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# Gender, Education and Occupational Outcomes: Kenya's Informal Sector in the 1990s<sup>1</sup>

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## Abstract

In this paper we examine the consequences of the increasing informalisation of the Kenyan economy in the 1990s for the gender gap in occupational outcomes. We use a labour force survey for Kenya undertaken at the end of the 1990s to ask whether education acts to increase women's labour force participation and how both education and experience impact on the choices across the formal and informal sectors. We find that while labour force participation does rise with education it was higher for women than for men at the end of the 1990s. There are major differences between the public and formal private sectors. At very high levels of education women are *more* likely than men to have a public sector job. In contrast for the private formal sector, while education does raise the probability of having such a job, the gap between women and men *widens* as educational levels increase. At eight years of education, the end of primary school in Kenya, women are 10 percentage points less likely to have an informal private sector job than are men and are 22 percentage points more likely to be an unpaid family worker. Clearly an expansion of private sector activity will not lessen the gender gap unless this pattern is altered. We have no evidence that the gap between men and women falls as length in the workforce increases. Indeed in what we think is the most important category for explaining poor female labour market outcomes, unpaid family labour, the gap widens substantially over 10 to 20 years of work experience.

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## **1. Introduction**

In this paper we examine the effects on women's employment outcomes of differences in levels of education and experience for the Kenyan labour market in the late 1990s. The issue of employment opportunities within sub-Saharan Africa is becoming an increasingly pressing policy concern given the failure to create wage jobs for the rapidly growing workforce. Kingdon, Sandefur and Teal (2005) present data for five African countries - Ghana, Tanzania, Uganda, Ethiopia and South Africa - showing that the growth in employment opportunities has been concentrated in the non-wage sector. In particular they show that by far the most important source of new jobs is in the non-farm self-employment sector. One of the first studies emphasising the importance of understanding employment creation outside the wage sector - the informal sector - was a study of Kenya, ILO (1972). In that study data was fragmentary but an estimate was presented for Nairobi in 1969 that wage employment in the formal sector employed 65 per cent of men and 22 per cent of women aged over 14, the balance was allocated to self-employment, informal employment and miscellaneous (see ILO 1972, pages 54 and 343)). The study argued that understanding the potentially productive role of informal employment was of particular importance for women who were most dependent on this sector. Data are now more complete and for the data set on which this paper is based, the 1997 Welfare Monitoring Survey III, we will show that for the urban sector only 42.1 per cent of men and 17.8 per cent of women had wage jobs which we identify with the public and formal private sectors. While wage employment is slightly broader than these two categories this figure nevertheless serves to highlight the extent to which the informal sector has grown in relative importance over the decades from 1970 to 1999.

It is in the area of micro-enterprises and household based activities that employment growth has exploded. The 1999 national survey of micro and small scale enterprises (MSEs) recorded that about 26% of the total households in the country are engaged in some form of SME activity (Republic of Kenya Central Bureau of Statistics, K-REP and ICEG (1999)). Our data is individually based and differs from earlier data collection exercises in that the definition of unpaid family labour - as those who work without pay in an economic enterprise operated by a related person living in the same household - was applied to both rural and urban based enterprises. If the informal sector is defined as comprising the private informal sector and household based employment then 57 per cent of women are in this sector and 36 per cent of men (see Table 1 below). By this definition such informal employment dominates the economic activities of women.

Kingdon, Sandefur and Teal (2005) present a classification of economies in sub-Saharan Africa as ones facing structural unemployment of which the most important is South Africa, those

characterised by a substantial element of search unemployment, of which the Ethiopian urban sector seems to be a clear example, and what they term economies where there is “high informality and low unemployment”. Kenya clearly fits into this last category as measured unemployment is low (only 6 per cent of the population aged 15 to 65 are classified as unemployed) and employment is dominated by informal activities.

This pattern of increasing informalisation of the labour force has proceeded in parallel with a rapid expansion of educational opportunities. The question we pose in this paper is whether this combination of increased educational opportunities and informalisation has been beneficial for women relative to men. Two issues have therefore featured prominently in discussions as to how education may impact on the welfare of women. First has been the view that increases in education act to increase women’s participation in the labour force. Second is that it enables them greater access to formal sector jobs. In studies of female labour supply in developing countries, the bulk of women’s work is considered to take place in the “non-market” economy, either at home or in the informal economy (World Bank 1995). Has the expansion of informal activities benefited women by providing a larger range of activities which can be combined with their domestic responsibilities? Formal education is only one dimension of the human capital differences between men and women. A second, on which we have data, is their time in the labour force or potential work experience. We investigate if there is evidence from the cross section that a longer time in the workforce benefits women relative to men.

Our data set enables us to identify the range of informal employment outcomes which we will show are of importance for answering the questions we have just posed. The paper is organised as follows. Section 2 reviews the literature on gender and occupational choice, section 3 presents our data and the results are in section 4. A final section concludes.

## **2. Gender and Occupational Choice**

Our focus in this paper will be on the implications of gender for occupational choice in Kenya in the late 1990s. Glick and Sahn (1997) consider this question for Guinea and their data enables them to identify self-employment as well as private and public wage employment. They find that for self-employment entry probabilities are quite similar for men and women at all levels of education while the chances of a woman having a wage job (in either the private or public sector) are much lower for all education levels below university (their Table 4 page 804). Their conclusion is clear that it is the divide between self-employment and wage activities where the role of gender is most important in terms of occupational choice. They estimate a multinomial

logit models over four sectors - non-participation, self-employment and private and public wage employment.

