Youth Unemployment and Earnings in Africa: Evidence from Tanzanian Retrospective Data

Abstract

We exploit a unique dataset of individual labour market histories in urban Tanzania to estimate the effect of early labour market experiences on adult labour market outcomes. We consider four labour market entry states – wage employment, self-employment, unpaid worker in the family business, and unemployed job-seeker – and estimate how final earnings are associated with each entry state. The findings suggest that how individuals enter the labour market does matter for final earnings. We find that an initial period spent in wage employment is associated with an important earnings premium. We interpret this finding as evidence of the entrapment hypothesis, in that, people who enter the labour market in more disadvantaged positions, such as in the household enterprise, either as self-employed or as unpaid family workers, suffer a penalty in their future earnings. These findings persist after controlling for family specific fixed-effects.

Keywords: labour market entry, youth unemployment, wage equation.

JEL Classification: E24; J01; J13; J24.

1. Introduction

Over the years a growing body of literature has developed investigating the effect initial labour market entry experiences have on future career outcomes. To date much of this empirical evidence has focussed on developed countries examining the effect 'bad' entry positions have on future employment opportunities or earnings (Gregg 2001 and Burgess et al. 2003). However, both from a theoretical and empirical point of view results are often ambiguous. Drawing from existing theories in economics one can predict both a positive and a negative effect of a 'bad' entry position on future career outcomes; the former through the accumulation of human capital (Becker, 1964) and the latter through negative signals to future employers (Spence, 1973) or as result of labour market segmentation. Empirically, results are sensitive to the specification of the model and the country under investigation.[1]

Building on this literature we examine the effect labour market entry experiences have on labour market outcomes in urban Tanzania. Despite widespread concern among policymakers about the 'ticking time bomb' of high youth unemployment in many developing countries, little empirical research has been carried out on how youth labour market experiences in these countries affect adult outcomes. If entry experiences in the labour market matter, then it is vital that policies are targeted during the early stages of an individual's career to facilitate the school-to-work transition.

In this paper we exploit a unique dataset of worker job histories from individuals aged from 20 to 35 inclusive in urban Tanzania. Given the characteristics of the Tanzanian labour market we identify four types of labour market entry: (i) unemployed job-seeker, (ii) unpaid worker in the family business, (iii) self-employed, and (iv) wage employed. We examine how career outcomes differ for these four groups and estimate how different forms of labour market entry shape future earnings.

In developing countries, steady wage employment of the type found in developed countries is the exception, not the norm. Therefore for those who are unable to secure a wage job initially we examine whether these individuals benefit from enduring a spell of unemployment while they search for a wage job – even if this takes a while

[1] In section 2, we present an extensive review of the literature mentioned above.

– or are they better off, in terms of their future earnings, acquiring work experience in the household enterprise? For those who secure wage employment immediately upon leaving school we investigate whether having a wage job has a long lasting effect on earnings, relative to the three other labour market entry states.

By means of a standard earnings regression, we find evidence of a strong and statistically significant earnings premium associated with wage employed entrants. Specifically, individuals who enter the labour market as wage employed report a 40 percent earnings premium when compared to those who enter the labour market as unpaid family workers. Further, we report a 28 percent earnings premium for unemployed entrants, suggesting that the returns to 'shopping' for a 'good' employment outcome may be higher than the returns to experience gained from working in the household enterprise. Our data also suggests that relatively few individuals move from self-employment or working in the family business to a wage job, suggesting that this sector is not a stepping stone to wage employment, but rather there is a concern that workers in Tanzania may get 'trapped' in poor quality employment where there are limited opportunities for advancement.

While ordinary least squares (OLS) provides us with a simple and effective tool for our investigation, it offers reliable estimates of the effect of labour market entry on final earnings only under the assumption of exogenous entry into the labour market; that is, how individuals enter the labour market should be uncorrelated with any potential determinant of earnings. This may be too strong an assumption to make. For example, it is quite likely that those of higher ability and/or with better family networks enter the labour market in more favourable positions and have better future career outcomes.

We address this potential endogeneity problem in two distinct ways. First we control explicitly for variables that might proxy for family background and network effects. Second, we control for unobserved person-specific characteristics that are common across family members and that may affect final earnings. In doing so, we find that our results confirm the positive effect of an initial period spent as wage employed, which suggests that even after controlling for family background and network effects how an individual enters the labour market has a long-lasting effect on earnings.

The remainder of the paper is organised as follows. Section 2 describes the conceptual framework and the existing literature. In section 3, we present the data and the descriptive analysis, with particular emphasis on labour market entry. Section 4 describes the results, and section 5 concludes.

2. Conceptual Framework

From existing theories in the literature, we can derive two main (and competing) hypotheses which predict how future career outcomes will be affected by labour market entry experiences; the stepping stone and the entrapment hypotheses (Scherer, 2004).

Becker's (1964) theory of human capital predicts that as individuals accumulate human capital from any (work) experience their productivity as well as their earnings will increase, and hence this theory predicts that as a stepping stone for the future, any type of labour entry experience will have a positive effect on future earnings.

The entrapment hypothesis, however, maintains that the type of labour market entry experience is important, and that sub-optimal labour market entry positions can have long-lasting negative consequences on future career outcomes. In other words, if an individual enters the labour market in a 'bad' position there is a risk that s/he will become 'trapped' in this job. This hypothesis can be deduced from two existing theories in economics; signalling and segmentation theory, both of which lead to the same conclusion, albeit on the basis of different mechanisms.

In its original form, signalling theory asserts that in a world of incomplete information employers use education credentials as a signal of an individual's level of ability (Spence, 1973). By the same token, employers may consider labour market entry experiences as a signal of an individual's potential productivity. Sub-optimal entry experiences will thus be considered as negative signals, making employers reluctant to hire such workers.

According to segmentation theory, the labour market comprises of two segments: a primary and a secondary segment, which differ mainly in terms of their stability characteristics (Doeringer and Piore, 1971). The primary segment consists of high status and high wage jobs that are characterised by good working conditions, and opportunities for advancement. In contrast, jobs in the secondary segment tend to be

low status and low wage with limited opportunities for advancement. Moreover, since it is assumed that mobility between the two segments rarely occurs, individuals who enter the secondary segment are likely to remain 'trapped' in this segment.

Over the years a large literature has emerged for developed countries examining the effect early labour market entry experiences have on career outcomes. Many of these studies examine the effect entry on non-standard contracts (i.e. in temporary jobs or on fixed-term contracts) has on adult career outcomes relative to those who enter on permanent contracts. Here findings tend to be mixed.

