
	(0.95)	(3.05)	(1.22)	(1.26)	(0.19)	(3.78)	(1.91)
7-9 years	0.244	2.831 ***	0.806	0.016	1.201 **	-0.660 ***	-0.704 ***
	(0.46)	(3.99)	(1.50)	(0.08)	(2.30)	(2.78)	(2.67)
10-12 years	-0.679	3.957 ***	0.451	-0.271	4.072 ***	0.170	-1.456 ***
	(1.49)	(6.13)	(1.02)	(1.37)	(8.27)	(0.81)	(3.80)
13+ years	-2.027 ***	3.569 ***	-0.297				
	(3.79)	(5.52)	(0.57)				
Age in 1993 (spline)							
25-29 years	0.101	0.268 *	0.156	0.058	0.515 ***	0.078	0.007
	(0.78)	(1.67)	(1.16)	(0.99)	(4.06)	(1.23)	(0.11)
30-39 years	0.135 **	0.197 ***	0.108 *	0.082 ***	0.022	0.023	0.016
	(2.49)	(3.51)	(1.96)	(4.71)	(0.73)	(1.08)	(0.81)
40-49 years	-0.114 *	-0.112 *	-0.166 ***	-0.006	-0.080 *	0.004	0.031
	(1.92)	(1.75)	(2.81)	(0.27)	(1.69)	(0.14)	(1.35)
50-52 years	0.128	0.425	0.290	0.045	0.116	-0.253	-0.270 **
	(0.49)	(1.53)	(1.13)	(0.43)	(0.47)	(1.60)	(2.12)
HH Composition and Business Assets							
# men, aged 20-49	-0.727 ***	-0.321	-0.561 ***	-0.377 ***	-0.279 *	-0.429 ***	-0.072
	(4.03)	(1.55)	(3.02)	(4.49)	(1.90)	(3.77)	(0.92)
# women, aged 20-49	-0.053	0.254	0.058	0.062	-0.086	-0.009	-0.408 ***
	(0.16)	(0.70)	(0.17)	(0.66)	(0.52)	(0.08)	(3.01)
# men, aged 50+	-1.120 ***	-1.532 ***	-0.936 ***	-0.461 ***	-0.269	-0.513 ***	0.181
	(3.49)	(4.15)	(2.82)	(3.19)	(1.02)	(3.23)	(1.35)
# women, aged 50+	-0.086	0.050	0.013	0.104	0.479 **	0.256 *	-0.326 *
	(0.31)	(0.16)	(0.05)	(0.83)	(2.18)	(1.76)	(1.77)
Business Assets (million)	0.405 *	-0.135	-1.065 *	0.053	-0.056	-0.417	0.083 *
	(1.69)	(0.52)	(1.74)	(1.28)	(0.86)	(1.19)	(1.88)
Month of interview							
October	-0.294	-0.118	0.040	-0.170	0.058	-0.133	-0.687
	(0.64)	(0.23)	(0.10)	(0.67)	(0.13)	(0.51)	(1.44)
November	-0.262	0.394	0.052	0.439 *	0.637	0.253	-0.388
	(0.59)	(0.84)	(0.13)	(1.74)	(1.24)	(0.96)	(0.92)
December	-0.218	-0.132	-0.464	0.491 *	0.188	0.037	0.514
	(0.51)	(0.31)	(1.17)	(1.92)	(0.43)	(0.14)	(1.24)
January	0.614	1.061 *	0.407	-0.244	-0.249	-0.493	0.024
	(1.09)	(1.85)	(0.77)	(0.74)	(0.47)	(1.45)	(0.05)
Constant	0.659	-9.313 **	-1.444	-2.803 *	-18.692 ***	-2.828	-0.598
	(0.19)	(2.09)	(0.39)	(1.66)	(5.21)	(1.55)	(0.36)
Wald test							
Own Schooling	374.43			241.75			
	(0.000)			(0.000)			
Age	79.58			76.40			
	(0.000)			(0.000)			
HH Composition	51.86			57.49			
	(0.000)			(0.000)			
HH Composition and Assets	60.65			65.69			
	(0.000)			(0.000)			
Month of Interview	23.45			47.44			
	(0.024)			(0.000)			
Pseudo R^2	0.177			0.101			
Observations	2,797			3,722			

Source: IFLS1.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own schooling is no schooling and for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.252	-0.667	0.358	0.229	1.044 *	0.011	0.053
	(0.80)	(1.09)	(1.11)	(1.55)	(1.70)	(0.07)	(0.26)
4-6 years	0.499 *	1.058 **	0.603 **	0.089	0.655	-0.669 ***	-0.345 *
	(1.75)	(2.40)	(1.97)	(0.68)	(1.24)	(4.21)	(1.82)
7-9 years	-0.206	1.523 ***	0.242	-0.310 *	2.172 ***	-1.199 ***	-0.786 ***
	(0.57)	(3.17)	(0.68)	(1.65)	(3.65)	(5.20)	(3.20)
10-12 years	-0.263	3.188 ***	0.515	-0.604 ***	4.981 ***	-0.059	-0.996 ***
	(0.75)	(6.76)	(1.33)	(2.81)	(8.21)	(0.30)	(3.08)
13+ years	0.028	4.505 ***	1.378 **				
	(0.04)	(6.28)	(1.98)				
Age in 1993 (spline)							
25-29 years	-0.098	0.144	0.011	0.058	0.581 ***	0.115 **	0.153 **
	(0.69)	(0.91)	(0.08)	(1.08)	(4.29)	(2.16)	(2.07)
30-39 years	0.064	0.091 *	0.002	0.054 ***	0.013	-0.004	0.029
	(1.40)	(1.89)	(0.05)	(3.37)	(0.40)	(0.22)	(1.42)
40-49 years	-0.064	-0.032	-0.084	-0.052 **	-0.093 *	-0.042	-0.059 *
	(1.16)	(0.51)	(1.44)	(2.34)	(1.88)	(1.50)	(1.93)
50-52 years	-0.235	-0.583 **	-0.228	0.102	0.182	-0.053	-0.024
	(1.35)	(2.23)	(1.22)	(1.05)	(0.69)	(0.40)	(0.17)
HH Composition and Business Assets							
# men, aged 20-49	-0.301 ***	-0.276 *	-0.267 **	-0.247 ***	-0.336 ***	-0.254 ***	-0.212 ***
	(2.74)	(1.96)	(2.37)	(4.16)	(2.85)	(3.32)	(3.19)
# women, aged 20-49	-0.190	0.044	-0.160	-0.002	-0.217	-0.018	-0.229 ***
	(1.34)	(0.29)	(1.10)	(0.03)	(1.59)	(0.25)	(2.63)
# men, aged 50+	-0.633 **	-0.826 ***	-0.523 *	-0.214 *	-0.115	-0.276 **	0.391 ***
	(2.29)	(2.64)	(1.88)	(1.82)	(0.49)	(1.98)	(3.17)
# women, aged 50+	-0.186	-0.017	-0.124	0.215 **	0.109	0.229 *	-0.188
	(0.83)	(0.07)	(0.55)	(1.99)	(0.50)	(1.84)	(1.08)
Business Assets (million)	-0.004	-0.215 ***	-1.214 ***	0.047	-0.016	-0.365	0.056
	(0.17)	(3.21)	(3.48)	(1.27)	(0.50)	(1.41)	(1.38)
Month of interview							
October	0.353	0.344	0.087	0.171	0.648 **	0.307	0.093
	(1.06)	(0.89)	(0.28)	(1.00)	(2.40)	(1.34)	(0.28)
November	0.442	0.770 *	0.305	0.087	0.950 **	0.119	0.002
	(1.26)	(1.81)	(0.93)	(0.50)	(2.36)	(0.47)	(0.01)
December	0.406	0.473	0.441	0.329	0.562 *	0.405	0.357
	(0.94)	(0.97)	(1.06)	(1.47)	(1.85)	(1.47)	(0.93)
January	-1.389 ***	-0.419	-0.991 **	-0.688 **	0.579	0.179	-0.459
	(3.15)	(0.86)	(2.33)	(2.33)	(1.47)	(0.59)	(0.98)
Constant	5.588	-4.877	2.557	-2.270	-21.480 ***	-3.766 **	-5.149 **
	(1.39)	(1.09)	(0.66)	(1.51)	(5.73)	(2.51)	(2.28)
Wald test							
Own Schooling	397.46			193.92			
	(0.000)			(0.000)			
Age	74.04			63.35			
	(0.000)			(0.000)			
HH Composition	21.51			75.22			
	(0.043)			(0.000)			
HH Composition and Assets	42.76			84.18			
	(0.000)			(0.000)			
Month of Interview	27.70			22.36			
	(0.006)			(0.132)			
Pseudo R^2	0.164			0.092			
Observations	2,797			3,722			

Source: IFLS2.

Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own schooling is no schooling and for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

149

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.243	-0.254	0.317	0.073	0.593	-0.256	-0.029
	(0.75)	(0.35)	(0.91)	(0.52)	(0.92)	(1.54)	(0.19)
4-6 years	0.163	0.927 *	0.314	-0.106	0.479	-0.559 **	-0.564 ***
	(0.60)	(1.67)	(1.03)	(0.76)	(0.66)	(3.34)	(3.62)
7-9 years	-0.361	1.789 **	0.162	-0.555 **	0.930	-1.527 ***	-1.087 ***
	(1.14)	(3.13)	(0.46)	(3.23)	(1.30)	(6.41)	(4.91)
10-12 years	-0.861 **	2.957 ***	-0.011	-0.608 **	4.428 ***	-0.570 **	-1.589 ***
	(2.67)	(5.30)	(0.03)	(3.22)	(7.36)	(2.84)	(5.68)
13+ years	-1.334 **	3.992 ***	-0.138				
	(3.11)	(6.56)	(0.32)				
Age in 1993 (spline)							
25-29 years	-0.062	0.115	0.072	0.035	0.487 ***	0.160 **	0.070
	(0.47)	(0.74)	(0.54)	(0.75)	(3.79)	(2.65)	(1.18)
30-39 years	0.094 **	0.153 **	0.046	0.059 **	0.053	0.008	-0.007
	(2.14)	(3.12)	(1.05)	(3.22)	(1.59)	(0.38)	(0.36)
40-49 years	-0.145 **	-0.159 **	-0.189 ***	-0.057 **	-0.116 **	-0.080 **	-0.026
	(2.90)	(2.51)	(3.58)	(2.47)	(2.39)	(2.44)	(1.01)
50-52 years	-0.243	-1.249 **	-0.159	-0.025	0.134	-0.153	-0.162
	(1.52)	(3.37)	(0.90)	(0.26)	(0.53)	(0.96)	(1.50)
HH Composition and Business Assets							
# men, aged 20-49	-0.238 **	-0.197 *	-0.234 **	-0.188 ***	-0.421 **	-0.182 **	-0.097 *
	(2.87)	(1.81)	(2.82)	(4.07)	(3.32)	(2.87)	(1.82)
# women, aged 20-49	-0.222 **	-0.192	-0.166	-0.048	-0.247 **	-0.178 **	-0.254 ***
	(2.09)	(1.58)	(1.45)	(0.93)	(2.03)	(2.46)	(3.93)
# men, aged 50+	-0.274	-0.221	-0.124	-0.351 **	-0.606 **	-0.332 **	0.408 ***
	(1.03)	(0.66)	(0.43)	(3.38)	(2.69)	(2.49)	(3.86)
# women, aged 50+	-0.197	-0.133	-0.220	0.107	0.133	0.106	-0.186
	(1.18)	(0.67)	(1.22)	(0.96)	(0.63)	(0.78)	(1.38)
Business Assets (million)	0.188 **	0.146 *	-0.229 *	0.019	-0.009	-0.132	0.026 *
	(2.29)	(1.72)	(1.75)	(1.64)	(0.46)	(1.64)	(1.95)
Month of interview							
October	0.069	-0.136	0.033	0.483 **	0.705 **	0.530 **	0.246
	(0.26)	(0.41)	(0.12)	(2.84)	(2.22)	(2.57)	(1.01)
November	-0.065	-0.383	-0.156	0.629 ***	0.798 **	0.433 *	0.474 *
	(0.23)	(1.10)	(0.53)	(3.76)	(2.62)	(1.91)	(1.80)
December	0.022	-0.168	0.137	0.801 ***	0.561	0.518 **	0.461
	(0.07)	(0.46)	(0.43)	(4.15)	(1.64)	(1.99)	(1.59)
January	-0.180	-0.427	0.100	0.363 *	0.450	0.396	0.212
	(0.48)	(0.85)	(0.26)	(1.81)	(1.07)	(1.51)	(0.72)
Constant	4.833	-4.106	0.687	-1.189	-17.846 ***	-4.422 **	-1.911
	(1.31)	(0.94)	(0.18)	(0.89)	(4.83)	(2.63)	(1.15)
Wald test							
Own Schooling	411.15			270.83			
	(0.000)			(0.000)			
Age	94.52			66.14			
	(0.000)			(0.000)			
HH Composition	22.67			106.08			
	(0.031)			(0.000)			
HH Composition and Assets	45.60			117.17			
	(0.000)			(0.000)			
Month of Interview	5.42			28.82			
	(0.942)			(0.025)			
Pseudo R^2	0.173			0.091			
Observations	2,797			3,722			

Source: IFLS3.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Omitted category for own schooling is no schooling and for month of interview is August/September. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	-0.029	-0.264	-0.042	0.318 **	0.247	-0.103	0.125
	(0.07)	(0.36)	(0.10)	(2.08)	(0.58)	(0.58)	(0.84)
4-6 years	0.318	1.733 ***	0.374	0.174	0.025	-0.653 ***	-0.284
	(0.77)	(2.78)	(0.91)	(1.17)	(0.05)	(3.74)	(1.62)
7-9 years	0.205	2.695 ***	0.672	0.025	1.138 *	-0.691 ***	-0.564 **
	(0.36)	(3.66)	(1.18)	(0.12)	(1.90)	(2.84)	(2.11)
10-12 years	-0.687	3.833 ***	0.331	-0.211	4.006 ***	0.071	-1.152 ***
	(1.27)	(5.42)	(0.64)	(1.01)	(6.72)	(0.31)	(2.84)
13+ years	-2.103 ***	3.422 ***	-0.521				
	(3.68)	(5.04)	(0.94)				
Father's Schooling							
Some Elementary	0.387	-0.110	0.259	0.104	0.112	-0.325 *	0.098
	(0.91)	(0.24)	(0.61)	(0.79)	(0.35)	(1.71)	(0.61)
Completed Elementary	-0.678 *	-0.697 *	-0.719 *	0.255	0.054	-0.273	-0.258
	(1.79)	(1.74)	(1.91)	(1.63)	(0.16)	(1.36)	(1.33)
Secondary/Tertiary	-0.662	-0.842	-0.808	-0.014	-0.184	0.120	-0.306
	(1.15)	(1.47)	(1.44)	(0.06)	(0.50)	(0.50)	(0.91)
Missing	0.160	-0.574	0.347	0.056	-0.044	-0.132	-0.210
	(0.36)	(1.16)	(0.78)	(0.38)	(0.11)	(0.67)	(1.03)
Mother's Schooling							
Some Elementary	0.066	1.025 **	0.489	-0.103	0.031	0.517 ***	0.091
	(0.15)	(2.23)	(1.11)	(0.69)	(0.12)	(2.64)	(0.55)
Completed Elementary/	0.894 *	1.180 **	1.380 ***	-0.273	0.269	0.092	-0.465 **
Secondary/Tertiary	(1.85)	(2.53)	(2.93)	(1.59)	(1.08)	(0.44)	(2.18)
Missing	-0.575	0.081	-0.517	-0.048	0.087	0.046	0.301
	(1.32)	(0.18)	(1.23)	(0.32)	(0.29)	(0.22)	(1.59)
Age in 1993 (spline)							
25-29 years	0.087	0.231	0.138	0.059	0.508 ***	0.085	0.012
	(0.70)	(1.46)	(1.06)	(1.02)	(4.03)	(1.33)	(0.20)
30-39 years	0.133 **	0.206 ***	0.112 **	0.081 ***	0.026	0.023	0.011
	(2.50)	(3.68)	(2.08)	(4.56)	(0.82)	(1.08)	(0.59)
40-49 years	-0.115 *	-0.113 *	-0.168 ***	-0.006	-0.079 *	0.007	0.033
	(1.91)	(1.75)	(2.81)	(0.29)	(1.66)	(0.22)	(1.42)
50-52 years	0.192	0.450	0.379	0.049	0.092	-0.270 *	-0.230 *
	(0.70)	(1.57)	(1.41)	(0.47)	(0.37)	(1.69)	(1.80)
HH Composition and Business Assets							
# men, aged 20-49	-0.730 ***	-0.286	-0.562 ***	-0.379 ***	-0.289 **	-0.424 ***	-0.057
	(4.00)	(1.38)	(3.01)	(4.52)	(2.01)	(3.73)	(0.74)
# women, aged 20-49	-0.032	0.256	0.075	0.065	-0.075	-0.019	-0.432 ***
	(0.10)	(0.72)	(0.22)	(0.68)	(0.45)	(0.16)	(3.19)
# men, aged 50+	-1.208 ***	-1.461 ***	-1.050 ***	-0.458 ***	-0.269	-0.514 ***	0.203
	(3.32)	(3.52)	(2.88)	(3.15)	(1.00)	(3.23)	(1.55)
# women, aged 50+	0.111	0.143	0.221	0.110	0.523 **	0.269	-0.444 **
	(0.32)	(0.39)	(0.65)	(0.80)	(1.98)	(1.61)	(2.27)
Business Assets (million)	0.436 *	-0.101	-1.020 *	0.057	-0.061	-0.405	0.089 **
	(1.73)	(0.37)	(1.66)	(1.38)	(0.95)	(1.18)	(2.00)
Constant	1.114	-8.414 *	-1.036	-2.841 *	-18.591 ***	-3.011 *	-0.675
	(0.33)	(1.90)	(0.29)	(1.69)	(5.22)	(1.66)	(0.41)
Wald test							
Own Schooling	314.28			193.08			
	(0.000)			(0.000)			
Father's Schooling	27.35			21.86			
	(0.007)			(0.148)			
Mother's Schooling	46.85			25.16			
	(0.000)			(0.014)			
Parental Schooling	62.73			42.61			
	(0.000)			(0.038)			
Age	79.43			74.86			
	(0.000)			(0.000)			
HH Composition	45.36			59.82			
	(0.000)			(0.000)			
HH Composition and Assets	54.68			68.79			
	(0.000)			(0.000)			
Month of Interview	24.41			47.61			
	(0.018)			(0.000)			
Pseudo R^2	0.186			0.105			
Observations	2,797			3,722			

Source: IFLS1.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.317	-0.602	0.381	0.236	0.911	0.002	0.101
	(1.06)	(1.01)	(1.20)	(1.62)	(1.49)	(0.01)	(0.52)
4-6 years	0.524 *	1.023 **	0.556 *	0.098	0.439	-0.694 ***	-0.202
	(1.86)	(2.37)	(1.83)	(0.75)	(0.80)	(4.34)	(1.14)
7-9 years	-0.120	1.498 ***	0.219	-0.274	1.915 ***	-1.233 ***	-0.530 **
	(0.32)	(3.06)	(0.58)	(1.43)	(3.00)	(5.21)	(2.14)
10-12 years	-0.133	3.184 ***	0.528	-0.522 **	4.734 ***	-0.115	-0.562 *
	(0.39)	(6.82)	(1.38)	(2.34)	(7.10)	(0.53)	(1.75)
13+ years	0.084	4.411 ***	1.285 *				
	(0.12)	(6.34)	(1.87)				
Father's Schooling							
Some Elementary	-0.381	-0.638	-0.270	0.399 ***	0.689 **	0.380 **	-0.029
	(1.23)	(1.60)	(0.82)	(2.86)	(2.15)	(2.29)	(0.14)
Completed Elementary	-0.244	-0.173	-0.101	0.226	0.371	0.064	-0.384 *
	(0.53)	(0.35)	(0.22)	(1.55)	(1.03)	(0.33)	(1.67)
Secondary/Tertiary	-1.307 ***	-1.459 ***	-1.185 **	0.202	-0.015	0.245	-0.834 **
	(2.62)	(2.76)	(2.37)	(0.95)	(0.04)	(1.03)	(2.56)
Missing	-0.209	-0.728	-0.042	0.131	-0.184	0.473 **	-0.530 *
	(0.40)	(1.23)	(0.08)	(0.75)	(0.39)	(2.05)	(1.79)
Mother's Schooling							
Some Elementary	0.221	0.645 *	0.274	-0.396 ***	0.081	-0.359 **	-0.238
	(0.63)	(1.69)	(0.77)	(2.81)	(0.27)	(2.00)	(1.18)
Completed Elementary/	1.017 **	1.393 **	1.313 ***	-0.417 ***	0.360	-0.023	-0.175
Secondary/Tertiary	(2.05)	(2.57)	(2.66)	(2.91)	(1.37)	(0.11)	(0.76)
Missing	-0.132	0.133	0.198	-0.323 *	0.402	-0.288	0.341
	(0.27)	(0.24)	(0.41)	(1.77)	(0.86)	(1.20)	(1.12)
Age In 1993 (spline)							
25-29 years	-0.113	0.122	0.00001	0.055	0.563 ***	0.110 **	0.158 **
	(0.79)	(0.77)	(0.00)	(1.01)	(4.19)	(2.05)	(2.13)
30-39 years	0.069	0.105 **	0.008	0.053 ***	0.028	-0.006	0.025
	(1.51)	(2.16)	(0.18)	(3.29)	(0.81)	(0.29)	(1.24)
40-49 years	-0.061	-0.035	-0.078	-0.050 **	-0.098 *	-0.041	-0.062 **
	(1.11)	(0.55)	(1.35)	(2.23)	(1.87)	(1.45)	(2.02)
50-52 years	-0.228	-0.539 **	-0.234	0.110	0.188	-0.043	-0.024
	(1.31)	(2.02)	(1.26)	(1.15)	(0.68)	(0.33)	(0.16)
HH Composition and Business Assets							
# men, aged 20-49	-0.298 ***	-0.283 **	-0.268 **	-0.247 ***	-0.343 ***	-0.252 ***	-0.206 ***
	(2.73)	(2.03)	(2.38)	(4.15)	(2.97)	(3.27)	(3.12)
# women, aged 20-49	-0.214	0.035	-0.187	-0.0002	-0.211	-0.023	-0.223 **
	(1.51)	(0.23)	(1.30)	(0.00)	(1.53)	(0.32)	(2.55)
# men, aged 50+	-0.645 **	-0.803 **	-0.541 **	-0.224 *	-0.105	-0.279 **	0.379 ***
	(2.35)	(2.55)	(1.97)	(1.90)	(0.45)	(1.99)	(3.08)
# women, aged 50+	-0.204	-0.012	-0.106	0.195 *	0.137	0.221 *	-0.203
	(0.92)	(0.05)	(0.48)	(1.80)	(0.63)	(1.76)	(1.14)
Business Assets (million)	-0.003	-0.208 ***	-1.172 ***	0.047	-0.018	-0.352	0.057
	(0.14)	(3.21)	(3.38)	(1.32)	(0.57)	(1.40)	(1.41)
Constant	6.046	-4.281	2.764	-2.195	-21.274 ***	-3.693 **	-5.150 **
	(1.50)	(0.95)	(0.72)	(1.45)	(5.72)	(2.46)	(2.27)
Wald test							
Own Schooling	331.25			165.61			
	(0.000)			(0.000)			
Father's Schooling	17.38			37.18			
	(0.136)			(0.002)			
Mother's Schooling	15.22			27.93			
	(0.085)			(0.006)			
Parental Schooling	43.78			63.23			
	(0.002)			(0.000)			
Age	72.54			63.84			
	(0.000)			(0.000)			
HH Composition	22.26			74.35			
	(0.035)			(0.000)			
HH Composition and Assets	42.03			82.12			
	(0.000)			(0.000)			
Month of Interview	27.87			22.17			
	(0.006)			(0.138)			
Pseudo R^2	0.171			0.098			
Observations	2,797			3,722			

Source: IFLS2.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

152

	Men			Women			
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector	Family Worker
Own Schooling							
1-3 years	0.178	-0.326	0.234	0.089	0.638	-0.265	0.029
	(0.54)	(0.44)	(0.67)	(0.63)	(0.98)	(1.62)	(0.19)
4-6 years	0.129	0.862	0.215	-0.110	0.468	-0.592 **	-0.450 **
	(0.47)	(1.52)	(0.70)	(0.77)	(0.64)	(3.43)	(2.86)
7-9 years	-0.362	1.719 **	0.037	-0.544 **	0.947	-1.566 ***	-0.842 ***
	(1.14)	(2.99)	(0.10)	(3.06)	(1.31)	(6.63)	(3.67)
10-12 years	-0.747 **	2.958 ***	-0.116	-0.576 **	4.486 ***	-0.620 **	-1.133 ***
	(2.21)	(5.10)	(0.32)	(2.88)	(7.47)	(2.78)	(3.76)
13+ years	-1.168 **	4.001 ***	-0.254				
	(2.57)	(6.29)	(0.57)				
Father's Schooling							
Some Elementary	1.172 **	1.065 **	1.134 **	0.023	-0.090	-0.051	-0.120
	(2.80)	(2.40)	(2.66)	(0.16)	(0.27)	(0.27)	(0.69)
Completed Elementary	0.182	0.255	0.361	0.106	0.110	-0.185	-0.314 *
	(0.66)	(0.80)	(1.27)	(0.78)	(0.39)	(1.06)	(1.90)
Secondary/Tertiary	-0.168	0.075	0.174	0.001	-0.367	-0.220	-0.860 **
	(0.45)	(0.19)	(0.47)	(0.01)	(1.12)	(0.96)	(2.74)
Missing	-0.174	-0.274	-0.034	0.003	-0.614	0.046	-0.153
	(0.55)	(0.72)	(0.11)	(0.02)	(1.50)	(0.23)	(0.80)
Mother's Schooling							
Some Elementary	-0.396	-0.305	-0.445	0.078	0.187	0.338 *	0.085
	(1.19)	(0.81)	(1.32)	(0.52)	(0.66)	(1.78)	(0.45)
Completed Elementary/	-0.559 *	-0.381	-0.117	-0.169	-0.067	0.280	-0.334 *
Secondary/Tertiary	(1.92)	(1.22)	(0.39)	(1.20)	(0.24)	(1.53)	(1.89)
Missing	-0.353	-0.184	0.017	-0.425 **	-1.025 **	-0.161	-0.339
	(0.95)	(0.43)	(0.05)	(2.94)	(1.96)	(0.82)	(1.61)
Age in 1993 (spline)							
25-29 years	-0.047	0.119	0.080	0.039	0.478 ***	0.161 **	0.079
	(0.36)	(0.76)	(0.59)	(0.84)	(3.71)	(2.66)	(1.34)
30-39 years	0.093 **	0.154 **	0.047	0.060 **	0.059 *	0.010	-0.009
	(2.11)	(3.16)	(1.08)	(3.26)	(1.67)	(0.48)	(0.45)
40-49 years	-0.140 **	-0.158 **	-0.190 ***	-0.053 **	-0.117 **	-0.078 **	-0.023
	(2.76)	(2.45)	(3.54)	(2.29)	(2.38)	(2.39)	(0.91)
50-52 years	-0.242	-1.237 **	-0.137	-0.026	0.142	-0.157	-0.169
	(1.47)	(3.29)	(0.75)	(0.27)	(0.57)	(0.99)	(1.56)
HH Composition and Business Assets							
# men, aged 20-49	-0.233 **	-0.197 *	-0.241 **	-0.188 ***	-0.427 **	-0.180 **	-0.097 *
	(2.76)	(1.81)	(2.84)	(4.07)	(3.29)	(2.84)	(1.80)
# women, aged 20-49	-0.217 **	-0.186	-0.159	-0.049	-0.232 *	-0.174 **	-0.252 ***
	(2.07)	(1.55)	(1.40)	(0.96)	(1.91)	(2.41)	(3.86)
# men, aged 50+	-0.300	-0.230	-0.121	-0.351 **	-0.625 **	-0.331 **	0.405 ***
	(1.12)	(0.69)	(0.42)	(3.38)	(2.81)	(2.49)	(3.80)
# women, aged 50+	-0.224	-0.156	-0.220	0.080	0.121	0.100	-0.216
	(1.35)	(0.78)	(1.22)	(0.71)	(0.57)	(0.73)	(1.62)
Business Assets (million)	0.184 **	0.142 *	-0.219 *	0.019	-0.012	-0.129	0.027 *
	(2.28)	(1.70)	(1.72)	(1.59)	(0.54)	(1.63)	(1.89)
Constant	4.461	-4.174	0.406	-1.258	-17.522 ***	-4.479 **	-2.035
	(1.20)	(0.95)	(0.11)	(0.95)	(4.73)	(2.65)	(1.23)
Wald test							
Own Schooling	364.42			268.22			
	(0.000)			(0.000)			
Father's Schooling	14.53			21.38			
	(0.268)			(0.164)			
Mother's Schooling	15.62			23.70			
	(0.075)			(0.022)			
Parental Schooling	48.09			53.45			
	(0.001)			(0.003)			
Age	91.45			66.39			
	(0.000)			(0.000)			
HH Composition	23.75			104.61			
	(0.022)			(0.000)			
HH Composition and Assets	45.31			115.79			
	(0.000)			(0.000)			
Month of Interview	4.94			29.11			
	(0.960)			(0.023)			
Pseudo R^2	0.180			0.097			
Observations	2,797			3,722			

Source: IFLS3.
Base category for men is nonparticipation and family worker sectors, and for women is nonparticipation. Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for Wald test are in parentheses.

Appendix Table 5.7

Primary Duties within Sector of Employment by Gender and Its Average Years of Schooling

	Self Employment		Public Sector		Private Sector		Family Worker		All Individuals		Avg. Years of Schooling		
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Total
IFLS1													
Professional/Managerial Staff	1.3	1.0	41.2	68.0	7.8	8.1	0.0	0.4	9.1	8.0	12.2	12.1	12.1
Administration Staff	0.2	0.1	25.7	17.2	4.0	3.7	0.0	0.1	5.1	2.3	10.9	12.3	11.3
Sales/Procurement Staff	21.4	51.9	1.1	0.0	5.3	4.4	18.0	9.9	13.1	26.0	5.9	3.9	4.8
Services Staff	2.0	7.5	9.6	3.6	9.3	16.6	5.1	3.7	5.6	8.0	6.9	3.7	5.3
Agriculture Worker	55.9	20.8	5.8	8.4	21.2	37.9	53.9	80.2	37.1	39.7	3.8	2.4	3.2
Operation/Production Worker	14.0	14.4	9.8	1.6	30.7	24.7	18.0	4.7	19.1	12.8	6.5	4.9	6.0
Laborers	5.1	4.3	3.2	0.8	21.8	4.6	5.1	1.0	10.5	3.1	5.4	3.3	5.0
Others	0.0	0.0	3.7	0.4	0.0	0.0	0.0	0.0	0.5	0.0	9.9	12.0	10.0
IFLS2													
Professional/Managerial Staff	1.1	1.5	31.3	66.0	4.8	8.7	0.0	0.4	6.3	9.0	12.8	12.6	12.7
Administration Staff	0.3	0.1	29.9	20.1	5.9	8.6	0.0	0.1	6.2	4.3	11.3	12.1	11.5
Sales/Procurement Staff	23.5	58.7	2.5	1.9	10.1	8.6	8.8	15.0	15.1	30.6	7.3	4.9	5.9
Services Staff	1.1	2.6	10.4	1.3	6.8	15.1	0.0	1.4	4.5	5.8	8.4	4.3	6.5
Agriculture Worker	51.2	21.4	7.9	6.8	16.9	25.0	82.3	76.7	32.9	32.3	4.5	2.9	3.9
Operation/Production Worker	17.8	10.6	7.9	0.6	32.3	29.3	6.8	5.1	22.1	13.9	7.1	5.3	6.5
Laborers	5.0	4.9	2.3	0.6	23.0	4.6	2.0	1.1	11.8	3.7	5.9	3.7	5.5
Others	0.0	0.1	7.8	2.6	0.4	0.1	0.0	0.0	1.1	0.3	9.5	11.5	9.9
IFLS3													
Professional/Managerial Staff	1.6	0.8	36.6	61.4	5.2	8.8	0.9	0.2	6.7	7.2	13.4	13.9	13.6
Administration Staff	0.7	0.2	23.2	18.5	6.5	6.8	0.4	0.3	5.4	3.4	12.0	12.5	12.2
Sales/Procurement Staff	18.7	37.8	2.1	3.4	7.3	9.7	15.9	10.3	12.2	21.0	8.4	6.1	7.1
Services Staff	8.2	25.6	17.4	5.7	13.0	22.7	15.9	7.8	11.4	19.1	9.2	6.1	7.5
Agriculture Worker	50.7	19.2	4.0	4.8	18.3	25.0	59.7	72.8	32.7	32.6	5.2	3.5	4.5
Operation/Production Worker	14.5	11.5	6.0	1.4	25.5	18.8	4.4	6.3	17.9	11.6	7.9	6.4	7.4
Laborers	5.5	4.9	4.6	2.6	23.3	7.7	2.7	2.5	12.7	4.9	6.8	5.5	6.5
Others	0.1	0.0	6.1	2.3	0.8	0.5	0.0	0.0	1.0	0.3	10.7	8.7	10.3

Source: IFLS1, IFLS2 and IFLS3.

Appendix Table 5.8
Primary Duties within Sector of Employment by Gender
Panel Respondents

	Self Employment		Public Sector		Private Sector		Family Worker		All Individuals	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
IFLS1										
Professional/Managerial Staff	0.9	1.0	41.4	68.8	6.8	8.0	0.0	0.2	9.1	9.1
Administration Staff	0.1	0.1	25.7	17.8	3.6	4.4	0.0	0.0	5.2	2.8
Sales/Procurement Staff	19.3	50.6	0.5	0.0	5.5	4.0	12.5	9.1	11.6	23.8
Services Staff	2.2	5.7	10.6	2.4	8.4	14.0	0.0	3.3	5.6	6.5
Agriculture Worker	56.8	21.1	5.5	9.1	21.0	35.1	54.2	81.4	36.5	39.7
Operation/Production Worker	15.7	16.8	9.9	1.0	31.9	29.3	29.2	4.7	20.6	14.6
Laborers	5.1	4.7	2.4	0.5	22.9	5.1	4.2	1.2	10.9	3.4
Others	0.0	0.0	4.1	0.5	0.0	0.0	0.0	0.0	0.6	0.0
IFLS2										
Professional/Managerial Staff	1.0	1.5	33.5	67.4	3.8	6.3	0.0	0.2	6.9	8.6
Administration Staff	0.3	0.1	29.3	19.4	4.6	5.0	0.0	0.0	6.2	3.1
Sales/Procurement Staff	21.9	58.3	1.2	1.0	8.0	6.3	16.7	14.0	13.8	30.7
Services Staff	0.8	2.1	10.8	0.5	6.2	15.1	0.0	1.1	4.2	5.0
Agriculture Worker	54.3	22.3	9.5	8.7	20.3	32.6	79.2	78.6	35.8	35.3
Operation/Production Worker	16.7	10.6	7.3	0.5	32.7	29.6	0.0	4.6	20.7	13.2
Laborers	5.0	5.1	1.5	1.0	24.1	5.0	4.2	1.4	11.1	3.9
Others	0.1	0.0	6.8	1.5	0.5	0.2	0.0	0.0	1.3	0.2
IFLS3										
Professional/Managerial Staff	0.9	0.7	39.8	65.1	3.4	4.8	0.0	0.0	6.9	6.3
Administration Staff	0.6	0.3	22.0	16.2	4.6	3.1	0.0	0.0	4.7	2.0
Sales/Procurement Staff	16.8	37.4	1.6	2.1	5.5	7.0	23.3	9.7	11.3	20.8
Services Staff	6.6	24.0	16.5	5.7	11.5	22.8	30.2	4.5	9.8	17.2
Agriculture Worker	57.1	22.6	4.4	5.7	23.8	36.9	27.9	79.0	39.1	39.3
Operation/Production Worker	13.3	10.3	5.8	0.5	24.8	18.0	9.3	4.8	15.8	9.8
Laborers	4.7	4.7	4.4	4.2	25.7	7.0	9.3	1.9	11.3	4.4
Others	0.1	0.0	5.5	0.5	0.7	0.6	0.0	0.0	1.0	0.2

Source: IFLS1, IFLS2 and IFLS3.

155

Table 6.1

Hourly Wage within Sector of Employment by Years of Schooling and Sex

		Self Employment (Net Profit)			Self Employment (Gross Income)			Public Sector			Private Sector		
		Men	Women	Difference	Men	Women	Difference	Men	Women	Difference	Men	Women	Difference
IFLS1													
0 year	Mean	456	553	-98	754	678	75	1,089	955	134	416	287	129 ***
	Standard Error	(83)	(77)	(117)	(207)	(161)	(261)	(259)	(592)	(640)	(38)	(32)	(49)
	Median	220	221	-1	314	234	81	687	276	411	293	198	95
	Observations	235	280		109	68		13	9		180	204	
1-3 years	Mean	513	443	70	542	804	-262	1,240	369	870 *	469	305	164 ***
	Standard Error	(62)	(38)	(69)	(89)	(175)	(194)	(512)	(73)	(515)	(30)	(37)	(46)
	Median	264	264	0	275	256	19	693	325	368	361	217	144
	Observations	342	233		160	63		13	10		237	136	
4-6 years	Mean	686	665	21	650	1,099	-449 ***	1,155	587	568 ***	660	352	307 ***
	Standard Error	(46)	(63)	(78)	(68)	(158)	(167)	(155)	(141)	(158)	(38)	(37)	(51)
	Median	412	330	82	347	516	-169	828	375	452	495	247	247
	Observations	555	321		250	93		81	13		433	137	
7-9 years	Mean	1,228	875	352	1,650	2,920	-1,270	1,328	919	409 **	851	547	304 ***
	Standard Error	(197)	(141)	(245)	(288)	(1,252)	(1,288)	(165)	(126)	(168)	(64)	(91)	(105)
	Median	495	429	66	827	674	154	1,009	754	256	635	321	314
	Observations	180	103		80	17		74	14		207	43	
10+ years	Mean	1,491	1,722	-230	1,277	1,540	-263	2,118	2,121	-2	1,612	1,344	267 *
	Standard Error	(163)	(283)	(291)	(271)	(388)	(470)	(103)	(149)	(150)	(120)	(133)	(157)
	Median	761	642	120	729	907	-179	1,650	1,659	-9	999	962	37
	Observations	146	72		50	22		393	206		334	96	
Total	Mean	756	680	76	812	1,074	-262 *	1,837	1,864	-26	853	488	364 ***
	Standard Error	(45)	(44)	(56)	(72)	(126)	(138)	(92)	(160)	(142)	(48)	(38)	(45)
	Median	385	300	85	361	412	-52	1,411	1,504	-93	542	248	294
	Observations	1,458	1,009		649	263		574	252		1,391	616	
IFLS2													
0 year	Mean	884	850	34				1,634	1,611	23	840	511	329 ***
	Standard Error	(96)	(90)	(130)				(275)	(472)	(512)	(85)	(40)	(90)
	Median	396	412	-16				1,283	1,009	274	550	330	220
	Observations	373	380					19	7		230	255	
1-3 years	Mean	962	985	-23				1,365	1,127	237	832	555	277 ***
	Standard Error	(69)	(101)	(115)				(375)	(273)	(411)	(49)	(62)	(74)
	Median	550	476	74				1,012	920	92	642	323	319
	Observations	431	296					10	6		267	159	
4-6 years	Mean	1,158	1,022	135				1,674	1,175	499	1,060	549	511 ***
	Standard Error	(62)	(69)	(90)				(227)	(407)	(436)	(49)	(36)	(59)
	Median	619	481	137				1,256	734	523	770	428	342
	Observations	863	524					68	10		658	239	

(continued)

156

Table 6.1 (continued)

Hourly Wage within Sector of Employment by Years of Schooling and Sex

		Self Employment (Net Profit)			Self Employment (Gross Income)			Public Sector			Private Sector		
		Men	Women	Difference	Men	Women	Difference	Men	Women	Difference	Men	Women	Difference
7-9 years	Mean	1,713	1,821	-107				1,694	2,029	-335	1,609	793	815 ***
	Standard Error	(139)	(269)	(297)				(146)	(517)	(537)	(99)	(107)	(144)
	Median	924	676	247				1,415	1,371	43	1,100	588	512
	Observations	293	134					70	17		309	79	
10+ years	Mean	2,408	2,648	-240				2,648	2,549	99	1,978	1,941	37
	Standard Error	(183)	(331)	(363)				(96)	(117)	(142)	(98)	(151)	(145)
	Median	1,220	1,127	93				2,212	2,254	-42	1,375	1,375	0
	Observations	358	146					478	269		635	260	
Total	Mean	1,341	1,203	137 *				2,392	2,427	-35	1,365	924	441 ***
	Standard Error	(54)	(65)	(74)				(86)	(132)	(133)	(51)	(57)	(55)
	Median	660	495	165				1,952	2,165	-213	924	497	427
	Observations	2,318	1,480					645	309		2,099	992	
IFLS3													
0 year	Mean	2,096	1,735	362				14,173	2,613	11,560 *	1,536	742	795 ***
	Standard Error	(183)	(201)	(246)				(5,770)	(1,400)	(5,938)	(202)	(62)	(212)
	Median	930	825	105				7,217	1,196	6,021	990	539	451
	Observations	322	361					5	4		179	239	
1-3 years	Mean	2,577	2,013	563 **				1,435	833	602	1,653	977	676 ***
	Standard Error	(203)	(180)	(275)				(351)	(151)	(374)	(135)	(69)	(139)
	Median	1,237	976	261				1,237	894	344	1,100	690	410
	Observations	494	372					9	6		306	194	
4-6 years	Mean	2,829	2,165	664 ***				3,106	1,288	1,818 ***	1,778	1,110	668 ***
	Standard Error	(159)	(147)	(209)				(434)	(231)	(490)	(69)	(87)	(113)
	Median	1,414	962	452				2,188	1,304	883	1,320	770	550
	Observations	1,099	718					55	9		793	413	
7-9 years	Mean	3,511	2,509	1,002 ***				3,501	2,377	1,124 *	2,429	1,628	801 ***
	Standard Error	(255)	(261)	(353)				(284)	(505)	(595)	(165)	(180)	(247)
	Median	1,650	1,100	550				3,266	1,502	1,764	1,540	1,234	305
	Observations	461	269					60	12		476	120	
10+ years	Mean	4,406	4,014	392				5,512	5,448	64	3,523	3,226	297
	Standard Error	(231)	(369)	(403)				(196)	(212)	(270)	(151)	(212)	(205)
	Median	2,502	1,848	654				4,619	4,619	0	2,357	2,113	243
	Observations	647	327					573	321		1,047	410	
Total	Mean	3,151	2,402	749 ***				5,161	5,126	35	2,512	1,703	809 ***
	Standard Error	(111)	(120)	(142)				(182)	(217)	(256)	(79)	(92)	(92)
	Median	1,604	990	614				4,219	4,491	-272	1,638	962	675
	Observations	3,023	2,047					702	352		2,801	1,376	

Source: IFLS1, IFLS2 and IFLS3.
Standard errors are robust to clustering at the community level. Significant at the 1%(***), 5%(**) and 10%(*) indicated.