Such a breakdown merges non-participation with unemployment, an important distinction in some African labour markets. Krishnan, Sellasie and Dercon (1998) have modelled the factors explaining occupational choice across non-participation, unemployment, self-employment and private and public wage employment in Ethiopia for the period 1990-1997. They used both cross-section and panel data from pre- and post reform periods 1990 and 1994/1997. Their results show that the effect of education is to decrease the probability of either private wage employment or self-employment and to increase the probability of having a public sector job (their Table A.2 pp31-33). The effect of education on the increased probability of unemployment is far larger than the probability of getting a public sector job. The Ethiopian labour market seems close to one in which unemployment is a queuing device to equalise expected wages between public and private sector employment, see Serneels (2004).

Studies of occupational choice usually control for a range of factors. In the case of both Glick and Sahn (1997) and Krishnan, Sellasie and Dercon (1998) their logits control not simply for education and age but for the demographic aspects of the household. This procedure provides an answer to the question as to the role of education conditioned on these factors. However one aspect of the role of education is that it alters a whole range of household demographic variables. We therefore propose to investigate the role of gender on occupational choice in Kenya without such controls. Such an approach has the advantage that it ensures that the total effect of education, and also work experience, on occupational outcomes can be assessed.

In interpreting the results of a multinomial logit it is clear that both supply and demand factors are at work. One aspect of labour demand which has received a lot of attention is the possible role of segmentation in labour markets. Papers which have explicitly sought to address the question of the extent of segmentation in labour markets in Africa include Lanot and Muller (1997) and Thomas and Vallee (1996). There is strong evidence for such segmentation although without panel data it will not be possible to convincingly test the segmented market hypothesis relative to one which sees the differences as due to unobserved characteristics of the workers.

In the traditional account of dualism in labour markets in Africa the distinction made is between the formal and informal sectors. As already noted the ILO (1972) study of Kenya gave birth to the notion that this informal sector was a thriving and important part of the employment generation process in poor countries. A study by Mwabu and Evenson (1997) investigated occupational patterns in rural Kenya using a cross-section farm households survey from 1981-82 for selected regions. They found that education plays an important role even within the rural

sector. Wambugu (2003) used the 1994 version of the National Household Welfare Monitoring and Evaluation Survey (WMSII) (see Republic of Kenya Central Bureau of Statistics (1996)) to investigate how far households combine economic activities and the income implications of these choices across both rural and urban sectors. In this paper we explore in depth the distinction within the informal sector between enterprise and household based activities which appears to be only possible with the WMSIII data.

The potential importance of distinguishing between activities within the informal sector is argued by Ranis and Stewart (1999). The informal sector may contain both traditional and dynamic elements and it is the latter that may prove a path out of poverty. A large literature has focused on the potential role of credit in enhancing welfare improvements for women in the informal sector, McKee (1998), Mosley and Hulme (1998) and Kevane and Wydick (2001). Much of this discussion focuses on informal relative to formal activity. As our data distinguishes between private informal activity, which is where more dynamic activities may be found and to which micro-credit institutions may provide finance, and unpaid family labour we can assess the importance of this distinction to understanding the role of gender in employment outcomes in Kenya.

### **3. The Data**

The paper uses data obtained from the 1997 Welfare Monitoring Survey III. This data set was collected through a survey conducted by the Central Bureau of Statistics (CBS), using the National Sample Survey Evaluation Programme (NASSEP). The 1997 WMS III data consisted of a sample of 50,713 individuals. From this sample we have selected individuals aged between 15 and 65 for whom we have information on their gender, age and education. We have seven categories into which we can classify these individuals: the public sector, the formal private sector, the informal private sector, agriculture, unpaid family labour, unemployment and out of the labour force. Table 1 provides a breakdown of this sample by gender and by education. As we will check if any of our results depend on the inclusion of rural based enterprises we present in Table 2 the data for urban areas only.

Men are far more likely to be in the public sector and in either the formal or informal private sector than women. Looking across the educational categories we see that this gap closes dramatically for the public sector at the university level. However for both the private formal and informal sectors the gender gap appears to be wide at all levels of education. The mirror image of this gender bias in the paying sectors of employment is that women are far more likely than men

to be classified as unpaid family workers. We come to formally testing the size of this gender bias below.

In Table 3 we show how both educational levels, now measured by years of schooling, and potential work experience, which is measured as age less years of schooling less six, differs across the occupational categories and by gender. Men have on average 7.3 years of education and women 5.6, a substantial gender disadvantage for women. Across both genders the lowest average levels of education are to be found in unpaid family labour at 5.3 years. For both sexes there is an accelerating rise in educational levels from these levels to agriculture with 5.5 years, to 6.8 for the private informal sector, to 9.2 in the private formal sector and to 11.0 for the public sector. These figures in part reflect the long time spent in primary school in Kenya - 8 years under the current system. It remains true that 79 per cent of women and 67 per cent of men have primary education completed or less. The Table also shows potential work experience for both men and women. Men have on average 18.8 years while women have more at 20.2. This higher number for women is primarily due to the longer time women spend as unpaid family workers, again highlighting the importance of this sector within the labour force for understanding women's economic activities. For both sexes years of experience is highest in agriculture at nearly 25 years presumably reflecting the fact that, once entered, exits are rare. We now turn to formally testing how education and work experience affect occupational outcomes for men and women.