For instance, Steijn et al. (2006) examine the effect different forms of entry into the Dutch labour market has on career development. They compare career outcomes for individuals who enter the labour market in three different states: as unemployed, on a non-standard contract or as a permanent worker. They find that being on a non-standard contract has no negative effect on later career unemployment or upward and downward mobility, relative to those who enter the labour market on a permanent contract, and argue that early career non-standard work can act as a stepping stone towards a better labour market position. Similarly, Gebel (2010) for the UK and Germany finds that although those who first enter the labour market in temporary jobs initially experience higher wage penalities and risks of repeated temporary employment, these differences as compared to entrants with permanent contracts diminish after five years, especially in the UK. In contrast, Barbieri and Sestito (2008) find that in Italy, entering the labour market in termporary employment has a strong and long-lasting negative effect on employment and the chance of ending up in stable employment.

Similarly, youth unemployment is often found to have a negative effect on career outcomes acting as a trap (Steijn et al. 2006). A large strand of research has developed highlighting the scarring effects of unemployment (Arulampalam et al. 2000; 2001). Other studies find that youth unemployment has a negative effect on adult outcomes including unemployment (Burgess et al. 2003; Gregg, 2001) and wages (Gregg and Tominey 2005).

In summary, the previous literature suggests that early labour market experiences matter. However, while there is an abundance of evidence for developed countries, evidence for developing countries, especially for Sub-Saharan Africa is still relatively sparse. In switching focus to developing country experiences it is important

to recognise that steady wage employment of the type found in developed countries is not common. Instead self-employment, and unpaid family work tends to be the main source of employment (Fields, 2011). This is the case in Tanzania, where during the period under analysis there was a decline in paid employment as a share of the total labour force from 7.9 percent in the beginning of the 1990s to 6.8 percent in the early 2000s, while there was a rise in employment in the household enterprise from 5.2 to 12.8 percent, and self-employment from 5.5 to 8.9 percent (Utz, 2008). In light of these changes we define four labour market entry states: unemployed job-seeker, unpaid worker in the family business, self-employed or wage employed. Building on the literature for developed countries we examine whether the type of labour market entry matters for future earnings. If a particular labour market entry state is important then we would expect it to have a long-lasting effect on an individual's career, relative to other labour market entry states. We address this issue using a rich retropsective job history data set for Tanzanian urban workers. A more detailed overview of both Tanzania's economy, including the nature of employment, and the dataset are described in the next section.

3. Data

3.1. Background

This paper uses data on a sample of workers, the majority of whom enter the labour force between 1990 and 2000, a turbulent decade in Tanzanian's economic history. The decade began with the economy in decline, suffering from high inflation and persistent budget deficits.[2] Growth was sluggish between 1990 and 1995, providing no income growth for the overwhelming majority of the population still living in absolute and extreme poverty (figure A.1). Urban areas suffered as the growth of the non-agricultural sectors was below two percent per annum. In 1995 the government began a new reform program, including a renewed commitment to macroeconomic stability through a structural reduction in fiscal deficits. A new budget system, launched in 1996, sharply curtailed deficits, while the public sector share in the economy was reduced through policies such as privatization of state-

[2] The economic background in this section is taken from Utz (2008).

owned enterprises and liberalization of agricultural trade, while reductions in red tape improved the environment for private sector investment. The fiscal consolidation, including the cut in public investment, initially slowed growth, but by 1997 growth acceleration began which was sustained throughout the period covered by our data.

An infusion of aid flows beginning around 2000 allowed public investment to grow from less than one percent of GDP in 1997 to six percent in 2003. Domestic, private and foreign direct investment picked up around 2000, the latter stimulated in part by gold mining concessions. The combined effect of this was a construction boom, especially in urban areas, and strong growth in manufacturing output and employment (but from a low base – manufacturing only accounted for nine percent of GDP by 2000).

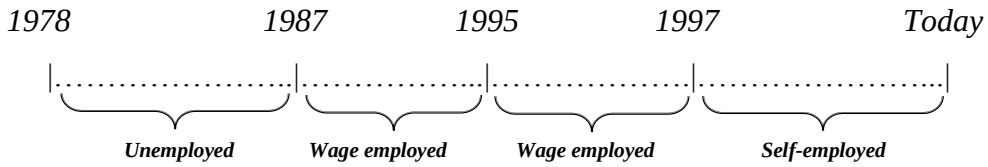
The changes in the structure of the economy between 1990 and 2005 brought important changes to the urban labour market and job prospects for new entrants. In 1990, the main source of wage employment for new entrants was the public sector. Queuing for a job in this sector upon leaving school may have been a normal labour force entry strategy, especially in the capital city, Dar es Salaam. During the fiscal consolidation period, employment opportunities in the public sector declined, as did wage employment as a share of total employment, while employment in household enterprises surged. Between 2000 and 2006 wage employment opportunities increased in urban areas at twice the rate of growth of the labour force (Kweka and Fox, 2011), but mostly in the private sector, where hiring is usually more decentralized, which affects job search strategies. These employment trends suggest that successive waves of new entrants faced changing labour market conditions, requiring adjustments in both final career outcome expectations and transition to work strategies.

3.2. Overview of Tanzania Household Urban Panel Survey and Sampling Design

In this paper we use data from the Tanzania Household Urban Panel Survey (THUPS) conducted by the Centre for the Study of African Economies (CSAE) at Oxford University, in collaboration with the Tanzanian National Bureau of Statistics.

The survey was conducted in 2004, 2005 and 2006. It is a rich labour market survey which collects information on occupational status, income, education and other demographic features for labour market participants between the ages of 15 and 65. The sample is a stratified random draw of urban households taken from the 2000 Household Budget Survey (HBS), and covers the main urban areas of Tanzania including Arusha, Dar es Salam, Iringa, Morogoro, Mwanza and Tanga.

A unique feature of this survey and one that we exploit in this paper is that the 2004 wave collects retrospective data on a respondent's job history since leaving school. Recall questions for each activity include the start and end date, a description of each job, and the amount of earnings received. For each individual it is possible to create a time line which describes their job history. For example, the job history of individual **2201101** can be illustrated as follows:



After leaving school in 1978, individual 2201101 experienced a period of unemployment until 1987, when she found wage employment (in a bar). In 1995, she switched jobs and went to work in an office, again as a wage earner. Finally, in 1997 she became self-employed, where she has remained. It is important to emphasise that while we make use of all three waves of data, each individual in the sample enters the analysis only once, namely the final time they are observed, although for all individuals we incorporate the retrospective recall data.

We focus our analysis on those individuals aged from 20 to 35 inclusive. The reason for this choice is two-fold. First, we do not consider those younger than 20 years of age because their job history is limited.[3] Second, a potential concern with data of this type is recall bias. Older respondents may find it more difficult to recall earlier employment states.

[3] There are only five individuals in the sample under 20 who report a job history.

3.3. Descriptive Analysis

Table 1 provides summary statistics for the sample of interest. In columns (1) and (2) we compare current self- and wage employed, 228 and 77 individuals, respectively. For completeness in column (3) we also report the summary statistics for the non-workers.[4] In the final column, the *p*-value is reported comparing the equality of the means between the self- and wage employed, under the null hypothesis that the means of the two groups are equal.