157

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.104		0.108	0.180		0.067
	(1.18)		(1.24)	(1.50)		(0.65)
4-6 years	0.453 ***		0.501 ***	0.509 ***		0.301 **
	(5.04)		(6.59)	(4.32)		(2.48)
7-9 years	1.024 ***	0.157	0.781 ***	0.739 ***	0.490 *	0.731 ***
	(8.65)	(1.15)	(9.20)	(4.68)	(1.83)	(4.58)
10-12 years	1.368 ***	0.563 ***	1.177 ***	0.952 ***	1.453 ***	1.707 ***
	(8.48)	(2.75)	(13.32)	(4.99)	(3.11)	(13.03)
13+ years	2.190 ***	0.921 ***	1.793 ***			
	(7.63)	(3.90)	(13.05)			
Age (spline)						
25-29 years	0.042	0.003	0.074 ***	0.092 *	0.118	0.102 **
	(1.07)	(0.05)	(2.71)	(1.76)	(1.61)	(2.53)
30-39 years	0.011	0.044 ***	0.005	0.020	0.030 **	-0.010
	(0.91)	(3.50)	(0.59)	(1.25)	(2.40)	(0.68)
40-49 years	-0.022 **	0.019	0.014	-0.020	0.031 **	0.0005
	(2.19)	(1.46)	(1.61)	(1.51)	(2.06)	(0.03)
50-59 years	0.014	-0.006	-0.055 ***	0.014	-0.011	-0.027
	(0.94)	(0.30)	(2.66)	(0.62)	(0.32)	(1.04)
Month of interview						
October	0.299 **	-0.139	0.118	0.371 **	-0.083	0.041
	(2.06)	(0.93)	(0.95)	(2.53)	(0.46)	(0.28)
November	0.424 ***	-0.251	0.144	0.403 ***	-0.266 *	-0.128
	(3.26)	(1.60)	(1.19)	(2.67)	(1.78)	(0.94)
December	-0.094	-0.061	0.087	0.131	-0.141	-0.147
	(0.73)	(0.42)	(0.69)	(0.88)	(0.96)	(1.04)
January	-0.031	0.069	0.259 *	0.090	0.175	-0.064
	(0.18)	(0.39)	(1.67)	(0.39)	(1.03)	(0.30)
Gross Income	0.076			0.331 ***		
	(1.10)			(3.21)		
Selection Coefficient	-0.614 ***	-0.101	0.077	0.862 ***	0.033	-0.055
	(3.61)	(0.57)	(1.05)	(3.09)	(0.12)	(0.38)
Constant	4.449 ***	6.474 ***	3.331 ***	1.295	2.465	2.512 **
	(4.07)	(3.65)	(4.27)	(0.82)	(0.90)	(2.21)
F-test						
Own Schooling	25.27	9.63	62.71	11.98	5.25	52.81
	(0.000)	(0.000)	(0.000)	(0.000)	(0.006)	(0.000)
Age	2.15	7.73	5.81	2.78	14.37	2.22
	(0.075)	(0.000)	(0.000)	(0.027)	(0.000)	(0.068)
Month of interview	7.44	2.07	0.80	2.97	2.04	0.91
	(0.000)	(0.086)	(0.526)	(0.020)	(0.093)	(0.456)
Adjusted R^2	0.116	0.297	0.265	0.089	0.483	0.304
Root MSE	1.172	0.665	0.821	1.227	0.585	0.905
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Table 6.2B
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling
IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.268 ***		0.113	0.191 *		0.122
	(2.88)		(1.25)	(1.71)		(1.01)
4-6 years	0.452 ***		0.351 ***	0.270 ***		0.430 ***
	(5.43)		(4.68)	(2.64)		(3.85)
7-9 years	0.875 ***	0.013	0.772 ***	0.693 ***	0.126	0.865 ***
	(8.59)	(0.08)	(8.90)	(4.91)	(0.50)	(5.44)
10-12 years	1.079 ***	0.192	0.912 ***	1.033 ***	-0.012	1.464 ***
	(8.36)	(0.76)	(11.13)	(6.66)	(0.03)	(12.56)
13+ years	1.914 ***	0.414	1.433 ***			
	(9.01)	(1.31)	(12.97)			
Age (spline)						
25-29 years	-0.004	0.026	0.045 **	-0.044	0.018	0.082 ***
	(0.09)	(0.30)	(2.30)	(0.83)	(0.23)	(2.72)
30-39 years	0.017 *	0.010	0.022 ***	0.042 ***	0.015	0.022 *
	(1.67)	(0.58)	(2.98)	(2.68)	(0.69)	(1.77)
40-49 years	-0.018 *	0.026 ***	0.000	-0.024 **	0.027	0.019
	(1.83)	(2.67)	(0.05)	(2.05)	(1.47)	(1.27)
50-59 years	-0.009	0.006	-0.027 *	0.011	0.012	-0.049 *
	(0.74)	(0.33)	(1.78)	(0.74)	(0.44)	(1.90)
Month of interview						
October	-0.137	-0.178 **	-0.041	-0.182	-0.247 **	0.100
	(1.24)	(2.04)	(0.53)	(1.53)	(2.12)	(0.84)
November	-0.211 *	-0.184 *	-0.033	-0.091	-0.395 ***	0.045
	(1.92)	(1.87)	(0.45)	(0.80)	(2.72)	(0.37)
December	0.038	-0.058	0.045	0.175	-0.151	0.010
	(0.34)	(0.61)	(0.55)	(1.19)	(1.11)	(0.08)
January-April	-0.066	0.006	0.155 *	0.271	0.061	0.334 **
	(0.47)	(0.06)	(1.80)	(1.18)	(0.44)	(2.04)
Selection Coefficient	-0.162	-0.313	-0.065	-0.074	-0.405	-0.796 ***
	(0.84)	(1.41)	(0.54)	(0.29)	(1.65)	(3.09)
Constant	6.257 ***	6.874 **	4.914 ***	7.119 ***	7.662 ***	4.296 ***
	(4.60)	(2.43)	(8.37)	(4.42)	(2.70)	(5.41)
F-test						
Own Schooling	23.22	2.63	59.02	13.97	0.30	49.22
	(0.000)	(0.050)	(0.000)	(0.000)	(0.738)	(0.000)
Age	2.40	5.98	10.05	1.95	4.32	6.55
	(0.050)	(0.000)	(0.000)	(0.101)	(0.002)	(0.000)
Month of interview	1.86	2.13	1.76	2.62	3.63	1.42
	(0.116)	(0.077)	(0.137)	(0.035)	(0.007)	(0.228)
Adjusted R^2	0.102	0.219	0.196	0.063	0.203	0.298
Root MSE	1.158	0.642	0.820	1.232	0.598	0.950
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.
Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 6.2C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling
IFLS3

	Men			Women		
	Self Employment	**Public Sector**	**Private Sector**	**Self Employment**	**Public Sector**	**Private Sector**
Own Schooling						
1-3 years	0.215 **		0.191 **	0.260 **		0.335 ***
	(2.06)		(1.98)	(2.40)		(3.31)
4-6 years	0.390 ***		0.387 ***	0.314 ***		0.419 ***
	(4.21)		(4.76)	(3.32)		(4.12)
7-9 years	0.698 ***	0.209	0.646 ***	0.535 ***	0.331	0.867 ***
	(6.42)	(1.26)	(7.42)	(4.83)	(1.03)	(5.68)
10-12 years	1.053 ***	0.637 **	0.915 ***	0.824 ***	0.355	1.492 ***
	(8.54)	(2.22)	(10.69)	(6.69)	(0.61)	(13.79)
13+ years	1.652 ***	0.978 **	1.424 ***			
	(10.19)	(2.49)	(14.06)			
Age (spline)						
25-29 years	0.035	0.070	0.005	0.097 **	0.062	0.015
	(1.22)	(1.06)	(0.32)	(2.01)	(0.60)	(0.55)
30-39 years	0.009	0.043 **	0.018 ***	0.017	-0.044	0.013
	(0.99)	(2.05)	(2.95)	(1.32)	(1.18)	(1.24)
40-49 years	0.006	0.025 **	0.007	0.005	0.028 *	0.004
	(0.67)	(2.24)	(0.90)	(0.46)	(1.70)	(0.32)
50-59 years	-0.031 ***	0.015	-0.032 **	-0.019	0.051 **	-0.013
	(2.73)	(0.64)	(2.54)	(1.28)	(2.15)	(0.59)
Month of interview						
August	-0.171 **	0.010	0.016	-0.113	0.065	-0.032
	(2.26)	(0.10)	(0.30)	(1.05)	(0.48)	(0.30)
September	-0.136	-0.062	0.013	-0.106	-0.027	-0.046
	(1.54)	(0.69)	(0.25)	(0.96)	(0.21)	(0.40)
October	-0.097	0.004	0.135 **	-0.098	0.150	0.013
	(1.01)	(0.04)	(2.44)	(0.88)	(0.96)	(0.11)
November-January	0.022	0.150	0.223 ***	-0.074	0.064	0.200 *
	(0.22)	(1.28)	(3.78)	(0.57)	(0.43)	(1.75)
Selection Coefficient	-0.487 ***	-0.035	0.034	0.363	-0.729 **	-0.267
	(3.02)	(0.13)	(0.44)	(1.24)	(2.26)	(1.02)
Constant	6.249 ***	5.186 **	6.448 ***	3.328 **	7.376 **	6.009 ***
	(7.20)	(2.30)	(14.89)	(2.11)	(2.31)	(8.52)
F-test						
Own Schooling	24.61	2.51	76.49	12.87	0.53	56.60
	(0.000)	(0.058)	(0.000)	(0.000)	(0.591)	(0.000)
Age	3.16	5.46	6.99	2.46	3.81	1.17
	(0.014)	(0.000)	(0.000)	(0.045)	(0.005)	(0.321)
Month of interview	1.88	1.37	5.17	0.32	0.55	2.27
	(0.111)	(0.242)	(0.000)	(0.866)	(0.697)	(0.060)
Adjusted R^2	0.075	0.249	0.181	0.042	0.299	0.263
Root MSE	1.152	0.682	0.810	1.242	0.673	0.946
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.
Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for month of interview is June/July. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 6.3
Selectivity Corrected Wage Functions:
Summary of the Effects of Own Schooling

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
A. Cross Section Sample						
Linear Own Schooling						
IFLS1	0.125 ***	0.080 ***	0.108 ***	0.079 ***	0.081	0.123 ***
IFLS2	0.089 ***	0.039	0.087 ***	0.076 ***	-0.019	0.116 ***
IFLS3	0.087 ***	0.054	0.084 ***	0.060 ***	0.044	0.114 ***
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.104		0.108	0.180		0.067
4-6 years	0.453 ***		0.501 ***	0.509 ***		0.301 **
7-9 years	1.024 ***	0.157	0.781 ***	0.739 ***	0.490 *	0.731 ***
10-12 years b)	1.368 ***	0.563 ***	1.177 ***	0.952 ***	1.453 ***	1.707 ***
13+ years	2.190 ***	0.921 ***	1.793 ***			
IFLS2						
1-3 years a)	0.268 ***		0.113	0.191 *		0.122
4-6 years	0.452 ***		0.351 ***	0.270 ***		0.430 ***
7-9 years	0.875 ***	0.013	0.772 ***	0.693 ***	0.126	0.865 ***
10-12 years b)	1.079 ***	0.192	0.912 ***	1.033 ***	-0.012	1.464 ***
13+ years	1.914 ***	0.414	1.433 ***			
IFLS3						
1-3 years a)	0.215 **		0.191 **	0.260 **		0.335 ***
4-6 years	0.390 ***		0.387 ***	0.314 ***		0.419 ***
7-9 years	0.698 ***	0.209	0.646 ***	0.535 ***	0.331	0.867 ***
10-12 years b)	1.053 ***	0.637 **	0.915 ***	0.824 ***	0.355	1.492 ***
13+ years	1.652 ***	0.978 **	1.424 ***			
B. Panel Sample						
Linear Own Schooling						
IFLS1	0.101 ***	0.072 **	0.092 ***	0.054 ***	0.052	0.116 ***
IFLS2	0.109 ***	0.038	0.088 ***	0.081 ***	-0.013	0.115 ***
IFLS3	0.097 ***	0.080 *	0.089 ***	0.073 ***	0.125 **	0.095 ***
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.092		0.120	0.049		0.172
4-6 years	0.296 ***		0.387 ***	0.355 **		0.294 **
7-9 years	0.821 ***	0.251	0.680 ***	0.543 ***	0.291	0.691 ***
10-12 years b)	1.124 ***	0.816 ***	1.012 ***	0.497 *	1.142 **	1.652 ***
13+ years	1.925 ***	1.103 ***	1.523 ***			
IFLS2						
1-3 years a)	0.368 ***		0.120	0.134		0.075
4-6 years	0.405 ***		0.407 ***	0.235 **		0.232 *
7-9 years	0.964 ***	0.010	0.876 ***	0.774 ***	0.192	0.463 **
10-12 years b)	1.391 ***	0.558 *	0.961 ***	1.153 ***	0.501	1.687 ***
13+ years	2.079 ***	0.796 **	1.332 ***			
IFLS3						
1-3 years a)	0.288 **		0.350 **	0.128		0.291 **
4-6 years	0.411 ***		0.427 ***	0.214 **		0.278 **
7-9 years	0.765 ***	0.172	0.864 ***	0.490 ***	0.343	0.654 ***
10-12 years b)	1.277 ***	0.793 *	1.074 ***	1.113 ***	1.773 ***	1.366 ***
13+ years	2.217 ***	1.081 *	1.595 ***			

Source: Based on estimates of Appendix Table 6.1A, 6.1B, 6.1C, Table 6.2A, 6.2B, 6.2C, Appendix Table 6.6A, 6.6B, 6.6C, and Appendix Table 6.7A, 6.7B, 6.7C.
a) Omitted category for public sector workers is 0-6 years.
b) 10+ years for women.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.044		0.100	0.139		0.047
	(0.50)		(1.11)	(1.16)		(0.43)
4-6 years	0.361 ***		0.478 ***	0.413 ***		0.243 *
	(4.06)		(6.10)	(3.46)		(1.95)
7-9 years	0.922 ***	0.140	0.743 ***	0.584 ***	0.450	0.634 ***
	(7.86)	(1.02)	(8.23)	(3.58)	(1.50)	(3.76)
10-12 years	1.259 ***	0.497 **	1.096 ***	0.718 ***	1.160 *	1.507 ***
	(7.87)	(2.32)	(11.32)	(3.67)	(1.82)	(8.47)
13+ years	2.026 ***	0.826 ***	1.677 ***			
	(7.17)	(3.30)	(11.56)			
Father's Schooling						
Some Elementary	0.191 **	0.111	-0.006	0.105	-0.040	0.104
	(2.32)	(1.11)	(0.08)	(0.84)	(0.24)	(0.89)
Completed Elementary	0.170 *	0.006	0.051	0.159	-0.237	0.193
	(1.68)	(0.06)	(0.63)	(1.35)	(1.54)	(1.45)
Secondary/Tertiary	0.208	-0.028	0.158	0.264	-0.006	0.232
	(1.26)	(0.26)	(1.64)	(1.38)	(0.04)	(1.12)
Missing	0.089	0.051	-0.023	-0.071	-0.084	0.124
	(0.98)	(0.40)	(0.24)	(0.62)	(0.49)	(1.04)
Mother's Schooling						
Some Elementary	0.189 **	-0.021	0.021	0.148	0.111	0.026
	(2.01)	(0.23)	(0.28)	(1.18)	(1.04)	(0.21)
Completed Elementary/	0.376 ***	0.164 **	0.102	0.281 *	0.152	0.123
Secondary/Tertiary	(3.42)	(1.98)	(1.24)	(1.97)	(1.25)	(0.82)
Missing	0.180 **	0.089	0.073	0.098	0.080	-0.076
	(2.29)	(0.85)	(0.85)	(0.90)	(0.50)	(0.60)
Age (spline)						
25-29 years	0.043	0.000	0.074 ***	0.081	0.084	0.104 **
	(1.07)	(0.01)	(2.72)	(1.53)	(0.92)	(2.53)
30-39 years	0.014	0.041 ***	0.005	0.027	0.035 **	-0.008
	(1.24)	(3.33)	(0.69)	(1.63)	(2.53)	(0.55)
40-49 years	-0.020 *	0.020	0.014	-0.020	0.031 **	0.003
	(1.94)	(1.51)	(1.57)	(1.46)	(2.08)	(0.17)
50-59 years	0.014	-0.004	-0.055 ***	0.013	-0.009	-0.028
	(0.99)	(0.19)	(2.63)	(0.61)	(0.27)	(1.12)
Gross Income	0.091			0.325 ***		
	(1.33)			(3.20)		
Selection Coefficient	-0.760 ***	-0.154	0.105	0.845 ***	-0.120	-0.052
	(4.19)	(0.85)	(1.27)	(2.82)	(0.29)	(0.33)
Constant	4.352 ***	6.608 ***	3.273 ***	1.509	3.847	2.411 **
	(3.93)	(3.73)	(4.22)	(0.94)	(1.03)	(2.06)
F-test						
Own Schooling	21.58	7.21	44.84	6.49	1.65	20.45
	(0.000)	(0.000)	(0.000)	(0.000)	(0.196)	(0.000)
Father's Schooling	1.64	0.67	1.01	1.04	2.22	0.71
	(0.165)	(0.614)	(0.400)	(0.387)	(0.070)	(0.589)
Mother's Schooling	5.07	1.88	0.65	1.44	0.75	0.41
	(0.002)	(0.134)	(0.585)	(0.232)	(0.521)	(0.744)
Parental Schooling	5.38	1.08	1.33	1.82	1.59	0.98
	(0.000)	(0.378)	(0.236)	(0.083)	(0.143)	(0.443)
Age	2.11	7.20	6.01	2.76	13.54	2.32
	(0.080)	(0.000)	(0.000)	(0.028)	(0.000)	(0.058)
Adjusted R^2	0.130	0.297	0.266	0.095	0.484	0.303
Root MSE	1.162	0.665	0.820	1.223	0.584	0.906
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

162

Table 6.4B
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling and Parental Schooling
IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.171 *		0.106	0.194 *		0.028
	(1.87)		(1.18)	(1.65)		(0.23)
4-6 years	0.354 ***		0.323 ***	0.230 **		0.194
	(4.26)		(4.33)	(2.05)		(1.53)
7-9 years	0.841 ***	0.169	0.699 ***	0.544 ***	0.114	0.461 **
	(8.56)	(1.23)	(7.99)	(3.69)	(0.38)	(2.36)
10-12 years	1.173 ***	0.546 ***	0.793 ***	0.770 ***	-0.132	1.170 ***
	(8.99)	(2.67)	(9.46)	(4.60)	(0.20)	(8.56)
13+ years	2.121 ***	0.871 ***	1.220 ***			
	(10.16)	(3.47)	(10.31)			
Father's Schooling						
Some Elementary	0.280 ***	-0.042	0.052	0.165 *	-0.114	0.024
	(3.03)	(0.43)	(0.79)	(1.70)	(0.68)	(0.19)
Completed Elementary	0.179 *	0.033	0.097	0.314 ***	-0.135	0.097
	(1.80)	(0.34)	(1.49)	(2.70)	(0.95)	(0.80)
Secondary/Tertiary	0.494 ***	-0.148	0.219 ***	0.505 ***	-0.070	0.369 **
	(3.59)	(1.30)	(2.69)	(2.82)	(0.47)	(2.40)
Missing	0.270 **	-0.142	0.053	0.115	-0.208	0.047
	(2.11)	(0.72)	(0.62)	(0.83)	(0.91)	(0.39)
Mother's Schooling						
Some Elementary	0.064	0.059	0.101 *	0.073	0.113	0.009
	(0.70)	(0.65)	(1.70)	(0.59)	(1.01)	(0.08)
Completed Elementary/	0.373 ***	0.162 **	0.207 ***	-0.084	0.062	0.228 **
Secondary/Tertiary	(3.72)	(2.13)	(3.41)	(0.59)	(0.49)	(2.28)
Missing	0.048	0.057	0.130	-0.189	0.270	0.127
	(0.40)	(0.29)	(1.58)	(1.17)	(0.91)	(1.03)
Age (spline)						
25-29 years	-0.062	0.069	0.049 **	-0.031	0.013	0.055 *
	(1.44)	(0.83)	(2.54)	(0.57)	(0.15)	(1.74)
30-39 years	0.010	0.030 *	0.019 ***	0.051 ***	0.006	0.008
	(0.96)	(1.92)	(2.61)	(3.12)	(0.20)	(0.63)
40-49 years	-0.022 **	0.031 ***	-0.003	-0.021 *	0.033	0.019
	(2.25)	(3.15)	(0.33)	(1.81)	(1.34)	(1.26)
50-59 years	0.001	-0.007	-0.027 *	0.012	0.009	-0.076 ***
	(0.06)	(0.40)	(1.80)	(0.80)	(0.31)	(2.82)
Selection Coefficient	-0.922 ***	0.016	0.150	0.181	-0.491	-0.074
	(4.46)	(0.09)	(1.15)	(0.58)	(1.27)	(0.25)
Constant	8.443 ***	4.718 *	4.523 ***	6.259 ***	8.126 **	4.061 ***
	(6.52)	(1.79)	(7.85)	(3.66)	(2.26)	(5.10)
F-test						
Own Schooling	27.55	6.48	37.45	6.50	0.39	30.30
	(0.000)	(0.000)	(0.000)	(0.000)	(0.675)	(0.000)
Father's Schooling	4.02	2.08	1.86	2.54	0.49	2.32
	(0.003)	(0.083)	(0.115)	(0.040)	(0.747)	(0.057)
Mother's Schooling	5.24	1.54	3.99	1.01	0.50	2.27
	(0.001)	(0.204)	(0.008)	(0.388)	(0.685)	(0.081)
Parental Schooling	6.96	1.92	5.56	2.63	0.39	3.83
	(0.000)	(0.066)	(0.000)	(0.012)	(0.908)	(0.001)
Age	2.13	7.72	8.67	2.48	3.56	4.60
	(0.076)	(0.000)	(0.000)	(0.044)	(0.008)	(0.001)
Adjusted R^2	0.121	0.223	0.207	0.070	0.190	0.306
Root MSE	1.146	0.641	0.814	1.227	0.603	0.945
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 6.4C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling and Parental Schooling
IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.186 *		0.193 **	0.219 **		0.280 ***
	(1.82)		(2.01)	(1.99)		(2.64)
4-6 years	0.354 ***		0.377 ***	0.246 **		0.334 ***
	(3.92)		(4.66)	(2.59)		(3.19)
7-9 years	0.677 ***	0.286	0.618 ***	0.435 ***	0.168	0.590 ***
	(6.36)	(1.58)	(7.13)	(3.77)	(0.50)	(3.49)
10-12 years	1.086 ***	0.821 **	0.847 ***	0.692 ***	-0.107	1.205 ***
	(8.62)	(2.38)	(9.83)	(5.08)	(0.14)	(9.53)
13+ years	1.644 ***	1.218 ***	1.275 ***			
	(9.96)	(2.61)	(12.09)			
Father's Schooling						
Some Elementary	-0.072	-0.053	-0.024	0.052	-0.049	-0.031
	(1.07)	(0.53)	(0.42)	(0.51)	(0.26)	(0.34)
Completed Elementary	0.032	0.002	0.025	0.089	-0.007	0.025
	(0.46)	(0.03)	(0.50)	(1.06)	(0.04)	(0.27)
Secondary/Tertiary	0.145	0.083	0.117 **	0.246 **	0.168	0.460 ***
	(1.52)	(0.85)	(2.04)	(2.06)	(0.94)	(4.40)
Missing	-0.158 *	-0.056	-0.061	0.120	0.276	0.081
	(1.92)	(0.35)	(0.92)	(1.20)	(1.06)	(0.86)
Mother's Schooling						
Some Elementary	0.160 **	0.001	0.030	0.034	0.047	-0.079
	(2.24)	(0.01)	(0.57)	(0.34)	(0.45)	(0.91)
Completed Elementary/	0.325 ***	-0.027	0.103 **	0.130	0.013	0.061
Secondary/Tertiary	(4.31)	(0.34)	(2.11)	(1.40)	(0.12)	(0.65)
Missing	0.298 ***	-0.195	0.122	0.100	-0.192	-0.109
	(3.09)	(1.15)	(1.63)	(0.88)	(0.88)	(1.06)
Age (spline)						
25-29 years	0.021	0.087	0.006	0.082 *	0.051	-0.005
	(0.70)	(1.24)	(0.37)	(1.65)	(0.48)	(0.20)
30-39 years	0.008	0.056 **	0.017 ***	0.013	-0.068	0.011
	(0.85)	(2.33)	(2.71)	(0.99)	(1.41)	(1.07)
40-49 years	0.005	0.030 **	0.006	0.004	0.038 *	-0.004
	(0.57)	(2.38)	(0.72)	(0.29)	(1.84)	(0.32)
50-59 years	-0.030 ***	0.008	-0.035 ***	-0.017	0.052 **	-0.025
	(2.60)	(0.31)	(2.75)	(1.10)	(2.25)	(1.16)
Selection Coefficient	-0.899 ***	0.147	0.148	0.128	-0.962 **	0.315
	(4.65)	(0.45)	(1.52)	(0.38)	(2.15)	(1.10)
Constant	6.936 ***	4.186 *	6.302 ***	4.048 **	8.509 **	5.805 ***
	(7.70)	(1.66)	(14.30)	(2.40)	(2.27)	(8.39)
F-test						
Own Schooling	23.91	2.75	50.82	7.34	0.32	28.12
	(0.000)	(0.043)	(0.000)	(0.000)	(0.730)	(0.000)
Father's Schooling	2.14	0.55	1.86	1.21	1.05	7.71
	(0.075)	(0.700)	(0.115)	(0.306)	(0.384)	(0.000)
Mother's Schooling	7.59	0.53	1.93	0.78	0.46	1.11
	(0.000)	(0.663)	(0.123)	(0.503)	(0.709)	(0.343)
Parental Schooling	5.41	0.63	2.87	1.65	0.90	5.03
	(0.000)	(0.728)	(0.006)	(0.119)	(0.507)	(0.000)
Age	2.39	5.94	6.60	1.48	4.16	0.91
	(0.050)	(0.000)	(0.000)	(0.206)	(0.003)	(0.458)
Adjusted R^2	0.086	0.247	0.185	0.044	0.297	0.277
Root MSE	1.146	0.682	0.808	1.240	0.674	0.937
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

164

Table 6.5
Selectivity Corrected Wage Functions:
Summary of the Effects of Non-Linear Own Schooling and Parental Schooling

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
A. Cross Section Sample						
IFLS1						
1-3 years a)	0.044		0.100	0.139		0.047
4-6 years	0.361 ***		0.478 ***	0.413 ***		0.243 *
7-9 years	0.922 ***	0.140	0.743 ***	0.584 ***	0.450	0.634 ***
10-12 years b)	1.259 ***	0.497 **	1.096 ***	0.718 ***	1.160 *	1.507 ***
13+ years	2.026 ***	0.826 ***	1.677 ***			
IFLS2						
1-3 years a)	0.171 *		0.106	0.194 *		0.028
4-6 years	0.354 ***		0.323 ***	0.230 **		0.194
7-9 years	0.841 ***	0.169	0.699 ***	0.544 ***	0.114	0.461 **
10-12 years b)	1.173 ***	0.546 ***	0.793 ***	0.770 ***	-0.132	1.170 ***
13+ years	2.121 ***	0.871 ***	1.220 ***			
IFLS3						
1-3 years a)	0.186 *		0.193 **	0.219 **		0.280 ***
4-6 years	0.354 ***		0.377 ***	0.246 **		0.334 ***
7-9 years	0.677 ***	0.286	0.618 ***	0.435 ***	0.168	0.590 ***
10-12 years b)	1.086 ***	0.821 **	0.847 ***	0.692 ***	-0.107	1.205 ***
13+ years	1.644 ***	1.218 ***	1.275 ***			
B. Panel Sample						
IFLS1						
1-3 years a)	0.019		0.137	0.020		0.164
4-6 years	0.196 *		0.385 ***	0.247		0.239 *
7-9 years	0.685 ***	0.287	0.670 ***	0.360 *	0.358	0.585 ***
10-12 years b)	0.979 ***	0.902 **	0.969 ***	0.258	1.188	1.440 ***
13+ years	1.745 ***	1.196 ***	1.452 ***			
IFLS2						
1-3 years a)	0.303 ***		0.112	0.116		0.069
4-6 years	0.309 ***		0.353 ***	0.158		0.111
7-9 years	0.846 ***	0.214	0.771 ***	0.628 ***	0.405	0.226
10-12 years b)	1.289 ***	1.028 ***	0.776 ***	0.921 ***	1.237 *	1.332 ***
13+ years	2.038 ***	1.385 ***	1.097 ***			
IFLS3						
1-3 years a)	0.228 *		0.345 **	0.105		0.305 **
4-6 years	0.324 ***		0.399 ***	0.167		0.252 *
7-9 years	0.696 ***	0.199	0.810 ***	0.428 ***	0.277	0.490 *
10-12 years b)	1.281 ***	0.834 **	0.968 ***	1.084 ***	1.544 ***	1.140 ***
13+ years	2.302 ***	1.153 **	1.406 ***			

Source: Based on estimates of Table 6.4A, 6.4B, 6.4C and Appendix Table 6.8A, 6.8B, 6.8C.
a) Omitted category for public sector workers is 0-6 years.
b) 10+ years for women.

	Men			Women		
	Self Employment	**Public Sector**	**Private Sector**	**Self Employment**	**Public Sector**	**Private Sector**
Own Schooling						
1-3 years	0.017		-0.026	0.053		-0.026
	(0.21)		(0.33)	(0.48)		(0.25)
4-6 years	0.270 ***		0.271 ***	0.377 ***		0.109
	(3.25)		(3.91)	(3.36)		(0.97)
7-9 years	0.760 ***	0.139	0.441 ***	0.510 ***	0.125	0.423 **
	(7.09)	(1.05)	(5.19)	(3.11)	(0.43)	(2.23)
10-12 years	1.095 ***	0.504 **	0.776 ***	0.645 ***	0.393	1.189 ***
	(7.18)	(2.58)	(8.99)	(3.82)	(0.69)	(6.85)
13+ years	1.797 ***	0.850 ***	1.327 ***			
	(6.43)	(3.83)	(10.74)			
Father's Schooling						
Some Elementary	0.169 **	0.093	-0.027	0.113	-0.118	-0.013
	(2.20)	(0.94)	(0.42)	(0.99)	(0.71)	(0.11)
Completed Elementary	0.158 *	0.023	-0.048	0.062	-0.290 *	0.157
	(1.69)	(0.22)	(0.65)	(0.54)	(1.76)	(1.12)
Secondary/Tertiary	0.020	-0.006	0.007	0.285 *	-0.005	0.166
	(0.13)	(0.05)	(0.07)	(1.68)	(0.03)	(0.86)
Missing	0.047	0.015	-0.054	-0.078	-0.017	0.074
	(0.55)	(0.12)	(0.62)	(0.71)	(0.11)	(0.63)
Mother's Schooling						
Some Elementary	0.180 **	-0.074	0.062	0.213 *	0.145	0.102
	(1.98)	(0.83)	(0.86)	(1.72)	(1.26)	(0.82)
Completed Elementary/	0.314 ***	0.047	0.096	0.201	0.141	0.073
Secondary/Tertiary	(2.95)	(0.52)	(1.32)	(1.49)	(1.08)	(0.50)
Missing	0.199 ***	0.071	0.061	0.166	0.005	-0.064
	(2.68)	(0.74)	(0.76)	(1.62)	(0.03)	(0.53)
Age (spline)						
25-29 years	0.031	-0.005	0.064 ***	0.065	0.013	0.095 **
	(0.78)	(0.09)	(2.63)	(1.35)	(0.14)	(2.26)
30-39 years	0.008	0.042 ***	-0.003	0.009	0.026 *	-0.012
	(0.69)	(3.37)	(0.42)	(0.57)	(1.91)	(0.88)
40-49 years	-0.019 **	0.015	0.010	-0.014	0.033 **	0.009
	(2.05)	(1.18)	(1.26)	(1.04)	(2.14)	(0.60)
50-59 years	0.012	-0.006	-0.040 **	0.007	0.011	-0.045 *
	(0.86)	(0.29)	(2.13)	(0.30)	(0.32)	(1.76)
Province of Residence						
North Sumatera	-1.263 ***	-0.060	-0.567 **	-1.381 ***	-0.100	-0.469 ***
	(5.86)	(0.45)	(2.53)	(5.07)	(0.37)	(2.88)
North Sumatera * Urban	1.107 ***	-0.521 ***	0.109	0.999 ***	-0.247	0.021
	(4.50)	(2.73)	(0.47)	(3.23)	(0.84)	(0.12)
West Sumatera	-0.686 ***	-0.030	-0.590 ***	-0.998 ***	-0.002	-0.593 ***
	(3.62)	(0.18)	(5.04)	(2.84)	(0.01)	(2.76)
West Sumatera * Urban	0.024	0.090	0.102	0.393	0.040	-0.166
	(0.11)	(0.43)	(0.82)	(0.95)	(0.23)	(0.54)
South Sumatera	-1.381 ***	-0.413	-1.002 ***	-1.406 ***	-0.612 **	-0.209
	(6.69)	(1.27)	(3.62)	(6.22)	(2.08)	(0.54)
South Sumatera * Urban	0.865 ***	0.666 **	0.768 **	1.037 ***	0.457	-0.173
	(4.19)	(1.98)	(2.61)	(3.27)	(1.63)	(0.43)
Lampung	-1.714 ***	-0.206	-1.422 ***	-1.175 ***	-0.826 ***	-0.765 **
	(9.09)	(1.09)	(7.37)	(4.26)	(2.66)	(2.07)
Lampung * Urban	0.716 ***	-1.325 ***	0.497 **			
	(2.88)	(6.68)	(2.05)			
West Java	-1.373 ***	-0.202	-0.998 ***	-0.885 ***	-0.472 **	-0.983 ***
	(6.45)	(0.85)	(5.35)	(4.34)	(2.26)	(4.51)
West Java * Urban	0.684 ***	-0.063	0.550 ***	0.472 **	0.269	0.454 **
	(3.90)	(0.25)	(3.37)	(2.50)	(1.56)	(2.12)

(continued)

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Central Java	-1.250 ***	-0.097	-0.935 ***	-1.353 ***	-0.022	-0.936 ***
	(8.57)	(0.51)	(8.63)	(8.29)	(0.11)	(4.80)
Central Java * Urban	0.523 ***	-0.290	0.177	0.999 ***	-0.302	-0.027
	(3.66)	(1.44)	(1.32)	(6.25)	(1.32)	(0.13)
Yogyakarta	-1.811 ***	-0.361 ***	-0.916 ***	-1.292 ***	-0.064	-1.175 ***
	(8.34)	(3.37)	(5.39)	(3.91)	(0.26)	(3.65)
Yogyakarta * Urban	1.157 ***	0.055	0.084	0.786 **	-0.132	0.617 *
	(5.52)	(0.34)	(0.49)	(2.27)	(0.39)	(1.73)
East Java	-0.906 ***	-0.625 **	-1.105 ***	-1.064 ***	-0.119	-0.829 ***
	(6.04)	(2.54)	(11.41)	(5.87)	(0.64)	(5.22)
East Java * Urban	0.273 **	0.414 *	0.292 **	0.229	-0.064	-0.108
	(2.01)	(1.66)	(2.36)	(1.02)	(0.23)	(0.77)
Bali	-0.611 ***	-0.284 **	-0.565 *	-0.059	-0.363 *	-0.422 **
	(4.07)	(2.27)	(1.93)	(0.32)	(1.70)	(2.48)
Bali * Urban	-0.077	0.039	-0.015			
	(0.58)	(0.26)	(0.05)			
West Nusa Tenggara	-1.269 ***	-0.336 **	-1.151 ***	-0.791 ***	0.027	-0.978 ***
	(7.04)	(2.54)	(6.73)	(3.37)	(0.14)	(3.86)
West Nusa Tenggara * Urba	0.925 ***	0.175	0.249	0.065	0.493 *	-0.401
	(4.23)	(0.74)	(1.03)	(0.30)	(1.74)	(1.64)
South Kalimantan	-0.888 ***	-0.187 *	-0.581 ***	-0.609 **	-0.864 *	-0.399
	(4.74)	(1.90)	(3.47)	(2.56)	(1.70)	(1.37)
South Kalimantan * Urban	0.480 **	0.104	-0.106	0.045	0.421	-0.471
	(2.22)	(0.59)	(0.58)	(0.19)	(0.79)	(1.18)
South Sulawesi	-1.382 ***	-0.433 ***	-1.343 ***	-1.229 ***	0.401 *	-1.547 **
	(5.67)	(3.27)	(5.31)	(5.35)	(1.72)	(2.17)
South Sulawesi * Urban	0.390	0.157	0.100	0.174	-0.420 *	1.065
	(1.27)	(0.81)	(0.36)	(0.67)	(1.67)	(1.48)
Gross Income	0.237 ***			0.499 ***		
	(3.90)			(5.33)		
Selection Coefficient	-0.934 ***	-0.142	0.196 **	0.381	-0.474	0.036
	(5.27)	(0.88)	(2.10)	(1.37)	(1.33)	(0.24)
Constant	6.201 ***	7.072 ***	4.472 ***	3.569 **	7.444 **	3.435 ***
	(5.51)	(4.11)	(6.40)	(2.41)	(2.09)	(2.74)
F-test						
Own Schooling	17.31	9.31	38.75	7.25	0.25	15.91
	(0.000)	(0.000)	(0.000)	(0.000)	(0.779)	(0.000)
Father's Schooling	1.60	0.36	0.26	1.09	1.88	0.46
	(0.174)	(0.840)	(0.901)	(0.360)	(0.117)	(0.764)
Mother's Schooling	4.74	0.79	0.70	1.68	1.06	0.48
	(0.003)	(0.502)	(0.556)	(0.171)	(0.367)	(0.699)
Parental Schooling	4.52	0.45	0.45	1.87	1.41	0.61
	(0.000)	(0.871)	(0.870)	(0.074)	(0.206)	(0.749)
Age	1.52	6.23	3.52	1.25	8.93	2.33
	(0.195)	(0.000)	(0.008)	(0.288)	(0.000)	(0.057)
Residency	10.86	6.06	13.03	7.33	1.98	3.82
	(0.000)	(0.000)	(0.000)	(0.000)	(0.010)	(0.000)
Adjusted R^2	0.224	0.330	0.397	0.188	0.506	0.363
Root MSE	1.097	0.649	0.743	1.159	0.571	0.866
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers), for parental schooling is no schooling and for province of residence is Jakarta. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling and no urban interaction terms for the province of Lampung and Bali. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.169 **		0.056	0.176		-0.097
	(2.03)		(0.66)	(1.58)		(0.83)
4-6 years	0.316 ***		0.224 ***	0.211 **		0.004
	(4.17)		(3.16)	(2.00)		(0.03)
7-9 years	0.770 ***	0.108	0.500 ***	0.486 ***	0.007	0.087
	(8.45)	(0.78)	(5.96)	(3.44)	(0.03)	(0.45)
10-12 years	1.162 ***	0.446 **	0.576 ***	0.736 ***	-0.424	0.891 ***
	(9.63)	(2.16)	(7.24)	(4.54)	(0.66)	(6.87)
13+ years	2.171 ***	0.742 ***	1.007 ***			
	(10.61)	(2.88)	(9.23)			
Father's Schooling						
Some Elementary	0.274 ***	0.001	0.069	0.094	-0.078	0.064
	(3.14)	(0.00)	(1.13)	(0.98)	(0.47)	(0.50)
Completed Elementary	0.191 **	0.062	0.045	0.234 **	-0.191	0.012
	(2.00)	(0.61)	(0.73)	(2.01)	(1.16)	(0.10)
Secondary/Tertiary	0.354 **	-0.095	0.131 *	0.367 **	-0.074	0.295 *
	(2.56)	(0.79)	(1.71)	(2.07)	(0.44)	(1.96)
Missing	0.209 *	-0.125	0.042	0.013	-0.185	0.002
	(1.78)	(0.59)	(0.51)	(0.10)	(0.70)	(0.01)
Mother's Schooling						
Some Elementary	0.011	-0.014	0.056	0.059	0.090	-0.042
	(0.13)	(0.15)	(0.93)	(0.48)	(0.68)	(0.39)
Completed Elementary/ Secondary/Tertiary	0.297 ***	0.099	0.175 ***	-0.125	0.037	0.189 *
	(3.09)	(1.28)	(2.95)	(0.91)	(0.28)	(1.92)
Missing	0.054	0.038	0.040	-0.180	0.244	0.094
	(0.47)	(0.18)	(0.51)	(1.13)	(0.72)	(0.75)
Age (spline)						
25-29 years	-0.090 **	0.060	0.041 **	-0.036	0.007	0.059 *
	(2.29)	(0.70)	(2.23)	(0.68)	(0.08)	(1.89)
30-39 years	0.001	0.026	0.017 **	0.038 **	-0.004	-0.004
	(0.11)	(1.57)	(2.34)	(2.29)	(0.12)	(0.34)
40-49 years	-0.023 **	0.035 ***	-0.011	-0.024 **	0.034	0.019
	(2.53)	(3.43)	(1.26)	(2.06)	(1.29)	(1.25)
50-59 years	-0.001	-0.008	-0.018	0.017	0.007	-0.077 ***
	(0.11)	(0.40)	(1.16)	(1.18)	(0.22)	(2.95)
Province of Residence						
North Sumatera	-0.792 ***	0.034	-0.473 ***	-0.617 **	-0.035	-0.432 *
	(5.13)	(0.22)	(3.82)	(2.53)	(0.14)	(1.82)
North Sumatera * Urban	0.758 ***	-0.431 **	0.269 *	0.278	-0.524 **	0.253
	(4.62)	(2.38)	(1.87)	(1.13)	(2.12)	(0.94)
West Sumatera	-0.374	0.011	-0.306 ***	-0.639 **	-0.703 **	-0.346
	(1.23)	(0.06)	(3.32)	(2.27)	(2.25)	(1.39)
West Sumatera * Urban	0.210	-0.002	-0.055	0.287	0.516 *	-0.107
	(0.65)	(0.01)	(0.56)	(1.00)	(1.88)	(0.35)
South Sumatera	-1.181 ***	-0.041	-0.494 ***	-1.127 ***	-0.289	-0.894 ***
	(8.65)	(0.15)	(3.46)	(4.42)	(0.25)	(4.18)
South Sumatera * Urban	0.833 ***	0.242	-0.028	1.266 ***	0.194	0.741 **
	(3.19)	(0.87)	(0.14)	(4.10)	(0.17)	(2.36)
Lampung	-1.294 ***	-0.022	-0.829 ***	-0.722 **	-0.256	-1.139 ***
	(11.02)	(0.13)	(4.77)	(2.31)	(0.87)	(5.96)
Lampung * Urban	1.290 ***	-0.090	0.931 ***			
	(5.33)	(0.16)	(3.93)			
West Java	-0.566 ***	-0.016	-0.568 ***	-0.742 ***	-0.210	-0.774 ***
	(5.24)	(0.09)	(6.28)	(3.27)	(0.90)	(3.70)
West Java * Urban	0.377 ***	-0.111	0.242 **	0.492 **	-0.209	0.402 *
	(3.00)	(0.66)	(2.55)	(2.42)	(1.16)	(1.97)