#### **4 Education and Gender as Determinants of Occupational Outcomes**

In this section, we present results of the multinomial logit regression analysis for occupational outcomes. As in Glick and Sahn (1997) we model occupational choice by means of a multinomial logit. Utility conditional on the choice of each labour market outcome  $j$  which in this analysis includes non-participation is specified in linear form:

$$(1) \quad V_{ij} = B_j X_i + u_{ij}$$

where  $V_{ij}$  is the indirect utility function of individual  $i$  in labour market sector  $j$  and is a linear function of education and labour market experience, the latter term entering with both a linear and quadratic term ( $X_i$ );  $B_j$  is a vector of parameters indexed on sector; and  $u_{ij}$  is the stochastic component of utility capturing unmeasured determinants of choice. The individual is assumed to choose the sector  $k$ , ( $k=1, 2, 3 \dots 7$ ) for which  $V_{ij}$  is highest. This the probability that sector  $j$  is chosen by individual  $i$  is

$$\begin{aligned}
(2) \quad P_{ij} &= P_r(V_j > V_k) \text{ for all } j \neq k \\
&= P_r(B_j X_i + u_{ij} > B_k X_i + u_{ik}) \\
&= P_r(B_j X_i - B_k X_i > u_{ik} - u_{ij})
\end{aligned}$$

Assuming the  $u_{ij}$ 's are distributed independently and identically Gumbel, their differences ( $u_{ik} - u_{ij}$ ) have a logistic distribution and the probabilities take the multinomial form. We normalise by setting the parameter vector associated with agriculture equal to zero.

Table 4 reports the marginal effects where we have run a multinomial logit for women and men separately (see Appendix Table 1 for the results from which the marginal effects have been derived). It appears from the marginal effects reported in Table 4 that in the case of the public sector and the formal private sector that the increment in the probability of belonging to these sectors for an additional year of education is greater for men than for women. The effects for men appear quite large. A one year increase in years of education increases the probability of being in the public or private formal sectors by 1.4 percentage points. As the means of these variables for men are respectively 0.039 and 0.075 in proportional terms these are substantial increases in the probability of being in these sectors which are known to be the relatively higher paid sectors. The comparable numbers for women are that an additional year of education increases the probability of being in the public or private formal sector by some 0.4 percentage points, about one-third of the effect for men. By far the largest effect of education for women is to decrease the probability of having an unpaid family job and even here the effect is only to change the probability by 1 percentage point.

The marginal effects reported in Table 4 are evaluated at the means. As we are interested in the effects of education and experience on the probability of being in an occupation across the range of educational outcomes these marginal effects may be misleading. The results are easiest to understand if we graph the change in the probability of belonging to any occupational category as a function of the years of education and experience of the person by gender. We can then read off from the graph how the effects of education and experience differ by gender over the whole range of education, we are not confined to reading off marginal changes at some point of the distribution. The effects on occupational outcomes for education are presented in Figure 1 and that for experience in Figure 2.

The most dramatic result is for the effects of increased education on the probability of being in the public sector in Figure 1 (top left corner). This shows that once we control for years of education that the probability of being employed there is *higher* for women than for men at very high levels of education. This is in marked contrast to the patterns observed for the private formal and informal sectors where the patterns differ but have in common that across the whole



educational range there is a gender disadvantage for women. It is striking that for the private formal sector this gender disadvantage for women *increases* as the educational level rises not decreases. Thus it appears that increased education is playing no role in promoting a relative increase in female employment in the private formal sector. While for the informal sector there is not a secular rise in the gap over the range of educational outcomes of most importance, up to 10 years, the gap is large. The mirror image of these results is to be found in the pattern for being an unpaid family worker. For those with completed primary education (eight years) the probability of being an unpaid family worker is 0.40 for women and 0.18 for men, a gender gap of 22 percentage points.

While the gender gaps are large between formal, informal private and family labour the gaps are much smaller for other dimensions of occupational outcomes. In fact women are more likely to be in the labour force than men and the probability of being classified as unemployed is very similar across the genders. Men are more likely than women to be in agriculture and the decline in this probability with education for both men and women is very similar.

As the results from Appendix Table 1 show the effects of work experience on the probability of particular occupational outcomes are highly non-linear. In Figure 2 we show how potential work experience affects the probability of being in any of the occupations. The patterns here are very different from those observed with education. As time proceeds in the labour market women become *less* likely than men to have a paid job outside of agriculture until very high levels of labour market experience when the estimates are likely to be unreliable due to decreases in sample size. It is rather striking how large are these gender gaps with respect to the effects of experience on labour market outcomes. A woman with 20 years of experience in the labour market is some 40 percentage points more likely to be an unpaid family worker than is a man. In the case of the informal private sector the probability of a man obtaining a job in this sector rises rapidly until he has been in the labour force for twenty years. In contrast the effect for women is much less and peaks at less than ten years of experience.

As we noted in the introduction the data we have used for the 1997 Welfare Monitoring Survey III (WMSIII) differs from that of the similar survey conducted in 1994, WMSII, in its treatment of unpaid family labour. In 1997 both rural and urban activities included unpaid family labour as an employment category whereas in 1994 unpaid family labour was confined to urban based enterprises. To check if any of our findings depend on this change between the 1994 and 1997 surveys we re-do the results for both education and experience confining the sample to urban area, Figures 3 and 4.

As a comparison between Figures 1 and 3 shows confining the sample to urban areas accentuates many of the key educational differences based on gender. At 8 years of education the gap between women and men in the probability of being an unpaid family worker has increased from 22 to 30 percentage points. While for men the probability of being an unpaid family worker declines rapidly with the first 10 years of education for women it marginally increases. The gap for the informal sector has risen from 10 to 13 percentage points when the sample is confined to urban areas. It remains true within the urban sector that women are more likely to participate in the labour force at all levels of education but now women are more likely to be unemployed again at all levels of education.