The wage employed appear to be more educated than their self-employed counterparts; they have completed more than an additional year of schooling, and are more likely to have an advanced level education and a vocational certificate.

INSERT TABLE 1

Amongst the human capital variables we also include a measure of labour market experience. Since experience is rarely measured with accuracy, the literature often uses a measure of potential experience (age - years of schooling - 6) as a proxy for experience. Our unique dataset, however, allows us to compute a *true* measure of experience using the retrospective employment history. The self-employed have around 9 years of labour market experience compared to 7.5 for the wage employed.

The average age of the workers in our sample is 28.[5] Those in self-employment first entered the labour market at the age of 18, compared to age 20 for those in wage employment, although on average both groups find their first job by the age of 22, and 90 percent have found their first job by the age of 28 (see figure A.2).[6] In figure A.3, we restrict our sample to those who entered the labour market as unemployed. Although over 95 percent of these individuals find their first job by the age of 28, we see a clear pattern of those in wage employment finding their first job later. After the age of 28 all those who start off as unemployed become self-employed. This finding provides support for the idea of 'waiting and searching', that is, individuals prefer to work in wage employment, but as the probability of getting such employment decreases, they move into self-employment. This evidence is further strengthened by

[4] These include the unemployed, unpaid family workers, and those out of the labour force i.e. students, housewives.
[5] This is the same for both wage and self-employed categories.
[6] The average age at which our respondents leave school is 16.

the fact that the majority of the self-employed (87 percent) state their main reason for starting their own business as being because they 'could not find salaried work'.

We turn now to the outcome variable, current monthly earnings. In order to reduce any potential measurement error in the regressions that follow we use monthly earnings, controlling for the log of the number of hours worked, rather than computing a measure of hourly earnings for the dependent variable. Moreover, because of the small sample size, and the fact that earnings usually have a long right hand tail, we report the median value of monthly earnings as opposed to its mean value. Median earnings are almost 18 USD (37,759 Tz Shillings) per month for the self-employed, and 21 USD (46,854 Tz Shillings) per month for the wage employed, although the kernel densities in figure A.4 in the Appendix show that there is an overlap in earnings between self- and wage employment.[7]

We further split the self-employed between those with and without employees, and define those with at least one employee as entrepreneurs. Only a small fraction of the self-employed has employees (18 percent), and of these the majority have only two employees. We also distinguish between wage employment in the private and public sector; 26 percent of those in wage employment are employed in the public sector.

Next we exploit the retrospective dimension of the data and compare individuals according to their labour market entry positions.

3.4. Labour Market Entry

We begin by examining differences between those who enter the labour market in different states, and whether these differences matter for future earnings. We identify the following four (mutually exclusive) labour market entry states: (i) unemployed job-seeker, (ii) unpaid worker in the family business, (iii) self-employed, and (iv) wage employed.[8]

Table 2 compares the baseline characteristics of these four categories, and shows that the majority of the sample (over 60 percent) enter the labour market as either

[7] Densities of the (log of) monthly earnings for self- and wage employment also confirms a log normal distribution.

[8] We acknowledge that in the context of Tanzania, where there is no unemployment benefit, unemployment may include odd jobs. It is thus possible that individuals would not report a job that paid for a couple of days or weeks, as they would still consider themselves unemployed.

self-employed or as a worker in the family business, highlighting the importance of this type of employment in urban Tanzania (Kweka and Fox, 2011).

INSERT TABLE 2

Workers who enter the labour market as either wage employed or unemployed have the highest level of education with around 9.5 and 9 years of schooling, respectively. We observe the same pattern for parental education, and argue that if we assume parental education to be a proxy for family wealth, then the data supports the idea that it is only the wealthy families that can afford periods of unemployment. Unpaid family workers and self-employed entrants appear to be the least educated. We do not observe a (statistically) significant difference in completed years of schooling between these two groups. This suggests that whether individuals enter as self-employed or as a family worker is not explained by education. Instead the table shows that those who enter as self-employed report a higher level of parental education, which is statistically significant. One rational for this may be that the more educated and hence wealthier families support their children in building up their own businesses.

We also report final (median) monthly earnings for the four categories, and find that earnings are lowest for those who enter as family workers. The data thus does not seem to show any earnings penalty for respondents who enter the labour market as unemployed. On the contrary, according to the current level of earnings, it seems that these individuals are later rewarded for this choice.

Finally, we look in more detail at the respondent's labour market experience. We find that those who enter the labour market as wage employed spend a relatively short amount of time in their first job compared with those in self-employment, and have had the highest number of jobs compared with the other labour market entry states. Thus, although they are later rewarded for this choice, these workers appear to experience a more volatile career path than those who enter the labour market in other labour market states. To investigate this further, in table 3 we present a transition matrix of the respondent's job history, from when they first entered the labour market to their next labour market state.

INSERT TABLE 3

Entry as Unemployed

Table 3 depicts the labour market transitions of the 71 respondents who enter the labour market as unemployed, and shows that the vast majority, around 70 percent, eventually find a job. Of those who find employment, 24 percent find a job as wage employed and 48 percent as self-employed. The transition from unemployment to self-employment takes, on average, 51 months, whereas the length of the unemployment spell is longer for those who eventually become wage employed, 70 months. The table also shows that those who find a wage job end up with higher earnings, which again suggests that, conditional upon finding wage employment, job search pays off; those who can afford to stay unemployed for a longer period eventually find a more financially rewarding job.[9]

Entry as Unpaid Family Worker

Next we consider those respondents who enter the labour market as unpaid family workers (row 2). Only 11 percent are still unpaid family workers in their subsequent state. The majority, 48 percent, become self-employed while only 17 percent become wage employed. The data suggests that two types of individuals enter the labour market in this state: (1) those with the intention of accumulating work experience and enough capital to start their own business in the future, and (2) women who help in the family business.[10] We do not know whether those who enter wage employment engaged in job search whilst working, or stopped working in order to devote time to job search, although their average earnings in the wage job are lower than for those who enter wage employment after a period of unemployment.

Entry as Self-employed

As row 3 shows, 104 individuals are self-employed at labour market entry, 32 percent of which are still self-employed in the subsequent period, while 27 percent become a family worker and 15 percent enter unemployment. Only a small fraction,

[9] Those who enter self-employment earlier may do so because they could not afford to wait, or because they realised they would not get a wage job, or because they realised they could do just as well/better in self-employment.

[10] Just over half of unpaid family workers are women.

14 percent, switch from self- to wage employment, although those that do report higher earnings as a result.

Entry as Wage Employed

Finally, in row 4 we examine the transitions for respondents who enter the labour market as wage employed. Of the 75 individuals who enter as wage employed, 29 percent do not switch job type.