(continued)

Table 6.6B (continued)
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling, Parental Schooling and Residency
IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Central Java	-1.084 ***	-0.149	-1.021 ***	-1.033 ***	-0.459 **	-1.331 ***
	(8.87)	(1.00)	(8.83)	(4.94)	(2.35)	(7.03)
Central Java * Urban	0.530 ***	-0.167	0.412 ***	0.578 ***	0.118	0.611 **
	(3.44)	(1.15)	(3.05)	(3.30)	(0.77)	(2.59)
Yogyakarta	-1.242 ***	-0.094	-0.678 **	-1.179 ***	-0.522 **	-0.707 ***
	(6.66)	(0.67)	(2.52)	(5.82)	(2.26)	(3.03)
Yogyakarta * Urban	0.566 **	0.006	-0.092	0.579 ***	0.253	0.208
	(2.48)	(0.06)	(0.33)	(3.72)	(1.01)	(0.80)
East Java	-0.737 ***	-0.012	-0.773 ***	-0.628 ***	-0.339 **	-0.779 ***
	(6.00)	(0.05)	(10.07)	(2.92)	(2.01)	(6.89)
East Java * Urban	-0.050	-0.210	0.189 **	-0.004	-0.212	-0.0004
	(0.33)	(0.85)	(2.06)	(0.02)	(1.62)	(0.00)
Bali	-0.683 ***	-0.054	-0.663 ***	-0.343	-0.525	-0.616 ***
	(5.84)	(0.50)	(4.74)	(1.64)	(1.62)	(3.68)
Bali * Urban	0.136	0.065	0.189	-0.250	-0.034	0.236
	(1.01)	(0.38)	(1.07)	(1.41)	(0.11)	(1.20)
West Nusa Tenggara	-1.000 ***	0.053	-0.773 ***	-0.686 ***	-0.313	-0.997 ***
	(4.66)	(0.44)	(5.52)	(2.93)	(1.51)	(6.82)
West Nusa Tenggara * Urba	0.879 ***	-0.393 **	-0.235	0.036	-0.011	0.351
	(3.72)	(2.08)	(1.42)	(0.18)	(0.07)	(1.24)
South Kalimantan	-1.079 ***	0.148	-0.578 ***	-0.357	-0.447 *	-0.480 ***
	(6.32)	(1.18)	(2.96)	(1.40)	(1.88)	(2.71)
South Kalimantan * Urban	0.918 ***	-0.312 *	0.193			
	(4.08)	(1.85)	(0.73)			
South Sulawesi	-1.048 ***	-0.419 **	-0.822 ***	-1.213 ***	-0.377 **	-0.947 ***
	(3.22)	(2.51)	(3.40)	(5.62)	(2.01)	(2.67)
South Sulawesi * Urban	0.363	0.386 *	0.099			
	(1.09)	(1.81)	(0.36)			
Selection Coefficient	-1.242 ***	-0.058	0.224 *	-0.062	-0.603	0.138
	(6.23)	(0.30)	(1.74)	(0.20)	(1.59)	(0.44)
Constant	10.323 ***	5.318 *	5.331 ***	7.526 ***	9.167 ***	4.413 ***
	(8.77)	(1.97)	(9.74)	(4.41)	(2.67)	(5.57)
F-test						
Own Schooling	29.96	4.94	28.76	6.30	0.61	25.61
	(0.000)	(0.002)	(0.000)	(0.000)	(0.545)	(0.000)
Father's Schooling	3.02	1.62	0.89	1.45	0.64	2.43
	(0.018)	(0.169)	(0.468)	(0.218)	(0.636)	(0.048)
Mother's Schooling	3.55	0.76	3.05	1.07	0.32	2.07
	(0.015)	(0.515)	(0.028)	(0.360)	(0.811)	(0.104)
Parental Schooling	5.26	1.33	3.41	1.82	0.38	2.74
	(0.000)	(0.235)	(0.001)	(0.082)	(0.911)	(0.009)
Age	4.89	7.53	6.71	1.61	2.46	4.14
	(0.001)	(0.000)	(0.000)	(0.170)	(0.047)	(0.003)
Residency	12.62	2.07	10.98	6.27	1.55	6.32
	(0.000)	(0.003)	(0.000)	(0.000)	(0.065)	(0.000)
Adjusted R^2	0.195	0.236	0.286	0.118	0.197	0.372
Root MSE	1.097	0.635	0.772	1.195	0.600	0.899
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers), for parental schooling is no schooling and for province of residence is Jakarta. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling and no urban interaction terms for the province of Lampung, South Kalimantan and South Sulawesi. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.159 *		0.172 *	0.193 *		0.235 **
	(1.66)		(1.78)	(1.74)		(2.29)
4-6 years	0.337 ***		0.312 ***	0.233 **		0.297 ***
	(3.98)		(3.79)	(2.40)		(2.85)
7-9 years	0.660 ***	0.220	0.538 ***	0.369 ***	0.397	0.504 ***
	(6.61)	(1.23)	(6.17)	(3.19)	(1.08)	(3.08)
10-12 years	1.108 ***	0.722 **	0.762 ***	0.669 ***	0.021	1.137 ***
	(9.02)	(2.16)	(8.72)	(5.03)	(0.02)	(8.53)
13+ years	1.653 ***	1.099 **	1.171 ***			
	(10.16)	(2.43)	(10.86)			
Father's Schooling						
Some Elementary	-0.038	0.003	0.002	0.068	-0.113	-0.027
	(0.59)	(0.03)	(0.04)	(0.65)	(0.62)	(0.30)
Completed Elementary	0.063	0.018	0.020	0.057	-0.008	-0.007
	(0.93)	(0.22)	(0.41)	(0.66)	(0.04)	(0.08)
Secondary/Tertiary	0.137	0.096	0.092	0.180	0.251	0.377 ***
	(1.46)	(1.00)	(1.61)	(1.51)	(1.38)	(3.60)
Missing	-0.138 *	-0.079	-0.074	0.092	0.301	0.039
	(1.70)	(0.49)	(1.12)	(0.91)	(1.12)	(0.41)
Mother's Schooling						
Some Elementary	0.165 **	-0.038	0.002	0.040	-0.057	-0.067
	(2.25)	(0.40)	(0.05)	(0.40)	(0.52)	(0.82)
Completed Elementary/ Secondary/Tertiary	0.274 ***	-0.073	0.068	0.138	-0.051	0.050
	(3.71)	(0.87)	(1.35)	(1.53)	(0.43)	(0.57)
Missing	0.272 ***	-0.264	0.096	0.123	-0.347	-0.135
	(2.91)	(1.57)	(1.26)	(1.10)	(1.59)	(1.31)
Age (spline)						
25-29 years	-0.007	0.108	0.006	0.068	0.049	-0.003
	(0.24)	(1.61)	(0.39)	(1.33)	(0.43)	(0.10)
30-39 years	0.006	0.046 **	0.016 **	0.008	-0.071	0.015
	(0.70)	(2.02)	(2.41)	(0.62)	(1.37)	(1.42)
40-49 years	0.004	0.030 **	0.003	-0.004	0.035	-0.007
	(0.47)	(2.47)	(0.34)	(0.37)	(1.62)	(0.51)
50-59 years	-0.031 ***	0.015	-0.032 **	-0.007	0.059 ***	-0.025
	(2.78)	(0.58)	(2.44)	(0.45)	(2.62)	(1.14)
Province of Residence						
North Sumatera	-0.699 ***	-0.348	-0.302 ***	-0.755 **	0.233	-0.347 *
	(2.84)	(1.62)	(2.73)	(2.29)	(0.74)	(1.69)
North Sumatera * Urban	0.654 **	0.316	0.126	0.438	-0.462	0.126
	(2.55)	(1.40)	(1.12)	(1.28)	(1.20)	(0.57)
West Sumatera	-0.140	0.153	-0.073	-0.833 ***	0.219	-0.737 **
	(1.02)	(0.75)	(0.56)	(4.83)	(1.16)	(2.18)
West Sumatera * Urban	0.312	0.270	-0.054	0.294	-0.123	0.217
	(1.63)	(0.91)	(0.26)	(1.26)	(0.71)	(0.58)
South Sumatera	-0.606 ***	-0.103	-0.164	-0.543 ***	-0.315 *	-0.315
	(3.65)	(0.44)	(1.28)	(2.69)	(1.67)	(1.23)
South Sumatera * Urban	0.818 ***	0.239	-0.041	0.668 ***	0.049	-0.114
	(3.10)	(0.80)	(0.24)	(2.86)	(0.24)	(0.31)
Lampung	-0.504 ***	-0.926 **	-0.357 ***	-0.524 **	-0.977	-0.599 ***
	(3.46)	(2.04)	(2.98)	(2.52)	(1.11)	(3.31)
Lampung * Urban	0.606 ***	0.984 **	0.345 *	0.680 *	1.568 *	-0.091
	(2.86)	(2.08)	(1.71)	(1.73)	(1.79)	(0.38)
West Java	-0.242 *	-0.150	-0.224 ***	-0.281	-0.096	-0.173
	(1.88)	(0.94)	(3.28)	(1.36)	(0.47)	(1.40)
West Java * Urban	0.211	0.073	0.122 *	0.137	-0.083	-0.104
	(1.45)	(0.62)	(1.68)	(0.70)	(0.45)	(0.74)

(continued)

170

Table 6.6C (continued)
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling, Parental Schooling and Residency
IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Central Java	-0.589 ***	-0.090	-0.377 ***	-0.754 ***	0.018	-0.624 ***
	(4.82)	(0.49)	(3.53)	(4.66)	(0.12)	(3.34)
Central Java * Urban	0.290 **	-0.241	-0.027	0.342 **	-0.206	0.131
	(2.10)	(1.50)	(0.24)	(2.47)	(1.08)	(0.60)
Yogyakarta	-0.920 ***	-0.070	-0.536 ***	-0.952 ***	-0.216	-1.242 ***
	(5.77)	(0.44)	(4.18)	(3.81)	(0.85)	(4.12)
Yogyakarta * Urban	0.380 **	-0.090	-0.130	0.468 *	-0.206	0.506
	(2.18)	(0.64)	(1.00)	(1.75)	(0.76)	(1.54)
East Java	-0.255 **	-0.114	-0.384 ***	-0.477 ***	0.077	-0.521 ***
	(2.42)	(0.65)	(5.35)	(2.67)	(0.38)	(4.60)
East Java * Urban	-0.050	0.148	0.059	0.010	-0.137	-0.012
	(0.46)	(0.96)	(0.73)	(0.06)	(0.70)	(0.09)
Bali	-0.667 ***	0.005	-0.341 ***	-0.445 *	0.066	-0.660 **
	(4.15)	(0.04)	(2.69)	(1.84)	(0.28)	(2.36)
Bali * Urban	0.470 ***	-0.249 **	0.066	0.052	-0.308	0.324
	(2.97)	(2.03)	(0.45)	(0.23)	(1.39)	(1.12)
West Nusa Tenggara	-0.489 ***	-0.262	-0.420 ***	-0.447 **	-0.467	-0.781 ***
	(3.19)	(1.33)	(4.99)	(2.23)	(1.47)	(6.30)
West Nusa Tenggara * Urba	0.343	0.087	-0.122	0.343 **	0.203	0.075
	(1.32)	(0.45)	(0.67)	(2.03)	(0.68)	(0.58)
South Kalimantan	-0.253	0.185	-0.156	-0.188	0.376	0.228
	(1.59)	(1.05)	(1.04)	(1.02)	(1.43)	(0.88)
South Kalimantan * Urban	0.334	-0.241	-0.026	0.090	-0.619 **	-0.719 **
	(1.41)	(1.50)	(0.14)	(0.50)	(2.49)	(2.25)
South Sulawesi	-0.304 *	-0.176	-0.366 **	-0.672 **	-0.319	-0.972 ***
	(1.70)	(0.62)	(2.00)	(2.15)	(0.39)	(3.27)
South Sulawesi * Urban	0.228	-0.164	0.086	-0.044	-0.020	0.308
	(1.11)	(0.60)	(0.42)	(0.14)	(0.02)	(0.57)
Selection Coefficient	-1.139 ***	0.082	0.168	-0.054	-0.976 **	0.361
	(5.85)	(0.26)	(1.28)	(0.16)	(2.05)	(1.45)
Constant	8.170 ***	3.927 *	6.592 ***	5.047 ***	8.668 **	6.028 ***
	(8.89)	(1.67)	(14.80)	(2.83)	(2.17)	(8.85)
F-test						
Own Schooling	25.97	2.62	41.27	6.71	0.94	24.08
	(0.000)	(0.051)	(0.000)	(0.000)	(0.390)	(0.000)
Father's Schooling	1.70	0.53	1.36	0.65	2.03	6.09
	(0.148)	(0.712)	(0.245)	(0.624)	(0.092)	(0.000)
Mother's Schooling	6.06	1.02	0.95	1.02	0.87	1.23
	(0.000)	(0.384)	(0.414)	(0.385)	(0.459)	(0.298)
Parental Schooling	4.43	0.84	1.54	1.25	1.81	4.06
	(0.000)	(0.552)	(0.152)	(0.271)	(0.087)	(0.000)
Age	2.22	6.35	5.24	1.02	3.59	1.27
	(0.065)	(0.000)	(0.000)	(0.397)	(0.007)	(0.280)
Residency	4.67	1.79	4.70	3.59	2.74	4.45
	(0.000)	(0.014)	(0.000)	(0.000)	(0.000)	(0.000)
Adjusted R^2	0.115	0.269	0.211	0.069	0.312	0.318
Root MSE	1.127	0.672	0.795	1.224	0.667	0.910
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers), for parental schooling is no schooling and for province of residence is Jakarta. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Table 6.7

Table 6.7
Selectivity Corrected Wage Functions:
Summary of the Effects of Non-linear Own Schooling, Parental Schooling and Residency

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
IFLS1						
1-3 years a)	0.017		-0.026	0.053		-0.026
4-6 years	0.270 ***		0.271 ***	0.377 ***		0.109
7-9 years	0.760 ***	0.139	0.441 ***	0.510 ***	0.125	0.423 **
10-12 years b)	1.095 ***	0.504 **	0.776 ***	0.645 ***	0.393	1.189 ***
13+ years	1.797 ***	0.850 ***	1.327 ***			
IFLS2						
1-3 years a)	0.169 **		0.056	0.176		-0.097
4-6 years	0.316 ***		0.224 ***	0.211 **		0.004
7-9 years	0.770 ***	0.108	0.500 ***	0.486 ***	0.007	0.087
10-12 years b)	1.162 ***	0.446 **	0.576 ***	0.736 ***	-0.424	0.891 ***
13+ years	2.171 ***	0.742 ***	1.007 ***			
IFLS3						
1-3 years a)	0.159 *		0.172 *	0.193 *		0.235 **
4-6 years	0.337 ***		0.312 ***	0.233 **		0.297 ***
7-9 years	0.660 ***	0.220	0.538 ***	0.369 ***	0.397	0.504 ***
10-12 years b)	1.108 ***	0.722 **	0.762 ***	0.669 ***	0.021	1.137 ***
13+ years	1.653 ***	1.099 **	1.171 ***			

Source: Based on estimates of Table 6.6A, 6.6B, 6.6C.
a) Omitted category for public sector workers is 0-6 years.
b) 10+ years for women.

<div align="center">

Table 6.8
Predicted Returns to Schooling:
Specifications that Include Own Schooling

</div>

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
A. Cross Section Sample						
IFLS1						
1-3 years a)	6.3 *	-1.4	8.7 **	6.6	2.7	3.7
4-6 years	11.3 ***		11.4 ***	12.0 ***		7.3
7-9 years	20.1 ***	7.8 *	7.9 ***	1.3	20.3	23.5
10-12 years b)	11.7 **	9.7 **	14.7 ***	12.4 **	8.7 *	15.3
13+ years	18.9 *	8.9 ***	12.8 ***			
IFLS2						
1-3 years a)	5.3	0.3	5.2	5.3	-6.7	10.5 **
4-6 years	8.3 ***		8.0 ***	4.3		4.1
7-9 years	14.0 ***	3.5	13.6 ***	9.7 **	10.1	18.5 ***
10-12 years b)	6.6 *	5.0	4.3 *	16.0 ***	2.9	11.3 ***
13+ years	20.9 ***	6.3 ***	12.7 ***			
IFLS3						
1-3 years a)	6.9 **	-7.8	9.5 ***	8.1 **	-7.2	13.4 ***
4-6 years	6.0 **		4.0	1.3		-0.2
7-9 years	9.7 ***	9.2	8.0 ***	7.6 ***	37.2 *	16.5 ***
10-12 years b)	12.6 ***	4.0	9.4 ***	9.4 **	3.5	13.5 ***
13+ years	13.2 ***	5.3 **	12.5 ***			
B. Panel Sample						
IFLS1						
1-3 years a)	4.6	-8.7	10.3 ***	2.2	3.6	7.1
4-6 years	6.7 **		6.2 *	11.9 **		2.1
7-9 years	19.4 ***	13.0 **	8.9 ***	1.8	10.9	21.4 ***
10-12 years b)	8.3	10.8 *	12.1 ***	3.2	7.0	17.3 ***
13+ years	24.3 **	5.9 **	10.5 **			
IFLS2						
1-3 years a)	5.7	-4.3	6.6	4.5	-9.2	9.2
4-6 years	6.7 *		9.4 ***	3.4		-0.4
7-9 years	18.4 ***	6.7	14.9 ***	17.3 ***	18.5	20.7 ***
10-12 years b)	13.3 **	13.5 *	2.5	13.8	2.3	19.3 ***
13+ years	14.9 *	7.1 ***	8.4 ***			
IFLS3						
1-3 years a)	11.2 **	-8.7	10.8 **	6.0	-5.3	11.9 **
4-6 years	2.7		2.8	1.7		-0.6
7-9 years	10.7 ***	10.3	12.8 ***	9.3 *	41.8 **	15.2 **
10-12 years b)	18.2 ***	8.3	8.3 ***	18.4 ***	10.9 *	15.9 ***
13+ years	23.8 ***	3.1	12.9 ***			

Source: Based on estimates of Appendix Table 6.3A, 6.3B, 6.3C. Detailed estimates for panel sample are not shown.
a) 1-6 years for public sector workers.
b) 10+ years for women.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector

A. Cross Section Sample

IFLS1

1-3 years a)	4.2	-2.3	8.6 **	5.2	2.4	2.4
4-6 years	10.7 ***		10.8 ***	10.0 ***		6.5
7-9 years	19.5 ***	7.1	7.4 ***	-0.1	7.5	21.6 ***
10-12 years b)	11.3 **	7.8	13.4 ***	9.4	0.1	13.0 ***
13+ years	17.8 *	8.0 ***	11.7 ***			

IFLS2

1-3 years a)	0.5	1.9	4.3	5.9	-6.9	7.2
4-6 years	10.3 ***		7.8 ***	2.1		1.4
7-9 years	15.6 ***	7.9	11.7 ***	6.0	9.9	14.7 ***
10-12 years b)	11.3 ***	11.0 **	2.8	12.6 **	1.8	12.2 ***
13+ years	22.8 ***	8.1 ***	10.5 ***			

IFLS3

1-3 years a)	5.2	-7.9	9.3 ***	6.9 *	-7.3	12.5 ***
4-6 years	6.8 **		3.8	0.5		-0.8
7-9 years	9.7 ***	9.3	7.4 ***	6.4 **	16.6	12.2 ***
10-12 years b)	14.5 ***	3.6	8.2 ***	8.4 **	-10.7	12.9 ***
13+ years	12.3 ***	4.9	10.8 ***			

B. Panel Sample

IFLS1

1-3 years a)	2.3	-10.7	11.0 ***	0.9	3.6	6.3
4-6 years	5.9 *		5.3	9.3 **		0.7
7-9 years	18.3 ***	11.3 *	8.6 ***	0.1	1.4	19.2 ***
10-12 years b)	7.7	8.4	11.2 ***	-0.4	-0.1	14.9 ***
13+ years	24.4 **	4.9 *	9.6 **			

IFLS2

1-3 years a)	3.2	-2.0	5.2	3.3	-9.2	8.1
4-6 years	6.0		8.8 ***	2.1		-3.3
7-9 years	17.4 ***	12.3 **	12.8 ***	14.7 **	22.5	18.2 ***
10-12 years b)	14.4 ***	21.4 ***	0.2	10.3	5.2	15.7 ***
13+ years	16.8 **	9.4 ***	7.1 **			

IFLS3

1-3 years a)	8.3 *	-9.9	10.9 **	5.4	-5.9	11.7 **
4-6 years	3.1		1.5	0.9		-2.0
7-9 years	11.1 ***	10.3	12.3 ***	9.1 *	35.2 *	11.3
10-12 years b)	20.3 ***	5.8	6.4 **	19.8 ***	4.7	14.7 ***
13+ years	26.7 ***	2.7	11.2 **			

Source: Based on estimates of Appendix Table 6.4A, 6.4B, 6.4C. Detailed estimates for panel sample are not shown.
a) 1-6 years for public sector workers.
b) 10+ years for women.

Appendix Table 6.1A
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling
IFLS1

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Years of schooling	0.125 ***	0.080 ***	0.108 ***	0.079 ***	0.081	0.123 ***
	(10.58)	(3.18)	(16.82)	(6.62)	(1.63)	(12.27)
Age	0.024	0.078 *	0.096 ***	0.085 **	0.051	0.061 *
	(0.92)	(1.75)	(3.64)	(2.07)	(0.78)	(1.73)
Age^2 (x 10^{-2})	-0.031	-0.066	-0.114 ***	-0.099 **	-0.033	-0.075 *
	(1.00)	(1.31)	(3.39)	(2.02)	(0.41)	(1.70)
Month of interview						
October	0.323 **	-0.147	0.116	0.386 ***	0.026	0.035
	(2.20)	(0.89)	(0.94)	(2.65)	(0.15)	(0.22)
November	0.423 ***	-0.259	0.127	0.407 ***	-0.214	-0.127
	(3.28)	(1.49)	(1.06)	(2.74)	(1.31)	(0.86)
December	-0.082	-0.100	0.070	0.132	0.008	-0.191
	(0.64)	(0.64)	(0.55)	(0.90)	(0.06)	(1.26)
January	-0.002	0.026	0.225	0.094	0.317 *	-0.140
	(0.01)	(0.13)	(1.47)	(0.40)	(1.78)	(0.61)
Gross Income	0.077			0.329 ***		
	(1.11)			(3.16)		
Selection Coefficient	-0.596 ***	-0.114	0.089	0.777 ***	-0.270	-0.017
	(3.63)	(0.60)	(1.28)	(3.10)	(0.97)	(0.12)
Constant	5.077 ***	4.580 ***	3.493 ***	2.429 **	5.284 **	4.027 ***
	(8.71)	(3.42)	(6.63)	(2.30)	(2.48)	(5.28)
***F*-test**						
Age	0.70	14.66	8.52	2.20	16.29	1.50
	(0.499)	(0.000)	(0.000)	(0.113)	(0.000)	(0.225)
Month of interview	7.39	1.53	0.64	3.11	2.37	1.03
	(0.000)	(0.195)	(0.634)	(0.016)	(0.056)	(0.393)
Adjusted R^2	0.114	0.291	0.263	0.088	0.475	0.273
Root MSE	1.173	0.668	0.822	1.228	0.589	0.925
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Appendix Table 6.1B
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling
IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Years of schooling	0.089 ***	0.039	0.087 ***	0.076 ***	-0.019	0.116 ***
	(9.17)	(1.40)	(16.70)	(7.42)	(0.52)	(14.27)
Age	0.072 ***	0.026	0.110 ***	0.069 *	-0.001	0.129 ***
	(2.76)	(0.42)	(5.96)	(1.79)	(0.01)	(4.43)
$Age^2 (x\ 10^{-2})$	-0.088 ***	-0.010	-0.127 ***	-0.075 *	0.023	-0.146 ***
	(2.92)	(0.14)	(5.43)	(1.73)	(0.29)	(4.08)
Month of interview						
October	-0.128	-0.168 *	-0.043	-0.189	-0.253 **	0.114
	(1.13)	(1.84)	(0.54)	(1.56)	(2.24)	(0.97)
November	-0.206 *	-0.190 *	-0.041	-0.097	-0.418 ***	0.060
	(1.86)	(1.97)	(0.55)	(0.82)	(2.90)	(0.51)
December	0.046	-0.086	0.043	0.145	-0.157	0.045
	(0.40)	(0.91)	(0.52)	(0.98)	(1.23)	(0.37)
January-April	-0.038	0.009	0.160 *	0.260	0.067	0.404 **
	(0.27)	(0.09)	(1.85)	(1.13)	(0.50)	(2.46)
Selection Coefficient	0.009	-0.297	-0.015	0.019	-0.473 **	-0.526 **
	(0.05)	(1.39)	(0.13)	(0.08)	(2.18)	(2.46)
Constant	4.676 ***	6.668 ***	3.988 ***	4.455 ***	8.357 ***	3.607 ***
	(7.41)	(3.51)	(10.79)	(4.33)	(4.08)	(6.57)
F-test						
Age	4.87	11.04	21.48	1.74	5.84	10.96
	(0.008)	(0.000)	(0.000)	(0.177)	(0.003)	(0.000)
Month of interview	1.84	1.95	2.01	2.30	3.77	1.86
	(0.121)	(0.102)	(0.091)	(0.059)	(0.006)	(0.116)
Adjusted R^2	0.096	0.218	0.194	0.059	0.241	0.283
Root MSE	1.162	0.643	0.821	1.234	0.583	0.960
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

176

Appendix Table 6.1C
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling
IFLS3

	Men			Women		
	Self Employment	**Public Sector**	**Private Sector**	**Self Employment**	**Public Sector**	**Private Sector**
Years of schooling	0.087 ***	0.054	0.084 ***	0.060 ***	0.044	0.114 ***
	(10.50)	(1.53)	(18.88)	(6.88)	(0.94)	(16.54)
Age	0.084 ***	0.037	0.064 ***	0.127 ***	-0.068	0.064 **
	(3.69)	(0.52)	(4.18)	(3.45)	(0.76)	(2.52)
$Age^2 (x\ 10^{-2})$	-0.098 ***	-0.016	-0.073 ***	-0.140 ***	0.101	-0.070 **
	(3.60)	(0.21)	(3.74)	(3.36)	(1.00)	(2.19)
Month of interview						
August	-0.170 **	0.003	0.022	-0.095	0.123	-0.037
	(2.24)	(0.04)	(0.40)	(0.87)	(0.92)	(0.35)
September	-0.119	-0.061	0.004	-0.082	0.001	-0.064
	(1.35)	(0.72)	(0.08)	(0.74)	(0.01)	(0.57)
October	-0.104	-0.014	0.130 **	-0.073	0.219	0.001
	(1.10)	(0.15)	(2.36)	(0.64)	(1.34)	(0.01)
November-January	0.025	0.162	0.241 ***	-0.069	0.063	0.198 *
	(0.24)	(1.46)	(4.08)	(0.53)	(0.37)	(1.80)
Selection Coefficient	-0.340 **	-0.278	0.116	0.525 *	-0.375	-0.162
	(2.20)	(1.09)	(1.37)	(1.85)	(1.51)	(0.82)
Constant	5.464 ***	6.727 ***	5.251 ***	3.333 ***	9.165 ***	4.959 ***
	(10.77)	(3.00)	(17.96)	(3.11)	(3.34)	(8.68)
F-test						
Age	6.90	8.86	11.77	6.16	7.33	4.64
	(0.001)	(0.000)	(0.000)	(0.002)	(0.001)	(0.010)
Month of interview	1.80	1.61	5.84	0.21	0.98	2.73
	(0.127)	(0.171)	(0.000)	(0.936)	(0.420)	(0.029)
Adjusted R^2	0.072	0.244	0.183	0.044	0.269	0.279
Root MSE	1.154	0.683	0.809	1.240	0.688	0.936
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.
Omitted category for month of interview is June/July. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling, Parental Schooling, Residency,
Household Compositions and Business Assets for Self-Employed Workers

	Men			Women		
	1993	1997	2000	1993	1997	2000
Own Schooling						
1-3 years	0.001	0.132	0.145	0.007	0.272	0.164
	(0.01)	(1.56)	(1.49)	(0.05)	(1.58)	(1.26)
4-6 years	0.264 ***	0.297 ***	0.329 ***	0.324 **	0.324 *	0.201 *
	(3.22)	(3.95)	(3.87)	(2.14)	(1.80)	(1.79)
7-9 years	0.805 ***	0.802 ***	0.672 ***	0.443 **	0.485 ***	0.324 **
	(7.43)	(7.36)	(6.39)	(2.56)	(3.48)	(2.54)
10-12 years	1.251 ***	1.299 ***	1.168 ***	0.594 ***	0.578 **	0.636 ***
	(7.55)	(6.56)	(7.34)	(2.69)	(2.57)	(4.01)
13+ years	1.998 ***	2.345 ***	1.708 ***			
	(6.41)	(7.28)	(7.53)			
Father's Schooling						
Some Elementary	0.145 *	0.319 ***	-0.041	0.112	0.139	0.065
	(1.94)	(3.23)	(0.63)	(0.93)	(1.19)	(0.60)
Completed Elementary	0.148	0.237 **	0.066	0.042	0.312 **	0.028
	(1.60)	(2.28)	(0.98)	(0.27)	(2.05)	(0.28)
Secondary/Tertiary	0.004	0.421 ***	0.151	0.234	0.384 *	0.140
	(0.03)	(2.88)	(1.59)	(1.43)	(1.87)	(1.19)
Missing	0.059	0.245 *	-0.144 *	-0.043	0.042	0.081
	(0.69)	(1.91)	(1.79)	(0.37)	(0.30)	(0.75)
Mother's Schooling						
Some Elementary	0.217 **	0.030	0.182 **	0.211	-0.010	0.031
	(2.38)	(0.35)	(2.35)	(1.52)	(0.07)	(0.30)
Completed Elementary/	0.351 ***	0.355 ***	0.299 ***	0.211	-0.265	0.155
Secondary/Tertiary	(3.22)	(3.29)	(3.64)	(1.41)	(1.29)	(1.53)
Missing	0.205 ***	0.138	0.292 ***	0.097	-0.310	0.141
	(2.81)	(1.17)	(3.10)	(0.79)	(1.49)	(1.02)
Age (spline)						
25-29 years	0.043	-0.108 **	-0.016	0.052	-0.018	0.063
	(1.09)	(2.37)	(0.46)	(1.02)	(0.31)	(0.96)
30-39 years	-0.001	-0.003	0.006	0.006	0.058 *	0.002
	(0.07)	(0.28)	(0.70)	(0.22)	(1.71)	(0.11)
40-49 years	-0.012	-0.034 ***	-0.004	-0.018	-0.020	-0.011
	(1.10)	(3.24)	(0.41)	(1.24)	(1.44)	(0.55)
50-59 years	0.031 **	0.008	-0.037 ***	0.002	0.027	0.002
	(2.16)	(0.62)	(2.72)	(0.07)	(1.62)	(0.12)

Appendix Table 6.2 (continued)
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling, Parental Schooling, Residency,
Household Compositions and Business Assets for Self-Employed Workers

	Men			Women		
	1993	1997	2000	1993	1997	2000
Bus. assets and HH compositions						
Business assets (million)	-0.020	0.015	0.001	0.142 ***	0.046 ***	0.015 ***
	(1.23)	(1.02)	(0.11)	(3.86)	(3.59)	(2.81)
# men, aged 20-49	0.261 ***	0.110 ***	0.016	0.071	-0.039	0.012
	(5.43)	(2.86)	(0.46)	(0.66)	(0.50)	(0.25)
# women, aged 20-49	0.047	0.160 ***	0.099 ***	0.098	0.013	0.072 **
	(0.84)	(5.15)	(3.39)	(1.64)	(0.27)	(2.43)
# men, aged 50+	0.003	-0.043	0.040	0.019	-0.033	0.014
	(0.04)	(0.57)	(0.59)	(0.09)	(0.20)	(0.12)
# women, aged 50+	-0.033	0.218 ***	0.070	0.142	-0.113	-0.003
	(0.55)	(3.07)	(1.39)	(1.29)	(1.60)	(0.04)
Gross Income	0.234 ***			0.504 ***		
	(3.87)			(5.41)		
Selection Coefficient	-1.178 ***	-1.767 ***	-1.374 ***	0.297	0.694	-0.175
	(5.72)	(3.94)	(4.02)	(0.35)	(0.71)	(0.23)
Constant	5.651 ***	10.844 ***	8.411 ***	3.864 *	5.824 **	5.280 *
	(5.02)	(7.21)	(7.54)	(1.76)	(2.18)	(1.91)
F-test						
Own Schooling	17.69	14.05	13.14	5.97	5.09	5.40
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Father's Schooling	1.31	3.19	1.90	0.76	1.25	0.48
	(0.265)	(0.014)	(0.110)	(0.554)	(0.289)	(0.749)
Mother's Schooling	5.75	3.73	5.81	0.99	1.51	0.85
	(0.001)	(0.011)	(0.001)	(0.399)	(0.213)	(0.465)
Parental Schooling	5.01	4.21	3.93	1.57	1.53	1.07
	(0.000)	(0.000)	(0.000)	(0.144)	(0.156)	(0.384)
Age	1.63	3.32	2.16	0.93	2.11	0.94
	(0.167)	(0.011)	(0.072)	(0.445)	(0.079)	(0.443)
Residency	10.39	11.77	4.43	7.29	6.07	3.29
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Bus. assets and HH composi	6.58	10.96	3.62	4.92	4.91	3.30
	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)	(0.006)
Adjusted R^2	0.237	0.217	0.119	0.204	0.135	0.078
Root MSE	1.088	1.082	1.125	1.147	1.184	1.219
Observations	2,107	2,318	3,023	1,272	1,480	2,047