Turning now to consider the role of labour market experience we see from a comparison of Figures 2 and 4 that confining the sample to urban areas makes no difference to the general pattern of large gender gaps with work experience by which men are far more likely to be in some form of paid employment. Again this implies that the gap for unpaid family work is very high. At 20 years of work experience the probability of a man in an urban area being an unpaid family worker is negligible, less than 2 percent, for women it is over 30 percent.

## **5. Conclusions**

In this paper we have used a labour force survey for Kenya undertaken at the end of the 1990s to address a range of questions as to how occupational outcomes for men and women differ in that labour market. While we do not have data on incomes or earnings from this source it is known that these are far higher in the formal labour market than in other sectors. Two issues have therefore featured prominently in discussions as to how education may impact on the welfare of women. First has been the view that increases in education act to increase women's participation in the labour force. Second is that it enables them greater access to formal sector jobs.

The results we have found suggest a need to qualify both these perceptions in the case of Kenya's labour market. While labour force participation does rise with education it was higher for women than for men at the end of the 1990s. This result depends crucially on defining unpaid family labour as within the labour force. As was noted in the introduction much of women's work has traditionally been seen as occurring outside the labour market as "home-making". If unpaid family labour was regarded as outside the labour force then female labour force participation would more than halve from 85 to 38 per cent. Clearly such work is an essential component of household well-being. What our data shows in very stark terms is that the issue is not whether women participate in the labour force but whether they have access to paid employment within

the labour force and in particular access to the better paid jobs in the public and formal private sectors. Rates of labour force participation are uninformative on this question.

It is for the second issue - does education enable women access to better paid jobs - that our results are most striking and clear-cut. At very high levels of education women are *more* likely than men to have a public sector job. In contrast for the private formal sector while education does raise the probability of having such a job the gap between women and men *widens* as educational levels increase. While education for women improves their life chances in this area it does not reduce the gender gap, in fact it increases it.

What of the position of women in the private informal sector where employment rates for both men and women are higher but incomes are likely to be much lower than in the public or private formal sectors? It is also true here that across a large range of educational outcomes, in fact up to 10 years of education, the gap between women and men widens as education increases. At eight years of education, the end of primary school in Kenya, women are 10 percentage points less likely to have an informal private sector job than are men and are 22 percentage points more likely to be an unpaid family worker. Clearly an expansion of informal private sector activity will not lessen the gender gap in paid employment unless this pattern is altered.

We have also examined how the gender gap varies over the range of work experience for men and women. In this area we found large gender gaps for all occupations including the public sector. We have no evidence that the gap between men and women falls as length in the workforce increases. Indeed in what we think is the most important category for explaining poor female labour market outcomes, unpaid family labour, the gap widens substantially over 10 to 20 years of work experience (Figure 2).

Two clear policy messages emerge from these results. First, education has proved sufficient to ensure gender equality of outcomes in the Kenyan labour market only in the public sector. As policy reform is intent on contracting the role of the public sector and expanding that of the private the finding that the two sectors have very different rates of gender differentials has implications for how this gap will change if the private sector continues to expand with its present structure. The second policy message is that increases in informalisation have not assisted women's participation in the paid part of the informal sector. The very large gender gap with respect to unpaid family work ensures that women are much more likely to be informal *and* unpaid than are men. The common factor linking these two policy issues is the failure of the Kenyan economy, along with virtually all other economies in Africa, to create more wage jobs in the private sector. While policy fails in this area increasing female education will not, on the basis of the data we have examined, have any impact on gender differentials in occupational outcomes.

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**Table 1 Occupational Outcomes and Educational Levels by Gender**

	None	Primary	Secondary	University	Total
<b>Female</b>					
Public sector	1 <i>0.03</i>	65 <i>0.9</i>	304 <i>11.2</i>	27 <i>52.9</i>	397 <i>3.0</i>
Private formal	22 <i>0.61</i>	90 <i>1.3</i>	152 <i>5.6</i>	6 <i>11.8</i>	270 <i>2.0</i>
Private informal	285 <i>8.0</i>	631 <i>9.0</i>	316 <i>11.6</i>	7 <i>13.7</i>	1,239 <i>9.2</i>
Agriculture	910 <i>25.4</i>	1,450 <i>20.6</i>	372 <i>13.7</i>	2 <i>3.9</i>	2,734 <i>20.4</i>
Unpaid Family Worker	2,090 <i>58.3</i>	3,336 <i>47.4</i>	903 <i>33.2</i>	8 <i>15.7</i>	6,337 <i>47.3</i>
Unemployed	228 <i>6.4</i>	405 <i>5.8</i>	177 <i>6.5</i>	0 <i>0.0</i>	810 <i>6.0</i>
Out of Labour Force	50 <i>1.4</i>	1,069 <i>15.2</i>	499 <i>18.3</i>	1 <i>2.0</i>	1,619 <i>14.9</i>
Total	3,586 <i>100</i>	7,046 <i>100</i>	2,723 <i>100</i>	51 <i>100</i>	13,406 <i>100</i>
<b>Male</b>					
Public sector	26 <i>1.8</i>	232 <i>3.4</i>	647 <i>17.2</i>	87 <i>48.1</i>	992 <i>8.1</i>
Private formal	47 <i>3.2</i>	402 <i>5.9</i>	457 <i>12.1</i>	43 <i>23.8</i>	949 <i>7.8</i>
Private informal	277 <i>18.8</i>	1,266 <i>18.6</i>	629 <i>16.7</i>	14 <i>7.7</i>	2,186 <i>17.9</i>
Agriculture	614 <i>41.6</i>	1,914 <i>28.1</i>	684 <i>18.2</i>	17 <i>9.4</i>	3,229 <i>26.4</i>
Unpaid Family worker	395 <i>26.7</i>	1,282 <i>18.8</i>	507 <i>13.5</i>	3 <i>1.7</i>	2,187 <i>17.9</i>
Unemployed	90 <i>6.1</i>	359 <i>5.3</i>	236 <i>6.3</i>	5 <i>289</i>	690 <i>5.6</i>
Out of Labour Force	28 <i>1.9</i>	1,354 <i>19.9</i>	605 <i>16.1</i>	12 <i>6.6</i>	1,999 <i>16.5</i>
Total	1,477 <i>100</i>	6,809 <i>100</i>	3,765 <i>100</i>	181 <i>100</i>	12,232 <i>100</i>

Note: Primary includes all those with completed primary or less. Secondary includes all those who have education beyond primary but not university. University includes all those who entered university.