Two main findings can be drawn from this table. First, it appears that those individuals who experience an initial period of unemployment do not ultimately suffer any pay penalty for their foregone years of experience when they eventually find a job.[11] Second, once an individual enters self-employment they are more likely to shift to 'unfavourable' labour market positions such as family work or unemployment than wage employment.

4. Labour Market Entry and Final Earnings

4.1. OLS Regression

We begin by estimating the effect initial labour market entry has on earnings using a Mincerian-type earnings equation as follows:[12]

$$Y_{ih} = \alpha + \boldsymbol{E}'_{\boldsymbol{ih}}\beta + \boldsymbol{X}'_{\boldsymbol{ih}}\gamma + u_{ih}; \qquad (4.1)$$

where Y_{ih} is the log of monthly earnings for individual i in household h; $\boldsymbol{E_{ih}}$ is a vector of dummy variables capturing labour market entry; $\boldsymbol{X_{ih}}$ is a vector of individual and job-specific characteristics; and u_{ih} is a random disturbance term.

INSERT TABLE 4

Table 4 illustrates the results for the pooled OLS regression. In column (1) we include the set of labour market entry dummy variables, a set of time-invariant individual-specific effects, and family characteristics as control variables; in column

[11] Although we acknowledge there would have been a potential loss of earnings during the initial period(s) of unemployment.
[12] See Mincer (1974).

(2) we add-in job-specific characteristics, while column (3) also includes a location and a time dummy.

The estimated coefficients imply that entry as unemployed and wage employed are significant in explaining final earnings, a result that is consistent across the three specifications. In particular, the results are robust to including job-specific characteristics, variables that could themselves be affected by initial labour market entry and which may cloud the interpretation of the coefficients of interest. Specifically, we find that individuals who enter the labour market as unemployed or wage employed have, on average, a 28% and 40% percent wage premium, respectively, when compared to those who enter the labour market as unpaid family workers (column 3).[13]

Next we consider the set of individual-level characteristics. In line with the human capital literature, we find that the level of schooling has an increasingly positive effect on earnings. Being female has a negative effect on earnings; women experience around a 20 percent pay penalty in their earnings compared to men (column 3).

Turning to the job-specific characteristics we find that labour market experience has a positive effect on earnings, although this effect is only weakly significant (column 2). While this lack of significance is at odds with the literature for developed countries, Falco et al. (2011) find a similar result for Tanzania. Working in the public sector also has a positive effect on earnings compared to those who work in the private sector. Such a finding is in line with expectations, since only the highly educated and skilled workers are likely to secure public sector employment. Similarly, we find evidence of a sizeable pay premium for those who work in the capital, Dar es Salaam.

In contrast, family characteristics appear to have little role to play in this setting. Here the only family background variable that is individually significant is the father's years of education which has a positive effect on their child's earnings.[14]

[13] For example, in a log-linear regression entering the labour market as, say unemployed, ncreases the untransformed monthly wages by exp(0.245) = 1.277 or 28%.

[14] Additional control variables designed to proxy for family networks and the reservation wage include: father and mother's usual job type, and the number of other family members in the household with a wage job. None of these variables are, however, statistically significant, and so are excluded from the final specification.

Our results highlight an important correlation between initial labour market entry and earnings. In line with the entrapment hypothesis it appears that the type of labour market entry experience is important; entering the labour market in either wage employment or unemployment has a long-lasting positive effect on earnings, relative to those who enter the labour market in the household enterprise (as either self-employed or as an unpaid worker in the family enterprise). Given the low level of mobility between work in the household enterprise and wage employment, we argue that this finding may arise, at least in part, because workers in the household enterprise get 'trapped' in poor quality employment where there are limited opportunities for advancement. As such these workers suffer a pay penalty compared to their wage employed counterparts. Similarly, for those that enter the labour market as unemployed it appears that, relative to those who enter the labour market in the household enterprise, an initial period of job search pays off.

4.2. Family Fixed Effects

A potential limitation of our approach is that OLS offers reliable estimates of the effect of labour market entry on final earnings only under the assumption of exogenous entry into the labour market. In other words, how individuals enter the labour market should be uncorrelated with any potential determinant of earnings. For example, it may be the case that individuals with more ability and/or better family networks enter the labour market in more favourable positions and have better future career outcomes. Although our results are robust to controlling for a set of family characteristics, which may proxy for background and network effects, there may still be other omitted determinants of earnings that correlate with labour market entry.

In order to address this issue, we control for unobserved person-specific characteristics that are common across family members and that may affect earnings. Now:

$$u_{ih} = \Omega_h + \varepsilon_{ih}; \qquad (4.2)$$

where Ω_h are characteristics, both observables and unobservables, common to all family members, and ε_{ih} is an idiosyncratic error term that differs for every individual. The term Ω_h may represent family background and networks, and may

also capture a number of unobserved factors that are transferred from parents to children such as ability, and other behavioural traits that are transferred during upbringing such as drive and motivation all of which may play a role in determining life-time earnings (see Knudsen et al., 2006; Borghans et al., 2008).[15] Now equation (4.1) becomes:

$$Y_{ih} = \alpha + \boldsymbol{E'_{ih}}\beta + \boldsymbol{X'_{ih}}\gamma + \Omega_h + \varepsilon_{ih}; \qquad (4.3)$$

Table 5 presents the results for the family fixed effects. In using family fixed effects it becomes necessary to drop both unrelated household members, and respondents who are the only income-earners in their household from the sample.[16] Since the sample is now somewhat reduced for completeness in column (1) we report the OLS estimates for this reduced sample, while in column (2) we report the fixed effects estimates.[17]

INSERT TABLE 5

The results suggest that once we control for family fixed effects, initial labour market entry still has an important effect on current earnings. Consistent with our previous results (i.e. for the full and restricted sample) we find a positive and significant association between entry as wage employed and earnings. In contrast, the estimated coefficient for entry as unemployed for this reduced sample is now insignificant in both the OLS and fixed effect estimates. It should be noted that entry as unemployed is significant when we include both single and multiple-earner households in the same OLS regression. It only becomes insignificant for both household types when we split the sample into single and multiple-earner households which we must do to be able to perform the fixed effects estimates. This provides us with some evidence that it is the relatively small sample size that is driving this result.

[15] See Heckman et al. (2014) for a survey of the literature.

[16] Here we think of family as encompassing not just blood relatives, but also a person's spouse. In line with Becker's (1981) notion of positive assortive mating we argue that individuals are likely to marry those who share certain attitudes and values that are relevant in the labour market e.g. work ethic that will be caputured by our family fixed effects strategy.

[17] In table A.1 in the Appendix we compare the characteristics of respondents in single versus multiple-earner households, and find that the two groups are very similar in terms of their observable characteristics.