Source: IFLS1, IFLS2 and IFLS3.
Province of residence along with its interaction with urban dummy variables and month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling (splines)						
1-3 years a)	0.063 *	-0.014	0.087 **	0.066	0.027	0.037
	(1.92)	(0.33)	(2.59)	(1.39)	(0.51)	(0.89)
4-6 years	0.113 ***		0.114 ***	0.120 ***		0.073
	(4.21)		(3.62)	(3.21)		(1.52)
7-9 years	0.201 ***	0.078 *	0.079 ***	0.013	0.203	0.235 ***
	(6.14)	(1.72)	(3.06)	(0.30)	(1.59)	(3.94)
10-12 years	0.117 **	0.097 **	0.147 ***	0.124 **	0.087 *	0.153 ***
	(2.51)	(2.06)	(5.38)	(2.12)	(1.93)	(4.03)
13+ years	0.189 *	0.089 ***	0.128 ***			
	(1.87)	(4.64)	(3.53)			
Age (spline)						
25-29 years	0.047	-0.007	0.074 ***	0.102 *	0.071	0.104 **
	(1.22)	(0.11)	(2.68)	(1.91)	(1.08)	(2.56)
30-39 years	0.010	0.040 ***	0.006	0.020	0.023 *	-0.008
	(0.88)	(3.16)	(0.73)	(1.26)	(1.75)	(0.54)
40-49 years	-0.023 **	0.020	0.014	-0.022	0.037 **	0.000
	(2.23)	(1.65)	(1.61)	(1.64)	(2.25)	(0.01)
50-59 years	0.014	-0.005	-0.054 **	0.012	-0.007	-0.026
	(0.96)	(0.26)	(2.60)	(0.56)	(0.18)	(1.01)
Month of interview						
October	0.320 **	-0.127	0.121	0.392 ***	0.041	0.061
	(2.21)	(0.83)	(0.98)	(2.69)	(0.22)	(0.41)
November	0.429 ***	-0.243	0.140	0.413 ***	-0.175	-0.125
	(3.31)	(1.52)	(1.15)	(2.72)	(1.06)	(0.91)
December	-0.092	-0.058	0.081	0.144	0.018	-0.150
	(0.72)	(0.40)	(0.64)	(0.96)	(0.12)	(1.06)
January	-0.019	0.066	0.244	0.091	0.324 *	-0.083
	(0.11)	(0.36)	(1.58)	(0.39)	(1.76)	(0.39)
Gross Income	0.074			0.323 ***		
	(1.07)			(3.13)		
Selection Coefficient	-0.637 ***	-0.196	0.080	0.810 ***	-0.207	-0.109
	(3.78)	(1.14)	(1.10)	(2.88)	(0.76)	(0.78)
Constant	4.309 ***	6.989 ***	3.282 ***	1.129	4.311 *	2.549 **
	(4.00)	(3.94)	(4.13)	(0.70)	(1.69)	(2.24)
F-test						
Own Schooling	26.92	6.23	58.74	12.55	1.54	54.49
	(0.000)	(0.000)	(0.000)	(0.000)	(0.208)	(0.000)
Age	2.32	7.85	(0.000)	3.15	14.57	2.39
	(0.057)	(0.000)	(0.000)	(0.015)	(0.000)	(0.052)
Month of interview	7.62	1.91	0.73	3.12	2.28	1.06
	(0.000)	(0.110)	(0.573)	(0.016)	(0.064)	(0.380)
Adjusted R^2	0.117	0.305	0.265	0.091	0.482	0.296
Root MSE	1.171	0.661	0.821	1.226	0.585	0.910
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
a) 1-6 years for public sector workers.
Omitted category for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced its splines. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Appendix Table 6.3B
Selectivity Corrected Wage Functions:
The Effects of Own Schooling (splines)
IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling (splines)						
1-3 years a)	0.053	0.003	0.052	0.053	-0.067	0.105 **
	(1.49)	(0.10)	(1.62)	(1.24)	(1.14)	(2.45)
4-6 years	0.083 ***		0.080 ***	0.043		0.041
	(2.64)		(3.07)	(1.07)		(0.95)
7-9 years	0.140 ***	0.035	0.136 ***	0.097 **	0.101	0.185 ***
	(4.51)	(0.70)	(6.01)	(2.13)	(0.83)	(5.01)
10-12 years	0.066 *	0.050	0.043 *	0.160 ***	0.029	0.113 ***
	(1.68)	(1.02)	(1.92)	(3.37)	(0.70)	(4.32)
13+ years	0.209 ***	0.063 ***	0.127 ***			
	(4.65)	(3.31)	(5.91)			
Age (spline)						
25-29 years	-0.002	0.030	0.045 **	-0.037	0.062	0.072 **
	(0.05)	(0.35)	(2.28)	(0.70)	(0.84)	(2.40)
30-39 years	0.019 *	0.012	0.023 ***	0.042 ***	0.021	0.024 *
	(1.78)	(0.73)	(3.12)	(2.83)	(1.03)	(1.94)
40-49 years	-0.017 *	0.026 ***	0.000	-0.024 **	0.021	0.018
	(1.73)	(2.68)	(0.02)	(2.04)	(1.31)	(1.20)
50-59 years	-0.011	0.005	-0.028 *	0.010	0.025	-0.054 **
	(0.90)	(0.26)	(1.84)	(0.67)	(0.94)	(2.14)
Month of interview						
October	-0.137	-0.171 *	-0.044	-0.192	-0.227 **	0.108
	(1.22)	(1.93)	(0.56)	(1.61)	(2.00)	(0.94)
November	-0.204 *	-0.183 *	-0.039	-0.092	-0.354 **	0.070
	(1.83)	(1.92)	(0.53)	(0.80)	(2.53)	(0.59)
December	0.045	-0.081	0.035	0.154	-0.144	0.027
	(0.40)	(0.86)	(0.43)	(1.04)	(1.12)	(0.22)
January-April	-0.060	-0.006	0.148 *	0.210	0.068	0.360 **
	(0.43)	(0.06)	(1.71)	(0.93)	(0.52)	(2.25)
Selection Coefficient	-0.147	-0.293	-0.051	-0.096	-0.285	-0.718 ***
	(0.76)	(1.52)	(0.44)	(0.41)	(1.43)	(3.09)
Constant	6.277 ***	6.666 **	4.907 ***	6.984 ***	6.139 **	4.441 ***
	(4.60)	(2.46)	(8.32)	(4.36)	(2.46)	(5.64)
***F*-test**						
Own Schooling	21.99	2.79	57.37	15.57	0.56	51.36
	(0.000)	(0.027)	(0.000)	(0.000)	(0.645)	(0.000)
Age	2.52	5.89	10.38	2.11	4.62	6.99
	(0.041)	(0.000)	(0.000)	(0.079)	(0.001)	(0.000)
Month of interview	1.81	1.82	1.71	2.35	3.16	1.58
	(0.127)	(0.124)	(0.146)	(0.054)	(0.015)	(0.179)
Adjusted R^2	0.100	0.221	0.195	0.065	0.245	0.306
Root MSE	1.160	0.641	0.820	1.231	0.582	0.945
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.
a) 1-6 years for public sector workers.
Omitted category for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced its splines. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

181

Appendix Table 6.3C
Selectivity Corrected Wage Functions:
The Effects of Own Schooling (splines)
IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling (splines)						
1-3 years a)	0.069 **	-0.078	0.095 ***	0.081 **	-0.072	0.134 ***
	(2.12)	(1.11)	(2.89)	(2.00)	(0.61)	(3.39)
4-6 years	0.060 **		0.040	0.013		-0.002
	(2.10)		(1.60)	(0.35)		(0.04)
7-9 years	0.097 ***	0.092	0.080 ***	0.076 ***	0.372 *	0.165 ***
	(3.91)	(1.60)	(4.66)	(2.70)	(1.97)	(4.67)
10-12 years	0.126 ***	0.040	0.094 ***	0.094 **	0.035	0.135 ***
	(4.16)	(0.57)	(5.80)	(2.53)	(0.68)	(6.04)
13+ years	0.132 ***	0.053 **	0.125 ***			
	(4.72)	(1.98)	(7.74)			
Age (spline)						
25-29 years	0.034	0.038	0.003	0.091 *	0.060	0.016
	(1.17)	(0.60)	(0.21)	(1.83)	(0.61)	(0.61)
30-39 years	0.010	0.022	0.018 ***	0.019	0.012	0.013
	(1.13)	(1.00)	(3.03)	(1.42)	(0.42)	(1.31)
40-49 years	0.005	0.016	0.008	0.004	0.006	0.003
	(0.62)	(1.55)	(0.96)	(0.35)	(0.45)	(0.24)
50-59 years	-0.032 ***	0.033	-0.032 **	-0.020	0.059 **	-0.022
	(2.73)	(1.60)	(2.52)	(1.31)	(2.39)	(1.06)
Month of interview						
August	-0.173 **	0.003	0.014	-0.121	0.102	-0.014
	(2.30)	(0.03)	(0.26)	(1.12)	(0.74)	(0.13)
September	-0.132	-0.059	0.008	-0.116	0.020	-0.047
	(1.50)	(0.68)	(0.16)	(1.04)	(0.15)	(0.42)
October	-0.094	0.002	0.129 **	-0.113	0.217	0.001
	(0.98)	(0.03)	(2.34)	(1.00)	(1.40)	(0.01)
November-January	0.026	0.193 *	0.222 ***	-0.090	0.043	0.208 *
	(0.26)	(1.71)	(3.79)	(0.68)	(0.26)	(1.88)
Selection Coefficient	-0.501 ***	-0.370	0.035	0.258	-0.258	-0.053
	(3.07)	(1.39)	(0.46)	(0.84)	(1.13)	(0.26)
Constant	6.333 ***	7.425 ***	6.500 ***	3.696 **	5.869 *	5.711 ***
	(7.32)	(3.23)	(15.28)	(2.27)	(1.90)	(8.09)
F-test						
Own Schooling	24.07	2.16	79.60	13.74	2.22	68.36
	(0.000)	(0.073)	(0.000)	(0.000)	(0.087)	(0.000)
Age	3.24	4.21	7.16	2.18	4.10	1.49
	(0.012)	(0.002)	(0.000)	(0.071)	(0.003)	(0.205)
Month of interview	1.94	2.00	5.26	0.37	0.73	2.53
	(0.102)	(0.093)	(0.000)	(0.832)	(0.570)	(0.040)
Adjusted R^2	0.074	0.255	0.187	0.045	0.300	0.287
Root MSE	1.153	0.678	0.807	1.240	0.673	0.930
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.

a) 1-6 years for public sector workers.

Omitted category for month of interview is June/July. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced its splines. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling (splines)						
1-3 years a)	0.042	-0.023	0.086 **	0.052	0.024	0.024
	(1.31)	(0.55)	(2.50)	(1.11)	(0.47)	(0.55)
4-6 years	0.107 ***		0.108 ***	0.100 ***		0.065
	(3.91)		(3.45)	(2.72)		(1.31)
7-9 years	0.195 ***	0.071	0.074 ***	-0.001	0.075	0.216 ***
	(6.05)	(1.54)	(2.80)	(0.02)	(0.48)	(3.58)
10-12 years	0.113 **	0.078	0.134 ***	0.094	0.001	0.130 ***
	(2.46)	(1.61)	(4.85)	(1.55)	(0.02)	(3.16)
13+ years	0.178 *	0.080 ***	0.117 ***			
	(1.73)	(3.83)	(3.22)			
Father's Schooling						
Some Elementary	0.190 **	0.135	-0.009	0.128	-0.189	0.118
	(2.30)	(1.40)	(0.12)	(1.04)	(1.25)	(0.97)
Completed Elementary	0.156	0.015	0.030	0.166	-0.361 **	0.238 *
	(1.55)	(0.16)	(0.36)	(1.40)	(2.42)	(1.73)
Secondary/Tertiary	0.204	-0.020	0.162 *	0.252	-0.055	0.276
	(1.22)	(0.18)	(1.67)	(1.27)	(0.34)	(1.38)
Missing	0.089	0.071	-0.017	-0.054	-0.118	0.133
	(0.98)	(0.57)	(0.19)	(0.47)	(0.65)	(1.10)
Mother's Schooling						
Some Elementary	0.185 **	-0.039	0.019	0.142	0.182 *	0.021
	(1.98)	(0.42)	(0.26)	(1.14)	(1.73)	(0.16)
Completed Elementary/	0.361 ***	0.155 *	0.099	0.257 *	0.182	0.107
Secondary/Tertiary	(3.31)	(1.93)	(1.17)	(1.83)	(1.59)	(0.70)
Missing	0.174 **	0.092	0.058	0.092	0.021	-0.077
	(2.21)	(0.87)	(0.68)	(0.86)	(0.12)	(0.59)
Age (spline)						
25-29 years	0.047	-0.011	0.074 ***	0.090 *	-0.006	0.107 **
	(1.20)	(0.19)	(2.68)	(1.67)	(0.08)	(2.60)
30-39 years	0.014	0.036 ***	0.006	0.027	0.027 *	-0.007
	(1.24)	(2.92)	(0.80)	(1.65)	(1.97)	(0.44)
40-49 years	-0.020 **	0.021	0.014	-0.022	0.040 **	0.003
	(1.97)	(1.65)	(1.57)	(1.57)	(2.42)	(0.17)
50-59 years	0.014	-0.003	-0.054 **	0.012	0.002	-0.027
	(1.00)	(0.13)	(2.57)	(0.55)	(0.06)	(1.09)
Gross Income	0.088			0.318 ***		
	(1.29)			(3.13)		
Selection Coefficient	-0.760 ***	-0.271	0.110	0.827 ***	-0.625	-0.120
	(4.29)	(1.49)	(1.32)	(2.75)	(1.59)	(0.77)
Constant	4.214 ***	7.236 ***	3.234 ***	1.304	7.796 **	2.434 **
	(3.86)	(4.09)	(4.09)	(0.80)	(2.25)	(2.08)
F-test						
Own Schooling	22.88	4.32	41.21	6.96	0.48	20.05
	(0.000)	(0.002)	(0.000)	(0.000)	(0.693)	(0.000)
Father's Schooling	1.56	0.92	1.09	0.98	3.15	0.94
	(0.185)	(0.452)	(0.363)	(0.420)	(0.016)	(0.442)
Mother's Schooling	4.80	1.92	0.54	1.27	1.74	0.34
	(0.003)	(0.127)	(0.653)	(0.285)	(0.162)	(0.794)
Parental Schooling	5.17	1.21	1.23	1.68	2.08	1.15
	(0.000)	(0.296)	(0.286)	(0.115)	(0.050)	(0.333)
Age	2.28	7.15	5.97	3.07	12.84	2.60
	(0.061)	(0.000)	(0.000)	(0.017)	(0.000)	(0.037)
Adjusted R^2	0.130	0.306	0.265	0.095	0.489	0.296
Root MSE	1.162	0.661	0.821	1.223	0.581	0.910
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
a) 1-6 years for public sector workers.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling.
Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced its splines. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

183

Appendix Table 6.4B
Selectivity Corrected Wage Functions:
The Effects of Own Schooling (splines) and Parental Schooling
IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling (splines)						
1-3 years a)	0.005	0.019	0.043	0.059	-0.069	0.072
	(0.15)	(0.55)	(1.36)	(1.35)	(1.14)	(1.62)
4-6 years	0.103 ***		0.078 ***	0.021		0.014
	(3.24)		(3.00)	(0.52)		(0.31)
7-9 years	0.156 ***	0.079	0.117 ***	0.060	0.099	0.147 ***
	(5.14)	(1.65)	(5.20)	(1.26)	(0.67)	(3.96)
10-12 years	0.113 ***	0.110 **	0.028	0.126 **	0.018	0.122 ***
	(2.88)	(2.37)	(1.30)	(2.58)	(0.33)	(4.67)
13+ years	0.228 ***	0.081 ***	0.105 ***			
	(5.36)	(4.68)	(4.70)			
Father's Schooling						
Some Elementary	0.295 ***	-0.043	0.057	0.172 *	-0.064	0.009
	(3.20)	(0.44)	(0.86)	(1.77)	(0.42)	(0.07)
Completed Elementary	0.194 *	0.011	0.100	0.322 ***	-0.106	0.104
	(1.95)	(0.11)	(1.52)	(2.75)	(0.77)	(0.87)
Secondary/Tertiary	0.510 ***	-0.175	0.221 ***	0.488 ***	-0.071	0.307 **
	(3.69)	(1.53)	(2.71)	(2.70)	(0.47)	(2.09)
Missing	0.286 **	-0.141	0.052	0.114	-0.207	0.016
	(2.23)	(0.73)	(0.61)	(0.82)	(0.92)	(0.13)
Mother's Schooling						
Some Elementary	0.069	0.061	0.108 *	0.079	0.112	0.030
	(0.75)	(0.68)	(1.81)	(0.65)	(0.98)	(0.26)
Completed Elementary/	0.354 ***	0.180 **	0.210 ***	-0.091	0.082	0.202 **
Secondary/Tertiary	(3.56)	(2.33)	(3.51)	(0.65)	(0.74)	(2.02)
Missing	0.029	0.057	0.132	-0.196	0.294	0.121
	(0.24)	(0.29)	(1.62)	(1.21)	(1.07)	(0.97)
Age (spline)						
25-29 years	-0.059	0.069	0.049 **	-0.022	0.057	0.056 *
	(1.39)	(0.85)	(2.51)	(0.40)	(0.71)	(1.85)
30-39 years	0.012	0.031 **	0.020 ***	0.054 ***	0.016	0.015
	(1.12)	(2.11)	(2.73)	(3.40)	(0.66)	(1.21)
40-49 years	-0.021 **	0.030 ***	-0.003	-0.021 *	0.025	0.020
	(2.12)	(3.07)	(0.30)	(1.82)	(1.36)	(1.29)
50-59 years	-0.001	-0.008	-0.028 *	0.011	0.023	-0.071 ***
	(0.11)	(0.42)	(1.84)	(0.75)	(0.84)	(2.74)
Selection Coefficient	-0.897 ***	0.003	0.161	0.225	-0.336	-0.275
	(4.37)	(0.02)	(1.26)	(0.76)	(1.24)	(1.19)
Constant	8.413 ***	4.640 *	4.521 ***	5.955 ***	6.462 **	4.262 ***
	(6.54)	(1.81)	(7.78)	(3.51)	(2.19)	(5.41)
F-test						
Own Schooling	26.46	6.19	36.39	7.30	0.44	29.01
	(0.000)	(0.000)	(0.000)	(0.000)	(0.724)	(0.000)
Father's Schooling	4.34	1.92	1.89	2.49	0.32	1.61
	(0.002)	(0.107)	(0.111)	(0.043)	(0.862)	(0.172)
Mother's Schooling	4.95	1.86	4.26	1.13	0.53	1.69
	(0.002)	(0.136)	(0.006)	(0.338)	(0.664)	(0.169)
Parental Schooling	7.02	1.74	5.80	2.52	0.32	2.96
	(0.000)	(0.099)	(0.000)	(0.015)	(0.946)	(0.005)
Age	2.01	7.71	8.88	2.94	3.83	5.34
	(0.093)	(0.000)	(0.000)	(0.021)	(0.005)	(0.000)
Adjusted R^2	0.118	0.225	0.207	0.073	0.232	0.312
Root MSE	1.148	0.640	0.814	1.226	0.587	0.940
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.

a) 1-6 years for public sector workers.

Month of interview dummy variables are included in the regressions but are not reported. Omitted category for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced its splines. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

184

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling (splines)						
1-3 years a)	0.052	-0.079	0.093 ***	0.069 *	-0.073	0.125 ***
	(1.62)	(1.04)	(2.83)	(1.67)	(0.61)	(3.07)
4-6 years	0.068 **		0.038	0.005		-0.008
	(2.42)		(1.48)	(0.15)		(0.25)
7-9 years	0.097 ***	0.093	0.074 ***	0.064 **	0.166	0.122 ***
	(3.89)	(1.51)	(4.34)	(2.22)	(0.82)	(3.33)
10-12 years	0.145 ***	0.036	0.082 ***	0.084 **	-0.107	0.129 ***
	(4.70)	(0.44)	(4.94)	(2.13)	(1.25)	(5.88)
13+ years	0.123 ***	0.049	0.108 ***			
	(4.21)	(1.62)	(6.42)			
Father's Schooling						
Some Elementary	-0.068	-0.071	-0.022	0.055	-0.017	-0.045
	(1.00)	(0.71)	(0.38)	(0.54)	(0.09)	(0.49)
Completed Elementary	0.031	-0.020	0.025	0.086	0.011	0.031
	(0.44)	(0.23)	(0.50)	(1.03)	(0.06)	(0.34)
Secondary/Tertiary	0.155	0.073	0.110 *	0.201 *	0.277	0.358 ***
	(1.62)	(0.72)	(1.92)	(1.69)	(1.46)	(3.51)
Missing	-0.157 *	0.028	-0.060	0.119	0.202	0.083
	(1.91)	(0.17)	(0.91)	(1.19)	(0.69)	(0.89)
Mother's Schooling						
Some Elementary	0.163 **	-0.001	0.027	0.042	0.036	-0.060
	(2.27)	(0.01)	(0.51)	(0.41)	(0.36)	(0.71)
Completed Elementary/ Secondary/Tertiary	0.323 ***	-0.001	0.090 *	0.125	0.082	0.019
	(4.31)	(0.02)	(1.86)	(1.36)	(0.69)	(0.22)
Missing	0.308 ***	-0.137	0.120	0.106	-0.197	-0.105
	(3.18)	(0.79)	(1.60)	(0.92)	(0.77)	(1.03)
Age (spline)						
25-29 years	0.021	0.040	0.004	0.082	0.023	0.004
	(0.70)	(0.60)	(0.27)	(1.61)	(0.23)	(0.14)
30-39 years	0.009	0.023	0.017 ***	0.015	-0.052	0.012
	(0.99)	(0.94)	(2.81)	(1.17)	(1.25)	(1.20)
40-49 years	0.004	0.017	0.007	0.003	0.022	-0.001
	(0.52)	(1.38)	(0.80)	(0.29)	(1.41)	(0.05)
50-59 years	-0.030 **	0.034	-0.034 ***	-0.019	0.070 ***	-0.029
	(2.60)	(1.52)	(2.71)	(1.22)	(2.67)	(1.35)
Selection Coefficient	-0.906 ***	-0.364	0.136	0.118	-0.897 **	0.228
	(4.65)	(1.14)	(1.43)	(0.34)	(2.20)	(1.04)
Constant	6.980 ***	7.357 ***	6.368 ***	4.090 **	9.261 **	5.685 ***
	(7.77)	(2.81)	(14.71)	(2.35)	(2.56)	(8.22)
F-test						
Own Schooling	23.01	2.12	54.25	7.36	2.04	38.79
	(0.000)	(0.077)	(0.000)	(0.000)	(0.109)	(0.000)
Father's Schooling	2.18	0.59	1.65	0.90	1.26	5.22
	(0.069)	(0.669)	(0.160)	(0.466)	(0.288)	(0.000)
Mother's Schooling	7.74	0.23	1.62	0.77	0.60	0.64
	(0.000)	(0.879)	(0.182)	(0.513)	(0.615)	(0.588)
Parental Schooling	5.54	0.53	2.42	1.41	1.20	3.36
	(0.000)	(0.808)	(0.018)	(0.197)	(0.301)	(0.002)
Age	2.48	4.26	6.74	1.54	4.60	1.28
	(0.043)	(0.002)	(0.000)	(0.189)	(0.001)	(0.275)
Adjusted R^2	0.085	0.252	0.190	0.046	0.304	0.295
Root MSE	1.146	0.680	0.806	1.239	0.671	0.926
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.
a) 1-6 years for public sector workers.

Month of interview dummy variables are included in the regressions but are not reported. Omitted category for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced its splines. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Appendix Table 6.5A
OLS Wage Functions:
The Effects of Non-linear Own Schooling and Parental Schooling
IFLS1

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.093		0.108	0.050		0.041
	(1.05)		(1.21)	(0.44)		(0.39)
4-6 years	0.364 ***		0.484 ***	0.317 ***		0.227 **
	(4.01)		(6.18)	(2.80)		(2.01)
7-9 years	0.789 ***	0.207 *	0.743 ***	0.552 ***	0.498 **	0.618 ***
	(6.94)	(1.73)	(8.22)	(3.39)	(2.29)	(3.84)
10-12 years	0.811 ***	0.665 ***	1.100 ***	0.897 ***	1.351 ***	1.498 ***
	(6.58)	(6.74)	(11.33)	(4.95)	(9.23)	(8.66)
13+ years	1.485 ***	1.025 ***	1.700 ***			
	(6.10)	(9.48)	(11.81)			
Father's Schooling						
Some Elementary	0.235 ***	0.104	-0.003	0.064	-0.018	0.098
	(2.85)	(1.06)	(0.05)	(0.53)	(0.12)	(0.85)
Completed Elementary	0.156	0.008	0.056	0.057	-0.217	0.184
	(1.55)	(0.08)	(0.69)	(0.52)	(1.47)	(1.43)
Secondary/Tertiary	0.254	-0.032	0.158	0.292	-0.007	0.236
	(1.56)	(0.29)	(1.63)	(1.55)	(0.05)	(1.13)
Missing	0.023	0.015	-0.033	-0.068	-0.089	0.120
	(0.26)	(0.12)	(0.37)	(0.58)	(0.52)	(1.00)
Mother's Schooling						
Some Elementary	0.093	-0.005	0.013	0.226 *	0.109	0.036
	(1.03)	(0.06)	(0.17)	(1.84)	(1.02)	(0.31)
Completed Elementary/	0.300 ***	0.163 *	0.087	0.344 **	0.163	0.125
Secondary/Tertiary	(2.78)	(1.94)	(1.08)	(2.44)	(1.54)	(0.84)
Missing	0.152 *	0.104	0.073	0.117	0.105	-0.075
	(1.95)	(1.02)	(0.85)	(1.06)	(0.93)	(0.59)
Age (spline)						
25-29 years	0.029	0.010	0.072 ***	0.060	0.107 **	0.103 **
	(0.75)	(0.20)	(2.67)	(1.13)	(2.26)	(2.50)
30-39 years	0.026 **	0.046 ***	0.007	0.007	0.036 ***	-0.008
	(2.40)	(4.21)	(0.94)	(0.48)	(2.68)	(0.54)
40-49 years	-0.020 **	0.024 *	0.015 *	-0.019	0.030 **	0.002
	(2.01)	(1.97)	(1.73)	(1.37)	(2.18)	(0.15)
50-59 years	0.014	-0.013	-0.053 **	0.010	-0.012	-0.030
	(0.95)	(0.65)	(2.53)	(0.44)	(0.38)	(1.20)
Gross Income	0.079			0.315 ***		
	(1.13)			(3.09)		
Constant	4.269 ***	5.913 ***	3.414 ***	3.416 **	2.816 **	2.360 **
	(3.89)	(3.86)	(4.47)	(2.28)	(2.13)	(2.05)
F-test						
Own Schooling	20.24	34.17	45.03	8.32	58.40	20.79
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Father's Schooling	2.58	0.62	1.06	0.83	1.81	0.68
	(0.038)	(0.647)	(0.376)	(0.506)	(0.130)	(0.606)
Mother's Schooling	3.32	1.72	0.55	2.45	0.84	0.43
	(0.020)	(0.164)	(0.650)	(0.064)	(0.474)	(0.732)
Parental Schooling	4.46	1.02	1.23	2.08	1.23	0.97
	(0.000)	(0.416)	(0.284)	(0.046)	(0.290)	(0.451)
Age	3.42	15.65	6.49	1.25	16.82	2.36
	(0.009)	(0.000)	(0.000)	(0.289)	(0.000)	(0.055)
Adjusted R^2	0.117	0.297	0.265	0.088	0.486	0.304
Root MSE	1.171	0.665	0.820	1.228	0.583	0.905
Observations	2,107	574	1,391	1,272	252	616

Source: IFLS1.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.218 **		0.106	0.171		0.019
	(2.44)		(1.18)	(1.59)		(0.16)
4-6 years	0.363 ***		0.319 ***	0.202 **		0.174 *
	(4.37)		(4.28)	(2.07)		(1.67)
7-9 years	0.729 ***	0.162	0.692 ***	0.546 ***	0.403	0.432 ***
	(7.50)	(1.42)	(7.96)	(3.70)	(1.60)	(2.80)
10-12 years	0.837 ***	0.528 ***	0.791 ***	0.802 ***	0.706 ***	1.162 ***
	(8.18)	(5.72)	(9.48)	(5.03)	(2.94)	(8.74)
13+ years	1.551 ***	0.849 ***	1.251 ***			
	(8.85)	(9.69)	(10.59)			
Father's Schooling						
Some Elementary	0.226 **	-0.042	0.041	0.152	-0.028	0.026
	(2.51)	(0.44)	(0.63)	(1.62)	(0.20)	(0.21)
Completed Elementary	0.114	0.032	0.091	0.294 **	-0.070	0.101
	(1.14)	(0.34)	(1.40)	(2.60)	(0.53)	(0.86)
Secondary/Tertiary	0.357 ***	-0.149	0.211 **	0.484 ***	-0.066	0.382 ***
	(2.64)	(1.32)	(2.59)	(2.76)	(0.44)	(2.76)
Missing	0.145	-0.140	0.031	0.101	-0.283	0.053
	(1.15)	(0.71)	(0.37)	(0.72)	(1.30)	(0.46)
Mother's Schooling						
Some Elementary	0.019	0.058	0.104 *	0.092	0.109	0.009
	(0.21)	(0.66)	(1.76)	(0.79)	(0.96)	(0.08)
Completed Elementary/	0.258 ***	0.161 **	0.188 ***	-0.051	0.145	0.233 **
Secondary/Tertiary	(2.64)	(2.13)	(3.20)	(0.40)	(1.33)	(2.29)
Missing	-0.027	0.057	0.109	-0.153	0.337	0.130
	(0.23)	(0.29)	(1.36)	(1.01)	(1.16)	(1.05)
Age (spline)						
25-29 years	0.006	0.067	0.046 **	-0.038	0.064	0.052 *
	(0.16)	(0.86)	(2.40)	(0.72)	(0.92)	(1.82)
30-39 years	0.020 *	0.029 ***	0.022 ***	0.046 ***	0.048 ***	0.007
	(1.90)	(2.86)	(3.33)	(3.53)	(2.97)	(0.61)
40-49 years	-0.012	0.031 ***	0.000	-0.021 *	0.007	0.019
	(1.23)	(3.21)	(0.04)	(1.80)	(0.53)	(1.22)
50-59 years	-0.009	-0.007	-0.024	0.011	0.025	-0.078 ***
	(0.73)	(0.38)	(1.64)	(0.76)	(0.95)	(3.06)
Constant	5.722 ***	4.823 **	4.743 ***	6.758 ***	4.878 **	4.046 ***
	(5.17)	(2.14)	(8.72)	(4.46)	(2.45)	(5.08)
F-test						
Own Schooling	27.09	42.05	37.33	7.80	5.57	33.61
	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)
Father's Schooling	2.57	2.04	1.80	2.46	0.47	3.08
	(0.037)	(0.089)	(0.129)	(0.045)	(0.757)	(0.016)
Mother's Schooling	3.03	1.54	3.50	0.88	0.70	2.26
	(0.029)	(0.205)	(0.015)	(0.449)	(0.555)	(0.082)
Parental Schooling	4.25	2.03	5.14	2.58	0.52	5.14
	(0.000)	(0.051)	(0.000)	(0.013)	(0.817)	(0.000)
Age	1.96	16.85	10.51	3.38	6.25	5.04
	(0.100)	(0.000)	(0.000)	(0.010)	(0.000)	(0.001)
Adjusted R^2	0.113	0.224	0.207	0.071	0.186	0.307
Root MSE	1.151	0.640	0.814	1.227	0.604	0.944
Observations	2,318	645	2,099	1,480	309	992

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

187

OLS Wage Functions:
The Effects of Non-linear Own Schooling and Parental Schooling
IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.213 **		0.186 *	0.209 **		0.320 ***
	(2.05)		(1.93)	(2.03)		(3.28)
4-6 years	0.359 ***		0.373 ***	0.237 ***		0.383 ***
	(3.92)		(4.61)	(2.64)		(4.04)
7-9 years	0.577 ***	0.217	0.608 ***	0.425 ***	0.602 **	0.710 ***
	(5.61)	(1.37)	(7.04)	(3.82)	(2.02)	(5.59)
10-12 years	0.770 ***	0.654 ***	0.843 ***	0.711 ***	1.518 ***	1.245 ***
	(7.79)	(5.00)	(9.80)	(5.48)	(5.73)	(10.06)
13+ years	1.237 ***	0.992 ***	1.302 ***			
	(9.58)	(7.44)	(12.36)			
Father's Schooling						
Some Elementary	-0.054	-0.057	-0.024	0.048	0.065	-0.041
	(0.80)	(0.57)	(0.41)	(0.47)	(0.36)	(0.45)
Completed Elementary	0.013	-0.004	0.023	0.080	0.126	0.043
	(0.19)	(0.04)	(0.45)	(0.99)	(0.74)	(0.47)
Secondary/Tertiary	0.056	0.080	0.110 *	0.248 **	0.220	0.430 ***
	(0.61)	(0.83)	(1.93)	(2.08)	(1.23)	(4.14)
Missing	-0.183 **	-0.030	-0.066	0.114	0.077	0.060
	(2.26)	(0.21)	(1.01)	(1.14)	(0.32)	(0.65)
Mother's Schooling						
Some Elementary	0.079	0.003	0.029	0.033	0.027	-0.078
	(1.14)	(0.03)	(0.56)	(0.33)	(0.25)	(0.90)
Completed Elementary/	0.209 ***	-0.018	0.082 *	0.139	0.014	0.029
Secondary/Tertiary	(2.82)	(0.22)	(1.73)	(1.54)	(0.12)	(0.34)
Missing	0.231 **	-0.176	0.109	0.117	-0.334	-0.105
	(2.46)	(1.02)	(1.47)	(1.09)	(1.63)	(1.03)
Age (spline)						
25-29 years	0.067 **	0.076	0.005	0.074 *	0.092	0.004
	(2.45)	(1.19)	(0.37)	(1.66)	(0.88)	(0.17)
30-39 years	0.016 *	0.046 ***	0.020 ***	0.011	0.038 ***	0.012
	(1.71)	(4.53)	(3.48)	(0.88)	(2.79)	(1.18)
40-49 years	0.009	0.027 ***	0.008	0.002	0.004	0.001
	(1.10)	(2.91)	(0.98)	(0.16)	(0.29)	(0.09)
50-59 years	-0.027 **	0.015	-0.031 **	-0.015	0.040 *	-0.019
	(2.42)	(0.86)	(2.49)	(1.05)	(1.78)	(0.89)
Constant	4.918 ***	4.944 ***	6.435 ***	4.473 ***	3.716	5.948 ***
	(6.45)	(2.74)	(15.15)	(3.56)	(1.24)	(8.66)
F-test						
Own Schooling	28.14	34.52	52.07	8.14	19.25	28.23
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Father's Schooling	1.64	0.53	1.76	1.21	0.56	6.84
	(0.162)	(0.714)	(0.134)	(0.307)	(0.691)	(0.000)
Mother's Schooling	3.85	0.41	1.39	1.08	1.18	0.88
	(0.010)	(0.748)	(0.244)	(0.359)	(0.317)	(0.451)
Parental Schooling	3.07	0.59	2.53	1.87	1.02	4.80
	(0.003)	(0.768)	(0.014)	(0.072)	(0.418)	(0.000)
Age	7.57	17.16	9.41	2.50	6.47	0.92
	(0.000)	(0.000)	(0.000)	(0.041)	(0.000)	(0.452)
Adjusted R^2	0.077	0.248	0.184	0.045	0.289	0.277
Root MSE	1.151	0.682	0.808	1.240	0.678	0.937
Observations	3,023	702	2,801	2,047	352	1,376

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Appendix Table 6.6A
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling
Panel Respondents, IFLS1

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Years of schooling	0.101 ***	0.072 **	0.092 ***	0.054 ***	0.052	0.116 ***
	(7.45)	(2.31)	(11.96)	(3.64)	(0.95)	(10.33)
Age	0.096 **	0.109 *	0.050	0.041	0.088	0.097 *
	(2.19)	(1.77)	(1.39)	(0.73)	(1.16)	(1.70)
Age^2 (x 10^{-2})	-0.135 **	-0.107	-0.051	-0.042	-0.077	-0.125
	(2.40)	(1.37)	(1.07)	(0.60)	(0.79)	(1.64)
Month of interview						
October	0.302 **	-0.142	0.154	0.305 *	0.045	0.054
	(1.98)	(0.70)	(1.27)	(1.73)	(0.24)	(0.31)
November	0.470 ***	-0.262	0.190	0.364 **	-0.204	-0.117
	(3.62)	(1.27)	(1.63)	(2.01)	(1.34)	(0.73)
December	-0.047	-0.077	0.010	0.108	0.046	-0.294 *
	(0.36)	(0.40)	(0.08)	(0.60)	(0.34)	(1.80)
January	-0.059	0.009	0.188	0.196	0.315	-0.157
	(0.33)	(0.04)	(1.13)	(0.64)	(1.57)	(0.64)
Gross Income	0.026			0.250 **		
	(0.32)			(2.11)		
Selection Coefficient	-0.581 ***	-0.116	0.090	0.506	-0.423	0.099
	(3.34)	(0.54)	(1.19)	(1.48)	(1.43)	(0.55)
Constant	3.982 ***	4.014 ***	4.350 ***	3.744 ***	5.031 **	3.213 ***
	(4.67)	(2.66)	(6.44)	(2.68)	(2.19)	(2.98)
F-test						
Age	4.43	6.23	5.38	0.73	20.11	1.64
	(0.013)	(0.002)	(0.005)	(0.485)	(0.000)	(0.197)
Month of interview	6.47	1.45	1.53	1.75	1.77	2.01
	(0.000)	(0.219)	(0.194)	(0.139)	(0.140)	(0.094)
Adjusted R^2	0.086	0.233	0.218	0.038	0.463	0.274
Root MSE	1.145	0.686	0.769	1.207	0.591	0.877
Observations	1,347	416	959	830	210	450

Source: IFLS1.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates for panel respondents in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

189

Appendix Table 6.6B
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling
Panel Respondents, IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Years of schooling	0.109 ***	0.038	0.088 ***	0.081 ***	-0.013	0.115 ***
	(11.36)	(0.94)	(12.96)	(6.16)	(0.30)	(9.07)
Age	0.007	-0.017	0.088 **	0.096 *	0.036	0.051
	(0.16)	(0.24)	(2.21)	(1.72)	(0.44)	(0.90)
$Age^2 (x\ 10^{-2})$	-0.022	0.046	-0.116 **	-0.137 *	-0.034	-0.058
	(0.38)	(0.54)	(2.22)	(1.91)	(0.32)	(0.76)
Month of interview						
October	-0.226 *	-0.123	0.003	-0.198	-0.355 **	0.094
	(1.74)	(1.05)	(0.03)	(1.44)	(2.06)	(0.66)
November	-0.211 *	-0.124	-0.003	-0.127	-0.457 **	0.068
	(1.69)	(0.99)	(0.03)	(0.94)	(2.19)	(0.44)
December	0.112	0.024	0.144	0.173	-0.223	0.077
	(0.82)	(0.20)	(1.44)	(1.02)	(1.37)	(0.54)
January-April	0.201	0.038	0.249 **	-0.171	-0.053	0.428 **
	(0.67)	(0.26)	(2.13)	(0.48)	(0.27)	(2.06)
Selection Coefficient	-0.872 ***	-0.201	0.040	-0.646 **	-0.441 *	-0.069
	(5.58)	(0.70)	(0.31)	(2.16)	(1.74)	(0.46)
Constant	6.730 ***	7.377 ***	4.571 ***	5.222 ***	7.754 ***	4.602 ***
	(7.69)	(3.71)	(6.17)	(4.26)	(3.46)	(4.36)
***F*-test**						
Age	2.84	7.48	2.46	4.03	1.80	1.06
	(0.060)	(0.001)	(0.087)	(0.019)	(0.170)	(0.349)
Month of interview	2.99	1.16	1.97	1.61	2.51	1.10
	(0.019)	(0.331)	(0.099)	(0.172)	(0.045)	(0.359)
Adjusted R^2	0.082	0.162	0.185	0.059	0.267	0.194
Root MSE	1.162	0.634	0.831	1.194	0.481	1.029
Observations	1,322	409	943	937	196	524

Source: IFLS2.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates for panel respondents in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Appendix Table 6.6C
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling
Panel Respondents, IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Years of schooling	0.097 ***	0.080 *	0.089 ***	0.073 ***	0.125 **	0.095 ***
	(9.38)	(1.90)	(11.70)	(6.36)	(2.40)	(7.24)
Age	0.054	0.155 *	0.115 ***	0.057	-0.108	0.120 **
	(1.29)	(1.90)	(2.80)	(1.11)	(1.09)	(2.14)
Age^2 (x 10^{-2})	-0.080	-0.169	-0.149 ***	-0.081	0.165	-0.168 **
	(1.47)	(1.61)	(2.78)	(1.19)	(1.25)	(2.24)
Month of interview						
August	-0.264 ***	-0.001	0.083	-0.275 *	0.060	0.018
	(2.85)	(0.01)	(0.76)	(1.97)	(0.43)	(0.13)
September	-0.158	-0.114	-0.032	-0.318 **	-0.083	-0.094
	(1.38)	(0.93)	(0.31)	(2.34)	(0.65)	(0.62)
October	-0.234 **	-0.029	0.102	-0.272 *	0.078	0.012
	(2.05)	(0.23)	(1.00)	(1.92)	(0.36)	(0.07)
November-January	-0.060	0.078	0.069	0.017	0.089	0.320 **
	(0.40)	(0.56)	(0.57)	(0.10)	(0.53)	(2.01)
Selection Coefficient	-0.560 ***	0.022	-0.093	-0.370	-0.073	0.561 ***
	(3.85)	(0.08)	(1.15)	(1.23)	(0.28)	(3.23)
Constant	6.514 ***	4.080 *	4.717 ***	6.268 ***	8.530 ***	3.248 ***
	(8.12)	(1.92)	(6.17)	(5.36)	(3.55)	(2.98)
F-test						
Age	2.26	8.65	3.92	1.03	3.49	2.84
	(0.106)	(0.000)	(0.021)	(0.358)	(0.033)	(0.060)
Month of interview	2.41	0.78	0.74	2.17	0.65	1.93
	(0.049)	(0.539)	(0.563)	(0.072)	(0.630)	(0.107)
Adjusted R^2	0.067	0.188	0.184	0.051	0.395	0.196
Root MSE	1.169	0.647	0.813	1.209	0.626	0.983
Observations	1,442	364	842	1,124	192	545