**Table 2 Occupational Outcomes and Educational Levels by Gender: Urban**

	None	Primary	Secondary	University	Total
<b>Female</b>					
Public sector	0 <i>0</i>	26 <i>3.0</i>	154 <i>18.5</i>	21 <i>52.5</i>	201 <i>10.2</i>
Private formal	4 <i>1.8</i>	40 <i>4.6</i>	103 <i>12.4</i>	4 <i>10.0</i>	151 <i>7.7</i>
Private informal	67 <i>29.8</i>	242 <i>28.0</i>	179 <i>21.5</i>	7 <i>17.5</i>	495 <i>25.2</i>
Agriculture	18 <i>8.0</i>	42 <i>4.9</i>	49 <i>5.9</i>	0 <i>0</i>	109 <i>5.6</i>
Unpaid Family Worker	86 <i>38.2</i>	324 <i>37.5</i>	196 <i>23.5</i>	7 <i>17.5</i>	613 <i>31.2</i>
Unemployed	43 <i>19.1</i>	109 <i>12.6</i>	72 <i>8.6</i>	0 <i>0</i>	224 <i>11.4</i>
Out of Labour Force	7 <i>3.1</i>	81 <i>9.4</i>	80 <i>9.6</i>	1 <i>2.5</i>	169 <i>8.6</i>
Total	225 <i>100</i>	864 <i>100</i>	833 <i>100</i>	40 <i>100</i>	1,962 <i>100</i>
<b>Male</b>					
Public sector	7 <i>9.5</i>	64 <i>8.2</i>	244 <i>24.3</i>	55 <i>44</i>	370 <i>18.6</i>
Private formal	7 <i>9.5</i>	147 <i>18.8</i>	275 <i>27.3</i>	39 <i>31.2</i>	468 <i>23.5</i>
Private informal	36 <i>48.7</i>	367 <i>46.8</i>	250 <i>24.9</i>	14 <i>11.2</i>	667 <i>33.5</i>
Agriculture	2 <i>2.7</i>	33 <i>4.21</i>	54 <i>5.4</i>	4 <i>3.2</i>	93 <i>4.7</i>
Unpaid Family worker	12 <i>16.2</i>	35 <i>4.5</i>	35 <i>3.5</i>	1 <i>0.8</i>	83 <i>4.2</i>
Unemployed	8 <i>10.8</i>	48 <i>6.1</i>	65 <i>6.5</i>	3 <i>2.4</i>	124 <i>6.2</i>
Out of Labour Force	2 <i>2.7</i>	90 <i>11.5</i>	83 <i>8.3</i>	9 <i>7.2</i>	184 <i>9.3</i>
Total	74 <i>100</i>	784 <i>100</i>	1,006 <i>100</i>	125 <i>100</i>	1,989 <i>100</i>

Note: Primary includes all those with completed primary or less. Secondary includes all those who have education beyond primary but not university. University includes all those who entered university.

**Table 3 Education and Experience by Occupation and Gender**

	Years of Education			Years of Potential Experience		
	Female	Male	Total	Female	Male	Total
First row: Mean						
Second row: Standard Deviation						
Public sector	11.4 3.1	10.9 3.8	11.0 3.6	17.1 9.0	21.3 9.9	20.1 9.8
Private formal	9.1 4.1	9.2 3.9	9.2 3.9	16.5 11.3	20.2 11.3	19.4 11.4
Private informal	6.2 4.3	7.1 3.8	6.8 4.0	19.7 14.0	21.3 12.8	20.7 13.3
Agriculture	4.8 4.0	6.1 3.9	5.5 4.0	24.8 16.4	24.7 15.7	24.7 16.0
Unpaid Family Worker	4.9 4.0	6.4 3.9	5.3 4.1	23.1 15.1	20.2 15.8	22.3 15.3
Unemployed	5.9 4.3	7.5 4.1	6.6 4.3	17.4 16.0	14.8 15.0	16.2 15.6
Out of Labour Force	7.6 2.5	7.6 2.6	7.6 2.5	4.5 8.0	4.4 6.7	4.5 7.3
Total	5.6 4.2	7.3 4.0	6.4 4.1	20.2 15.7	18.8 14.9	19.5 15.4