The remaining explanatory variables such as the level of education and working in the public sector are also insignificant once we control for family fixed effects, although this is due to the loss of efficiency in moving to a fixed effects specification.[18]

5. Sensitivity Analysis

5.2. Formal Wage Employment

Until now we have assumed that wage employment is the preferred employment state. However, although the earnings of those in wage employment are, on average, greater than those in self-employment, one could nevertheless argue that not all wage employment is of the same quality. Indeed, as showed by Falco et al. (2011), there are often significant earnings differences between formal wage jobs and wage employment in small informal firms. Next we disaggregate wage employment into two states; formal and informal in order to investigate whether all forms of wage employment have the same effect on future earnings, or whether as we alluded to earlier it is the quality of the initial entry experience that is important.[19]

INSERT TABLE 6

Table 6 reports the results of this exercise. We find that the main premium in terms of earnings is generated by those who enter the labour market in the formal wage sector; the sector where there is presumably the biggest opportunity for advancement, and where the skills acquired give workers the opportunity to transition to a different sector of the labour market should the opportunity arise. This provides further support for the notion that labour market entry experiences are important, and that entering the labour market in a 'good' job has a long-lasting effect on earnings compared to

[18] We conduct a cross-equation test (using a seemingly unrelated estimation) to test whether the estimated coefficients are significantly different across the two specifications and find that we are unable to reject the null hypothesis of equality of coefficients between the two models. These results are not reported here but are available upon request.

[19] We classify those in wage employment who work for a firm that is either government owned or a limited company as formal wage employment, and those where the firm is a family business as having an informal wage job. In classifying wage employment into formal versus informal, we base our classification on the ILO's definition of the informal sector as being one where labour relations, should they exist, tend to be ad hoc and are not based on contractual arrangements with formal guarantees.

those that enter the labour market in 'bad' jobs i.e. jobs where there are not the same opportunities for advancement and training.

5.3. First Job Experience

A potential limitation of our results is that individuals who report entering the labour market straight into employment may fail to recall an initial unemployment state. Everyone potentially goes through an initial period of unemployment after leaving school, and if some individuals report it and others do not, this may affect our results. This could be due to recall, or may simply be viewed by the individual as such an insignificant event it is not worth mentioning.

As a result of this potential bias, we assume that all respondents experience an initial phase of unemployment after leaving school, no matter how small. If we make this assumption then (because everyone enters the labour market as unemployed) our research question changes slightly.

Now we are not interested in the relationship between labour market entry experiences and earnings, but rather in the relationship between first job and earnings. In particular, we test whether individuals whose first job is wage employment have a premium in their earnings compared to those whose first job is in the family business (Table 7).

INSERT TABLE 7

Consistent with the previous findings, we observe a strong positive relationship between individuals whose first job is in wage employment and earnings in both the OLS and fixed effects estimates. As before, this result confirms that an initial period of work in wage employment is associated with an earnings premium, regardless of the type of job the individual ultimately ends up doing.

6. Conclusion

We exploit a unique dataset of retrospective job histories to investigate whether different forms of labour market entry have an effect on career outcomes in urban Tanzania between 1990 and 2005. Specifically, we consider whether there is a link between early labour market experiences and adult labour market outcomes – both

job type and earnings. Despite widespread concern about youth unemployment in many developed countries, to the best of our knowledge, the link between labour market entry and career outcomes has not yet been considered in a developing country context.

We identify four types of labour market entry and estimate an earnings function, in order to identify how different forms of market entry affect final earnings, our measure of career outcome.

Our findings suggest that how individuals first enter the labour market has an important effect on their future earnings potential. We find strong evidence that an initial period spent in wage employment is associated with a premium in future earnings. We interpret this finding as evidence of the entrapment hypothesis in that how any individual enters the labour market has an effect on their future earnings. Here we find that those who enter the labour market in what could be regarded as more disadvantaged positions, such as in the household enterprise, either as self-employed or as unpaid family workers, suffer a penalty in their future earnings, compared to those who enter the labour market in more favourable positions.

The results presented in this paper are robust to including a set of family background characteristics, and controlling for family fixed effects. Despite this, our current identification strategy may still have some limitations. For example, there may be some person-specific characteristics that we have still not accounted for that affect both labour market entry and earnings, and that are unrelated to family networks. Alternatively, as suggested by Heckman et al. (2006) individuals may sort themselves into a particular job type based on their specific idiosyncratic gains, and hence those in self-employment would not actually be able to earn a higher income if they became wage employed. Although we have shown that individuals who switch from self- to wage employment earn a higher income as a result, the numbers making this switch are small, and hence we are unable to completely rule out a Roy-type scenario such as this.

As this is the first quantitative study on labour market entry and final labour market outcomes, the relevance of the analysis for other countries in the region is unclear. However, what this study does highlight is the urgent need for further research to understand why labour market entry matters so much for final career outcomes. Further research should focus on the determinants of youth labour

mobility, what impedes and what determines transition from one segment of the market to the other.

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Table 1: Summary Statistics - Current State

	(1) Self-employed	(2) Wage employed	(3) Non-workers	(4) p-value
Individual Characteristics:				
Schooling	8.00	9.27	7.55	0.001
Primary Education (=1)	0.60	0.48	0.58	0.065
Ordinary Level (=1)	0.25	0.29	0.27	0.590
Vocational Certificate (=1)	0.08	0.19	0.02	0.005
Advanced Level (=1)	0.00	0.04	0.03	0.021
Female (=1)	0.61	0.55	0.63	0.290
Married (=1)	0.53	0.47	0.23	0.374
Number of Children	1.39	1.16	0.73	0.157
Age (Years)	28.53	28.35	25.10	0.748
Dar es Salam (=1)	0.49	0.43	0.50	0.343
Family Characteristics:				
Father's years of schooling	7.92	8.62	7.77	0.284
Mother's years of schooling	4.68	5.43	5.03	0.193
Labour Market:				
Final Earnings (US $)	17.31	21.48		0.016
Age Entered Labour Market (Years)	18.22	20.13	16.63	0.004
Age at First Job (Years)	21.50	22.44	21.32	0.121
Labour Market Experience (Years)	9.33	7.47	6.32	0.018
Log(Hours Worked)	3.94	3.99		0.192
Entrepreneur (=1)	0.18			
Number of Employees	1.85			
Public (=1)		0.26		
Firm size		2.71		
Observations	228	77	60	305

Source: Tanzania Household Urban Panel Survey.

Note: The presented summary statistics are for the sample of individuals aged from 20 to 35 inclusive. Non-workers include the unemployed, unpaid family workers and those out of the labour force.