Source: IFLS3.
Omitted category for month of interview is June/July. Selection coefficients are calculated based on Base Specification estimates for panel respondents in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.092		0.120	0.049		0.172
	(0.83)		(1.24)	(0.31)		(1.40)
4-6 years	0.296 ***		0.387 ***	0.355 **		0.294 **
	(2.73)		(4.76)	(2.31)		(2.23)
7-9 years	0.821 ***	0.251	0.680 ***	0.543 ***	0.291	0.691 ***
	(5.79)	(1.49)	(7.36)	(2.96)	(1.10)	(4.00)
10-12 years	1.124 ***	0.816 ***	1.012 ***	0.497 *	1.142 **	1.652 ***
	(5.88)	(3.07)	(10.24)	(1.94)	(2.14)	(11.22)
13+ years	1.925 ***	1.103 ***	1.523 ***			
	(5.50)	(3.71)	(8.77)			
Age in 1993 (spline)						
25-29 years	0.030	0.043	0.073 **	0.064	0.123	0.128 ***
	(0.64)	(0.67)	(2.49)	(1.12)	(1.58)	(2.97)
30-39 years	0.005	0.050 ***	0.002	0.014	0.044 ***	-0.012
	(0.43)	(3.27)	(0.28)	(0.74)	(3.44)	(0.75)
40-49 years	-0.022	0.029 *	0.019	-0.023	0.013	0.002
	(1.60)	(1.94)	(1.64)	(1.19)	(0.61)	(0.10)
50-52 years	-0.057	-0.123	-0.055	0.182 **	0.015	-0.066
	(0.84)	(1.35)	(0.74)	(2.01)	(0.16)	(0.53)
Month of interview						
October	0.285 *	-0.117	0.157	0.270	-0.133	0.073
	(1.88)	(0.60)	(1.32)	(1.50)	(0.71)	(0.44)
November	0.481 ***	-0.202	0.215 *	0.377 *	-0.322 **	-0.123
	(3.72)	(1.03)	(1.87)	(1.92)	(2.23)	(0.81)
December	-0.053	-0.017	0.034	0.118	-0.149	-0.247
	(0.42)	(0.09)	(0.28)	(0.62)	(0.97)	(1.59)
January	-0.099	0.109	0.210	0.168	0.129	-0.115
	(0.56)	(0.52)	(1.27)	(0.56)	(0.64)	(0.50)
Gross Income	0.037			0.247 **		
	(0.45)			(2.09)		
Selection Coefficient	-0.625 ***	0.111	0.087	0.612	-0.101	0.041
	(3.61)	(0.51)	(1.12)	(1.52)	(0.30)	(0.23)
Constant	4.947 ***	4.772 **	3.390 ***	2.613	2.708	1.606
	(3.84)	(2.34)	(4.06)	(1.47)	(0.89)	(1.30)
***F*-test**						
Own Schooling	12.91	6.47	29.60	4.88	2.47	38.48
	(0.000)	(0.000)	(0.000)	(0.001)	(0.089)	(0.000)
Age	2.19	5.41	4.14	1.50	13.83	2.71
	(0.070)	(0.000)	(0.003)	(0.203)	(0.000)	(0.032)
Month of interview	6.79	1.70	1.63	1.59	2.03	1.81
	(0.000)	(0.151)	(0.168)	(0.178)	(0.094)	(0.129)
Adjusted R^2	0.084	0.260	0.215	0.037	0.466	0.307
Root MSE	1.146	0.674	0.770	1.207	0.589	0.857
Observations	1,347	416	959	830	210	450

Source: IFLS1.
Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates for panel respondents. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.368 ***		0.120	0.134		0.075
	(3.18)		(1.11)	(1.05)		(0.48)
4-6 years	0.405 ***		0.407 ***	0.235 **		0.232 *
	(3.81)		(4.30)	(2.12)		(1.69)
7-9 years	0.964 ***	0.010	0.876 ***	0.774 ***	0.192	0.463 **
	(7.68)	(0.06)	(7.81)	(4.47)	(0.72)	(2.24)
10-12 years	1.391 ***	0.558 *	0.961 ***	1.153 ***	0.501	1.687 ***
	(9.99)	(1.80)	(8.50)	(5.29)	(1.21)	(11.47)
13+ years	2.079 ***	0.796 **	1.332 ***			
	(7.29)	(2.06)	(9.51)			
Age in 1993 (spline)						
25-29 years	0.048	-0.001	0.044	0.064	0.049	-0.015
	(1.15)	(0.02)	(1.33)	(1.43)	(0.71)	(0.29)
30-39 years	-0.010	0.025 *	0.004	-0.010	0.026 *	0.019
	(0.79)	(1.67)	(0.37)	(0.60)	(1.93)	(1.22)
40-49 years	-0.029 *	0.035 ***	-0.004	-0.015	-0.013	0.002
	(1.92)	(2.93)	(0.25)	(0.80)	(0.69)	(0.08)
50-52 years	0.122 *	-0.134	-0.086	-0.097	0.039	-0.091
	(1.72)	(1.43)	(0.99)	(1.10)	(0.43)	(0.73)
Month of interview						
October	-0.227 *	-0.104	-0.002	-0.176	-0.263	0.090
	(1.79)	(0.94)	(0.02)	(1.28)	(1.56)	(0.63)
November	-0.212 *	-0.060	-0.002	-0.115	-0.320 *	0.112
	(1.72)	(0.47)	(0.02)	(0.87)	(1.71)	(0.70)
December	0.101	0.111	0.146	0.185	-0.146	0.063
	(0.75)	(1.00)	(1.45)	(1.09)	(0.88)	(0.45)
January-April	0.151	0.098	0.257 **	-0.164	0.008	0.410 **
	(0.51)	(0.69)	(2.14)	(0.45)	(0.04)	(1.99)
Selection Coefficient	-0.917 ***	0.074	0.035	-0.702 **	-0.168	-0.171
	(6.01)	(0.29)	(0.25)	(2.30)	(0.73)	(1.24)
Constant	5.449 ***	6.816 ***	4.947 ***	5.191 ***	6.046 **	6.240 ***
	(4.71)	(4.12)	(5.30)	(3.84)	(2.49)	(4.24)
F-test						
Own Schooling	29.49	3.25	33.96	11.39	0.80	44.97
	(0.000)	(0.023)	(0.000)	(0.000)	(0.453)	(0.000)
Age	2.38	5.27	1.27	2.64	1.98	0.71
	(0.052)	(0.000)	(0.282)	(0.034)	(0.100)	(0.587)
Month of interview	2.76	1.82	2.03	1.55	2.09	1.01
	(0.028)	(0.126)	(0.090)	(0.186)	(0.086)	(0.403)
Adjusted R^2	0.088	0.182	0.180	0.061	0.276	0.232
Root MSE	1.158	0.626	0.833	1.192	0.479	1.004
Observations	1,322	409	943	937	196	524

Source: IFLS2.
Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for month of interview is August/September. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates for panel respondents. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Appendix Table 6.7C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling
Panel Respondents, IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.288 **		0.350 **	0.128		0.291 **
	(2.10)		(2.44)	(1.17)		(2.40)
4-6 years	0.411 ***		0.427 ***	0.214 **		0.278 **
	(3.42)		(3.34)	(2.08)		(2.21)
7-9 years	0.765 ***	0.172	0.864 ***	0.490 ***	0.343	0.654 ***
	(5.24)	(0.67)	(6.28)	(3.38)	(0.88)	(2.69)
10-12 years	1.277 ***	0.793 *	1.074 ***	1.113 ***	1.773 ***	1.366 ***
	(7.65)	(1.83)	(8.06)	(6.06)	(4.05)	(7.50)
13+ years	2.217 ***	1.081 *	1.595 ***			
	(8.30)	(1.82)	(7.78)			
Age in 1993 (spline)						
25-29 years	0.024	0.113	0.012	0.072 *	-0.028	0.085 *
	(0.61)	(1.60)	(0.28)	(1.77)	(0.51)	(1.72)
30-39 years	0.008	0.040 **	0.022 **	-0.022	0.017	-0.021
	(0.55)	(2.39)	(1.97)	(1.59)	(1.26)	(1.40)
40-49 years	-0.040 **	0.004	-0.015	0.010	0.014	0.028
	(2.32)	(0.23)	(1.07)	(0.53)	(0.59)	(1.25)
50-52 years	0.106	0.076	-0.056	-0.131	0.097	-0.384 **
	(1.33)	(0.38)	(0.84)	(1.51)	(0.55)	(2.61)
Month of interview						
August	-0.265 ***	0.004	0.071	-0.329 **	0.126	0.049
	(2.88)	(0.03)	(0.63)	(2.36)	(0.90)	(0.36)
September	-0.198 *	-0.116	-0.031	-0.380 ***	0.005	-0.075
	(1.74)	(0.90)	(0.29)	(2.77)	(0.04)	(0.48)
October	-0.236 **	-0.024	0.101	-0.362 **	0.002	-0.002
	(2.07)	(0.19)	(0.96)	(2.57)	(0.01)	(0.01)
November-January	-0.061	0.122	0.055	-0.011	0.068	0.389 **
	(0.42)	(0.83)	(0.45)	(0.06)	(0.46)	(2.41)
Selection Coefficient	-0.727 ***	0.132	-0.168 *	-0.754 **	0.013	0.572 ***
	(4.51)	(0.36)	(1.93)	(2.53)	(0.06)	(2.98)
Constant	6.838 ***	4.019 *	6.452 ***	5.856 ***	7.444 ***	3.022 **
	(6.46)	(1.73)	(5.18)	(4.72)	(3.75)	(2.13)
F-test						
Own Schooling	19.44	1.79	30.40	10.15	10.12	14.61
	(0.000)	(0.149)	(0.000)	(0.000)	(0.000)	(0.000)
Age	1.87	9.19	2.11	2.08	1.26	2.95
	(0.116)	(0.000)	(0.079)	(0.083)	(0.287)	(0.021)
Month of interview	2.48	1.09	0.63	3.08	0.34	2.57
	(0.043)	(0.360)	(0.642)	(0.016)	(0.850)	(0.039)
Adjusted R^2	0.072	0.210	0.180	0.049	0.456	0.202
Root MSE	1.165	0.638	0.815	1.210	0.593	0.979
Observations	1,442	364	842	1,124	192	545

Source: IFLS3.
Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for month of interview is June/July. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates for panel respondents. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.019		0.137	0.020		0.164
	(0.17)		(1.34)	(0.12)		(1.28)
4-6 years	0.196 *		0.385 ***	0.247		0.239 *
	(1.79)		(4.47)	(1.58)		(1.72)
7-9 years	0.685 ***	0.287	0.670 ***	0.360 *	0.358	0.585 ***
	(4.79)	(1.49)	(6.67)	(1.86)	(1.17)	(2.98)
10-12 years	0.979 ***	0.902 **	0.969 ***	0.258	1.188	1.440 ***
	(5.17)	(2.49)	(8.57)	(1.01)	(1.57)	(7.22)
13+ years	1.745 ***	1.196 ***	1.452 ***			
	(5.02)	(2.86)	(8.16)			
Father's Schooling						
Some Elementary	0.261 **	-0.001	-0.053	0.082	-0.038	0.100
	(2.61)	(0.01)	(0.64)	(0.57)	(0.23)	(0.80)
Completed Elementary	0.163	0.009	-0.028	0.152	-0.206	0.386 ***
	(1.35)	(0.08)	(0.28)	(1.04)	(1.26)	(2.74)
Secondary/Tertiary	0.220	-0.105	0.028	0.294	-0.061	0.251
	(1.06)	(0.85)	(0.23)	(1.22)	(0.36)	(1.09)
Missing	0.008	-0.121	-0.115	-0.198	-0.134	0.240 *
	(0.07)	(0.65)	(1.02)	(1.41)	(0.68)	(1.78)
Mother's Schooling						
Some Elementary	0.148	0.063	0.012	0.183	0.074	-0.013
	(1.34)	(0.51)	(0.13)	(1.22)	(0.72)	(0.10)
Completed Elementary/	0.454 ***	0.164 *	0.147	0.291 *	0.186	0.113
Secondary/Tertiary	(3.61)	(1.76)	(1.42)	(1.71)	(1.37)	(0.71)
Missing	0.151	0.176	0.127	0.068	0.123	-0.061
	(1.53)	(1.24)	(1.28)	(0.54)	(0.71)	(0.48)
Age in 1993 (spline)						
25-29 years	0.031	0.048	0.073 **	0.052	0.120	0.127 ***
	(0.66)	(0.75)	(2.47)	(0.89)	(1.13)	(2.83)
30-39 years	0.010	0.051 ***	0.002	0.023	0.050 ***	-0.009
	(0.77)	(3.07)	(0.28)	(1.08)	(3.71)	(0.54)
40-49 years	-0.019	0.032 **	0.021 *	-0.023	0.009	0.006
	(1.43)	(2.11)	(1.76)	(1.19)	(0.41)	(0.28)
50-52 years	-0.041	-0.130	-0.059	0.177 **	0.018	-0.066
	(0.58)	(1.46)	(0.79)	(1.99)	(0.16)	(0.54)
Gross Income	0.051			0.235 **		
	(0.63)			(1.99)		
Selection Coefficient	-0.730 ***	0.190	0.101	0.595	-0.057	-0.036
	(4.03)	(0.61)	(1.14)	(1.28)	(0.12)	(0.18)
Constant	4.824 ***	4.335 *	3.372 ***	2.890	2.634	1.662
	(3.70)	(1.91)	(4.03)	(1.57)	(0.61)	(1.27)
F-test						
Own Schooling	10.29	3.88	22.74	2.08	1.23	15.86
	(0.000)	(0.010)	(0.000)	(0.084)	(0.296)	(0.000)
Father's Schooling	2.16	0.57	0.47	1.44	0.80	2.30
	(0.074)	(0.688)	(0.755)	(0.221)	(0.525)	(0.060)
Mother's Schooling	4.52	1.46	1.12	1.19	0.69	0.30
	(0.004)	(0.228)	(0.340)	(0.312)	(0.560)	(0.825)
Parental Schooling	5.04	0.84	0.99	1.57	0.59	1.78
	(0.000)	(0.554)	(0.440)	(0.143)	(0.759)	(0.094)
Age	1.63	4.48	4.10	1.44	12.78	2.83
	(0.166)	(0.002)	(0.003)	(0.221)	(0.000)	(0.026)
Adjusted R^2	0.104	0.256	0.214	0.047	0.459	0.313
Root MSE	1.134	0.676	0.770	1.201	0.593	0.853
Observations	1,347	416	959	830	210	450

Source: IFLS1.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates for panel respondents. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling and Parental Schooling
Panel Respondents, IFLS2

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.303 ***		0.112	0.116		0.069
	(2.61)		(1.04)	(0.87)		(0.46)
4-6 years	0.309 ***		0.353 ***	0.158		0.111
	(2.82)		(3.72)	(1.26)		(0.80)
7-9 years	0.846 ***	0.214	0.771 ***	0.628 ***	0.405	0.226
	(6.53)	(1.27)	(6.74)	(3.47)	(1.12)	(1.00)
10-12 years	1.289 ***	1.028 ***	0.776 ***	0.921 ***	1.237 *	1.332 ***
	(9.30)	(3.15)	(6.23)	(3.89)	(1.79)	(7.29)
13+ years	2.038 ***	1.385 ***	1.097 ***			
	(7.00)	(3.40)	(7.03)			
Father's Schooling						
Some Elementary	0.229 **	0.008	0.004	0.093	0.222	0.058
	(2.19)	(0.07)	(0.04)	(0.69)	(1.26)	(0.31)
Completed Elementary	0.107	0.063	0.041	0.317 **	0.149	0.082
	(0.84)	(0.66)	(0.43)	(2.26)	(0.94)	(0.48)
Secondary/Tertiary	0.458 **	-0.164	0.184	0.430 *	0.035	0.433 **
	(2.44)	(1.44)	(1.36)	(1.96)	(0.22)	(2.22)
Missing	-0.003	-0.508 **	0.160	0.073	0.083	0.193
	(0.02)	(2.22)	(1.13)	(0.45)	(0.47)	(1.16)
Mother's Schooling						
Some Elementary	0.088	0.121	0.184 *	0.150	0.178	-0.002
	(0.80)	(1.18)	(1.96)	(0.85)	(1.49)	(0.01)
Completed Elementary/	0.328 **	0.240 **	0.308 ***	-0.050	0.166	0.266 **
Secondary/Tertiary	(2.50)	(2.55)	(3.40)	(0.28)	(1.19)	(2.12)
Missing	0.171	0.349	0.080	-0.069	0.008	-0.041
	(1.19)	(1.65)	(0.61)	(0.37)	(0.03)	(0.27)
Age in 1993 (spline)						
25-29 years	0.059	0.021	0.045	0.064	0.147	-0.021
	(1.44)	(0.44)	(1.37)	(1.39)	(1.58)	(0.40)
30-39 years	-0.012	0.044 ***	0.001	-0.004	0.033 **	0.020
	(0.89)	(2.78)	(0.13)	(0.21)	(2.22)	(1.25)
40-49 years	-0.024	0.034 ***	-0.005	-0.015	-0.026	0.005
	(1.58)	(2.97)	(0.31)	(0.75)	(1.16)	(0.23)
50-52 years	0.126 *	-0.163 *	-0.077	-0.091	0.079	-0.084
	(1.76)	(1.72)	(0.91)	(1.00)	(0.83)	(0.68)
Selection Coefficient	-1.134 ***	0.492 *	0.200	-0.638	0.289	-0.007
	(7.16)	(1.74)	(1.44)	(1.62)	(0.78)	(0.04)
Constant	5.201 ***	5.114 ***	4.646 ***	5.006 ***	1.671	6.094 ***
	(4.64)	(2.89)	(4.91)	(3.57)	(0.46)	(4.07)
F-test						
Own Schooling	25.93	5.46	18.06	5.74	2.02	19.84
	(0.000)	(0.001)	(0.000)	(0.000)	(0.137)	(0.000)
Father's Schooling	2.54	3.17	0.84	1.58	0.71	1.99
	(0.040)	(0.015)	(0.500)	(0.180)	(0.587)	(0.097)
Mother's Schooling	2.12	2.62	4.02	0.58	1.16	1.92
	(0.097)	(0.051)	(0.008)	(0.630)	(0.327)	(0.128)
Parental Schooling	3.54	2.46	3.46	1.42	1.14	1.87
	(0.001)	(0.019)	(0.001)	(0.196)	(0.345)	(0.076)
Age	1.90	8.30	1.22	1.96	2.62	0.70
	(0.110)	(0.000)	(0.303)	(0.101)	(0.038)	(0.591)
Adjusted R^2	0.104	0.207	0.196	0.065	0.268	0.238
Root MSE	1.148	0.617	0.825	1.190	0.481	1.000
Observations	1,322	409	943	937	196	524

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates for panel respondents. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling and Parental Schooling
Panel Respondents, IFLS3

	Men			Women		
	Self Employment	Public Sector	Private Sector	Self Employment	Public Sector	Private Sector
Own Schooling						
1-3 years	0.228 *		0.345 **	0.105		0.305 **
	(1.66)		(2.40)	(0.94)		(2.34)
4-6 years	0.324 ***		0.399 ***	0.167		0.252 *
	(2.73)		(3.12)	(1.61)		(1.89)
7-9 years	0.696 ***	0.199	0.810 ***	0.428 ***	0.277	0.490 *
	(4.74)	(0.83)	(5.97)	(2.80)	(0.69)	(1.86)
10-12 years	1.281 ***	0.834 **	0.968 ***	1.084 ***	1.544 ***	1.140 ***
	(7.58)	(2.05)	(7.22)	(5.34)	(2.83)	(5.19)
13+ years	2.302 ***	1.153 **	1.406 ***			
	(8.76)	(2.06)	(6.80)			
Father's Schooling						
Some Elementary	0.027	-0.035	-0.081	0.062	-0.101	-0.133
	(0.27)	(0.30)	(0.80)	(0.42)	(0.54)	(0.92)
Completed Elementary	0.261 ***	-0.076	0.063	0.034	-0.006	0.150
	(2.75)	(0.75)	(0.65)	(0.30)	(0.03)	(1.10)
Secondary/Tertiary	0.526 ***	-0.109	0.164	-0.044	0.081	0.316
	(3.19)	(0.97)	(1.45)	(0.24)	(0.42)	(1.54)
Missing	-0.051	0.050	-0.128	0.003	0.123	0.111
	(0.46)	(0.38)	(1.36)	(0.03)	(0.47)	(0.80)
Mother's Schooling						
Some Elementary	0.080	0.179 *	0.017	-0.061	0.052	0.048
	(0.79)	(1.69)	(0.16)	(0.43)	(0.44)	(0.33)
Completed Elementary/	0.250 **	0.154	0.147 *	0.223 *	0.076	0.107
Secondary/Tertiary	(2.29)	(1.46)	(1.65)	(1.70)	(0.69)	(0.71)
Missing	0.463 ***	-0.318 *	0.208 **	0.172	-0.103	-0.275 *
	(3.52)	(1.76)	(1.98)	(1.15)	(0.34)	(1.89)
Age in 1993 (spline)						
25-29 years	0.039	0.111	0.008	0.069	-0.059	0.078
	(1.00)	(1.62)	(0.18)	(1.65)	(0.86)	(1.54)
30-39 years	0.000	0.043 **	0.021 *	-0.021	0.019	-0.016
	(0.00)	(2.54)	(1.93)	(1.48)	(1.17)	(1.07)
40-49 years	-0.036 **	0.002	-0.019	0.010	0.023	0.029
	(2.15)	(0.14)	(1.30)	(0.50)	(0.84)	(1.31)
50-52 years	0.118	0.090	-0.039	-0.132	0.057	-0.395 ***
	(1.50)	(0.46)	(0.57)	(1.49)	(0.33)	(2.67)
Selection Coefficient	-1.161 ***	0.192	-0.053	-0.908 ***	-0.094	0.585 ***
	(6.56)	(0.57)	(0.69)	(2.64)	(0.30)	(2.73)
Constant	6.625 ***	3.917 *	6.446 ***	6.112 ***	8.602 ***	3.161 **
	(6.21)	(1.76)	(5.23)	(4.89)	(3.29)	(2.13)
F-test						
Own Schooling	20.54	1.85	21.89	7.33	4.60	6.95
	(0.000)	(0.139)	(0.000)	(0.000)	(0.012)	(0.000)
Father's Schooling	3.64	0.34	1.71	0.10	0.53	1.31
	(0.006)	(0.851)	(0.146)	(0.981)	(0.716)	(0.267)
Mother's Schooling	4.99	2.87	1.91	1.48	0.26	1.54
	(0.002)	(0.037)	(0.128)	(0.219)	(0.855)	(0.205)
Parental Schooling	6.04	1.33	2.48	0.80	0.55	1.63
	(0.000)	(0.238)	(0.017)	(0.588)	(0.796)	(0.128)
Age	2.01	8.52	1.87	1.83	1.32	2.64
	(0.092)	(0.000)	(0.114)	(0.123)	(0.266)	(0.034)
Adjusted R^2	0.092	0.219	0.186	0.048	0.442	0.209
Root MSE	1.153	0.635	0.812	1.210	0.601	0.975
Observations	1,442	364	842	1,124	192	545

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers) and for parental schooling is no schooling. Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates for panel respondents. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 7.1A
Distribution of Regional Migration by Years of Schooling
IFLS1

Region of Birth	Region of Current Residency					
	Sumatera		Java		Other Islands	
	Rural	Urban	Rural	Urban	Rural	Urban
0 year (*N*=1,889)						
Sumatera - Rural	78.9	19.5	0.0	1.6	0.0	0.0
Sumatera - Urban	8.7	78.3	0.0	8.7	4.3	0.0
Java - Rural	8.8	0.9	71.0	17.9	0.9	0.5
Java - Urban	0.6	1.2	16.6	80.4	0.6	0.6
Other Islands - Rural	0.0	0.0	0.2	0.7	84.8	14.3
Other Islands - Urban	0.0	0.0	0.0	0.0	39.5	60.5
1-5 years (*N*=2,806)						
Sumatera - Rural	75.6	23.6	0.0	0.9	0.0	0.0
Sumatera - Urban	21.7	76.7	0.8	0.8	0.0	0.0
Java - Rural	9.7	1.3	62.4	24.9	1.3	0.4
Java - Urban	1.2	1.5	9.5	85.5	1.2	0.9
Other Islands - Rural	0.2	0.0	0.0	1.1	75.7	23.0
Other Islands - Urban	0.0	0.0	0.0	3.1	36.7	60.2
6 years (*N*=1,921)						
Sumatera - Rural	63.9	31.9	0.4	3.8	0.0	0.0
Sumatera - Urban	22.7	71.6	0.0	5.7	0.0	0.0
Java - Rural	4.8	1.3	58.9	32.6	1.2	1.1
Java - Urban	0.0	0.6	8.9	88.8	0.6	1.2
Other Islands - Rural	0.0	0.0	0.0	2.7	66.5	30.8
Other Islands - Urban	0.0	0.0	0.0	4.5	24.7	70.8
7+ years (*N*=2,699)						
Sumatera - Rural	45.7	42.5	0.2	11.3	0.2	0.0
Sumatera - Urban	10.2	68.2	0.0	21.2	0.4	0.0
Java - Rural	3.1	2.3	33.6	57.5	2.4	1.2
Java - Urban	0.8	1.5	3.1	91.2	0.8	2.7
Other Islands - Rural	0.0	0.7	0.0	2.6	60.7	36.0
Other Islands - Urban	0.5	0.5	0.0	14.1	24.5	60.4
All Individuals (*N*=9,315)						
Sumatera - Rural	63.3	31.4	0.2	5.1	0.1	0.0
Sumatera - Urban	15.0	71.3	0.2	13.1	0.4	0.0
Java - Rural	7.2	1.4	58.5	30.9	1.4	0.7
Java - Urban	0.7	1.3	7.0	88.4	0.8	1.8
Other Islands - Rural	0.1	0.1	0.1	1.5	74.2	24.0
Other Islands - Urban	0.2	0.2	0.0	7.1	30.2	62.2

Source: IFLS1.
Estimates are in percentage relative to region of birth.

Table 7.1B
Distribution of Regional Migration by Years of Schooling
IFLS2

Region of Birth	Region of Current Residency					
	Sumatera		Java		Other Islands	
	Rural	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**
0 year (*N*=2,152)						
Sumatera - Rural	78.4	19.4	0.7	1.5	0.0	0.0
Sumatera - Urban	15.2	72.7	0.0	9.1	3.0	0.0
Java - Rural	8.4	0.9	72.5	17.2	0.9	0.2
Java - Urban	1.7	1.7	15.7	80.9	0.0	0.0
Other Islands - Rural	0.2	0.0	0.2	0.4	84.6	14.7
Other Islands - Urban	0.0	0.0	0.0	0.0	51.0	49.0
1-5 years (*N*=2,855)						
Sumatera - Rural	78.2	20.2	0.2	1.3	0.0	0.0
Sumatera - Urban	18.6	79.6	0.9	0.9	0.0	0.0
Java - Rural	7.6	1.5	63.5	26.1	1.0	0.4
Java - Urban	0.9	1.3	10.9	85.3	0.6	0.9
Other Islands - Rural	0.2	0.0	0.0	1.0	75.5	23.2
Other Islands - Urban	0.0	0.0	0.0	2.3	37.5	60.2
6 years (*N*=2,450)						
Sumatera - Rural	69.6	28.0	0.0	2.5	0.0	0.0
Sumatera - Urban	21.2	76.8	0.0	2.0	0.0	0.0
Java - Rural	3.6	1.0	63.1	30.8	1.2	0.3
Java - Urban	0.5	0.7	11.8	85.3	1.0	0.7
Other Islands - Rural	0.0	0.0	0.0	1.4	70.9	27.7
Other Islands - Urban	0.0	1.0	0.0	1.9	30.5	66.7
7+ years (*N*=3,994)						
Sumatera - Rural	54.1	37.4	0.4	7.9	0.2	0.0
Sumatera - Urban	10.0	72.4	1.1	15.7	0.3	0.5
Java - Rural	2.4	1.4	37.1	56.7	1.4	0.9
Java - Urban	0.6	1.5	7.8	88.1	0.7	1.3
Other Islands - Rural	0.2	0.7	0.0	1.9	66.4	30.8
Other Islands - Urban	0.4	0.4	0.0	8.8	24.4	66.1
All Individuals (*N*=11,451)						
Sumatera - Rural	67.2	28.3	0.3	4.1	0.1	0.0
Sumatera - Urban	13.7	74.4	0.8	10.4	0.3	0.3
Java - Rural	5.5	1.2	59.1	32.6	1.1	0.4
Java - Urban	0.7	1.3	9.8	86.5	0.7	1.0
Other Islands - Rural	0.2	0.2	0.1	1.1	75.3	23.2
Other Islands - Urban	0.2	0.3	0.0	4.9	32.4	62.3

Source: IFLS2.
Estimates are in percentage relative to region of birth.

Table 7.1C
Distribution of Regional Migration by Years of Schooling
IFLS3

Region of Birth	Region of Current Residency					
	Sumatera		Java		Other Islands	
	Rural	Urban	Rural	Urban	Rural	Urban
0 year (*N*=1,838)						
Sumatera - Rural	80.3	18.8	0.9	0.0	0.0	0.0
Sumatera - Urban	28.6	61.9	0.0	9.5	0.0	0.0
Java - Rural	6.1	0.8	72.7	19.7	0.4	0.2
Java - Urban	2.7	0.7	42.6	53.4	0.7	0.0
Other Islands - Rural	0.2	0.0	0.2	0.7	75.6	23.4
Other Islands - Urban	0.0	0.0	0.0	2.9	22.9	74.3
1-5 years (*N*=3,262)						
Sumatera - Rural	78.5	20.4	0.2	0.8	0.2	0.0
Sumatera - Urban	33.0	64.3	0.0	2.6	0.0	0.0
Java - Rural	8.5	1.5	60.5	27.7	1.1	0.6
Java - Urban	1.5	0.5	24.9	71.2	0.8	1.0
Other Islands - Rural	0.2	0.0	0.0	1.0	73.7	25.1
Other Islands - Urban	0.0	0.0	0.0	2.1	20.6	77.3
6 years (*N*=3,282)						
Sumatera - Rural	71.2	26.7	0.5	1.6	0.0	0.0
Sumatera - Urban	27.4	69.0	0.0	3.5	0.0	0.0
Java - Rural	3.7	0.6	60.4	33.5	1.2	0.6
Java - Urban	0.9	1.1	24.5	71.8	0.9	0.9
Other Islands - Rural	0.2	0.0	0.0	0.9	65.1	33.8
Other Islands - Urban	0.0	0.0	0.0	1.1	17.2	81.6
7+ years (*N*=6,448)						
Sumatera - Rural	51.9	38.6	0.4	8.8	0.0	0.2
Sumatera - Urban	15.4	66.3	1.6	16.4	0.0	0.3
Java - Rural	2.0	1.5	38.4	55.7	1.2	1.2
Java - Urban	0.5	1.3	10.3	86.4	0.4	1.1
Other Islands - Rural	0.0	0.0	0.4	1.7	58.6	39.4
Other Islands - Urban	0.3	0.3	0.5	9.4	18.9	70.6
All Individuals (*N*=14,830)						
Sumatera - Rural	64.8	30.0	0.4	4.6	0.1	0.1
Sumatera - Urban	19.8	66.3	1.1	12.6	0.0	0.2
Java - Rural	4.7	1.1	55.3	37.0	1.1	0.7
Java - Urban	0.8	1.1	16.3	80.2	0.5	1.0
Other Islands - Rural	0.1	0.0	0.2	1.1	67.7	30.9
Other Islands - Urban	0.2	0.2	0.3	6.7	19.2	73.5

Source: IFLS3.
Estimates are in percentage relative to region of birth.

Table 7.2
Own Schooling Attainment by Region of Birth,
Region of Current Residence and Gender

		Region of Birth		Region of Current Residence	
		Rural	Urban	Rural	Urban
IFLS1					
Men	Mean	5.4	8.1	4.7	7.9
	Standard Error	(0.15)	(0.19)	(0.17)	(0.19)
	Observations	2,993	1,148	2,178	1,963
Women	Mean	3.7	6.4	3.1	6.0
	Standard Error	(0.14)	(0.19)	(0.15)	(0.19)
	Observations	3,731	1,470	2,751	2,450
All Individuals	Mean	4.5	7.2	3.8	6.8
	Standard Error	(0.14)	(0.17)	(0.15)	(0.18)
	Observations	6,724	2,618	4,929	4,413
IFLS2					
Men	Mean	6.1	8.9	5.4	8.5
	Standard Error	(0.15)	(0.17)	(0.16)	(0.17)
	Observations	3,666	1,464	2,717	2,413
Women	Mean	4.3	7.3	3.7	6.8
	Standard Error	(0.14)	(0.17)	(0.15)	(0.17)
	Observations	4,503	1,850	3,376	2,977
All Individuals	Mean	5.1	8.0	4.5	7.6
	Standard Error	(0.13)	(0.15)	(0.14)	(0.16)
	Observations	8,169	3,314	6,093	5,390
IFLS3					
Men	Mean	6.9	9.9	6.2	9.4
	Standard Error	(0.13)	(0.16)	(0.14)	(0.16)
	Observations	5,087	2,052	3,599	3,540
Women	Mean	5.3	8.6	4.7	7.9
	Standard Error	(0.13)	(0.15)	(0.15)	(0.16)
	Observations	5,474	2,221	3,895	3,800
All Individuals	Mean	6.1	9.2	5.4	8.6
	Standard Error	(0.12)	(0.14)	(0.14)	(0.15)
	Observations	10,561	4,273	7,494	7,340

Source: IFLS1, IFLS2 and IFLS3.

Means are in years. Standard errors are robust to clustering at the community level.

Table 7.3
Table 7.3
Hourly Wage within Sector of Employment by Region of Birth and Gender

		Self Employment			Public Sector			Private Sector		
		Rural	Urban	Difference	Rural	Urban	Difference	Rural	Urban	Difference
IFLS1										
Men	Mean	669	1,198	529 ***	1,789	1,903	114	693	1,137	444 ***
	Standard Error	(39)	(100)	(103)	(102)	(140)	(157)	(41)	(77)	(77)
	Median	330	577	-247	1,424	1,320	104	451	726	-274
	Observations	1,659	386		343	219		874	475	
Women	Mean	621	1,119	499 ***	1,737	1,990	253	380	749	369 ***
	Standard Error	(45)	(101)	(110)	(188)	(210)	(229)	(33)	(81)	(83)
	Median	275	495	-220	1,376	1,650	-274	231	385	-154
	Observations	919	323		140	107		417	186	
All Individuals	Mean	652	1,162	510 ***	1,774	1,932	158	592	1,028	436 ***
	Standard Error	(32)	(77)	(81)	(108)	(132)	(138)	(34)	(67)	(66)
	Median	299	541	-242	1,419	1,443	-25	361	650	-289
	Observations	2,578	709		483	326		1,291	661	
IFLS2										
Men	Mean	1,196	1,948	752 ***	2,395	2,387	-8	1,146	1,736	590 ***
	Standard Error	(54)	(137)	(145)	(118)	(133)	(173)	(47)	(84)	(90)
	Median	594	990	-396	1,938	1,976	-38	770	1,155	-385
	Observations	1,764	435		370	236		1,218	646	
Women	Mean	1,033	1,719	686 ***	2,260	2,544	284	731	1,243	511 ***
	Standard Error	(59)	(179)	(185)	(152)	(148)	(194)	(54)	(96)	(106)
	Median	462	742	-280	2,045	2,309	-265	389	770	-381
	Observations	1,109	347		164	135		621	337	
All Individuals	Mean	1,133	1,847	713 ***	2,353	2,444	91	1,006	1,567	561 ***
	Standard Error	(42)	(121)	(125)	(105)	(105)	(134)	(41)	(72)	(76)
	Median	545	855	-310	1,997	2,075	-78	642	1,069	-428
	Observations	2,873	782		534	371		1,839	983	
IFLS3										
Men	Mean	2,926	4,141	1,215 ***	5,085	5,325	240	2,191	3,062	870 ***
	Standard Error	(119)	(241)	(262)	(195)	(376)	(421)	(76)	(140)	(151)
	Median	1,443	2,100	-656	4,330	3,923	407	1,443	1,925	-481
	Observations	2,458	563		467	234		1,766	1,033	
Women	Mean	2,169	3,141	972 ***	5,138	5,140	2	1,257	2,449	1,192 ***
	Standard Error	(119)	(278)	(294)	(303)	(283)	(413)	(69)	(182)	(191)
	Median	952	1,359	-406	4,491	4,505	-14	770	1,443	-674
	Observations	1,552	491		218	132		861	513	
All Individuals	Mean	2,633	3,675	1,042 ***	5,102	5,258	156	1,885	2,858	973 ***
	Standard Error	(94)	(195)	(206)	(174)	(276)	(318)	(62)	(130)	(136)
	Median	1,237	1,704	-467	4,380	4,266	115	1,237	1,767	-530
	Observations	4,010	1,054		685	366		2,627	1,546	

Source: IFLS1, IFLS2 and IFLS3.
Means are in current (nominal) Rupiahs. Standard errors are robust to clustering at the community level. Significant at the 1%(***), 5%(**) and 10%(*) indicated.

Table 7.4
Hourly Wage within Sector of Employment by Region of Current Residence and Gender

		Self Employment			Public Sector			Private Sector		
		Rural	Urban	Difference	Rural	Urban	Difference	Rural	Urban	Difference
IFLS1										
Men	Mean	578	1,207	629 ***	1,588	1,943	354 **	473	1,075	602 ***
	Standard Error	(39)	(80)	(89)	(97)	(123)	(157)	(29)	(64)	(70)
	Median	278	594	-316	1,296	1,441	-145	362	693	-331
	Observations	1,424	621		173	389		506	843	
Women	Mean	535	1,018	483 ***	1,735	1,890	155	288	675	387 ***
	Standard Error	(53)	(66)	(85)	(164)	(218)	(273)	(24)	(64)	(68)
	Median	220	493	-273	1,414	1,506	-92	220	330	-110
	Observations	688	554		70	177		283	320	
All Individuals	Mean	564	1,118	554 ***	1,631	1,926	296 *	407	965	559 ***
	Standard Error	(35)	(56)	(66)	(85)	(135)	(160)	(23)	(58)	(62)
	Median	264	541	-277	1,315	1,449	-134	289	601	-313
	Observations	2,112	1,175		243	566		789	1,163	
IFLS2										
Men	Mean	1,097	1,894	798 ***	2,426	2,372	-55	941	1,624	683 ***
	Standard Error	(58)	(104)	(119)	(136)	(119)	(181)	(44)	(72)	(84)
	Median	544	1,026	-482	2,084	1,925	159	660	1,069	-409
	Observations	1,515	684		224	382		745	1,119	
Women	Mean	857	1,679	822 ***	2,328	2,413	85	556	1,171	615 ***
	Standard Error	(52)	(130)	(140)	(160)	(152)	(220)	(44)	(80)	(91)
	Median	412	693	-280	2,071	2,199	-129	346	722	-375
	Observations	854	602		87	212		404	554	
All Individuals	Mean	1,010	1,793	783 ***	2,399	2,386	-12	805	1,474	668 ***
	Standard Error	(43)	(93)	(102)	(110)	(111)	(156)	(37)	(62)	(72)
	Median	495	855	-360	2,079	1,997	81	541	962	-421
	Observations	2,369	1,286		311	594		1,149	1,673	
IFLS3										
Men	Mean	2,730	3,930	1,200 ***	4,984	5,265	281	1,989	2,851	862 ***
	Standard Error	(128)	(195)	(234)	(243)	(250)	(350)	(87)	(112)	(141)
	Median	1,375	1,980	-605	4,505	4,141	363	1,320	1,833	-513
	Observations	1,958	1,063		250	451		1,099	1,700	
Women	Mean	1,963	2,934	970 ***	5,562	4,929	-633	1,119	2,091	972 ***
	Standard Error	(136)	(199)	(241)	(501)	(207)	(540)	(82)	(131)	(154)
	Median	828	1,237	-409	4,648	4,401	247	693	1,203	-510
	Observations	1,118	925		116	234		550	824	
All Individuals	Mean	2,451	3,466	1,015 ***	5,167	5,150	-17	1,699	2,603	904 ***
	Standard Error	(103)	(162)	(192)	(245)	(194)	(313)	(72)	(102)	(124)
	Median	1,150	1,650	-499	4,593	4,254	338	1,155	1,650	-495
	Observations	3,076	1,988		366	685		1,649	2,524	

Source: IFLS1, IFLS2 and IFLS3.
Means are in current (nominal) Rupiahs. Standard errors are robust to clustering at the community level. Significant at the 1%(***), 5%(**) and 10%(*) indicated.