Table 4 Marginal Effects of Experience and Education on Occupational Outcomes

	Female		Male	
	dy/dx	Std. Err.	dy/dx	Std. Err.
Probability (Occupation = Public Sector) Female= 0.005, Male = 0.039				
Experience	0.00105	0.00013	0.00829	0.00043
Experience_squared/100	-0.0015	0.00023	-0.01275	0.00091
Years of Schooling	0.00299	0.00036	0.01397	0.00067
Probability (Occupation = Formal Private Sector) Female = 0.014, Male= 0.075				
Experience	0.00100	0.00023	0.00853	0.00065
Experience_squared/100	-0.00119	0.00050	-0.01378	0.00139
Years of Schooling	0.00461	0.00033	0.01415	0.00076
Probability (Occupation = Informal Private Sector) Female = 0.109, Male = 0.222				
Experience	0.00203	0.00076	0.01488	0.00111
Experience_squared/100	-0.00379	0.00136	-0.02723	0.00214
Years of Schooling	0.00698	0.00097	0.00285	0.00130
Probability (Occupation = Unpaid Family Worker) Female = 0.553, Male = 0.241				
Experience	0.01016	0.00167	-0.01414	0.00115
Experience_squared/100	-0.01835	0.00208	0.02127	0.00207
Years of Schooling	-0.00972	0.00160	-0.01515	0.00140
Probability (Occupation = Unemployed) Female = 0.070 , Male = 0.071				
Experience	-0.00811	0.00062	-0.01058	0.00065
Experience_squared/100	0.011612	0.00103	0.016147	0.00120
Years of Schooling	-0.00277	0.00086	-0.00209	0.00086
Probability (Occupation = Out of Labour Force) Female = 0.009, Male = 0.0167				
Experience	-0.00655	0.00054	-0.01031	0.00075
Experience_squared/100	0.00929	0.00077	0.014506	0.00108
Years of Schooling	-0.00311	0.00028	-0.00537	0.00042



Appendix Table 1 Occupational Outcomes by Gender

Multinomial Logit: Female				
	Number of observations = 13,406			
	LR chi 2(18) = 6737.1			
	Prob >chi2 = 0.00			
Log likelihood=	Pseudo R2 = 0.17			
	Coefficient	Std. Err.	z	P> z
Public Sector				
Experience	0.21	0.02	9.71	0.00
Experience_squared/100	-0.33	0.05	-6.36	0.00
Years of Schooling	0.60	0.02	24.53	0.00
_cons	-9.37	0.37	-25.45	0.00
Private Formal Sector				
Experience	0.07	0.02	4.04	0.00
Experience_squared/100	-0.10	0.04	-2.69	0.01
Years of Schooling	0.32	0.02	14.01	0.00
_cons	-5.32	0.30	-17.54	0.00
Private Informal Sector				
Experience	0.02	0.01	1.89	0.06
Experience_squared/100	-0.05	0.02	-3.27	0.00
Years of Schooling	0.06	0.01	5.15	0.00
_cons	-1.13	0.15	-7.52	0.00
Unpaid Family Worker				
Experience	0.02	0.01	2.77	0.00
Experience_squared/100	-0.05	0.01	-5.08	0.00
Years of Schooling	-0.02	0.01	-2.76	0.00
_cons	0.96	0.10	9.32	0.00
Unemployed				
Experience	-0.12	0.01	-11.21	0.00
Experience_squared/100	0.15	0.02	8.59	0.00
Years of Schooling	-0.04	0.01	-3.03	0.00
_cons	0.42	0.17	2.45	0.01
Out of Labour Force				
Experience	-0.69	0.02	-36.06	0.00
Experience_squared/100	0.96	0.03	32.17	0.00
Years of Schooling	-0.33	0.02	-18.63	0.00
_cons	6.29	0.20	31.30	0.00

Multinomial Logit: Male				
	Number of Observations = 12,232			
Log likelihood=-18292.2	LR chi 2(18) = 8121.1			
	Prob > chi2 = 0.00			
	Pseudo R2 = 0.18			
	Coef.	Std. Err.	z	P> z
<b>Public Sector</b>				
Experience	0.20	0.01	14.37	0.00
Experience_squared/100	-0.33	0.03	-11.51	0.00
Years of Schooling	0.38	0.01	28.38	0.00
_cons	-6.73	0.22	-30.48	0.00
<b>Private formal Sector</b>				
Experience	0.10	0.01	9.05	0.00
Experience_squared/100	-0.19	0.02	-8.18	0.00
Years of Schooling	0.21	0.01	17.81	0.00
_cons	-3.89	0.18	-22.16	0.00
<b>Private Informal Sector</b>				
Experience	0.06	0.01	7.48	0.00
Experience_squared/100	-0.13	0.01	-8.99	0.00
Years of Schooling	0.04	0.01	4.42	0.00
_cons	-1.02	0.12	-8.68	0.00
<b>Unpaid Family Worker</b>				
Experience	-0.07	0.01	-9.92	0.00
Experience_squared/100	0.08	0.01	6.77	0.00
Years of Schooling	-0.04	0.01	-4.29	0.00
_cons	0.76	0.11	6.92	0.00
<b>Unemployed</b>				
Experience	-0.16	0.01	-15.01	0.00
Experience_squared/100	0.22	0.02	11.57	0.00
Years of Schooling	-0.004	0.01	-0.32	0.75
_cons	0.19	0.16	1.21	0.23
<b>Out of Labour Force</b>				
Experience	-0.63	0.02	-38.32	0.00
Experience_squared/100	0.87	0.03	32.46	0.00
Years of Schooling	-0.30	0.02	-19.81	0.00
_cons	6.02	0.17	34.85	0.00