Table 2: Summary Statistics - Labour Market Entry

	(1) **Unemployed**	(2) **Family Worker**	(3) **Self-employed**	(4) **Wage employed**
Individual Characteristics:				
Schooling	8.83	7.29	7.82	9.51
Primary Education (=1)	0.54	0.63	0.64	0.43
Ordinary Level (=1)	0.38	0.21	0.22	0.29
Vocational Certificate (=1)	0.06	0.03	0.08	0.24
Advanced Level (=1)	0.03	0.02	0.00	0.03
Female (=1)	0.51	0.63	0.64	0.59
Married (=1)	0.18	0.47	0.64	0.48
Number of Children	0.63	1.25	1.63	1.24
Age (Years)	25.89	28.19	28.57	28.56
Family Characteristics:				
Father's years of schooling	8.31	7.15	8.13	9.04
Mother's years of schooling	5.69	3.84	4.52	6.29
Labour Market:				
Final Earnings (US $)	12.45	11.09	14.82	25.34
Number of Jobs	0.76	1.09	1.17	1.53
Duration of First Job (years)	5.67	6.36	7.30	6.28
Proportion of Time Spent in Wage Employment	0.07	0.09	0.01	0.78
Proportion of Time Spent in Self-Employment	0.25	0.35	0.81	0.13
Observations	71	115	104	75

Source: Tanzania Household Urban Panel Survey.

Note: The presented summary statistics are for the sample of individuals aged from 20 to 35 inclusive. Statistics for earnings are based on the sample of workers.

Table 3: Transition Matrix: Job History (from Entrance to Next State)

Variables	(1) **OLF**	(2) **Unemployed**	(3) **Family Worker**	(4) **Self-Employed**	(5) **Wage Employed**	(6) **Total**
Entry as Unemployed	4 (5.6%)	8 (11.3%)	8 (11.3%)	34 (47.9%)	17 (23.9%)	71
Earnings (US $)	-	-	-	18.6	24	
Time Before Transition (Months)	109	-	71	51	70	
Entry as Family Worker	18 (15.6%)	9 (7.8%)	13 (11.4%)	55 (47.8%)	20 (17.4%)	115
Earnings (US $)	-	-	-	13.7	10.2	
Time Before Transition (Months)	54	92	-	74	56	
Entry as Self-Employed	12 (11.6%)	16 (15.4%)	28 (26.9%)	33 (31.7%)	15 (14.4%)	104
Earnings (US $)	-	-	-	17.5	35.7	
Time Before Transition (Months)	62	67	85	-	94	
Entry as Wage Employed	7 (9.3%)	7 (9.3%)	12 (16%)	27 (36%)	22 (29.4%)	75
Earnings (US $)	-	-	-	15.1	19.6	
Time Before Transition (Months)	60	55	57	73	-	

Source: Tanzania Household Urban Panel Survey.

Note: The presented summary statistics are for the sample of individuals aged from 20 to 35 inclusive.

Table 4: Labour Market Entry and Final Earnings (OLS)

	(1) Earnings	(2) Earnings	(3) Earnings
Entry as:			
Unemployed	0.215*	0.303**	0.245*
	(0.114)	(0.140)	(0.128)
Self-employed	0.016	0.071	0.144
	(0.114)	(0.121)	(0.128)
Wage employed	0.299**	0.305**	0.342**
	(0.128)	(0.150)	(0.158)
Individual Characteristics:			
Primary Education (=1)	0.153	0.132	0.165
	(0.135)	(0.138)	(0.144)
Ordinary Level (=1)	0.541***	0.514***	0.523***
	(0.166)	(0.166)	(0.167)
Vocational Certificate (=1)	0.689***	0.570***	0.590***
	(0.209)	(0.209)	(0.214)
Advanced Level (=1)	1.102***	1.082***	1.159***
	(0.301)	(0.245)	(0.256)
Female (=1)	-0.239**	-0.241***	-0.191**
	(0.092)	(0.091)	(0.091)
Family Characteristics:			
Father's years of schooling	0.023**	0.021*	0.019*
	(0.011)	(0.011)	(0.010)
Mother's years of schooling	-0.021	-0.016	-0.016
	(0.015)	(0.014)	(0.014)
Job-Specific Characteristics:			
Log(Hours Worked)		0.101	0.156
		(0.174)	(0.179)
Labour Market Experience (Years)		0.015*	0.009
		(0.008)	(0.009)
Self-employed (=1)		0.081	0.036
		(0.107)	(0.110)
Entrepreneur (=1)		0.249	0.291
		(0.258)	(0.246)
Public Wage (=1)		0.598***	0.612***
		(0.175)	(0.169)
Dar es Salam (=1)			0.278***
			(0.094)
Entered After 1999			-0.216
			(0.148)
Constant	10.301***	9.650***	9.385***
	(0.141)	(0.672)	(0.736)
Observations	305	305	305
R^2	0.184	0.226	0.258

Source: Tanzania Household Urban Panel Survey.

Note: Omitted groups: Entry – Unpaid family worker. Education – None. Employment – Wage private sector. The results are for the sample of individuals aged from 20 to 35 inclusive. Standard errors are clustered at the household level. ** p < 0.10, ** p < 0.5, *** p < 0.01*

Table 5: Labour Market Entry and Final Earnings (Fixed Effects)

	(1) **OLS**	(2) **Family Fixed Effects**
Entry as:		
Unemployed	0.146	-0.043
	(0.251)	(0.246)
Self-employed	0.387	0.292
	(0.279)	(0.370)
Wage employed	0.742**	0.646*
	(0.333)	(0.337)
Individual Characteristics:		
Primary Education (=1)	0.266	0.025
	(0.227)	(0.388)
Ordinary Level (=1)	0.576**	0.213
	(0.245)	(0.497)
Vocational Certificate (=1)	0.645	-0.047
	(0.490)	(0.787)
Advanced Level (=1)	0.980**	0.611
	(0.378)	(0.779)
Female (=1)	-0.325*	-0.163
	(0.186)	(0.283)
Family Characteristics:		
Father's years of schooling	0.018	-0.038
	(0.023)	(0.044)
Mother's years of schooling	-0.029	0.020
	(0.024)	(0.041)
Job-Specific Characteristics:		
Log(Hours Worked)	-0.245	0.399
	(0.274)	(0.408)
Labour Market Experience (Years)	-0.005	-0.005
	(0.017)	(0.025)
Self-employed (=1)	0.033	-0.158
	(0.150)	(0.223)
Entrepreneur (=1)	0.230	-0.093
	(0.628)	(0.883)
Public Wage (=1)	0.915***	0.254
	(0.309)	(0.601)
Dar es Salam (=1)	0.589***	
	(0.182)	(.)
Entered After 1999	-0.786**	-0.794*
	(0.323)	(0.421)
Constant	10.939***	9.443***
	(1.200)	(1.673)
Observations	121	121
R^2	0.396	0.266

Source: Tanzania Household Urban Panel Survey.