Table 7.5A
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Born in Urban
IFLS1

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
Own Schooling												
1-3 years	0.070 (0.74)	-0.180 (0.70)			0.131 (1.27)	-0.107 (0.59)	0.242 * (1.82)	-0.612 ** (2.23)			-0.020 (0.18)	0.381 (1.39)
4-6 years	0.429 *** (4.32)	-0.237 (1.05)			0.503 *** (6.05)	-0.038 (0.25)	0.408 *** (2.98)	-0.216 (0.78)			0.283 ** (1.99)	-0.018 (0.06)
7-9 years	0.921 *** (6.38)	-0.102 (0.38)	0.109 (0.59)	0.068 (0.28)	0.852 *** (9.03)	-0.348 ** (2.16)	0.613 *** (3.38)	0.030 (0.10)			0.596 *** (2.83)	0.187 (0.50)
10-12 years	1.505 *** (7.76)	-0.537 (1.48)	0.672 ** (2.50)	-0.372 (1.12)	1.166 *** (10.30)	-0.201 (1.24)	0.664 ** (2.55)	0.602 (1.55)	0.166 (0.39)	1.187 (1.30)	1.647 *** (10.56)	0.062 (0.21)
13+ years	2.061 *** (4.90)	-0.336 (0.55)	0.968 *** (3.17)	-0.199 (0.54)	1.829 *** (9.47)	-0.335 (1.29)						
Age	0.022 (0.73)	0.003 (0.04)	0.070 (1.38)	0.059 (0.70)	0.073 ** (2.24)	0.000 (0.01)	0.088 * (1.87)	-0.111 (1.29)	0.026 (0.39)	0.032 (0.26)	0.059 (1.43)	0.015 (0.22)
Age² (x 10⁻²)	-0.034 (0.96)	-0.007 (0.10)	-0.051 (0.88)	-0.085 (0.87)	-0.091 ** (2.14)	0.008 (0.14)	-0.106 * (1.89)	0.132 (1.28)	0.004 (0.05)	-0.044 (0.30)	-0.076 (1.47)	-0.013 (0.14)
Gross Income	0.098 (1.34)	-0.017 (0.11)					0.248 ** (2.14)	0.408 * (1.96)				
Selection Coefficient	-1.082 *** (5.33)	0.631 * (1.71)	0.007 (0.03)	-0.246 (0.84)	0.119 (1.36)	0.121 (0.33)	0.818 ** (2.55)	-1.527 *** (2.86)	-0.701 ** (2.43)	0.631 (1.09)	-0.075 (0.47)	0.219 (0.48)
Constant	5.526 *** (7.94)	0.457 (0.33)	4.710 *** (3.35)	-0.283 (0.13)	3.890 *** (6.09)	0.239 (0.25)	2.172 * (1.72)	5.516 ** (2.51)	7.116 *** (3.95)	-2.078 (0.55)	4.352 *** (4.72)	-0.918 (0.57)
F-test												
Own Schooling and Age Interactions terms	0.66 (0.708)		1.43 (0.216)		1.23 (0.286)		2.64 (0.016)		1.26 (0.291)		0.70 (0.648)	
Own Schooling	11.71 (0.000)		5.20 (0.000)		29.22 (0.000)		8.18 (0.000)		2.49 (0.086)		24.53 (0.000)	
Age	1.79 (0.130)		8.13 (0.000)		2.31 (0.058)		0.95 (0.433)		10.62 (0.000)		0.84 (0.499)	
Adjusted R²	0.139		0.293		0.290		0.112		0.500		0.301	
Root MSE	1.153		0.658		0.806		1.204		0.571		0.904	
Observations	2,045		562		1,349		1,242		247		603	

Source: IFLS1.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

204

Table 7.5B
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Born in Urban
IFLS2

| | Men | | | | | | Women | | | | | |
| | Self Employment | | Public Sector | | Private Sector | | Self Employment | | Public Sector | | Private Sector | |
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
Own Schooling												
1-3 years	0.334 ***	-0.313			0.166 *	-0.058	0.303 **	-0.460 *			0.009	-0.006
	(3.23)	(1.21)			(1.67)	(0.24)	(2.44)	(1.81)			(0.07)	(0.02)
4-6 years	0.559 ***	-0.386 *			0.400 ***	-0.111	0.292 **	-0.244			0.178	-0.096
	(6.02)	(1.83)			(4.89)	(0.50)	(2.50)	(1.06)			(1.31)	(0.37)
7-9 years	1.004 ***	-0.170	0.207	-0.262	0.815 ***	-0.221	0.745 ***	-0.528 *			0.207	0.572 *
	(7.85)	(0.66)	(0.73)	(0.74)	(8.18)	(0.97)	(4.57)	(1.82)			(0.90)	(1.76)
10-12 years	1.304 ***	0.163	0.748	-0.653	0.923 ***	-0.160	0.758 ***	0.252	-0.680	0.606	1.423 ***	-0.123
	(7.29)	(0.50)	(1.28)	(1.03)	(9.44)	(0.75)	(3.34)	(0.69)	(1.28)	(0.83)	(9.73)	(0.52)
13+ years	2.327 ***	0.245	0.992	-0.451	1.385 ***	-0.139						
	(7.42)	(0.51)	(1.35)	(0.58)	(10.34)	(0.56)						
Age	-0.0005	-0.062	0.059	0.056	0.104 ***	-0.035	0.068	0.011	-0.101	0.111	0.117 ***	-0.006
	(0.02)	(0.95)	(0.41)	(0.36)	(4.45)	(0.82)	(1.41)	(0.11)	(0.82)	(0.74)	(3.02)	(0.09)
Age² (x 10⁻²)	-1.251	7.465	-4.613	-5.974	-12.215 ***	4.119	-7.424	-0.992	13.905	-12.723	-15.554 ***	2.539
	(0.35)	(0.98)	(0.29)	(0.34)	(4.26)	(0.75)	(1.39)	(0.09)	(0.95)	(0.73)	(3.39)	(0.28)
Selection Coefficient	-0.870 ***	-0.624	0.060	-0.162	-0.029	0.369 **	0.346	-0.894	-0.739 *	0.322	0.239	-0.451
	(3.08)	(1.31)	(0.11)	(0.30)	(0.20)	(2.03)	(0.83)	(1.30)	(1.95)	(0.66)	(0.61)	(0.68)
Constant	6.866 ***	2.312	5.309	-0.739	4.062 ***	0.717	3.960 ***	1.456	11.019 ***	-2.962	3.096 ***	0.901
	(8.77)	(1.42)	(1.24)	(0.16)	(8.39)	(0.88)	(2.68)	(0.54)	(3.24)	(0.70)	(4.15)	(0.64)
F-test												
Own Schooling and Age Interactions terms	1.16		3.28		0.32		1.41		0.25		1.36	
	(0.322)		(0.007)		(0.943)		(0.210)		(0.858)		(0.232)	
Own Schooling	15.00		5.09		24.60		5.20		0.82		24.61	
	(0.000)		(0.000)		(0.000)		(0.000)		(0.443)		(0.000)	
Age	2.87		7.83		6.52		0.84		3.59		5.02	
	(0.023)		(0.000)		(0.000)		(0.501)		(0.008)		(0.001)	
Adjusted R²	0.118		0.230		0.214		0.063		0.192		0.299	
Root MSE	1.153		0.640		0.812		1.232		0.584		0.953	
Observations	2,199		606		1,864		1,456		299		958	

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

205

Table 7.5C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Born in Urban
IFLS3

| | Men | | | | | | Women | | | | | |
| | Self Employment | | Public Sector | | Private Sector | | Self Employment | | Public Sector | | Private Sector | |
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
Own Schooling												
1-3 years	0.238 **	-0.445			0.218 **	-0.161	0.252 **	0.001			0.329 ***	-0.075
	(2.22)	(1.52)			(2.16)	(0.66)	(2.08)	(0.00)			(2.84)	(0.35)
4-6 years	0.410 ***	-0.256			0.402 ***	-0.141	0.270 ***	0.090			0.384 ***	-0.088
	(4.27)	(0.97)			(4.58)	(0.63)	(2.65)	(0.36)			(3.53)	(0.42)
7-9 years	0.699 ***	-0.031	0.154	0.325	0.644 ***	-0.076	0.433 ***	0.199			0.751 ***	-0.250
	(6.05)	(0.11)	(0.62)	(0.88)	(6.87)	(0.34)	(3.39)	(0.73)			(4.27)	(0.79)
10-12 years	1.211 ***	-0.235	0.612	0.474	0.910 ***	-0.082	0.786 ***	0.086	-0.408	-1.097	1.275 ***	0.244
	(8.30)	(0.68)	(1.20)	(0.59)	(9.85)	(0.38)	(5.40)	(0.28)	(0.61)	(1.04)	(10.49)	(1.12)
13+ years	1.845 ***	-0.235	0.935	0.681	1.117 ***	0.318						
	(8.83)	(0.57)	(1.36)	(0.62)	(9.01)	(1.33)						
Age	0.051 *	-0.001	0.074	0.172	0.058 ***	0.009	0.054	0.154 *	-0.309 *	-0.023	0.034	-0.029
	(1.93)	(0.02)	(0.65)	(0.81)	(3.19)	(0.29)	(1.20)	(1.71)	(1.88)	(0.09)	(0.99)	(0.54)
Age² (x 10⁻²)	-6.457 **	0.579	-5.527	-18.485	-6.719 ***	-0.945	-5.683	-19.216 *	37.524 **	0.425	-3.866	3.383
	(2.11)	(0.09)	(0.45)	(0.80)	(2.90)	(0.23)	(1.14)	(1.89)	(2.02)	(0.02)	(0.90)	(0.48)
Selection Coefficient	-0.827 ***	-0.345	-0.073	0.496	0.022	0.247	0.095	0.345	-1.253 **	-0.125	-0.253	1.100 **
	(3.70)	(0.76)	(0.16)	(0.64)	(0.19)	(1.57)	(0.23)	(0.44)	(2.55)	(0.17)	(0.91)	(2.05)
Constant	6.601 ***	0.629	5.617	-4.862	5.543 ***	-0.400	5.398 ***	-3.364	16.746 ***	1.665	5.822 ***	-0.890
	(10.39)	(0.48)	(1.57)	(0.76)	(15.06)	(0.62)	(3.76)	(1.21)	(3.55)	(0.24)	(7.13)	(0.73)
F-test												
Own Schooling and Age Interactions terms	0.79		0.37		1.95		1.24		2.47		1.03	
	(0.599)		(0.872)		(0.060)		(0.282)		(0.062)		(0.404)	
Own Schooling	12.73		1.41		37.43		5.85		1.90		28.96	
	(0.000)		(0.209)		(0.000)		(0.000)		(0.152)		(0.000)	
Age	1.64		6.53		4.94		2.70		4.58		0.33	
	(0.162)		(0.000)		(0.001)		(0.030)		(0.001)		(0.859)	
Adjusted R²	0.084		0.248		0.185		0.045		0.317		0.272	
Root MSE	1.147		0.682		0.808		1.240		0.666		0.941	
Observations	3,021		701		2,799		2,043		350		1,374	

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for women; 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

206

Table 7.6
Selectivity Corrected Wage Functions:
Summary of the Effects of Own Schooling Interacted with Born in Urban

	Self Employment		Public Sector		Private Sector	
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
A. Men						
Linear Own Schooling						
IFLS1	0.127 ***	-0.009	0.105 ***	-0.053	0.107 ***	-0.015
IFLS2	0.102 ***	0.036	0.195	-0.135	0.083 ***	-0.008
IFLS3	0.097 ***	0.013	0.109 *	-0.107	0.072 ***	0.023 ***
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.070	-0.180			0.131	-0.107
4-6 years	0.429 ***	-0.237			0.503 ***	-0.038
7-9 years	0.921 ***	-0.102	0.109	0.068	0.852 ***	-0.348 **
10-12 years	1.505 ***	-0.537	0.672 **	-0.372	1.166 ***	-0.201
13+ years	2.061 ***	-0.336	0.968 ***	-0.199	1.829 ***	-0.335
IFLS2						
1-3 years a)	0.334 ***	-0.313			0.166 *	-0.058
4-6 years	0.559 ***	-0.386 *			0.400 ***	-0.111
7-9 years	1.004 ***	-0.170	0.207	-0.262	0.815 ***	-0.221
10-12 years	1.304 ***	0.163	0.748	-0.653	0.923 ***	-0.160
13+ years	2.327 ***	0.245	0.992	-0.451	1.385 ***	-0.139
IFLS3						
1-3 years a)	0.238 **	-0.445			0.218 **	-0.161
4-6 years	0.410 ***	-0.256			0.402 ***	-0.141
7-9 years	0.699 ***	-0.031	0.154	0.325	0.644 ***	-0.076
10-12 years	1.211 ***	-0.235	0.612	0.474	0.910 ***	-0.082
13+ years	1.845 ***	-0.235	0.935	0.681	1.117 ***	0.318
B. Women						
Linear Own Schooling						
IFLS1	0.054 ***	0.063 ***	0.034	0.094	0.108 ***	0.014
IFLS2	0.057 ***	0.020	-0.046	0.025	0.101 ***	0.015
IFLS3	0.051 ***	0.019	-0.173	-0.046	0.095 ***	0.024 *
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.242 *	-0.612 **			-0.020	0.381
4-6 years	0.408 ***	-0.216			0.283 **	-0.018
7-9 years	0.613 ***	0.030			0.596 ***	0.187
10+ years	0.664 **	0.602	0.166	1.187	1.647 ***	0.062
IFLS2						
1-3 years a)	0.303 **	-0.460 *			0.009	-0.006
4-6 years	0.292 **	-0.244			0.178	-0.096
7-9 years	0.745 ***	-0.528 *			0.207	0.572 *
10+ years	0.758 ***	0.252	-0.680	0.606	1.423 ***	-0.123
IFLS3						
1-3 years a)	0.252 **	0.001			0.329 ***	-0.075
4-6 years	0.270 ***	0.090			0.384 ***	-0.088
7-9 years	0.433 ***	0.199			0.751 ***	-0.250
10+ years	0.786 ***	0.086	-0.408	-1.097	1.275 ***	0.244

Source: Based on estimates of Appendix Table 7.1A, 7.1B, 7.1C and Table 7.5A, 7.5B, 7.5C.
a) Omitted category for public sector men is 0-6 years, for women 0-9 years.

Table 7.7A
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Urban Residence
IFLS1

| | Men | | | | | | Women | | | | | |
| | Self Employment | | Public Sector | | Private Sector | | Self Employment | | Public Sector | | Private Sector | |
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
Own Schooling												
1-3 years	0.042 (0.42)	-0.050 (0.23)			-0.042 (0.38)	0.273 (1.60)	0.123 (0.83)	-0.020 (0.09)			0.039 (0.29)	-0.076 (0.34)
4-6 years	0.358 *** (3.39)	-0.055 (0.24)			0.305 *** (3.02)	0.262 * (1.75)	0.318 ** (2.15)	0.044 (0.19)			0.212 (1.32)	-0.110 (0.40)
7-9 years	0.757 *** (4.63)	0.169 (0.66)	0.368 (1.19)	-0.391 (1.16)	0.741 *** (6.54)	-0.068 (0.41)	0.622 ** (2.36)	-0.043 (0.13)			0.611 ** (2.05)	-0.127 (0.33)
10-12 years	1.418 *** (6.42)	-0.262 (0.74)	0.537 (0.88)	-0.115 (0.18)	0.823 *** (6.07)	0.303 (1.65)	0.018 (0.06)	1.132 *** (3.15)	0.052 (0.06)	0.736 (0.74)	1.341 *** (7.05)	0.253 (0.93)
13+ years	2.088 *** (4.69)	-0.044 (0.07)	0.801 (1.10)	-0.042 (0.06)	1.107 *** (4.86)	0.627 ** (2.23)						
Age	0.028 (0.85)	-0.066 (1.29)	0.077 (0.78)	-0.005 (0.05)	0.086 ** (2.07)	-0.032 (0.63)	0.050 (0.88)	-0.010 (0.13)	-0.021 (0.14)	0.062 (0.37)	0.019 (0.38)	0.102 (1.45)
Age² (x10⁻²)	-0.046 (1.22)	0.089 (1.48)	-0.062 (0.56)	-0.001 (0.01)	-0.118 ** (2.19)	0.062 (0.96)	-0.066 (0.97)	0.013 (0.14)	0.060 (0.33)	-0.077 (0.37)	-0.027 (0.42)	-0.133 (1.50)
Gross Income	0.070 (0.87)	0.265 ** (2.02)					0.263 ** (2.11)	0.341 * (1.75)				
Selection Coefficient	-1.232 *** (5.19)	0.438 (1.22)	-0.136 (0.26)	-0.038 (0.07)	0.250 * (1.89)	-0.243 (1.16)	0.480 (1.26)	-0.454 (0.84)	-0.807 (1.30)	0.460 (0.69)	-0.158 (0.89)	0.865 ** (2.25)
Constant	5.563 *** (7.51)	1.582 (1.38)	5.023 (1.65)	0.261 (0.08)	3.583 *** (4.50)	0.936 (0.95)	3.479 ** (2.26)	1.391 (0.62)	8.509 ** (2.00)	-2.531 (0.54)	5.130 *** (4.70)	-2.964 * (1.86)
F-test												
Own Schooling and Age Interactions terms	1.29 (0.254)		0.54 (0.749)		2.19 (0.035)		1.93 (0.076)		0.21 (0.888)		0.82 (0.552)	
Own Schooling	11.71 (0.000)		4.71 (0.000)		26.67 (0.000)		5.34 (0.000)		2.40 (0.095)		23.78 (0.000)	
Age	2.88 (0.023)		5.95 (0.000)		3.50 (0.008)		0.64 (0.633)		10.14 (0.000)		1.86 (0.119)	
Adjusted R²	0.173		0.294		0.319		0.134		0.486		0.316	
Root MSE	1.130		0.658		0.790		1.189		0.579		0.895	
Observations	2,045		562		1,349		1,242		247		603	

Source: IFLS1.

Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 7.7B
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Urban Residence
IFLS2

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
Own Schooling												
1-3 years	0.267 **	-0.104			0.115	-0.045	0.276 **	-0.201			-0.154	0.174
	(2.53)	(0.49)			(1.04)	(0.21)	(2.08)	(0.84)			(0.83)	(0.75)
4-6 years	0.481 ***	-0.105			0.357 ***	-0.120	0.242 *	-0.098			0.151	-0.147
	(4.98)	(0.52)			(4.02)	(0.60)	(1.88)	(0.48)			(0.67)	(0.55)
7-9 years	0.937 ***	-0.079	0.116	0.009	0.705 ***	-0.116	0.381 **	0.222			-0.306	0.978 ***
	(6.90)	(0.33)	(0.31)	(0.02)	(5.30)	(0.51)	(2.06)	(0.81)			(1.14)	(3.02)
10-12 years	1.396 ***	-0.112	0.518	-0.024	0.819 ***	-0.090	0.622 **	0.376	-3.125 *	3.021 *	1.298 ***	-0.059
	(7.25)	(0.36)	(0.76)	(0.03)	(7.59)	(0.43)	(2.24)	(1.08)	(1.94)	(1.81)	(7.42)	(0.27)
13+ years	2.477 ***	-0.141	0.745	0.110	1.103 ***	0.125						
	(6.78)	(0.28)	(0.87)	(0.12)	(5.88)	(0.45)						
Age	-0.060 *	0.074	0.023	0.100	0.104 ***	-0.019	0.063	-0.013	-0.449 *	0.394	0.064	0.075
	(1.83)	(1.31)	(0.14)	(0.57)	(3.18)	(0.48)	(1.18)	(0.17)	(1.72)	(1.36)	(1.41)	(1.21)
Age² (x 10⁻²)	4.901	-7.381	-0.775	-10.224	-13.108 ***	3.599	-7.316	2.462	53.908 *	-45.342	-10.016 *	-6.446
	(1.30)	(1.14)	(0.04)	(0.52)	(3.33)	(0.72)	(1.25)	(0.29)	(1.79)	(1.36)	(1.90)	(0.85)
Selection Coefficient	-1.380 ***	0.246	-0.197	0.272	-0.022	0.244	0.467	-0.983 *	-2.329 **	1.927 *	0.748	-0.994
	(4.24)	(0.54)	(0.33)	(0.44)	(0.15)	(1.21)	(1.11)	(1.72)	(2.27)	(1.77)	(0.94)	(1.16)
Constant	8.574 ***	-1.256	6.768	-2.949	4.140 ***	0.444	3.875 **	1.979	22.518 ***	-13.203	3.417 ***	0.114
	(10.18)	(0.88)	(1.41)	(0.58)	(6.18)	(0.52)	(2.42)	(0.91)	(2.73)	(1.48)	(2.92)	(0.08)
F-test												
Own Schooling and Age Interactions terms	0.77		0.81		0.70		0.90		1.48		4.12	
	(0.614)		(0.545)		(0.672)		(0.497)		(0.221)		(0.001)	
Own Schooling	12.62		4.55		23.90		4.80		1.92		25.85	
	(0.000)		(0.000)		(0.000)		(0.000)		(0.150)		(0.000)	
Age	5.14		9.34		6.98		1.03		3.45		4.77	
	(0.000)		(0.000)		(0.000)		(0.391)		(0.010)		(0.001)	
Adjusted R²	0.143		0.221		0.230		0.080		0.227		0.323	
Root MSE	1.136		0.644		0.803		1.221		0.571		0.936	
Observations	2,199		606		1,864		1,456		299		958	

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

Table 7.7C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Urban Residence
IFLS3

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
Own Schooling												
1-3 years	0.204 *	-0.257			0.238 **	-0.115	0.232	-0.210			0.149	0.221
	(1.74)	(1.33)			(2.01)	(0.57)	(1.61)	(0.95)			(1.00)	(1.06)
4-6 years	0.389 ***	-0.265			0.456 ***	-0.214	0.306 **	-0.326			0.268	0.080
	(3.80)	(1.46)			(4.63)	(1.26)	(2.55)	(1.63)			(1.64)	(0.36)
7-9 years	0.628 ***	-0.014	0.077	0.311	0.583 ***	0.003	0.271 *	0.064			0.340	0.420
	(4.84)	(0.07)	(0.21)	(0.72)	(5.44)	(0.02)	(1.72)	(0.28)			(1.10)	(1.14)
10-12 years	1.292 ***	-0.461 *	0.814	0.033	0.946 ***	-0.156	0.686 ***	-0.041	-1.686	1.707	1.250 ***	0.202
	(7.74)	(1.73)	(1.29)	(0.04)	(8.51)	(0.86)	(3.85)	(0.16)	(1.36)	(1.15)	(7.00)	(0.84)
13+ years	2.143 ***	-0.743 **	1.163	0.145	1.018 ***	0.313						
	(8.95)	(2.17)	(1.40)	(0.14)	(4.81)	(1.18)						
Age	0.027	0.043	0.071	0.117	0.033	0.041	0.008	0.108	-0.674 **	0.587 *	0.056	-0.027
	(0.88)	(0.88)	(0.52)	(0.61)	(1.42)	(1.34)	(0.15)	(1.39)	(2.52)	(1.84)	(1.15)	(0.46)
Age² (x 10⁻²)	-4.251	-3.918	-4.645	-13.135	-5.676 *	-2.567	-1.750	-11.215	79.174 ***	-67.585 *	-8.208	5.039
	(1.20)	(0.68)	(0.32)	(0.64)	(1.84)	(0.64)	(0.29)	(1.31)	(2.65)	(1.90)	(1.32)	(0.68)
Selection Coefficient	-1.043 ***	0.070	0.048	0.177	0.692 ***	-0.630 **	-0.356	0.543	-2.226 **	1.558	0.465	-0.343
	(3.93)	(0.18)	(0.09)	(0.25)	(2.83)	(2.44)	(0.64)	(0.75)	(2.56)	(1.52)	(0.72)	(0.48)
Constant	7.310 ***	-0.607	5.140	-2.554	5.572 ***	-0.355	7.096 ***	-2.805	27.125 ***	-16.405 *	4.593 ***	0.851
	(9.80)	(0.52)	(1.23)	(0.44)	(11.40)	(0.56)	(3.88)	(1.12)	(3.39)	(1.72)	(3.44)	(0.55)
F-test												
Own Schooling and Age Interactions terms	1.90		0.78		3.17		2.13		2.16		0.52	
	(0.067)		(0.565)		(0.003)		(0.048)		(0.094)		(0.791)	
Own Schooling	14.19		1.81		34.74		5.30		0.94		23.73	
	(0.000)		(0.097)		(0.000)		(0.000)		(0.394)		(0.000)	
Age	2.57		5.82		8.09		1.48		5.96		0.94	
	(0.037)		(0.000)		(0.000)		(0.206)		(0.000)		(0.439)	
Adjusted R^2	0.099		0.251		0.189		0.055		0.325		0.267	
Root MSE	1.138		0.681		0.806		1.233		0.663		0.944	
Observations	3,021		701		2,799		2,043		350		1,374	

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

210

	Self Employment		Public Sector		Private Sector	
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
A. Men						
Linear Own Schooling						
IFLS1	0.116 ***	0.008	0.197 **	-0.147	0.078 ***	0.022 *
IFLS2	0.108 ***	0.003	0.295 *	-0.226	0.071 ***	0.006
IFLS3	0.102 ***	-0.012	0.081	-0.017	0.072 ***	0.012
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.042	-0.050			-0.042	0.273
4-6 years	0.358 ***	-0.055			0.305 ***	0.262 *
7-9 years	0.757 ***	0.169	0.368	-0.391	0.741 ***	-0.068
10-12 years	1.418 ***	-0.262	0.537	-0.115	0.823 ***	0.303
13+ years	2.088 ***	-0.044	0.801	-0.042	1.107 ***	0.627 **
IFLS2						
1-3 years a)	0.267 **	-0.104			0.115	-0.045
4-6 years	0.481 ***	-0.105			0.357 ***	-0.120
7-9 years	0.937 ***	-0.079	0.116	0.009	0.705 ***	-0.116
10-12 years	1.396 ***	-0.112	0.518	-0.024	0.819 ***	-0.090
13+ years	2.477 ***	-0.141	0.745	0.110	1.103 ***	0.125
IFLS3						
1-3 years a)	0.204 *	-0.257			0.238 **	-0.115
4-6 years	0.389 ***	-0.265			0.456 ***	-0.214
7-9 years	0.628 ***	-0.014	0.077	0.311	0.583 ***	0.003
10-12 years	1.292 ***	-0.461 *	0.814	0.033	0.946 ***	-0.156
13+ years	2.143 ***	-0.743 **	1.163	0.145	1.018 ***	0.313
B. Women						
Linear Own Schooling						
IFLS1	0.037 **	0.048 **	0.159 ***	-0.103	0.074 ***	0.043 **
IFLS2	0.034 **	0.044 **	-0.224	0.231	0.082 ***	0.027
IFLS3	0.043 ***	0.013	-0.204	0.128	0.091 ***	0.023
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.123	-0.020			0.039	-0.076
4-6 years	0.318 **	0.044			0.212	-0.110
7-9 years	0.622 **	-0.043			0.611 **	-0.127
10+ years	0.018	1.132 ***	0.052	0.736	1.341 ***	0.253
IFLS2						
1-3 years a)	0.276 **	-0.201			-0.154	0.174
4-6 years	0.242 *	-0.098			0.151	-0.147
7-9 years	0.381 **	0.222			-0.306	0.978 ***
10+ years	0.622 **	0.376	-3.125 *	3.021 *	1.298 ***	-0.059
IFLS3						
1-3 years a)	0.232	-0.210			0.149	0.221
4-6 years	0.306 **	-0.326			0.268	0.080
7-9 years	0.271 *	0.064			0.340	0.420
10+ years	0.686 ***	-0.041	-1.686	1.707	1.250 ***	0.202

Source: Based on estimates of Appendix Table 7.2A, 7.2B, 7.2C and Table 7.7A, 7.7B, 7.7C.

a) Omitted category for public sector men is 0-6 years, for women 0-9 years.

Appendix Table 7.1A

Selectivity Corrected Wage Functions:

The Effects of Linear Own Schooling Interacted with Born in Urban

IFLS1

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
Years of schooling	0.127 *** (9.29)	-0.009 (0.30)	0.105 *** (3.27)	-0.053 (1.47)	0.107 *** (13.31)	-0.015 (1.28)	0.054 *** (3.70)	0.063 *** (2.74)	0.034 (0.58)	0.094 (0.84)	0.108 *** (8.61)	0.014 (0.61)
Age	0.012 (0.40)	0.008 (0.12)	0.056 (1.12)	0.046 (0.57)	0.073 ** (2.24)	-0.004 (0.08)	0.093 * (1.96)	-0.107 (1.19)	0.009 (0.14)	0.037 (0.33)	0.044 (1.05)	0.024 (0.32)
Age^2 (x 10^{-2})	-0.021 (0.61)	-0.013 (0.18)	-0.033 (0.57)	-0.068 (0.73)	-0.089 ** (2.14)	0.007 (0.12)	-0.114 ** (2.02)	0.134 (1.25)	0.021 (0.25)	-0.051 (0.37)	-0.057 (1.06)	-0.022 (0.25)
Month of Interview												
October	0.295 * (1.94)	0.108 (0.44)	-0.047 (0.22)	-0.163 (0.58)	0.225 (1.30)	-0.158 (0.72)	0.486 *** (2.94)	-0.655 ** (2.08)	0.151 (0.85)	-0.237 (0.80)	0.034 (0.16)	0.213 (0.71)
November	0.567 *** (4.03)	-0.524 ** (2.13)	-0.168 (0.72)	-0.161 (0.61)	0.201 (1.25)	-0.106 (0.51)	0.522 *** (3.19)	-0.933 *** (3.15)	-0.171 (1.03)	-0.082 (0.26)	-0.185 (0.94)	0.371 (1.40)
December	-0.020 (0.15)	-0.198 (0.78)	0.087 (0.41)	-0.409 (1.60)	0.088 (0.55)	0.039 (0.19)	0.330 ** (2.07)	-0.939 *** (3.09)	0.202 (1.65)	-0.459 * (1.98)	-0.188 (0.95)	0.133 (0.48)
January	0.073 (0.42)	-0.377 (1.35)	0.097 (0.41)	-0.080 (0.29)	0.098 (0.55)	0.273 (1.25)	0.154 (0.49)	-0.371 (0.97)	0.280 * (1.93)	-0.076 (0.26)	-0.262 (0.87)	0.290 (0.63)
Gross Income	0.095 (1.30)	0.021 (0.13)					0.241 ** (2.09)	0.421 ** (2.01)				
Selection Coefficient	-1.034 *** (5.32)	0.533 (1.49)	0.096 (0.41)	-0.400 (1.54)	0.120 (1.44)	0.299 (1.07)	0.801 *** (2.70)	-1.322 ** (2.37)	-0.602 * (1.84)	0.563 (0.98)	0.080 (0.45)	0.270 (0.64)
Constant	5.534 *** (8.18)	0.284 (0.21)	4.227 *** (2.72)	0.588 (0.27)	3.834 *** (5.96)	0.156 (0.16)	2.222 * (1.80)	4.469 * (1.94)	6.972 *** (3.16)	-2.309 (0.56)	4.263 *** (4.45)	-1.132 (0.71)
F-test												
Own Schooling and Age Interactions terms	0.13 (0.940)		1.72 (0.164)		0.63 (0.597)		2.69 (0.046)		0.60 (0.619)		0.17 (0.917)	
Own Schooling	49.83 (0.000)		9.89 (0.000)		134.04 (0.000)		27.61 (0.000)		0.88 (0.415)		54.83 (0.000)	
Age	1.48 (0.208)		10.18 (0.000)		2.21 (0.068)		1.12 (0.345)		9.65 (0.000)		0.55 (0.697)	
Month of interview	6.80 (0.000)		1.72 (0.094)		1.52 (0.149)		2.28 (0.022)		1.78 (0.086)		0.86 (0.550)	
Adjusted R^2	0.140		0.283		0.290		0.113		0.501		0.273	
Root MSE	1.152		0.663		0.806		1.204		0.571		0.922	
Observations	2,045		562		1,349		1,242		247		603	

Source: IFLS1.

Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
Years of schooling	0.102 ***	0.036	0.195	-0.135	0.083 ***	-0.008	0.057 ***	0.020	-0.046	0.025	0.101 ***	0.015
	(7.29)	(1.40)	(1.46)	(1.00)	(13.29)	(0.75)	(4.27)	(0.82)	(0.57)	(0.26)	(8.93)	(0.98)
Age	0.023	-0.034	0.274	-0.158	0.112 ***	-0.048	0.079	0.010	-0.067	0.087	0.112 ***	-0.034
	(0.75)	(0.52)	(0.98)	(0.55)	(4.80)	(1.13)	(1.59)	(0.09)	(0.52)	(0.62)	(2.88)	(0.48)
Age² (x 10⁻²)	-3.696	4.093	-28.352	17.945	-13.103 ***	5.441	-8.591	-0.414	9.773	-9.661	-14.746 ***	5.298
	(1.04)	(0.54)	(0.92)	(0.56)	(4.62)	(0.99)	(1.55)	(0.03)	(0.64)	(0.59)	(3.20)	(0.59)
Month of Interview												
October	-0.183	-0.065	-0.231 *	0.336 *	-0.061	0.088	-0.116	-0.075	-0.125	-0.259	0.155	-0.044
	(1.42)	(0.31)	(1.84)	(1.84)	(0.63)	(0.66)	(0.85)	(0.31)	(0.77)	(1.09)	(1.15)	(0.23)
November	-0.255 **	0.077	-0.132	0.132	0.022	-0.116	-0.064	-0.030	-0.240	-0.345	0.151	-0.113
	(2.09)	(0.39)	(0.79)	(0.64)	(0.25)	(0.87)	(0.49)	(0.13)	(1.06)	(1.19)	(1.11)	(0.57)
December	0.014	0.045	-0.085	0.083	0.108	-0.106	0.235	-0.282	0.046	-0.447 *	0.289 **	-0.467 **
	(0.11)	(0.22)	(0.63)	(0.41)	(1.03)	(0.80)	(1.36)	(1.10)	(0.24)	(1.73)	(2.21)	(2.46)
January-April	0.017	0.089	0.133	0.024	0.212 **	-0.106	0.115	0.086	0.177	-0.233	0.567 **	-0.270
	(0.10)	(0.28)	(0.75)	(0.11)	(2.04)	(0.68)	(0.42)	(0.16)	(1.09)	(0.86)	(2.50)	(0.93)
Selection Coefficient	-0.574 **	-0.490	0.879	-0.976	-0.015	0.527 ***	0.454	-0.572	-0.617	0.192	0.383	-0.215
	(2.11)	(1.01)	(0.84)	(0.92)	(0.10)	(2.61)	(1.14)	(0.83)	(1.37)	(0.39)	(1.17)	(0.46)
Constant	6.152 ***	1.261	-1.979	5.984	3.887 ***	0.803	3.652 **	0.679	10.120 **	-2.105	2.772 ***	1.079
	(8.16)	(0.79)	(0.22)	(0.65)	(8.24)	(1.01)	(2.52)	(0.24)	(2.43)	(0.46)	(3.91)	(0.84)
F-test												
Own Schooling and Age Interactions terms	0.73		2.27		0.72		0.31		0.28		0.51	
	(0.535)		(0.080)		(0.538)		(0.815)		(0.842)		(0.678)	
Own Schooling	47.26		9.30		110.84		15.75		0.27		86.72	
	(0.000)		(0.000)		(0.000)		(0.000)		(0.762)		(0.000)	
Age	1.87		9.99		6.75		1.20		3.31		3.89	
	(0.114)		(0.000)		(0.000)		(0.312)		(0.012)		(0.004)	
Month of interview	1.55		1.43		1.34		0.80		1.95		1.93	
	(0.138)		(0.185)		(0.219)		(0.600)		(0.055)		(0.055)	
Adjusted R²	0.109		0.221		0.215		0.060		0.224		0.283	
Root MSE	1.159		0.644		0.811		1.234		0.572		0.964	
Observations	2,199		606		1,864		1,456		299		958	

Source: IFLS2.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Appendix Table 7.1C
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Born in Urban
IFLS3

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban	Coefficient	Born in Urban
Years of schooling	0.097 ***	0.013	0.109 *	-0.107	0.072 ***	0.023 ***	0.051 ***	0.019	-0.173	-0.046	0.095 ***	0.024 *
	(9.20)	(0.56)	(1.66)	(1.18)	(14.40)	(2.87)	(5.18)	(0.99)	(1.40)	(0.23)	(11.60)	(1.93)
Age	0.060 **	0.003	0.099	-0.083	0.060 ***	0.005	0.084 *	0.167 *	-0.481 **	0.181	0.060 *	-0.034
	(2.33)	(0.06)	(0.84)	(0.47)	(3.32)	(0.15)	(1.78)	(1.83)	(2.09)	(0.55)	(1.82)	(0.62)
Age² (x 10⁻²)	-7.424 **	0.022	-8.057	8.396	-6.917 ***	-0.551	-8.825 *	-20.575 **	56.570 **	-22.787	-7.345 *	4.965
	(2.45)	(0.00)	(0.64)	(0.44)	(3.00)	(0.13)	(1.69)	(1.98)	(2.20)	(0.63)	(1.82)	(0.71)
Month of interview												
August	-0.186 **	0.097	-0.020	0.018	-0.017	0.121	-0.167	0.302	-0.167	0.432 *	-0.022	0.135
	(2.36)	(0.57)	(0.19)	(0.10)	(0.26)	(1.25)	(1.47)	(1.25)	(0.98)	(1.78)	(0.18)	(0.70)
September	-0.144	0.020	-0.085	0.036	-0.027	0.091	-0.128	0.107	-0.316 *	0.569 ***	-0.082	0.081
	(1.51)	(0.11)	(0.89)	(0.22)	(0.42)	(0.85)	(1.09)	(0.44)	(1.91)	(2.84)	(0.57)	(0.44)
October	-0.114	0.176	-0.078	0.140	0.077	0.173	-0.077	-0.032	0.033	0.323	-0.070	0.241
	(1.07)	(0.86)	(0.70)	(0.78)	(1.08)	(1.64)	(0.63)	(0.12)	(0.15)	(1.23)	(0.48)	(1.22)
November-January	-0.022	0.281	0.182	-0.219	0.220 ***	0.093	-0.104	0.123	0.074	0.416	0.399 ***	-0.255
	(0.20)	(1.40)	(1.24)	(0.94)	(3.06)	(0.86)	(0.74)	(0.44)	(0.26)	(1.24)	(2.86)	(1.26)
Selection Coefficient	-0.734 ***	-0.265	0.082	-0.627	0.028	0.346 *	0.370	0.369	-1.669 **	0.355	0.203	0.280
	(3.38)	(0.59)	(0.17)	(0.98)	(0.25)	(1.84)	(0.92)	(0.51)	(2.37)	(0.33)	(0.90)	(0.63)
Constant	6.266 ***	0.177	4.146	4.133	5.513 ***	-0.642	4.437 ***	-3.733	22.766 ***	-3.585	4.678 ***	0.104
	(10.42)	(0.15)	(1.03)	(0.73)	(15.81)	(1.05)	(3.10)	(1.38)	(3.06)	(0.32)	(6.47)	(0.09)
F-test												
Own Schooling and Age Interactions terms	0.27		1.02		2.83		2.83		2.94		1.69	
	(0.846)		(0.384)		(0.037)		(0.038)		(0.034)		(0.169)	
Own Schooling	53.85		1.38		170.22		19.92		1.95		124.32	
	(0.000)		(0.254)		(0.000)		(0.000)		(0.145)		(0.000)	
Age	1.98		5.39		4.70		3.58		5.03		1.12	
	(0.096)		(0.000)		(0.001)		(0.007)		(0.001)		(0.348)	
Month of interview	1.82		0.79		3.66		0.61		2.11		2.92	
	(0.070)		(0.610)		(0.000)		(0.767)		(0.036)		(0.003)	
Adjusted R²	0.081		0.245		0.189		0.049		0.312		0.287	
Root MSE	1.149		0.683		0.807		1.238		0.669		0.931	
Observations	3,021		701		2,799		2,043		350		1,374	

Source: IFLS3.
Omitted category for month of interview is June/July. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

214

Appendix Table 7.2A
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Urban Residence
IFLS1

| | Men | | | | | | Women | | | | | |
| | Self Employment | | Public Sector | | Private Sector | | Self Employment | | Public Sector | | Private Sector | |
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
Years of schooling	0.116 *** (7.18)	0.008 (0.29)	0.197 ** (2.28)	-0.147 (1.64)	0.078 *** (8.20)	0.022 * (1.80)	0.037 ** (2.17)	0.048 ** (2.14)	0.159 *** (2.79)	-0.103 (1.14)	0.074 *** (4.76)	0.043 ** (2.06)
Age	0.019 (0.58)	-0.065 (1.28)	0.177 (1.65)	-0.136 (1.16)	0.080 ** (1.99)	-0.024 (0.49)	0.055 (0.92)	-0.007 (0.08)	0.103 (1.36)	-0.097 (0.84)	0.013 (0.25)	0.098 (1.38)
Age^2 (x 10^{-2})	-0.034 (0.90)	0.086 (1.44)	-0.165 (1.39)	0.138 (1.04)	-0.110 ** (2.09)	0.050 (0.78)	-0.075 (1.07)	0.015 (0.15)	-0.093 (1.00)	0.116 (0.82)	-0.020 (0.30)	-0.122 (1.36)
Month of Interview												
October	0.317 * (1.93)	0.002 (0.01)	-0.212 (0.57)	0.108 (0.26)	0.335 (1.46)	-0.284 (1.09)	0.301 (1.50)	-0.023 (0.09)	0.033 (0.11)	-0.029 (0.08)	0.064 (0.26)	0.056 (0.18)
November	0.579 *** (3.68)	-0.409 * (1.96)	-0.337 (0.86)	0.118 (0.27)	0.334 (1.58)	-0.293 (1.20)	0.289 (1.43)	-0.180 (0.67)	-0.075 (0.43)	-0.179 (0.65)	-0.144 (0.69)	0.200 (0.73)
December	0.022 (0.15)	-0.141 (0.64)	-0.088 (0.24)	0.0002 (0.00)	0.202 (1.04)	-0.119 (0.50)	0.201 (1.05)	-0.102 (0.38)	0.026 (0.20)	-0.078 (0.33)	-0.101 (0.47)	-0.085 (0.29)
January	-0.055 (0.29)	0.066 (0.25)	-0.095 (0.25)	0.256 (0.59)	0.144 (0.59)	0.037 (0.13)	0.270 (0.57)	-0.518 (1.03)	0.004 (0.02)	0.295 (1.06)	-0.372 (1.05)	0.172 (0.39)
Gross Income	0.069 (0.86)	0.268 ** (2.01)					0.249 ** (1.99)	0.374 * (1.94)				
Selection Coefficient	-1.152 *** (5.02)	0.310 (0.90)	0.740 (1.25)	-1.037 * (1.68)	0.231 * (1.93)	-0.111 (0.60)	0.353 (0.94)	-0.191 (0.36)	-0.009 (0.03)	-0.426 (0.83)	0.007 (0.04)	0.812 ** (2.05)
Constant	5.510 *** (7.77)	1.615 (1.49)	-0.072 (0.02)	6.025 (1.46)	3.617 *** (4.63)	0.791 (0.81)	3.685 ** (2.33)	0.743 (0.33)	3.024 (1.30)	3.670 (0.99)	4.953 *** (4.29)	-3.103 * (1.96)
F-test												
Own Schooling and Age Interactions terms	1.26 (0.289)		1.32 (0.270)		2.37 (0.071)		1.61 (0.187)		0.45 (0.721)		2.54 (0.057)	
Own Schooling	43.25 (0.000)		5.03 (0.007)		116.07 (0.000)		19.21 (0.000)		4.22 (0.017)		47.74 (0.000)	
Age	2.35 (0.054)		8.45 (0.000)		3.06 (0.017)		0.92 (0.452)		11.28 (0.000)		1.54 (0.192)	
Month of interview	4.57 (0.000)		1.42 (0.189)		0.64 (0.740)		1.94 (0.054)		1.02 (0.421)		0.86 (0.551)	
Adjusted R^2	0.172		0.286		0.316		0.134		0.498		0.300	
Root MSE	1.130		0.661		0.791		1.189		0.572		0.905	
Observations	2,045		562		1,349		1,242		247		603	