Agriculture is the base category

Figure 1 Occupational Choice and Education

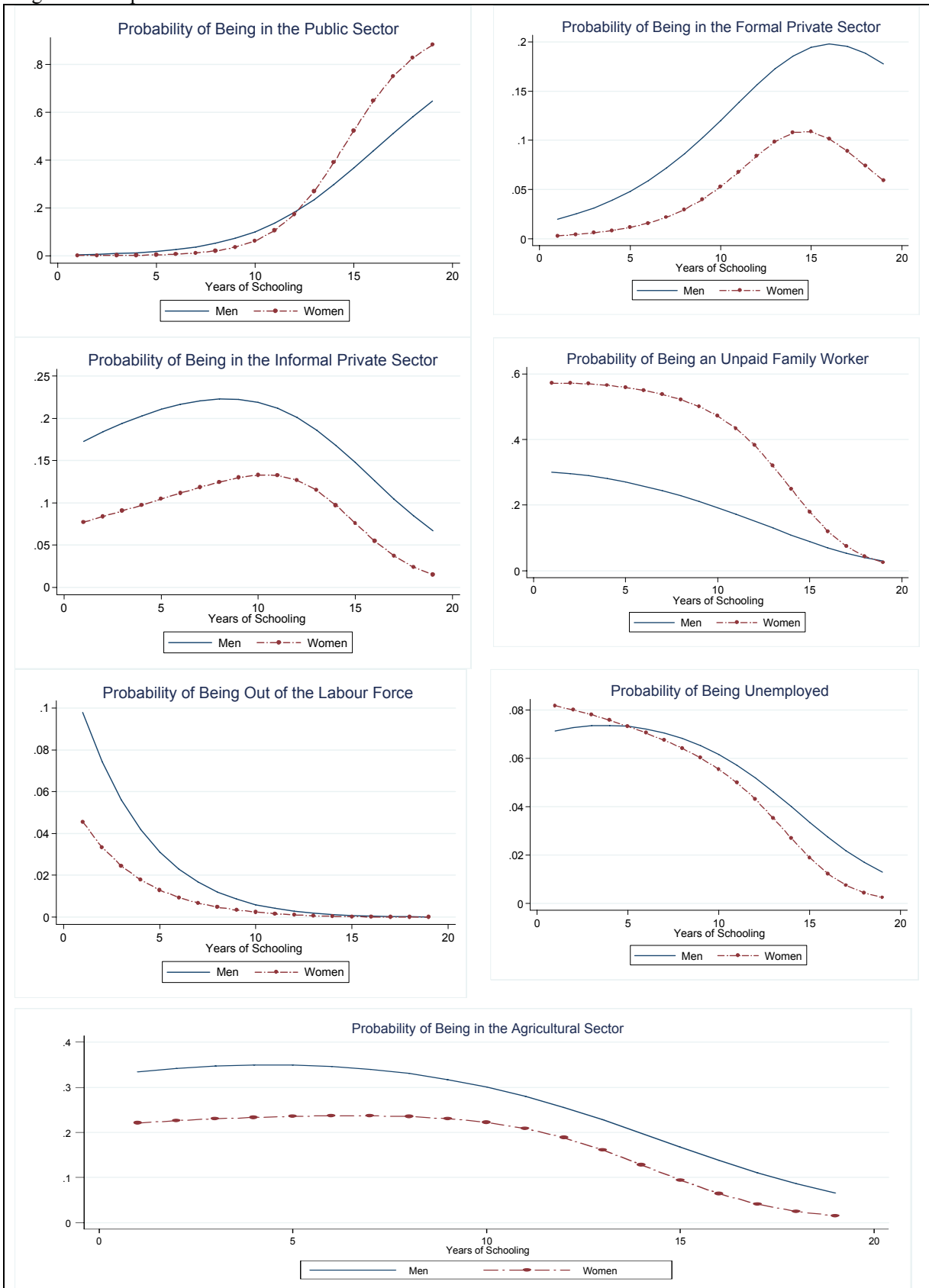


Figure 2 Occupational Choice and Experience

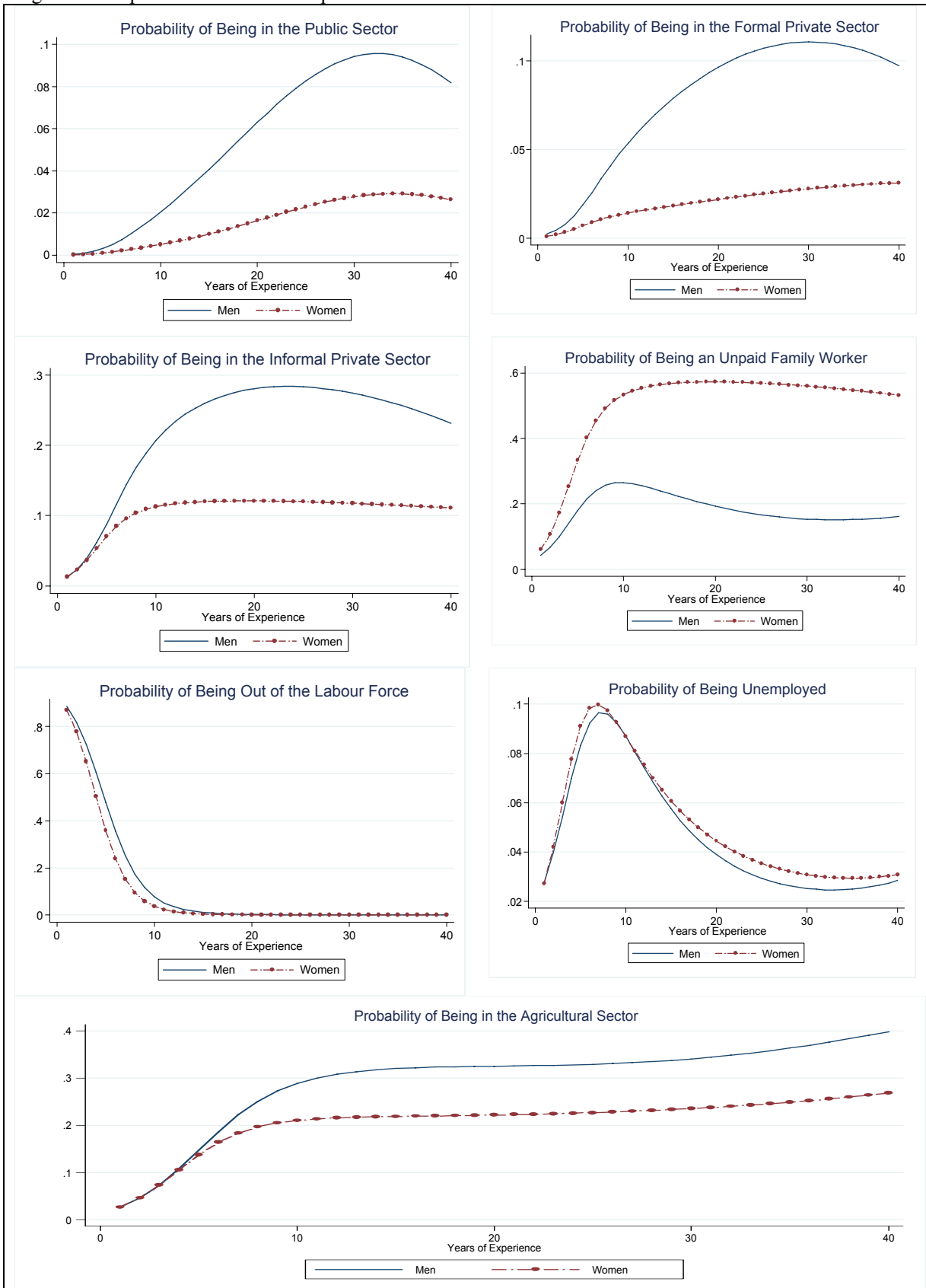