Note: Omitted groups: Entry – Unpaid family worker. Education – None. Employment – Wage private sector. The results are for the sample of individuals aged from 20 to 35 inclusive, living in household with multiple earners. Standard errors are clustered at the household level. *$* p < 0.10$, **$ p < 0.5$, ***$ p < 0.01$*

Table 6: Labour Market Entry and Final Earnings (Fixed Effects)

	(1) **OLS**	(2) **Family Fixed Effects**
Entry as:		
Unemployed	0.142	-0.160
	(0.258)	(0.278)
Self-employed	0.379	0.358
	(0.284)	(0.368)
Wage employed Formal	0.758**	0.693**
	(0.338)	(0.344)
Wage employed Informal	0.675	0.202
	(0.482)	(0.517)
Individual Characteristics:		
Primary Education (=1)	0.276	0.104
	(0.237)	(0.426)
Ordinary Level (=1)	0.580**	0.170
	(0.251)	(0.497)
Vocational Certificate (=1)	0.642	-0.029
	(0.491)	(0.787)
Advanced Level (=1)	0.988**	0.603
	(0.383)	(0.790)
Female (=1)	-0.325*	-0.205
	(0.187)	(0.286)
Family Characteristics:		
Father's years of schooling	0.018	-0.037
	(0.023)	(0.044)
Mother's years of schooling	-0.028	0.023
	(0.024)	(0.041)
Job-Specific Characteristics:		
Log(Hours Worked)	-0.234	0.466
	(0.282)	(0.406)
Labour Market Experience (Years)	-0.005	-0.009
	(0.017)	(0.026)
Self-employed (=1)	0.023	-0.216
	(0.149)	(0.217)
Entrepreneur (=1)	0.246	-0.096
	(0.642)	(0.893)
Public Wage (=1)	0.904***	0.262
	(0.325)	(0.593)
Dar es Salam (=1)	0.592***	0.000
	(0.184)	(.)
Entered After 1999	-0.772**	-0.790*
	(0.339)	(0.417)
Constant	10.899***	9.239***
	(1.227)	(1.686)
Observations	121	121
R^2	0.396	0.276

Source: Tanzania Household Urban Panel Survey.

Note: Omitted groups: Entry – Unpaid family worker. Education – None. Employment – Wage private sector. The results are for the sample of individuals aged from 20 to 35 inclusive, living in household with multiple earners. Standard errors are clustered at the household level. *$* p < 0.10$, **$ p < 0.5$, ***$ p < 0.01$

Table 7: First Job and Final Earnings

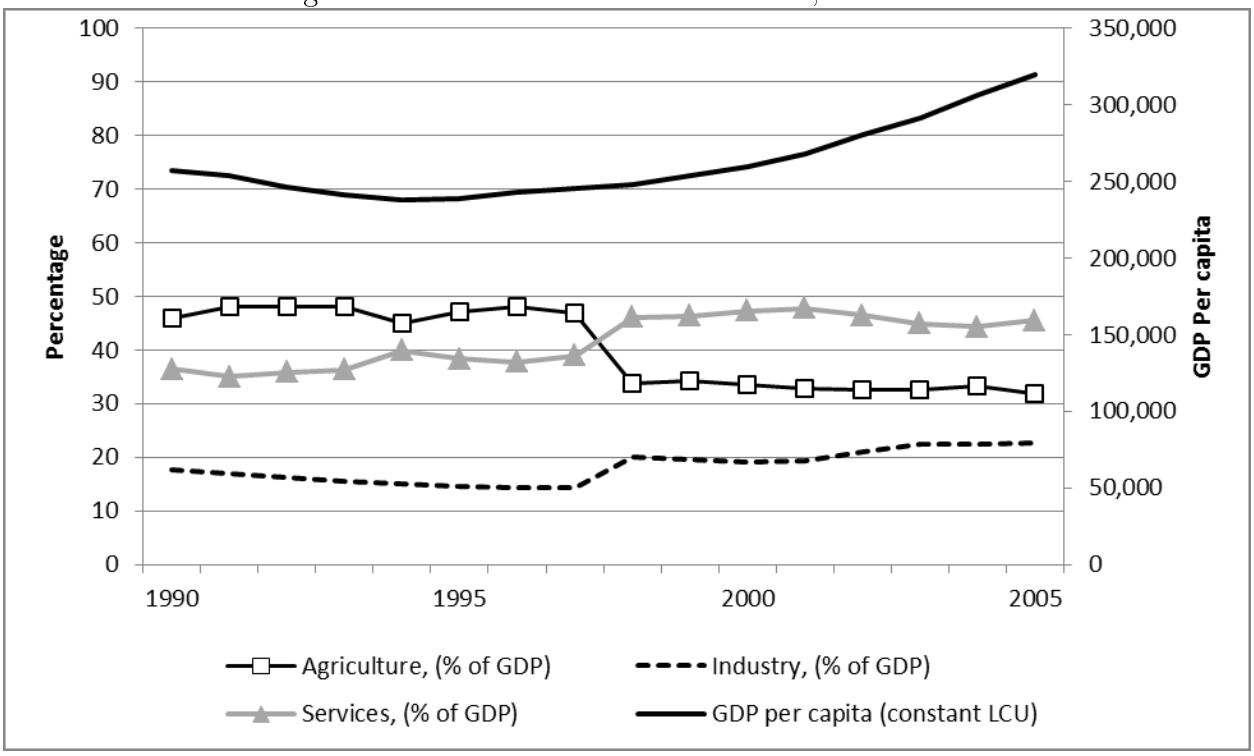
	(1) **OLS**	(2) **Family Fixed Effects**
First Job:		
Wage Employment	0.576**	0.544*
	(0.227)	(0.296)
Individual Characteristics:		
Primary Education (=1)	0.390	0.053
	(0.361)	(0.370)
Ordinary Level (=1)	0.640*	0.255
	(0.375)	(0.472)
Vocational Certificate (=1)	0.751*	0.046
	(0.435)	(0.714)
Advanced Level (=1)	0.886	0.663
	(0.748)	(0.755)
Female (=1)	-0.370**	-0.141
	(0.174)	(0.258)
Family Characteristics:		
Father's years of schooling	0.022	-0.038
	(0.021)	(0.043)
Mother's years of schooling	-0.026	0.022
	(0.023)	(0.040)
Job-Specific Characteristics:		
Log(Hours Worked)	-0.192	0.378
	(0.307)	(0.380)
Labour Market Experience (Years)	-0.007	-0.001
	(0.017)	(0.018)
Self-employed (=1)	0.069	-0.108
	(0.213)	(0.206)
Entrepreneur (=1)	0.356	-0.057
	(0.360)	(0.898)
Public Wage (=1)	0.924**	0.223
	(0.365)	(0.615)
Dar es Salam (=1)	0.564***	0.000
	(0.160)	(.)
Entered After 1999	-0.682***	-0.660**
	(0.249)	(0.304)
Constant	10.750***	9.440***
	(1.311)	(1.633)
Observations	121	121
R^2	0.381	0.259

Source: Tanzania Household Urban Panel Survey.