Source: IFLS1.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

215

Appendix Table 7.2B
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Urban Residence
IFLS2

	Men						Women					
	Self Employment		**Public Sector**		**Private Sector**		**Self Employment**		**Public Sector**		**Private Sector**	
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
Years of schooling	0.108 *** (7.30)	0.003 (0.14)	0.295 * (1.68)	-0.226 (1.28)	0.071 *** (9.88)	0.006 (0.56)	0.034 ** (2.34)	0.044 ** (2.08)	-0.224 (1.22)	0.231 (1.23)	0.082 *** (5.95)	0.027 (1.64)
Age	-0.035 (1.08)	0.093 * (1.66)	0.479 (1.29)	-0.370 (0.99)	0.109 *** (3.42)	-0.026 (0.65)	0.082 (1.49)	-0.027 (0.35)	-0.280 (1.11)	0.269 (1.00)	0.075 * (1.66)	0.028 (0.45)
Age^2 (x 10^{-2})	2.287 (0.61)	-9.449 (1.46)	-51.189 (1.25)	41.587 (1.01)	-13.855 *** (3.61)	4.337 (0.87)	-9.457 (1.55)	4.414 (0.51)	33.652 (1.17)	-29.973 (0.98)	-10.626 ** (2.07)	-2.219 (0.29)
Month of Interview												
October	-0.189 (1.30)	-0.034 (0.18)	-0.298 * (1.96)	0.285 (1.48)	-0.060 (0.44)	0.003 (0.02)	0.019 (0.13)	-0.299 (1.33)	-0.041 (0.17)	-0.259 (0.94)	0.290 (1.57)	-0.261 (1.14)
November	-0.234 * (1.71)	0.003 (0.02)	-0.139 (0.59)	0.110 (0.42)	0.085 (0.74)	-0.187 (1.28)	0.066 (0.48)	-0.274 (1.23)	-0.353 (0.98)	-0.068 (0.17)	0.077 (0.46)	0.100 (0.47)
December	0.105 (0.72)	-0.175 (0.90)	-0.120 (0.75)	0.119 (0.61)	0.163 (1.12)	-0.189 (1.09)	0.325 (1.51)	-0.336 (1.19)	0.190 (0.66)	-0.447 (1.42)	0.257 (1.37)	-0.265 (1.11)
January-April	0.086 (0.46)	0.032 (0.12)	0.044 (0.22)	0.157 (0.66)	0.281 ** (2.13)	-0.180 (1.06)	0.087 (0.30)	0.100 (0.23)	0.204 (0.74)	-0.145 (0.47)	0.551 ** (1.99)	-0.119 (0.36)
Selection Coefficient	-1.056 *** (3.39)	0.349 (0.77)	1.547 (1.13)	-1.544 (1.12)	0.017 (0.10)	0.314 (1.49)	0.670 (1.58)	-0.973 * (1.73)	-1.783 * (1.78)	1.518 (1.47)	0.648 (1.08)	-0.387 (0.59)
Constant	7.737 *** (9.65)	-1.880 (1.38)	-8.286 (0.70)	12.152 (1.02)	3.992 *** (6.20)	0.415 (0.51)	3.293 ** (2.04)	2.020 (0.93)	18.278 ** (2.06)	-10.281 (1.11)	3.074 *** (3.17)	0.229 (0.18)
F-test												
Own Schooling and Age Interactions terms	2.29 (0.078)		2.02 (0.111)		0.91 (0.436)		1.95 (0.122)		0.55 (0.651)		0.93 (0.426)	
Own Schooling	44.42 (0.000)		11.58 (0.000)		100.49 (0.000)		16.45 (0.000)		0.76 (0.468)		87.89 -	
Age	3.78 (0.005)		10.80 (0.000)		6.95 (0.000)		1.67 (0.156)		3.02 (0.019)		3.07 (0.017)	
Month of interview	2.13 (0.032)		1.49 (0.162)		1.41 (0.189)		1.02 (0.419)		2.22 (0.028)		1.86 (0.065)	
Adjusted R^2	0.136		0.226		0.229		0.081		0.253		0.299	
Root MSE	1.141		0.642		0.804		1.220		0.562		0.953	
Observations	2,199		606		1,864		1,456		299		958	

Source: IFLS2.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Appendix Table 7.2C
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Urban Residence
IFLS3

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence	Coefficient	Urban Residence
Years of schooling	0.102 ***	-0.012	0.081	-0.017	0.072 ***	0.012	0.043 ***	0.013	-0.204	0.128	0.091 ***	0.023
	(8.32)	(0.65)	(0.95)	(0.17)	(10.37)	(1.32)	(3.43)	(0.75)	(1.11)	(0.59)	(7.30)	(1.49)
Age	0.043	0.028	0.032	0.057	0.035	0.040	0.022	0.138 *	-0.634 *	0.478	0.072	-0.025
	(1.43)	(0.61)	(0.21)	(0.31)	(1.54)	(1.31)	(0.38)	(1.69)	(1.78)	(1.19)	(1.58)	(0.46)
Age² (x 10⁻²)	-5.968 *	-2.359	-0.715	-6.483	-5.620 *	-2.850	-3.283	-13.966	73.837 *	-54.391	-9.588 *	4.111
	(1.68)	(0.42)	(0.04)	(0.32)	(1.86)	(0.72)	(0.52)	(1.54)	(1.87)	(1.23)	(1.72)	(0.60)
Month of Interview												
August	-0.182 **	0.024	0.185	-0.275	-0.033	0.101	-0.218	0.199	-0.101	0.047	0.089	-0.120
	(2.04)	(0.15)	(1.34)	(1.48)	(0.51)	(0.96)	(1.46)	(0.93)	(0.33)	(0.13)	(0.52)	(0.55)
September	-0.178	0.094	0.179	-0.370 **	-0.113	0.159	-0.265 *	0.274	-0.238	0.242	-0.135	0.115
	(1.61)	(0.57)	(1.26)	(2.14)	(1.53)	(1.49)	(1.71)	(1.25)	(0.86)	(0.79)	(0.68)	(0.48)
October	-0.105	0.112	0.125	-0.207	0.218 ***	-0.106	-0.232	0.294	0.012	0.160	0.007	0.029
	(0.86)	(0.65)	(0.72)	(1.02)	(2.79)	(0.96)	(1.52)	(1.30)	(0.03)	(0.41)	(0.04)	(0.12)
November-January	-0.111	0.361 **	0.363	-0.321	0.394 ***	-0.174	-0.239	0.350	0.160	0.074	0.302	-0.053
	(0.90)	(2.00)	(1.52)	(1.17)	(4.13)	(1.40)	(1.31)	(1.40)	(0.33)	(0.14)	(1.46)	(0.22)
Selection Coefficient	-0.877 ***	0.008	-0.104	-0.071	0.600 ***	-0.448 *	-0.294	1.076	-1.955 *	1.113	0.414	-0.056
	(3.33)	(0.02)	(0.17)	(0.10)	(2.63)	(1.79)	(0.54)	(1.52)	(1.82)	(0.91)	(0.85)	(0.10)
Constant	6.722 ***	-0.419	6.081	-0.682	5.618 ***	-0.640	6.804 ***	-4.486 *	26.781 **	-13.409	4.173 ***	0.495
	(9.24)	(0.39)	(1.18)	(0.11)	(12.34)	(1.07)	(3.72)	(1.78)	(2.34)	(1.03)	(3.90)	(0.39)
F-test												
Own Schooling and Age Interactions terms	0.73		0.51		3.65		1.88		1.88		1.06	
	(0.531)		(0.676)		(0.012)		(0.133)		(0.134)		(0.365)	
Own Schooling	54.90		1.14		147.55		15.73		0.84		111.41	
	(0.000)		(0.322)		(0.000)		(0.000)		(0.435)		(0.000)	
Age	2.62		4.62		6.80		2.55		5.79		1.54	
	(0.034)		(0.001)		(0.000)		(0.038)		(0.000)		(0.191)	
Month of interview	2.26		1.25		4.70		0.54		0.81		2.02	
	(0.022)		(0.268)		(0.000)		(0.828)		(0.594)		(0.042)	
Adjusted R²	0.093		0.243		0.190		0.055		0.303		0.284	
Root MSE	1.142		0.685		0.806		1.233		0.673		0.933	
Observations	3,021		701		2,799		2,043		350		1,374	

Source: IFLS3.
Omitted category for month of interview is June/July. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

217

Table 8.1
Own Schooling Attainment by Cohort and Gender

		Young	Old
IFLS1			
Men	Mean	6.5	5.7
	Standard Error	(0.18)	(0.18)
	Observations	2,114	2,161
Women	Mean	5.3	3.3
	Standard Error	(0.16)	(0.16)
	Observations	2,868	2,487
All Individuals	Mean	5.8	4.4
	Standard Error	(0.16)	(0.17)
	Observations	4,982	4,648
IFLS2			
Men	Mean	7.6	6.1
	Standard Error	(0.16)	(0.16)
	Observations	3,019	2,588
Women	Mean	6.3	3.8
	Standard Error	(0.15)	(0.16)
	Observations	3,641	2,942
All Individuals	Mean	6.8	4.9
	Standard Error	(0.15)	(0.15)
	Observations	6,660	5,530
IFLS3			
Men	Mean	8.7	6.5
	Standard Error	(0.14)	(0.15)
	Observations	4,112	3,033
Women	Mean	7.5	4.6
	Standard Error	(0.14)	(0.15)
	Observations	4,394	3,322
All Individuals	Mean	8.1	5.5
	Standard Error	(0.13)	(0.15)
	Observations	8,506	6,355

Source: IFLS1, IFLS2 and IFLS3.
Young cohort consists of individuals aged 25-39 years, while old cohort 40-59 years. Means are in years. Standard errors are robust to clustering at the community level.

Table 8.2
Table 8.2
Hourly Wage within Sector of Employment by Cohort and Gender

		Self Employment			Public Sector			Private Sector		
		Young	Old	Difference	Young	Old	Difference	Young	Old	Difference
IFLS1										
Men	Mean	762	782	20	1,466	2,136	670 ***	802	930	128 *
	Standard Error	(53)	(54)	(67)	(88)	(129)	(142)	(44)	(79)	(75)
	Median	394	343	51	1,127	1,660	-533	550	525	25
	Observations	952	1,155		256	318		843	548	
Women	Mean	848	683	-165 **	1,716	2,164	448 **	525	438	-87
	Standard Error	(63)	(57)	(78)	(175)	(199)	(203)	(47)	(47)	(55)
	Median	370	275	95	1,267	1,886	-619	275	231	44
	Observations	601	671		169	83		353	263	
All Individuals	Mean	796	746	-50	1,565	2,142	576 ***	721	771	50
	Standard Error	(43)	(43)	(52)	(98)	(128)	(133)	(39)	(63)	(56)
	Median	385	322	63	1,182	1,732	-550	479	412	67
	Observations	1,553	1,826		425	401		1,196	811	
IFLS2										
Men	Mean	1,378	1,311	-67	1,975	2,702	727 ***	1,320	1,452	132
	Standard Error	(75)	(67)	(91)	(104)	(122)	(155)	(47)	(95)	(95)
	Median	714	619	96	1,650	2,307	-657	924	902	22
	Observations	1,038	1,280		275	370		1,379	720	
Women	Mean	1,205	1,202	-3	2,153	2,902	750 ***	1,008	761	-247 ***
	Standard Error	(85)	(86)	(110)	(125)	(209)	(205)	(69)	(71)	(86)
	Median	495	495	0	1,983	2,566	-583	606	370	237
	Observations	675	805		196	113		655	337	
All Individuals	Mean	1,310	1,269	-41	2,049	2,749	700 ***	1,220	1,232	12
	Standard Error	(60)	(55)	(68)	(87)	(111)	(120)	(45)	(78)	(72)
	Median	619	577	41	1,777	2,309	-533	825	674	151
	Observations	1,713	2,085		471	483		2,034	1,057	
IFLS3										
Men	Mean	3,110	3,191	81	4,153	5,901	1,748 ***	2,495	2,548	53
	Standard Error	(137)	(154)	(188)	(226)	(264)	(351)	(84)	(143)	(152)
	Median	1,650	1,567	82	3,514	4,797	-1,282	1,650	1,540	110
	Observations	1,493	1,530		297	405		1,929	872	
Women	Mean	2,531	2,289	-242	4,699	5,651	952 **	1,927	1,262	-665 ***
	Standard Error	(183)	(133)	(207)	(277)	(329)	(420)	(109)	(108)	(127)
	Median	1,006	990	16	3,936	5,164	-1,228	1,155	655	500
	Observations	956	1,091		194	158		912	464	
All Individuals	Mean	2,884	2,816	-68	4,369	5,831	1,462 ***	2,313	2,101	-212 *
	Standard Error	(115)	(117)	(140)	(196)	(218)	(289)	(75)	(114)	(113)
	Median	1,375	1,283	92	3,793	4,833	-1,040	1,443	1,227	217
	Observations	2,449	2,621		491	563		2,841	1,336	

Source: IFLS1, IFLS2 and IFLS3.
Means are in current (nominal) Rupiahs. Standard errors are robust to clustering at the community level. Significant at the 1%(***), 5%(**) and 10%(*) indicated.

Table 8.3A
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Young Cohort
IFLS1

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
Own Schooling												
1-3 years	0.119	-0.077			0.347 ***	-0.486 ***	0.115	0.0004			-0.101	0.268
	(1.08)	(0.47)			(2.96)	(3.05)	(0.82)	(0.00)			(0.55)	(1.12)
4-6 years	0.498 ***	-0.096			0.580 ***	-0.211	0.548 ***	-0.177			0.206	0.149
	(4.56)	(0.66)			(5.33)	(1.46)	(3.97)	(0.74)			(0.86)	(0.56)
7-9 years	1.239 ***	-0.359	0.019	0.327	0.876 ***	-0.243	0.880 ***	-0.298			0.958 ***	-0.309
	(7.90)	(1.64)	(0.13)	(1.40)	(7.40)	(1.54)	(4.29)	(1.03)			(2.64)	(0.77)
10-12 years	1.834 ***	-0.639 **	0.225	0.845 **	1.522 ***	-0.607 ***	0.834 ***	0.280	0.407	0.494	2.019 ***	-0.400 *
	(9.15)	(2.23)	(1.17)	(2.39)	(11.45)	(3.60)	(2.97)	(0.74)	(0.72)	(0.66)	(9.93)	(1.69)
13+ years	2.745 ***	-0.731	0.470 **	1.101 ***	2.468 ***	-1.063 ***						
	(7.90)	(1.37)	(2.03)	(2.68)	(13.15)	(4.36)						
Age	-0.153	0.203	-0.063	0.075	0.218	-0.015	0.120	-0.045	0.264	-0.067	0.110	0.282
	(1.27)	(1.05)	(0.38)	(0.31)	(1.55)	(0.08)	(0.70)	(0.17)	(0.93)	(0.21)	(0.52)	(1.04)
Age^2 (x 10^{-2})	0.154	-0.208	0.076	-0.011	-0.240	-0.058	-0.111	0.050	-0.246	-0.001	-0.129	-0.469
	(1.24)	(0.78)	(0.44)	(0.03)	(1.62)	(0.25)	(0.63)	(0.14)	(0.81)	(0.00)	(0.60)	(1.37)
Gross Income	0.099	-0.039					0.270 **	0.122				
	(1.21)	(0.35)					(2.04)	(0.68)				
Selection Coefficient	-0.893 ***	0.146	-0.477 ***	0.920 ***	-0.113	0.234	1.213 ***	-1.136 *	-0.489	0.215	0.100	-0.161
	(4.30)	(0.48)	(2.71)	(2.88)	(0.54)	(1.07)	(3.29)	(1.88)	(1.26)	(0.42)	(0.20)	(0.30)
Constant	9.624 ***	-4.997	9.097 **	-4.661	0.925	1.134	0.337	3.190	1.095	2.100	2.843	-3.788
	(3.31)	(1.33)	(2.21)	(0.92)	(0.28)	(0.30)	(0.08)	(0.60)	(0.16)	(0.29)	(0.55)	(0.65)
F-test												
Own Schooling and Age Interaction terms	1.16		1.61		4.67		0.47		0.71		2.26	
	(0.325)		(0.158)		(0.000)		(0.832)		(0.550)		(0.039)	
Own Schooling	16.49		5.87		44.49		6.53		2.03		29.72	
	(0.000)		(0.000)		(0.000)		(0.000)		(0.135)		(0.000)	
Age	1.24		3.49		2.33		1.76		2.87		2.01	
	(0.295)		(0.009)		(0.056)		(0.138)		(0.026)		(0.093)	
Adjusted R^2	0.125		0.301		0.277		0.092		0.467		0.305	
Root MSE	1.165		0.663		0.814		1.225		0.594		0.904	
Observations	2,107		574		1,391		1,272		252		616	

Source: IFLS1.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 8.3B
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Young Cohort
IFLS2

| | Men | | | | | | Women | | | | | |
| | Self Employment | | Public Sector | | Private Sector | | Self Employment | | Public Sector | | Private Sector | |
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
Own Schooling												
1-3 years	0.259 **				0.207	-0.169	0.273 *	-0.163			0.122	-0.122
	(2.15)				(1.54)	(1.01)	(1.93)	(0.71)			(0.68)	(0.51)
4-6 years	0.488 ***				0.411 ***	-0.110	0.390 ***	-0.221			0.500 ***	-0.334
	(4.62)				(3.40)	(0.80)	(3.07)	(1.02)			(2.81)	(1.47)
7-9 years	1.111 ***		0.070	0.175	0.949 ***	-0.304 *	0.587 ***	0.165			0.764 ***	-0.146
	(8.50)		(0.48)	(0.48)	(7.01)	(1.86)	(3.10)	(0.62)			(2.69)	(0.44)
10-12 years	1.646 ***		0.670 ***	-0.554	1.136 ***	-0.343 **	1.114 ***	-0.262	-0.141	-0.312	1.867 ***	-0.547 ***
	(7.76)		(3.02)	(0.88)	(8.62)	(2.33)	(4.29)	(0.79)	(0.22)	(0.42)	(10.56)	(2.73)
13+ years	2.885 ***		0.941 ***	-0.594	1.730 ***	-0.503 **						
	(8.74)		(3.66)	(0.74)	(7.59)	(2.01)						
Age	-0.242 **		0.208	-0.161	0.122	0.026	-0.125	-0.031	-0.346	0.476	0.385 **	-0.217
	(2.27)		(1.49)	(0.55)	(1.00)	(0.18)	(0.95)	(0.12)	(1.37)	(1.42)	(2.10)	(0.90)
Age² (x 10⁻³)	22.576 **		-20.574	13.332	-14.192	-5.358	12.319	16.568	38.817	-57.074	-40.826 **	18.139
	(2.07)		(1.41)	(0.35)	(1.13)	(0.31)	(0.93)	(0.48)	(1.44)	(1.35)	(2.14)	(0.59)
Selection Coefficient	-1.037 ***		0.102	-0.539	0.088	-0.055	0.229	-0.156	-0.717 *	0.189	-0.491	0.194
	(3.73)		(0.54)	(0.94)	(0.16)	(0.10)	(0.57)	(0.20)	(1.73)	(0.41)	(0.81)	(0.29)
Constant	13.079 ***		1.857	5.290	3.572	0.047	8.886 ***	-1.072	16.530 **	-9.884	-2.655	5.849
	(5.02)		(0.53)	(0.81)	(1.20)	(0.01)	(2.69)	(0.20)	(2.60)	(1.33)	(0.59)	(1.13)
F-test												
Own Schooling and Age Interactions terms	0.92		1.31		1.38		1.14		1.04		1.82	
	(0.494)		(0.257)		(0.213)		(0.338)		(0.377)		(0.095)	
Own Schooling	16.61		3.98		28.87		6.18		0.55		27.84	
	(0.000)		(0.001)		(0.000)		(0.000)		(0.578)		(0.000)	
Age	5.76		1.33		5.37		1.23		0.96		2.82	
	(0.000)		(0.260)		(0.000)		(0.298)		(0.428)		(0.025)	
Adjusted R²	0.110		0.217		0.202		0.059		0.217		0.294	
Root MSE	1.153		0.643		0.817		1.235		0.593		0.953	
Observations	2,318		645		2,099		1,480		309		992	

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Table 8.3C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling Interacted with Young Cohort
IFLS3

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
Own Schooling												
1-3 years	0.266 **	-0.194			0.315 **	-0.254	0.209 *	0.127			0.374 ***	-0.194
	(2.06)	(0.87)			(2.27)	(1.35)	(1.71)	(0.62)			(2.67)	(0.94)
4-6 years	0.339 ***	0.143			0.439 ***	-0.135	0.261 **	0.127			0.385 ***	-0.105
	(2.95)	(0.76)			(3.39)	(0.76)	(2.40)	(0.66)			(2.85)	(0.57)
7-9 years	0.772 ***	0.009	0.488 **	-0.477	0.915 ***	-0.449 **	0.489 ***	0.118			1.133 ***	-0.567 *
	(5.35)	(0.05)	(2.09)	(1.10)	(6.52)	(2.45)	(3.26)	(0.53)			(4.28)	(1.72)
10-12 years	1.344 ***	-0.140	1.270 **	-1.171	1.067 ***	-0.277	0.920 ***	-0.095	-0.251	-0.181	1.822 ***	-0.496 **
	(5.88)	(0.51)	(2.57)	(1.54)	(7.92)	(1.58)	(4.56)	(0.35)	(0.31)	(0.16)	(8.51)	(2.10)
13+ years	2.235 ***	-0.478	1.768 ***	-1.520	2.141 ***	-0.949 ***						
	(7.12)	(1.32)	(2.63)	(1.47)	(10.92)	(4.16)						
Age	0.054	0.034	0.224	-0.420	0.161	-0.238 *	0.029	0.310	-0.461 *	0.292	0.275 *	-0.391 **
	(0.53)	(0.22)	(1.25)	(1.63)	(1.62)	(1.97)	(0.22)	(1.38)	(1.93)	(0.68)	(1.70)	(2.01)
Age² (x 10²)	-7.161	-5.453	-21.589	51.700	-16.986 *	31.061 **	-3.705	-42.538	52.962 **	-33.419	-27.927 *	48.101 *
	(0.69)	(0.27)	(1.14)	(1.58)	(1.67)	(2.09)	(0.28)	(1.40)	(2.03)	(0.59)	(1.66)	(1.96)
Selection Coefficient	-1.035 ***	0.184	0.525	-1.218 *	-0.159	0.288 *	-0.041	0.683	-1.150 **	0.107	-0.253	0.355
	(3.29)	(0.48)	(1.14)	(1.81)	(1.41)	(1.77)	(0.10)	(0.83)	(2.05)	(0.14)	(0.49)	(0.57)
Constant	6.861 ***	-0.913	1.004	10.992 *	3.089	4.603 *	6.376 *	-6.785	19.933 ***	-6.320	-0.183	7.908 *
	(2.73)	(0.29)	(0.20)	(1.71)	(1.28)	(1.73)	(1.92)	(1.37)	(3.07)	(0.65)	(0.05)	(1.85)
F-test												
Own Schooling and Age Interactions terms	1.46		0.79		5.22		0.41		0.80		1.97	
	(0.179)		(0.560)		(0.000)		(0.871)		(0.497)		(0.068)	
Own Schooling	13.19		1.35		42.47		6.29		0.21		27.49	
	(0.000)		(0.233)		(0.000)		(0.000)		(0.814)		(0.000)	
Age	2.39		2.88		3.14		1.38		2.07		1.74	
	(0.050)		(0.023)		(0.014)		(0.240)		(0.086)		(0.140)	
Adjusted R²	0.084		0.255		0.191		0.039		0.309		0.266	
Root MSE	1.147		0.679		0.805		1.244		0.669		0.944	
Observations	3,023		702		2,801		2,047		352		1,376	

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

<div align="center">

Table 8.4
Selectivity Corrected Wage Functions:
Summary of the Effects of Own Schooling Interacted with Young Cohort

</div>

	Self Employment		Public Sector		Private Sector	
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
A. Men						
Linear Own Schooling						
IFLS1	0.156 ***	-0.041 *	0.050 **	0.058	0.132 ***	-0.039 ***
IFLS2	0.124 ***	-0.023	0.080 ***	-0.068	0.103 ***	-0.027 ***
IFLS3	0.092 ***	0.017	0.102 *	-0.080	0.102 ***	-0.024 ***
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.119	-0.077			0.347 ***	-0.486 ***
4-6 years	0.498 ***	-0.096			0.580 ***	-0.211
7-9 years	1.239 ***	-0.359	0.019	0.327	0.876 ***	-0.243
10-12 years	1.834 ***	-0.639 **	0.225	0.845 **	1.522 ***	-0.607 ***
13+ years	2.745 ***	-0.731	0.470 **	1.101 ***	2.468 ***	-1.063 ***
IFLS2						
1-3 years a)	0.259 **	-0.051			0.207	-0.169
4-6 years	0.488 ***	-0.089			0.411 ***	-0.110
7-9 years	1.111 ***	-0.281	0.070	0.175	0.949 ***	-0.304 *
10-12 years	1.646 ***	-0.420	0.670 ***	-0.554	1.136 ***	-0.343 **
13+ years	2.885 ***	-0.707	0.941 ***	-0.594	1.730 ***	-0.503 **
IFLS3						
1-3 years a)	0.266 **	-0.194			0.315 **	-0.254
4-6 years	0.339 ***	0.143			0.439 ***	-0.135
7-9 years	0.772 ***	0.009	0.488 **	-0.477	0.915 ***	-0.449 **
10-12 years	1.344 ***	-0.140	1.270 **	-1.171	1.067 ***	-0.277
13+ years	2.235 ***	-0.478	1.768 ***	-1.520	2.141 ***	-0.949 ***
B. Women						
Linear Own Schooling						
IFLS1	0.084 ***	-0.008	0.154	-0.156	0.132 ***	-0.017
IFLS2	0.072 ***	-0.003	0.146 **	-0.282 ***	0.128 ***	-0.017
IFLS3	0.060 ***	-0.002	-0.148	0.098	0.121 ***	-0.011
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.115	0.0004			-0.101	0.268
4-6 years	0.548 ***	-0.177			0.206	0.149
7-9 years	0.880 ***	-0.298			0.958 ***	-0.309
10+ years	0.834 ***	0.280	0.407	0.494	2.019 ***	-0.400 *
IFLS2						
1-3 years a)	0.273 *	-0.163			0.122	-0.122
4-6 years	0.390 ***	-0.221			0.500 ***	-0.334
7-9 years	0.587 ***	0.165			0.764 ***	-0.146
10+ years	1.114 ***	-0.262	-0.141	-0.312	1.867 ***	-0.547 ***
IFLS3						
1-3 years a)	0.209 *	0.127			0.374 ***	-0.194
4-6 years	0.261 **	0.127			0.385 ***	-0.105
7-9 years	0.489 ***	0.118			1.133 ***	-0.567 *
10+ years	0.920 ***	-0.095	-0.251	-0.181	1.822 ***	-0.496 **

Source: Based on estimates of Appendix Table 8.1A, 8.1B, 8.1C and Table 8.3A, 8.3B, 8.3C.
a) Omitted category for public sector men is 0-6 years, for women 0-9 years.

<div align="center">

223

</div>

Appendix Table 8.1A
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Young Cohort
IFLS1

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
Years of schooling	0.156 ***	-0.041 *	0.050 **	0.058	0.132 ***	-0.039 ***	0.084 ***	-0.008	0.154	-0.156	0.132 ***	-0.017
	(10.29)	(1.93)	(2.47)	(1.61)	(14.58)	(3.55)	(5.08)	(0.35)	(1.50)	(1.42)	(7.17)	(0.84)
Age	-0.164	0.239	-0.078	0.048	0.185	0.001	0.100	0.001	0.371	-0.289	0.117	0.277
	(1.37)	(1.26)	(0.50)	(0.20)	(1.28)	(0.00)	(0.58)	(0.01)	(1.28)	(0.88)	(0.51)	(0.95)
Age² (x 10⁻²)	0.168	-0.260	0.094	0.017	-0.208	-0.064	-0.094	0.0004	-0.369	0.262	-0.131	-0.467
	(1.36)	(1.00)	(0.58)	(0.05)	(1.36)	(0.27)	(0.53)	(0.00)	(1.19)	(0.67)	(0.55)	(1.30)
Month of interview												
October	0.073	0.561 ***	-0.198	0.068	-0.071	0.322 *	0.401 *	-0.056	0.062	-0.150	-0.010	0.109
	(0.45)	(3.25)	(0.89)	(0.25)	(0.41)	(1.66)	(1.90)	(0.19)	(0.17)	(0.43)	(0.04)	(0.32)
November	0.228	0.472 ***	-0.281	-0.014	-0.042	0.306 *	0.563 **	-0.333	-0.035	-0.366	-0.183	0.155
	(1.61)	(2.95)	(1.27)	(0.05)	(0.26)	(1.77)	(2.48)	(1.09)	(0.09)	(0.94)	(0.79)	(0.48)
December	-0.296 **	0.430 ***	-0.037	-0.150	-0.098	0.293 *	0.242	-0.252	0.026	-0.095	-0.095	-0.183
	(2.04)	(2.72)	(0.17)	(0.59)	(0.61)	(1.68)	(1.11)	(0.84)	(0.08)	(0.28)	(0.40)	(0.58)
January	-0.074	0.185	0.027	-0.062	0.126	0.162	0.119	-0.098	0.186	0.199	-0.255	0.116
	(0.46)	(0.86)	(0.11)	(0.22)	(0.68)	(0.75)	(0.40)	(0.25)	(0.53)	(0.54)	(0.77)	(0.28)
Gross Income	0.099	-0.042					0.259 *	0.138				
	(1.20)	(0.37)					(1.94)	(0.76)				
Selection Coefficient	-0.817 ***	0.098	-0.436 ***	0.666 **	0.087	0.026	1.187 ***	-0.855	0.067	-0.817	0.368	-0.288
	(3.85)	(0.34)	(2.89)	(2.47)	(0.61)	(0.15)	(3.22)	(1.52)	(0.12)	(1.39)	(0.81)	(0.59)
Constant	9.624 ***	-5.562	9.001 **	-3.588	1.454	0.763	0.963	1.674	-3.609	10.411	1.992	-3.277
	(3.35)	(1.51)	(2.29)	(0.73)	(0.43)	(0.20)	(0.23)	(0.32)	(0.51)	(1.38)	(0.36)	(0.53)
F-test												
Own Schooling and Age Interactions terms	2.11		1.21		4.85		0.04		1.30		1.54	
	(0.099)		(0.308)		(0.003)		(0.989)		(0.278)		(0.206)	
Own Schooling	67.80		9.12		164.26		21.19		1.23		73.44	
	(0.000)		(0.000)		(0.000)		(0.000)		(0.297)		(0.000)	
Age	1.28		2.87		2.10		2.08		2.08		1.82	
	(0.278)		(0.024)		(0.081)		(0.083)		(0.087)		(0.126)	
Month of interview	5.81		1.08		0.90		1.63		1.46		1.27	
	(0.000)		(0.378)		(0.516)		(0.115)		(0.176)		(0.262)	
Adjusted R²	0.125		0.295		0.270		0.094		0.470		0.273	
Root MSE	1.166		0.666		0.818		1.224		0.592		0.925	
Observations	2,107		574		1,391		1,272		252		616	

Source: IFLS1.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

Appendix Table 8.1B
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Young Cohort
IFLS2

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
Years of schooling	0.124 ***	-0.023	0.080 ***	-0.068	0.103 ***	-0.027 ***	0.072 ***	-0.003	0.146 **	-0.282 ***	0.128 ***	-0.017
	(7.78)	(1.04)	(4.78)	(0.59)	(11.92)	(2.81)	(4.79)	(0.15)	(2.30)	(3.24)	(9.70)	(1.16)
Age	-0.186 *	0.206	0.175	-0.187	0.127	0.033	-0.127	0.039	-0.080	0.159	0.378 **	-0.260
	(1.74)	(1.13)	(1.31)	(0.53)	(1.03)	(0.23)	(0.95)	(0.16)	(0.37)	(0.51)	(2.10)	(1.11)
Age² (x 10⁻²)	16.951	-20.660	-17.248	17.740	-15.766	-5.737	12.367	8.161	9.239	-25.133	-41.261 **	25.658
	(1.55)	(0.80)	(1.24)	(0.40)	(1.23)	(0.33)	(0.92)	(0.24)	(0.40)	(0.62)	(2.22)	(0.85)
Month of interview												
October	-0.161	-0.035	-0.125	-0.130	-0.144	0.113	-0.273 *	0.226	-0.218	-0.147	0.252	-0.217
	(1.24)	(0.25)	(1.01)	(0.71)	(1.09)	(0.81)	(1.71)	(1.13)	(0.84)	(0.47)	(1.59)	(1.15)
November	-0.196	-0.091	-0.177	-0.008	0.045	-0.175	-0.138	0.082	0.025	-0.732 **	-0.007	0.113
	(1.61)	(0.62)	(1.45)	(0.04)	(0.39)	(1.51)	(0.93)	(0.43)	(0.09)	(2.06)	(0.03)	(0.54)
December	0.095	-0.097	-0.103	0.048	0.133	-0.120	0.100	0.153	-0.061	-0.153	0.298 *	-0.338 *
	(0.69)	(0.67)	(0.83)	(0.26)	(1.01)	(0.99)	(0.57)	(0.70)	(0.24)	(0.50)	(1.71)	(1.66)
January-April	-0.040	0.111	0.044	-0.059	-0.049	0.275	0.050	0.245	0.138	-0.147	0.595 *	-0.228
	(0.19)	(0.41)	(0.29)	(0.27)	(0.29)	(1.55)	(0.16)	(0.52)	(0.51)	(0.43)	(1.72)	(0.61)
Selection Coefficient	-0.572 **	0.002	0.071	-0.644	0.602 *	-0.565	0.373	0.148	0.201	-1.265 ***	0.308	-0.190
	(2.06)	(0.01)	(0.56)	(0.71)	(1.74)	(1.52)	(0.95)	(0.20)	(0.56)	(2.63)	(0.72)	(0.39)
Constant	11.327 ***	-4.993	2.405	6.102	3.046	0.285	8.833 ***	-3.029	7.484	2.686	-3.618	6.816
	(4.33)	(1.41)	(0.74)	(0.67)	(1.01)	(0.09)	(2.64)	(0.58)	(1.39)	(0.38)	(0.83)	(1.37)
F-test												
Own Schooling and Age Interactions terms	1.32		0.35		2.66		1.58		4.70		1.15	
	(0.267)		(0.790)		(0.047)		(0.193)		(0.003)		(0.330)	
Own Schooling	52.38		11.43		142.11		20.07		5.25		106.26	
	(0.000)		(0.000)		(0.000)		(0.000)		(0.006)		(0.000)	
Age	4.34		0.99		7.53		1.94		0.61		3.06	
	(0.002)		(0.411)		(0.000)		(0.103)		(0.654)		(0.017)	
Month of interview	1.52		1.21		3.25		1.09		2.97		1.83	
	(0.149)		(0.290)		(0.001)		(0.369)		(0.004)		(0.070)	
Adjusted R²	0.100		0.209		0.202		0.059		0.269		0.281	
Root MSE	1.160		0.647		0.817		1.235		0.573		0.962	
Observations	2,318		645		2,099		1,480		309		992	

Source: IFLS2.

Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

225

Appendix Table 8.1C
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling Interacted with Young Cohort
IFLS3

	Men						Women					
	Self Employment		Public Sector		Private Sector		Self Employment		Public Sector		Private Sector	
	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort	Coefficient	Young Cohort
Years of schooling	0.092 ***	0.017	0.102 *	-0.080	0.102 ***	-0.024 ***	0.060 ***	-0.002	-0.148	0.098	0.121 ***	-0.011
	(6.04)	(0.92)	(1.88)	(0.94)	(12.62)	(2.75)	(4.93)	(0.11)	(0.94)	(0.53)	(9.29)	(0.78)
Age	0.044	0.044	0.137	-0.339	0.165	-0.237 *	0.052	0.312	-0.620 *	0.531	0.319 *	-0.400 **
	(0.42)	(0.29)	(0.89)	(1.35)	(1.64)	(1.94)	(0.40)	(1.42)	(1.89)	(1.09)	(1.96)	(2.02)
Age² (x 10⁻²)	-5.994	-6.111	-12.391	43.214	-18.031 *	31.510 **	-6.093	-42.959	70.315 *	-60.684	-33.470 **	49.130 **
	(0.57)	(0.30)	(0.77)	(1.34)	(1.74)	(2.10)	(0.46)	(1.44)	(1.97)	(0.99)	(1.98)	(1.97)
Month of interview												
August	-0.301 ***	0.272 *	-0.031	0.061	0.058	-0.045	-0.258 *	0.327 *	-0.031	0.086	0.068	-0.081
	(2.96)	(1.91)	(0.26)	(0.31)	(0.58)	(0.39)	(1.90)	(1.68)	(0.14)	(0.29)	(0.47)	(0.49)
September	-0.155	0.047	-0.132	0.146	-0.043	0.067	-0.193	0.238	-0.007	-0.060	0.024	-0.108
	(1.40)	(0.33)	(1.26)	(0.78)	(0.43)	(0.59)	(1.38)	(1.24)	(0.04)	(0.25)	(0.13)	(0.59)
October	-0.282 **	0.396 **	-0.201 *	0.403 **	0.233 **	-0.130	-0.139	0.126	0.022	0.345	-0.080	0.134
	(2.20)	(2.56)	(1.68)	(2.01)	(2.33)	(1.11)	(0.98)	(0.61)	(0.11)	(1.40)	(0.48)	(0.69)
November-January	-0.209	0.453 **	-0.046	0.432 *	0.162	0.127	-0.219	0.300	0.276	-0.140	0.259	0.018
	(1.27)	(2.50)	(0.30)	(1.76)	(1.32)	(0.93)	(1.24)	(1.41)	(1.05)	(0.39)	(1.34)	(0.08)
Selection Coefficient	-0.576 **	-0.213	0.164	-0.862	0.153	0.035	0.337	0.450	-1.419 *	0.598	0.437	-0.168
	(2.08)	(0.60)	(0.41)	(1.37)	(0.82)	(0.19)	(0.85)	(0.62)	(1.67)	(0.61)	(1.07)	(0.36)
Constant	6.764 ***	-1.015	3.440	8.566	2.733	4.686 *	5.401 *	-6.437	25.394 **	-13.516	-2.114	8.788 **
	(2.67)	(0.32)	(0.80)	(1.37)	(1.11)	(1.74)	(1.66)	(1.38)	(2.51)	(1.05)	(0.54)	(2.04)
F-test												
Own Schooling and Age Interactions terms	0.34		0.68		4.55		0.69		0.86		1.63	
	(0.798)		(0.564)		(0.004)		(0.556)		(0.460)		(0.182)	
Own Schooling	56.53		1.80		186.87		21.17		0.54		135.43	
	(0.000)		(0.166)		(0.000)		(0.000)		(0.581)		(0.000)	
Age	2.27		2.50		4.11		1.89		2.20		2.56	
	(0.060)		(0.042)		(0.003)		(0.111)		(0.069)		(0.038)	
Month of interview	2.93		1.88		4.30		0.65		1.27		2.42	
	(0.003)		(0.061)		(0.000)		(0.735)		(0.259)		(0.014)	
Adjusted R²	0.079		0.250		0.188		0.043		0.282		0.279	
Root MSE	1.150		0.681		0.807		1.242		0.682		0.936	
Observations	3,023		702		2,801		2,047		352		1,376	

Source: IFLS3.
Omitted category for month of interview is June/July. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

226

Table 9.1A

Selectivity Corrected Wage Functions:

The Effects of Non-linear Own Schooling with Age and Potential Experience

IFLS1

	Men						Women					
	Specification with Age			Spec. with Potential Experience			Specification with Age			Spec. with Potential Experience		
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
Own Schooling												
1-3 years	0.101 (0.92)		0.039 (0.36)	0.178 (1.45)		0.069 (0.65)	0.180 (1.21)		0.085 (0.66)	0.092 (0.59)		0.091 (0.66)
4-6 years	0.385 *** (3.51)		0.449 *** (4.98)	0.513 *** (4.05)		0.496 *** (5.15)	0.429 *** (3.07)		0.357 *** (2.62)	0.356 ** (2.39)		0.370 *** (2.74)
7-9 years	0.891 *** (6.68)	0.219 (1.44)	0.696 *** (6.97)	1.042 *** (6.69)	0.279 * (1.74)	0.778 *** (7.31)	0.721 *** (3.90)	0.361 (1.39)	0.792 *** (4.36)	0.671 *** (3.42)	0.279 (1.12)	0.836 *** (4.43)
10-12 years	1.299 *** (7.17)	0.852 *** (4.16)	1.057 *** (10.97)	1.355 *** (7.41)	0.757 *** (4.24)	1.201 *** (10.90)	0.996 *** (4.62)	1.059 ** (2.03)	1.692 *** (12.04)	1.125 *** (5.16)	0.961 *** (4.35)	1.830 *** (9.31)
13+ years	2.224 *** (7.26)	1.244 *** (5.45)	1.590 *** (11.52)	2.364 *** (8.14)	1.322 *** (5.86)	1.872 *** (11.44)						
Age	0.074 (1.42)	0.106 * (1.72)	0.077 * (1.80)	0.020 (1.08)	0.012 (0.85)	0.038 *** (3.21)	0.181 ** (2.47)	0.046 (0.36)	0.046 (0.70)	0.069 ** (2.53)	-0.021 (1.21)	0.025 (1.30)
Age² (x 10⁻²)	-0.094 (1.33)	-0.084 (1.06)	-0.087 (1.47)	-0.033 (0.85)	0.046 (1.17)	-0.061 ** (2.20)	-0.239 ** (2.45)	-0.019 (0.11)	-0.051 (0.56)	-0.128 ** (2.50)	0.136 ** (2.43)	-0.037 (0.94)
Gross Income	-0.036 (0.48)			-0.039 (0.51)			0.307 *** (2.65)			0.313 *** (2.69)		
Selection Coefficient	-0.667 *** (3.98)	0.306 * (1.92)	0.040 (0.55)	-0.659 *** (4.04)	-0.001 (0.01)	-0.009 (0.13)	0.573 (1.61)	-0.218 (0.67)	-0.100 (0.56)	0.584 * (1.66)	-0.511 *** (3.55)	-0.034 (0.18)
Constant	4.368 *** (4.45)	3.465 ** (2.55)	4.008 *** (5.27)	5.398 *** (17.46)	6.228 *** (17.32)	5.115 *** (25.31)	1.156 (0.70)	5.387 * (1.68)	4.484 *** (3.72)	3.649 *** (4.47)	7.260 *** (17.89)	4.974 *** (13.55)
F-test												
Own Schooling	18.22 (0.000)	14.87 (0.000)	48.18 (0.000)	21.79 (0.000)	16.26 (0.000)	40.59 (0.000)	8.69 (0.000)	2.08 (0.129)	46.35 (0.000)	10.29 (0.000)	14.30 (0.000)	26.93 (0.000)
Age	1.33 (0.266)	16.60 (0.000)	7.91 (0.000)	0.87 (0.421)	14.41 (0.000)	9.22 (0.000)	3.07 (0.048)	14.48 (0.000)	1.14 (0.322)	3.23 (0.041)	7.40 (0.001)	1.33 (0.266)
Adjusted R²	0.117	0.256	0.233	0.118	0.236	0.234	0.077	0.474	0.312	0.076	0.465	0.313
Root MSE	1.149	0.650	0.804	1.148	0.659	0.804	1.205	0.593	0.895	1.205	0.598	0.894
Observations	1,453	441	1,100	1,453	441	1,100	854	219	466	854	219	466

Source: IFLS1.

Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

227

Table 9.1B
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling with Age and Potential Experience
IFLS2

	Men						Women					
	Specification with Age			Spec. with Potential Experience			Specification with Age			Spec. with Potential Experience		
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
Own Schooling												
1-3 years	0.338 ***		0.088	0.365 ***		0.118	0.186		0.052	0.236 *		0.014
	(3.30)		(0.88)	(3.44)		(1.20)	(1.36)		(0.39)	(1.71)		(0.10)
4-6 years	0.452 ***		0.320 ***	0.482 ***		0.356 ***	0.213 *		0.320 ***	0.256 **		0.204
	(4.96)		(3.74)	(4.96)		(4.04)	(1.71)		(2.62)	(2.06)		(1.54)
7-9 years	0.804 ***	0.031	0.701 ***	0.858 ***	0.045	0.776 ***	0.696 ***	0.056	0.768 ***	0.735 ***	-0.213	0.604 ***
	(6.99)	(0.21)	(7.28)	(7.13)	(0.31)	(7.79)	(4.17)	(0.20)	(4.67)	(3.89)	(0.67)	(3.61)
10-12 years	0.932 ***	0.238	0.828 ***	1.018 ***	0.332 *	0.989 ***	0.993 ***	0.008	1.358 ***	1.064 ***	-0.203	1.462 ***
	(6.54)	(1.08)	(9.05)	(7.51)	(1.97)	(9.64)	(5.73)	(0.02)	(10.69)	(5.20)	(0.55)	(8.97)
13+ years	1.664 ***	0.516 *	1.365 ***	1.809 ***	0.646 ***	1.677 ***						
	(7.02)	(1.96)	(11.42)	(7.82)	(2.85)	(11.63)						
Age	0.080 *	0.0001	0.095 ***	0.012	-0.016	0.039 ***	0.111	0.006	0.099 *	0.006	0.020	0.018
	(1.72)	(0.00)	(2.96)	(0.69)	(1.35)	(4.02)	(1.40)	(0.05)	(1.78)	(0.19)	(1.52)	(1.20)
Age^2 (x 10^{-2})	-0.098	0.030	-0.106 **	-0.009	0.080 **	-0.057 **	-0.138	0.023	-0.109	-0.005	-0.027	-0.024
	(1.61)	(0.30)	(2.36)	(0.29)	(2.41)	(2.45)	(1.37)	(0.14)	(1.44)	(0.08)	(0.48)	(0.78)
Selection Coefficient	0.065	-0.201	-0.148	0.051	-0.280 **	-0.184	-0.190	-0.374	-0.658 ***	-0.394	-0.536 ***	-0.202
	(0.31)	(1.15)	(1.11)	(0.24)	(2.13)	(1.29)	(0.53)	(1.55)	(3.07)	(1.04)	(3.48)	(1.10)
Constant	4.479 ***	7.056 ***	4.480 ***	5.805 ***	7.540 ***	5.902 ***	4.100 **	7.752 **	4.594 ***	6.353 ***	8.560 ***	5.747 ***
	(4.74)	(3.72)	(7.56)	(15.56)	(19.76)	(31.16)	(2.17)	(2.55)	(4.76)	(6.74)	(16.75)	(19.28)
F-test												
Own Schooling	14.04	4.32	48.37	17.01	3.90	42.35	10.13	0.03	43.03	8.62	0.23	33.50
	(0.000)	(0.005)	(0.000)	(0.000)	(0.009)	(0.000)	(0.000)	(0.966)	(0.000)	(0.000)	(0.795)	(0.000)
Age	1.85	6.25	15.79	0.98	5.44	15.49	1.00	4.61	6.47	0.13	3.40	1.34
	(0.158)	(0.002)	(0.000)	(0.375)	(0.005)	(0.000)	(0.367)	(0.011)	(0.002)	(0.879)	(0.036)	(0.262)
Adjusted R^2	0.088	0.204	0.186	0.088	0.175	0.185	0.054	0.201	0.284	0.052	0.159	0.275
Root MSE	1.151	0.631	0.794	1.151	0.642	0.795	1.237	0.599	0.926	1.239	0.615	0.931
Observations	1,767	520	1,778	1,767	520	1,778	1,114	273	857	1,114	273	857

Source: IFLS2.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

228

Table 9.1C
Selectivity Corrected Wage Functions:
The Effects of Non-linear Own Schooling with Age and Potential Experience
IFLS3

| | Men | | | | | | Women | | | | | |
| | Specification with Age | | | Spec. with Potential Experience | | | Specification with Age | | | Spec. with Potential Experience | | |
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
Own Schooling												
1-3 years	0.172		0.182 *	0.244 **		0.188 *	0.343 ***		0.365 ***	0.327 ***		0.317 ***
	(1.57)		(1.74)	(2.07)		(1.79)	(2.75)		(3.43)	(2.77)		(2.81)
4-6 years	0.427 ***		0.405 ***	0.522 ***		0.429 ***	0.412 ***		0.409 ***	0.454 ***		0.311 **
	(4.28)		(4.55)	(4.47)		(4.61)	(3.59)		(3.87)	(3.64)		(2.54)
7-9 years	0.674 ***	0.255	0.660 ***	0.769 ***	0.256	0.715 ***	0.634 ***	0.244	0.861 ***	0.716 ***	0.497	0.666 ***
	(5.96)	(1.51)	(6.93)	(5.79)	(1.63)	(7.07)	(5.00)	(0.79)	(5.68)	(4.89)	(1.53)	(4.25)
10-12 years	1.077 ***	0.616 **	0.911 ***	1.136 ***	0.543 ***	1.022 ***	0.832 ***	0.311	1.461 ***	1.068 ***	1.160 ***	1.331 ***
	(8.43)	(2.36)	(9.76)	(8.18)	(3.03)	(10.00)	(6.17)	(0.55)	(13.02)	(6.75)	(3.02)	(8.98)
13+ years	1.667 ***	0.991 ***	1.417 ***	1.852 ***	0.750 ***	1.678 ***						
	(9.95)	(2.78)	(12.88)	(10.34)	(2.89)	(13.14)						
Age	0.023	0.085	0.017	0.004	-0.042 ***	0.034 ***	0.116 **	-0.134	0.049	0.026	-0.024 *	-0.010
	(0.53)	(1.12)	(0.58)	(0.32)	(4.20)	(3.86)	(2.02)	(0.88)	(1.08)	(1.26)	(1.74)	(0.77)
Age² (x 10⁻²)	-0.018	-0.060	-0.006	0.000	0.162 ***	-0.054 **	-0.123 *	0.160	-0.057	-0.015	0.069	0.012
	(0.32)	(0.68)	(0.15)	(0.00)	(4.87)	(2.50)	(1.68)	(0.87)	(0.90)	(0.43)	(1.41)	(0.40)
Selection Coefficient	-0.568 ***	-0.006	0.062	-0.623 ***	-0.358 **	0.056	0.609	-0.784 **	-0.303	0.453	-0.258 **	0.186
	(3.26)	(0.02)	(0.74)	(3.61)	(2.49)	(0.71)	(1.59)	(2.30)	(1.20)	(1.24)	(2.06)	(0.95)
Constant	6.757 ***	5.175 **	6.118 ***	7.207 ***	8.188 ***	6.160 ***	3.234 **	11.702 ***	5.606 ***	5.409 ***	7.510 ***	6.102 ***
	(7.95)	(2.60)	(11.88)	(26.20)	(21.10)	(41.98)	(2.23)	(3.01)	(6.68)	(7.14)	(16.06)	(19.62)
F-test												
Own Schooling	24.42	3.23	64.79	27.50	3.25	55.89	11.56	0.31	53.11	12.78	4.73	27.88
	(0.000)	(0.023)	(0.000)	(0.000)	(0.022)	(0.000)	(0.000)	(0.730)	(0.000)	(0.000)	(0.010)	(0.000)
Age	2.09	6.73	9.68	0.53	11.96	15.42	4.31	0.40	1.50	2.59	1.75	0.77
	(0.125)	(0.001)	(0.000)	(0.586)	(0.000)	(0.000)	(0.014)	(0.672)	(0.225)	(0.076)	(0.177)	(0.466)
Adjusted R^2	0.076	0.249	0.176	0.074	0.217	0.179	0.040	0.290	0.260	0.037	0.273	0.259
Root MSE	1.136	0.650	0.810	1.137	0.664	0.808	1.224	0.682	0.940	1.226	0.690	0.941
Observations	2,382	569	2,516	2,382	569	2,516	1,609	317	1,218	1,609	317	1,218

Source: IFLS3.
Month of interview dummy variables are included in the regressions but are not reported. Omitted category for own schooling is no schooling (0-6 years for public sector workers). Adjustments are made due to small cell size for some variables for women: 10+ years for own schooling. Selection coefficients are calculated based on Base Specification estimates. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

229

	Specification with Age			Spec. with Potential Experience		
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
A. Men						
Linear Own Schooling						
IFLS1	0.120 ***	0.092 ***	0.099 ***	0.126 ***	0.128 ***	0.113 ***
IFLS2	0.076 ***	0.032	0.082 ***	0.084 ***	0.039	0.099 ***
IFLS3	0.093 ***	0.064 *	0.084 ***	0.100 ***	0.046	0.099 ***
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.101		0.039	0.178		0.069
4-6 years	0.385 ***		0.449 ***	0.513 ***		0.496 ***
7-9 years	0.891 ***	0.219	0.696 ***	1.042 ***	0.279 *	0.778 ***
10-12 years	1.299 ***	0.852 ***	1.057 ***	1.355 ***	0.757 ***	1.201 ***
13+ years	2.224 ***	1.244 ***	1.590 ***	2.364 ***	1.322 ***	1.872 ***
IFLS2						
1-3 years a)	0.338 ***		0.088	0.365 ***		0.118
4-6 years	0.452 ***		0.320 ***	0.482 ***		0.356 ***
7-9 years	0.804 ***	0.031	0.701 ***	0.858 ***	0.045	0.776 ***
10-12 years	0.932 ***	0.238	0.828 ***	1.018 ***	0.332 *	0.989 ***
13+ years	1.664 ***	0.516 *	1.365 ***	1.809 ***	0.646 ***	1.677 ***
IFLS3						
1-3 years a)	0.172		0.182 *	0.244 **		0.188 *
4-6 years	0.427 ***		0.405 ***	0.522 ***		0.429 ***
7-9 years	0.674 ***	0.255	0.660 ***	0.769 ***	0.256	0.715 ***
10-12 years	1.077 ***	0.616 **	0.911 ***	1.136 ***	0.543 ***	1.022 ***
13+ years	1.667 ***	0.991 ***	1.417 ***	1.852 ***	0.750 ***	1.678 ***
B. Women						
Linear Own Schooling						
IFLS1	0.077 ***	0.044	0.125 ***	0.089 ***	0.112	0.137 ***
IFLS2	0.074 ***	-0.006	0.109 ***	0.082 ***	0.005	0.124 ***
IFLS3	0.059 ***	0.052	0.113 ***	0.083 ***	0.046	0.121 ***
Non-linear Own Schooling						
IFLS1						
1-3 years a)	0.180		0.085	0.092		0.091
4-6 years	0.429 ***		0.357 ***	0.356 **		0.370 ***
7-9 years	0.721 ***	0.361	0.792 ***	0.671 ***	0.279	0.836 ***
10+ years	0.996 ***	1.059 **	1.692 ***	1.125 ***	0.961 ***	1.830 ***
IFLS2						
1-3 years a)	0.186		0.052	0.236 *		0.014
4-6 years	0.213 *		0.320 ***	0.256 **		0.204
7-9 years	0.696 ***	0.056	0.768 ***	0.735 ***	-0.213	0.604 ***
10+ years	0.993 ***	0.008	1.358 ***	1.064 ***	-0.203	1.462 ***
IFLS3						
1-3 years a)	0.343 ***		0.365 ***	0.327 ***		0.317 ***
4-6 years	0.412 ***		0.409 ***	0.454 ***		0.311 **
7-9 years	0.634 ***	0.244	0.861 ***	0.716 ***	0.497	0.666 ***
10+ years	0.832 ***	0.311	1.461 ***	1.068 ***	1.160 ***	1.331 ***

Source: Based on estimates of Appendix Table 9.1A, 9.1B, 9.1C and Table 9.1A, 9.1B, 9.1C.

a) Omitted category for public sector men is 0-6 years, for women 0-9 years.

Appendix Table 9.1A
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling with Age and Potential Experience
IFLS1

	Men						Women					
	Specification with Age			Spec. with Potential Experience			Specification with Age			Spec. with Potential Experience		
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
Years of schooling	0.120 ***	0.092 ***	0.099 ***	0.126 ***	0.128 ***	0.113 ***	0.077 ***	0.044	0.125 ***	0.089 ***	0.112	0.137 ***
	(8.82)	(4.66)	(15.00)	(9.48)	(5.59)	(13.74)	(5.61)	(0.63)	(12.07)	(6.28)	(1.47)	(9.76)
Age	0.074	0.066	0.078 *	0.010	0.003	0.030 ***	0.204 ***	-0.064	0.044	0.073 ***	-0.012	0.015
	(1.41)	(1.09)	(1.80)	(0.55)	(0.19)	(2.63)	(2.80)	(0.40)	(0.64)	(2.65)	(0.67)	(0.82)
Age² (x 10⁻²)	-0.094	-0.040	-0.088	-0.012	0.072 *	-0.044	-0.269 ***	0.122	-0.047	-0.130 **	0.100 *	-0.010
	(1.33)	(0.50)	(1.47)	(0.30)	(1.74)	(1.61)	(2.74)	(0.57)	(0.50)	(2.56)	(1.79)	(0.27)
Month of Interview												
October	0.390 **	-0.172	0.116	0.399 **	-0.123	0.113	0.216	-0.042	0.021	0.225	0.026	0.015
	(2.35)	(0.98)	(0.96)	(2.42)	(0.73)	(0.93)	(1.19)	(0.19)	(0.11)	(1.25)	(0.13)	(0.08)
November	0.508 ***	-0.339 *	0.131	0.520 ***	-0.336 **	0.129	0.326 *	-0.335	-0.103	0.336 *	-0.251	-0.115
	(3.38)	(1.91)	(1.07)	(3.45)	(2.01)	(1.05)	(1.84)	(1.55)	(0.57)	(1.90)	(1.18)	(0.64)
December	-0.023	-0.195	0.082	-0.026	-0.151	0.078	0.113	-0.056	-0.175	0.128	-0.038	-0.183
	(0.16)	(1.19)	(0.63)	(0.18)	(0.97)	(0.58)	(0.63)	(0.32)	(0.97)	(0.71)	(0.23)	(1.01)
January	-0.041	-0.006	0.205	-0.040	0.015	0.204	0.278	0.360 *	-0.167	0.307	0.387 **	-0.176
	(0.21)	(0.03)	(1.24)	(0.20)	(0.08)	(1.26)	(1.04)	(1.90)	(0.62)	(1.14)	(2.21)	(0.66)
Gross Income	-0.041			-0.042			0.298 **			0.304 **		
	(0.53)			(0.56)			(2.56)			(2.60)		
Selection Coefficient	-0.620 ***	0.133	0.047	-0.661 ***	0.105	0.055	0.701 **	-0.503	-0.076	0.692 **	-0.263	-0.072
	(3.73)	(0.97)	(0.72)	(3.95)	(0.75)	(0.82)	(2.23)	(1.15)	(0.41)	(2.06)	(0.58)	(0.41)
Constant	4.192 ***	4.280 ***	3.901 ***	5.403 ***	5.481 ***	5.015 ***	0.552	8.174 *	4.374 ***	3.340 ***	6.242 ***	4.963 ***
	(4.30)	(3.34)	(5.08)	(17.95)	(10.84)	(25.22)	(0.35)	(1.88)	(3.57)	(4.24)	(3.70)	(13.62)
F-test												
Age	1.26	14.69	8.03	0.56	12.92	7.85	4.01	11.61	1.34	3.53	5.71	1.79
	(0.285)	(0.000)	(0.000)	(0.572)	(0.000)	(0.000)	(0.019)	(0.000)	(0.264)	(0.031)	(0.004)	(0.169)
Month of interview	6.84	1.73	0.48	7.06	2.03	0.48	1.24	2.91	0.63	1.31	2.52	0.65
	(0.000)	(0.144)	(0.754)	(0.000)	(0.092)	(0.750)	(0.293)	(0.024)	(0.644)	(0.267)	(0.045)	(0.626)
Adjusted R²	0.113	0.223	0.233	0.114	0.205	0.232	0.080	0.462	0.285	0.079	0.439	0.286
Root MSE	1.152	0.664	0.805	1.150	0.672	0.805	1.202	0.600	0.912	1.203	0.612	0.912
Observations	1,453	441	1,100	1,453	441	1,100	854	219	466	854	219	466

Source: IFLS1.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute *t*-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. *p*-values for *F*-test are in parentheses.

231

Appendix Table 9.1B
Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling with Age and Potential Experience
IFLS2

	Men						Women					
	Specification with Age			Spec. with Potential Experience			Specification with Age			Spec. with Potential Experience		
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
Years of schooling	0.076 *** (6.84)	0.032 (1.24)	0.082 *** (15.03)	0.084 *** (8.22)	0.039 (1.31)	0.099 *** (14.08)	0.074 *** (6.22)	-0.006 (0.17)	0.109 *** (13.05)	0.082 *** (5.74)	0.005 (0.12)	0.124 *** (9.92)
Age	0.097 ** (2.12)	-0.011 (0.13)	0.103 *** (3.21)	0.012 (0.75)	-0.030 *** (3.00)	0.030 *** (3.21)	0.139 * (1.76)	0.017 (0.14)	0.084 (1.49)	0.011 (0.31)	0.015 (1.02)	0.020 (1.30)
Age² (x 10⁻²)	-0.117 * (1.93)	0.039 (0.37)	-0.117 *** (2.63)	-0.010 (0.30)	0.106 *** (3.40)	-0.034 (1.52)	-0.171 * (1.70)	0.005 (0.03)	-0.088 (1.15)	-0.006 (0.11)	-0.010 (0.15)	-0.010 (0.34)
Month of interview												
October	-0.123 (1.04)	-0.114 (1.10)	-0.040 (0.48)	-0.122 (1.03)	-0.126 (1.19)	-0.036 (0.43)	-0.133 (1.02)	-0.267 ** (2.29)	0.053 (0.45)	-0.140 (1.06)	-0.248 ** (2.03)	0.070 (0.60)
November	-0.177 (1.49)	-0.095 (0.89)	-0.045 (0.55)	-0.178 (1.49)	-0.119 (1.08)	-0.047 (0.57)	-0.082 (0.66)	-0.431 *** (2.83)	0.071 (0.59)	-0.074 (0.59)	-0.422 ** (2.62)	0.084 (0.70)
December	0.039 (0.33)	0.002 (0.01)	0.038 (0.45)	0.048 (0.41)	-0.015 (0.13)	0.036 (0.43)	0.153 (0.93)	-0.179 (1.34)	-0.037 (0.29)	0.153 (0.93)	-0.147 (1.04)	-0.035 (0.28)
January-April	-0.085 (0.55)	0.105 (0.88)	0.209 ** (2.27)	-0.073 (0.47)	0.106 (0.89)	0.225 ** (2.41)	0.245 (0.95)	0.040 (0.29)	0.353 ** (2.19)	0.318 (1.22)	0.068 (0.49)	0.349 ** (2.20)
Selection Coefficient	0.180 (0.88)	-0.299 (1.63)	-0.082 (0.67)	0.147 (0.71)	-0.351 * (1.96)	-0.094 (0.73)	0.022 (0.06)	-0.395 * (1.67)	-0.527 *** (2.77)	-0.194 (0.52)	-0.449 * (1.96)	-0.501 ** (2.61)
Constant	4.099 *** (4.51)	7.356 *** (3.51)	4.201 *** (7.21)	5.785 *** (15.83)	7.669 *** (11.99)	5.785 *** (33.61)	3.200 * (1.74)	7.699 ** (2.54)	4.539 *** (4.70)	5.956 *** (6.38)	8.195 *** (9.99)	5.829 *** (19.88)
F-test												
Age	3.20 (0.042)	4.84 (0.009)	16.71 (0.000)	1.25 (0.289)	5.78 (0.003)	14.05 (0.000)	1.70 (0.184)	3.13 (0.046)	6.17 (0.002)	0.53 (0.589)	2.84 (0.061)	4.13 (0.017)
Month of interview	1.31 (0.264)	1.57 (0.182)	2.80 (0.026)	1.40 (0.234)	1.76 (0.138)	3.08 (0.016)	1.38 (0.241)	3.61 (0.007)	1.76 (0.138)	1.57 (0.181)	3.37 (0.011)	1.73 (0.143)
Adjusted R^2	0.082	0.192	0.184	0.081	0.159	0.180	0.052	0.238	0.266	0.049	0.160	0.265
Root MSE	1.155	0.635	0.795	1.156	0.648	0.797	1.239	0.585	0.938	1.240	0.614	0.938
Observations	1,767	520	1,778	1,767	520	1,778	1,114	273	857	1,114	273	857

Source: IFLS2.
Omitted category for month of interview is August/September. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

232

Selectivity Corrected Wage Functions:
The Effects of Linear Own Schooling with Age and Potential Experience
IFLS3

	Men						Women					
	Specification with Age			Spec. with Potential Experience			Specification with Age			Spec. with Potential Experience		
	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector	Self Emp.	Public Sector	Private Sector
Years of schooling	0.093 ***	0.064 *	0.084 ***	0.100 ***	0.046	0.099 ***	0.059 ***	0.052	0.113 ***	0.083 ***	0.046	0.121 ***
	(10.66)	(1.87)	(17.82)	(11.25)	(1.48)	(16.14)	(6.27)	(1.04)	(16.13)	(6.90)	(1.18)	(11.92)
Age	0.042	0.054	0.020	-0.003	-0.044 ***	0.021 ***	0.133 **	0.060	0.068	0.039 *	-0.009	0.013
	(1.00)	(0.71)	(0.70)	(0.24)	(4.27)	(2.71)	(2.28)	(0.43)	(1.48)	(1.90)	(0.51)	(1.06)
Age² (x 10⁻²)	-0.041	-0.028	-0.010	0.020	0.158 ***	-0.020	-0.140 *	-0.076	-0.079	-0.035	0.006	-0.011
	(0.74)	(0.32)	(0.26)	(0.79)	(4.31)	(1.05)	(1.90)	(0.45)	(1.21)	(1.02)	(0.08)	(0.43)
Month of interview												
August	-0.115	0.054	0.034	-0.115	0.106	0.039	0.001	0.171	-0.039	-0.002	0.222 *	-0.028
	(1.39)	(0.51)	(0.58)	(1.39)	(0.96)	(0.65)	(0.01)	(1.26)	(0.35)	(0.02)	(1.74)	(0.25)
September	-0.091	-0.004	0.027	-0.093	0.039	0.028	-0.013	0.064	-0.101	-0.026	0.130	-0.089
	(0.96)	(0.04)	(0.47)	(0.98)	(0.37)	(0.49)	(0.11)	(0.51)	(0.82)	(0.23)	(1.05)	(0.73)
October	0.016	0.040	0.166 ***	0.022	0.095	0.170 ***	0.028	0.273	-0.004	0.015	0.336 **	0.005
	(0.16)	(0.39)	(2.74)	(0.23)	(0.88)	(2.81)	(0.24)	(1.63)	(0.04)	(0.13)	(2.05)	(0.04)
November-January	0.124	0.198 *	0.250 ***	0.126	0.303 **	0.252 ***	-0.023	0.083	0.189	-0.018	0.158	0.198 *
	(1.15)	(1.68)	(4.08)	(1.17)	(2.47)	(4.10)	(0.16)	(0.47)	(1.61)	(0.13)	(0.86)	(1.68)
Selection Coefficient	-0.474 ***	-0.157	0.145	-0.566 ***	-0.431 **	0.127	0.715 **	-0.340	-0.164	0.564 *	-0.322	-0.135
	(2.85)	(0.67)	(1.49)	(3.30)	(2.59)	(1.40)	(2.09)	(1.23)	(0.83)	(1.66)	(1.50)	(0.68)
Constant	6.245 ***	5.959 ***	5.945 ***	7.193 ***	8.304 ***	6.104 ***	2.839 **	6.716 *	4.951 ***	5.103 ***	7.988 ***	6.012 ***
	(7.69)	(2.77)	(12.01)	(26.74)	(13.37)	(45.64)	(2.03)	(1.85)	(5.74)	(7.00)	(10.24)	(19.77)
F-test												
Age	3.43	5.23	9.12	1.59	9.67	12.77	6.13	0.11	3.64	3.97	1.13	1.64
	(0.033)	(0.006)	(0.000)	(0.205)	(0.000)	(0.000)	(0.002)	(0.894)	(0.027)	(0.020)	(0.326)	(0.195)
Month of interview	1.71	1.21	5.81	1.76	2.06	5.81	0.05	0.95	2.67	0.04	1.32	2.53
	(0.145)	(0.306)	(0.000)	(0.136)	(0.086)	(0.000)	(0.995)	(0.435)	(0.032)	(0.996)	(0.265)	(0.040)
Adjusted R^2	0.075	0.235	0.181	0.072	0.209	0.181	0.044	0.258	0.276	0.040	0.229	0.274
Root MSE	1.137	0.656	0.807	1.138	0.667	0.808	1.222	0.698	0.930	1.224	0.711	0.931
Observations	2,382	569	2,516	2,382	569	2,516	1,609	317	1,218	1,609	317	1,218

Source: IFLS3.
Omitted category for month of interview is June/July. Selection coefficients are calculated based on Base Specification estimates in which dummy variables for own schooling are replaced by years of schooling. Standard errors are robust to clustering at the community level and heteroskedasticity. Absolute t-statistics are in parentheses. Significant at the 1%(***), 5%(**) and 10%(*) indicated. p-values for F-test are in parentheses.

233

Table 10.1
Comparison of Estimates

| | SAKERNAS 1998 | IFLS 1997 | |
	Filmer & Lindauer (2001)	OLS estimates	Selectivity corrected w/parental schooling
Junior high	0.53	0.646	0.561
Senior high	0.82	0.880	0.670
Some tertiary	1.16	1.099	1.022
University	1.26		
Observations	27,759	4,045	4,045

Estimates of SAKERNAS 1998 are from Table 2 of Filmer & Lindauer (2001). IFLS estimates are average of estimates weighted by number of observations of men and women working within the public and private sectors in each level of schooling. OLS estimates refer to estimates of specification with no controls for parental schooling and selectivity term.

BIBLIOGRAPHY

Angrist, Joshua D. and Krueger, Alan B. (1992). The Effect of Age at School Entry on Educational Attainment: An Application of Instrumental Variables with Moments from Two Samples. Journal of the American Statistical Association: 87(418), 328-336.

Aromolaran, Adebayo B. (2002). Private Wage Returns to Schooling in Nigeria: 1996-1999. Discussion Paper: No. 849. Economic Growth Center, Yale University, New Haven, Connecticut.

Baraka, Jessica L. (1999). Returns to Education in Taiwan: A Cross-section and Cohort Analysis. Mimeo. Research Program in Development Studies, Princeton University.

Behrman, Jere R. and Deolalikar, Anil B. (1991). School Repetition, Dropouts, and the Rates of Return to Schooling: The Case of Indonesia. Oxford Bulletin of Economics and Statistics: 53(4), 467-480.

Behrman, Jere R. and Deolalikar, Anil B. (1993). Unobserved Household and Community Heterogeneity and the Labor Market Impact of Schooling: A Case Study for Indonesia. Economic Development and Cultural Change: 41, 461-488.

Behrman, Jere R. and Deolalikar, Anil B. (1995). Are There Differential Returns to Schooling by Gender? The Case of Indonesian Labour Markets. Oxford Bulletin of Economics and Statistics: 57(1), 97-117.

Bedi, Arjun S. and Garg, Ashish (2000). The Effectiveness of Private versus Public Schools: The Case of Indonesia. Journal of Development Economics: 61, 463-494.

Bedi, Arjun S. and Gaston, Noel (1999). Using Variation in Schooling Availability to Estimate Educational Returns for Honduras. Economics of Education Review: 18, 107–116.

Brown, Sarah and Sessions, John G. (1998). Education, Employment Status and Earnings: A Comparative Test of the Strong Screening Hypothesis. Scottish Journal of Political Economy: 45(5), 586-591.

Cameron, Lisa A. (2000). Poverty and Inequality in Java: Examining the Impact of the Changing Age, Educational and Industrial Structure. Journal of Development Economics: 62, 149–180.

Card, David. (1993). Using Geographic Variation in College Proximity to Estimate the Return to Schooling. Paper No. 4483, National Bureau of Economic Research, Cambridge, MA,

Card, David (1999). The Causal Effect of Education on Earnings. In Ashenfelter, Orley and Card, David (eds), Handbook of Labor Economics Volume 3A. Amsterdam: Elsevier.

Clark, David H. (1983). How Secondary School Graduates Perform in the Labor Market: A Study of Indonesia. Mimeo, The World Bank, Washington, DC.

Clark, Diana E. and Hsieh, Chang-Tai (2000). Schooling and Labor Market Impact of the 1968 Nine-Year Education Program in Taiwan. Mimeo, Department of Economics, Princeton University.

de Brauw, Alan and Rozelle, Scott (2002). Reconciling the Returns to Education in Rural China. Mimeo, Department of Agricultural and Resource Economics, University of California, Davis.

Deaton, Angus (1997). The Analysis of Household Surveys: A Microeconometric Approach to Development Policy. Baltimore: The Johns Hopkins University Press for The World Bank.

Deolalikar, Anil B. (1993). Gender Differences in the Returns to Schooling and in School Enrollment Rates in Indonesia. The Journal of Human Resources: 28(4), 899-932.

Duflo, Esther (2000). Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment. Mimeo, Department of Economics, Massachusetts Institute of Technology.

Duraisamy, P. (2000). Changes in Returns to Education in India, 1983-94: By Gender, Age-Cohort and Location. Discussion Paper: No. 815. Economic Growth Center, Yale University, New Haven, Connecticut.

Filmer, Deon and Lindauer, David L. (2001). Does Indonesia Have a 'Low Pay' Civil Service? Bulletin of Indonesian Economic Studies: 37(2), 189-205.

Frankenberg, Elizabeth and Karoly, Lynn (1995). The 1993 Indonesian Family Life Survey: Overview and Field Report. Publication No. DRU-1195/1-NICHD/AID, RAND, Santa Monica, CA.

Frankenberg, Elizabeth and Thomas, Duncan (2000). The Indonesia Family Life Survey (IFLS): Study Design and Results from Waves 1 and 2. Publication No. DRU-2238/Volume 1/NIA/NICHD, RAND, Santa Monica, CA.

Frankenberg, Elizabeth; Thomas, Duncan and Beegle Kathleen (1999). The Real Costs of Indonesia's Economic Crisis: Preliminary Findings from the Indonesia Family Life Surveys. Working Paper Series: No. 99-04, Labor and Population Program, RAND, Santa Monica, CA.

Freese, Jeremy and Long, Scott J. (2000). Tests for the Multinomial Logit Model. Stata Technical Bulletin: STB-58, Stat Corp.

Glick, Peter and Sahn, David E. (1997). Gender and Education Impacts on Employment and Earnings in a Developing Country: The Case of Guinea. Economic Development and Cultural Change: 45(4), 793–823.

Greene, William H. (1992). Econometric Analysis, 2nd edition. New York: Macmillan Publishing Company.

Halvorsen R. and Palmquist, R. (1980). The Interpretation of Dummy Variables in Semi-logarithmic Equations. American Economic Review: 70, 474-475.

Harmon, Colm and Walker, Ian (1995). Estimates of the Economic Return to Schooling for The United Kingdom. American Economic Review: 85(5), 1278-86.

Hausman, J. and McFadden, D. (1984). A Specification Test for the Multinomial Logit Model. Econometrica: 52, 1219-1240.

Heckman, James J. (1979). Sample Selection Bias as a Specification Error. Econometrica: 47(1), 153-162.

Hungerfold, Thomas and Solon, Gary (1987). Sheepskin Effects in the Returns to Education. Review of Economics and Statistics: 69, 175-177.

King, Elizabeth M. (1996). Education, Work and Earnings of Peruvian Women. Economics of Education Review: 15(3), 213-230.

Lam, David and Schoeni, Robert F. (1993). Effects of Family Background on Earnings and Returns to Schooling: Evidence from Brazil. Journal of Political Economy: 101(4), 710-740.

Lee, Lung-Fei (1983). Generalized Econometric Models with Selectivity. Econometrica: 51(2), 507-512.

Liu, Jin-Tan; Hammit, James K. and Lin, Cyongchiou Jeng (2000). Family Background and Returns to Schooling in Taiwan. Economics of Education Review: 19, 113-125.

Maddala, G. (1983). Limited Dependent and Qualitative Variables in Econometrics. New York: Cambridge University Press.

McMahon, Walter W. and Boediono (1992). Universal Basic Education: An Overall Strategy of Investment Priorities for Economic Growth. Economics of Education Review: 11(2), 137-151.

Mincer, Jacob. (1974). Schooling, Experience, and Earnings. New York: Columbia University Press for The National Bureau of Economic Research.

Mincer, Jacob (1993). Studies in Human Capital: Collected Essays of Jacob Mincer, Vol. 1. Brookfield, Vermont: Edward Elgar Publishing Ltd.

Oey-Gardinaer, Mayling (2000). Schooling in a Decentralised Indonesia: New Approaches to Access and Decision Making. Bulletin of Indonesian Economic Studies: 36(3), 127-134.

Psacharopoulos, George (1973). Returns to Education: An International Comparison. Amsterdam: Elsevier.

Psacharopoulos, George (1981). Returns to Education: An Updated International Comparison. Comparative Education: 17(3): 321-341.

Psacharopoulos, George (1985). Returns to Education: A Further International Update and Implications. The Journal of Human Resources: 20(4), 583-604.

Psacharopoulos, George (1994). Returns to Investment in Education: A Global Update. World Development: 22(9), 1325-1343.

Psacharopoulos, George and Patrinos, Harry A. (2002). Returns to Investment in Education: A Further Update. Policy Research Working Paper: No. 2881. The World Bank, Washington, DC.

Sahn, David E. and Alderman, Harold (1988). The Effects of Human Capital on Wages, and the Determinants of Labor Supply in a Developing Country. Journal of Development Economics: 29, 157-183.

Schafgans, Marcia M.A. (2000). Gender Wage Differences in Malaysia: Parametric and Semiparametric Estimation. Journal of Development Economics: 63(2), 351-378.

Schultz, T. Paul (1988). Educational Investment and Returns. In Chenery, H. and Srinivasan, T.N. (eds), Handbook of Development Economics, Vol. 1. Amsterdam: North Holland Publishing Company.

Schultz, T. Paul and Mwabu, Germano (1998). Wage Premia for Education and Location, by Gender and Race in South Africa. Discussion Paper: No. 785. Economic Growth Center, Yale University, New Haven, Connecticut.

Simanjuntak, Payaman J. (1981). The Market for Educated Labor in Indonesia: Some Policy Approach. Dissertation, Boston University.

Siphambe, Happy K. (2000). Rates of Return to Education in Botswana. <u>Economics of Education Review</u>: 19(3), 291-300.

Skoufias, Emmanuel (1999). Parental Education and Child Nutrition in Indonesia. Bulletin of Indonesian Economic Studies: 35(1), 99-119.

Strauss, John and Thomas, Duncan (1994). Wages, Schooling and Background: Investments in Men and Women in Urban Brazil. In Birdsall, N.; Bruns, B. and Sabot R., <u>Opportunity Foregone: Education,Growth and Inequality in Brazil</u>. Washington, DC: The World Bank.

Strauss, John and Thomas, Duncan (1995). Human Resources: Empirical Modelling of Household and Family Decisions. In Srinivasan, T.N. and Behrman, Jere (eds), <u>Handbook of Development Economics, Vol. 3</u>. Amsterdam: North-Holland Publishing Company.

Strauss, John; Beegle, Kathleen; Dwiyanto, Agus; Herawati, Yulia; Pattinasarany, Daan; Satriawan, Elan; Sikoki, Bondan; Sukamdi and Witoelar, Firman (2002). <u>Indonesian Living Standards Three Years After the Crisis: Evidence from the Indonesian Family Life Survey</u>. RAND, Santa Monica, CA and Center for Population and Policy Studies, Gadjah Mada University, Yogyakarta.

Tansel, Aysit (1999). Public-Private Employment Choice, Wage Differentials and Gender in Turkey. <u>Discussion Paper</u>: No. 797. Economic Growth Center, Yale University, New Haven, Connecticut.

Thomas, Duncan; Beegle, Kathleen, Frankenberg, Elizabeth; Sikoki, Bondan and Strauss, John (2001). Education in a Crisis. <u>Mimeo</u>, Department of Economics, UCLA.

Murrugarra, Edmundo and Valdivia, Martín (1999). The Returns to Health for Peruvian Urban Adults: Differentials Across Genders, the Life-Cycle and the Wage Distribution. Mimeo, Inter-American Development Bank, Washington, DC.

Vere, James P. (2002). Returns to Schooling of Increasingly-Educated Cohorts in Taiwan. <u>Mimeo</u>, School of Economics and Finance, University of Hong Kong.