Figure 3 Occupational Choice and Education: **Urban Sectors Only**

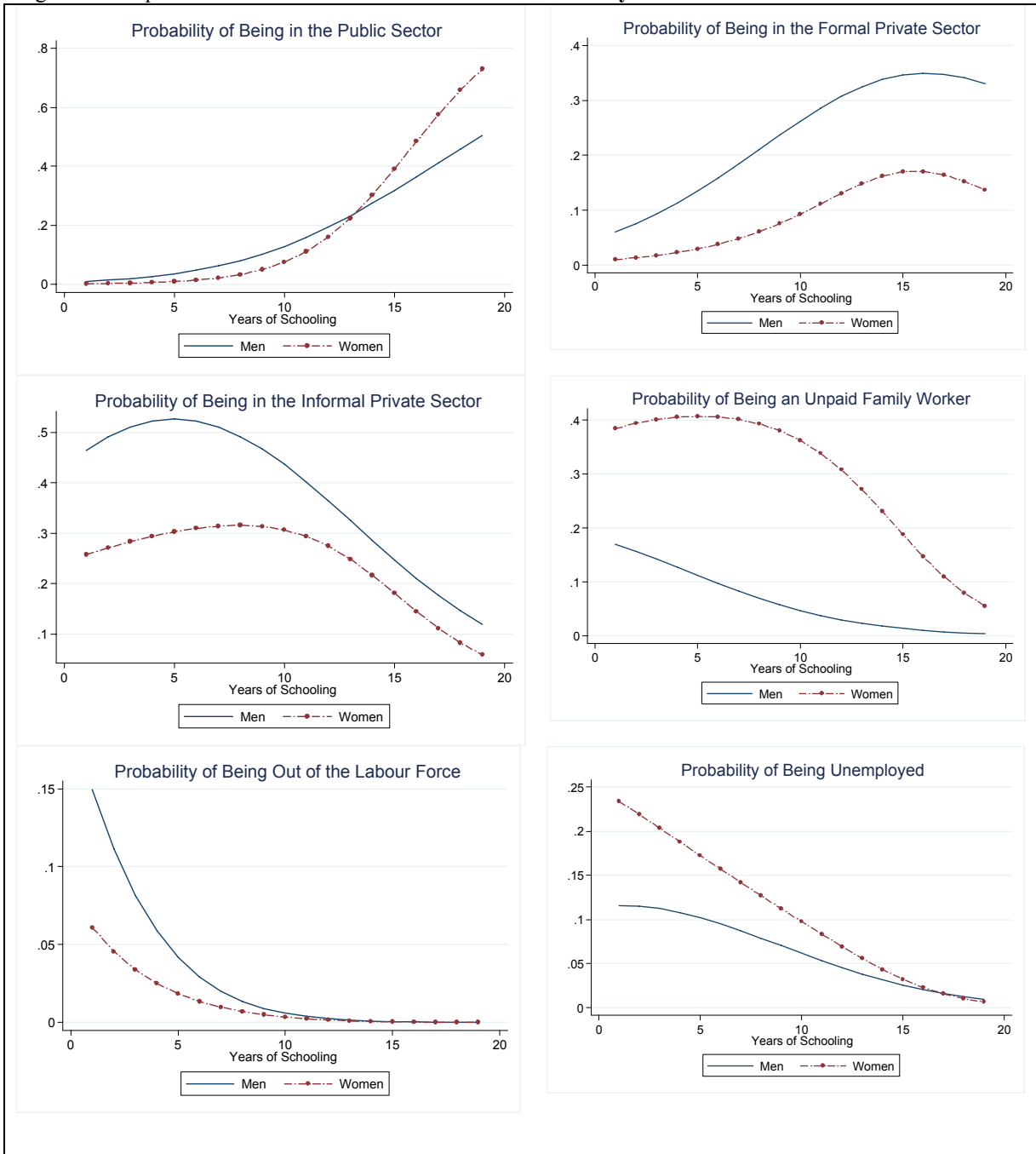


Figure 4 Occupational Choice and Experience: **Urban Sectors Only**