Note: Omitted groups: Entry – Unpaid family worker. Education – None. Employment – Wage private sector. The results are for the sample of individuals aged from 20 to 35 inclusive. Standard errors are clustered at the household level. ** $p < 0.10$, ** $p < 0.5$, *** $p < 0.01$*

1 Appendix

Figure A.1: Tanzania GDP growth, 1990-2005



Source: Filmer and Fox (2014).

Figure A.2: Age First Job, by First Job Type

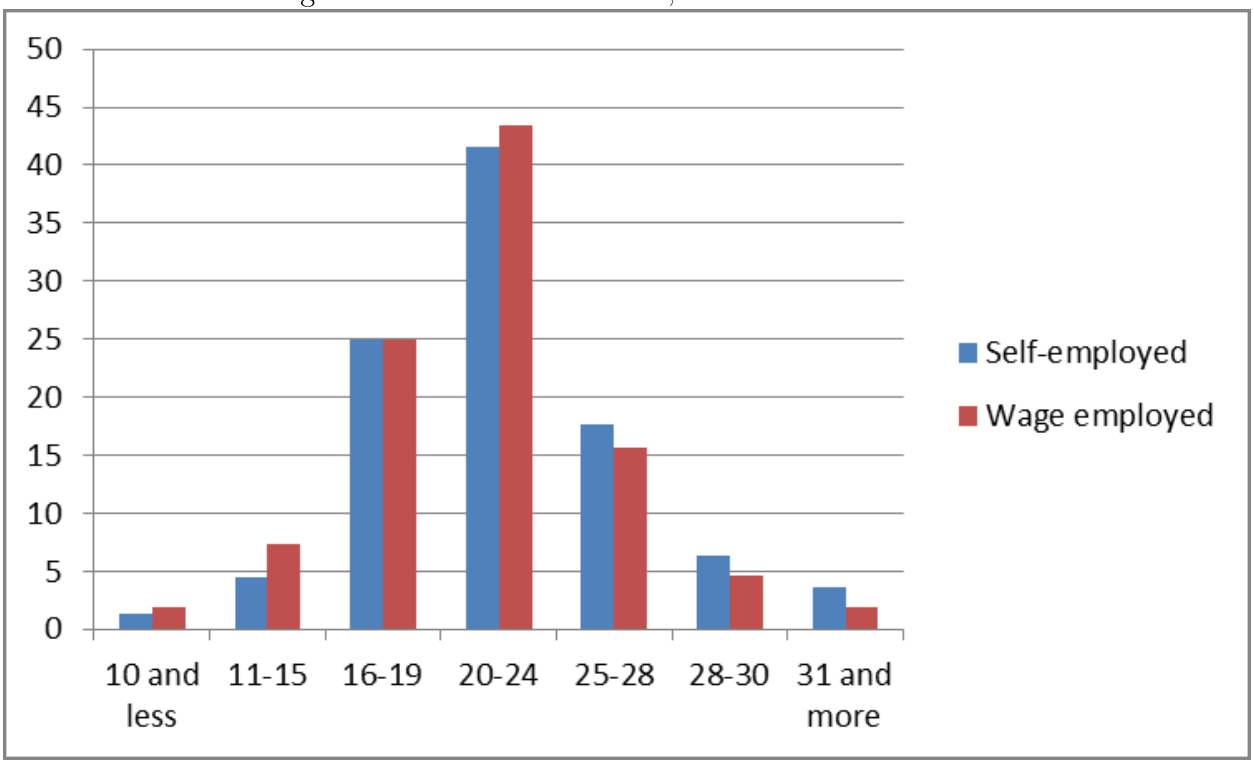
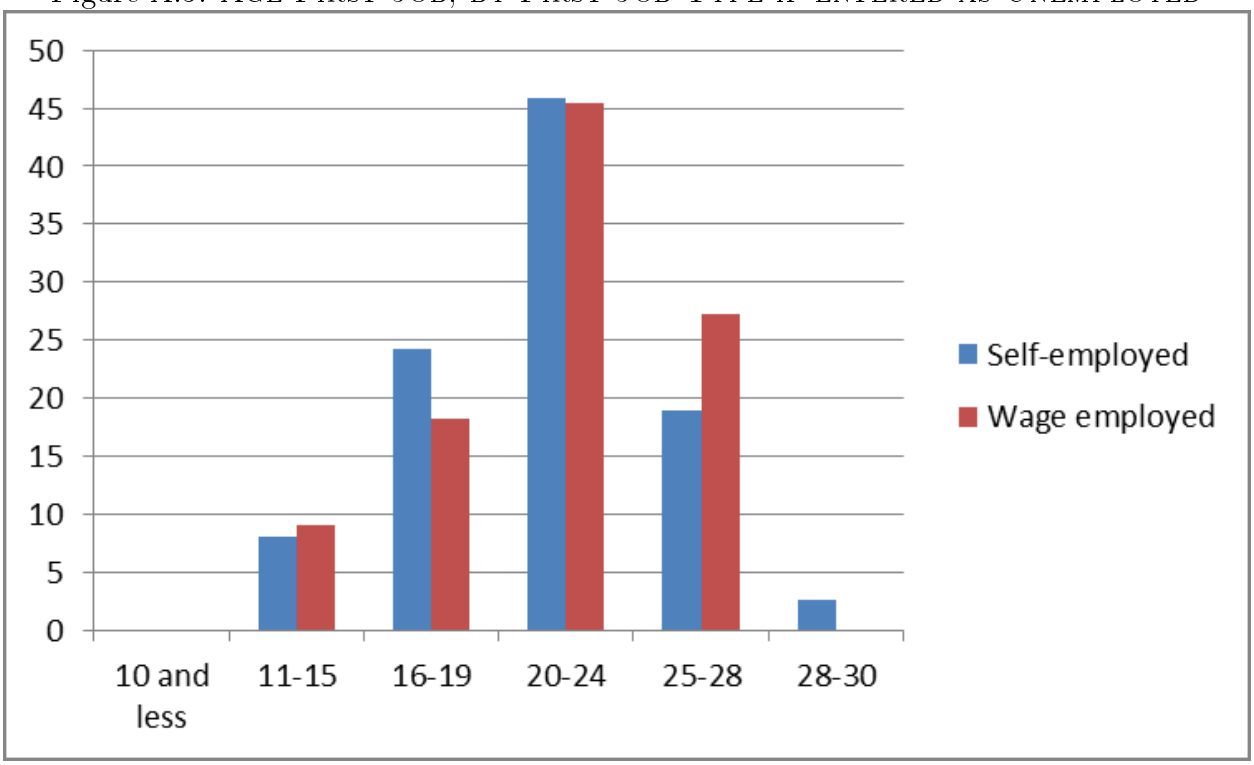


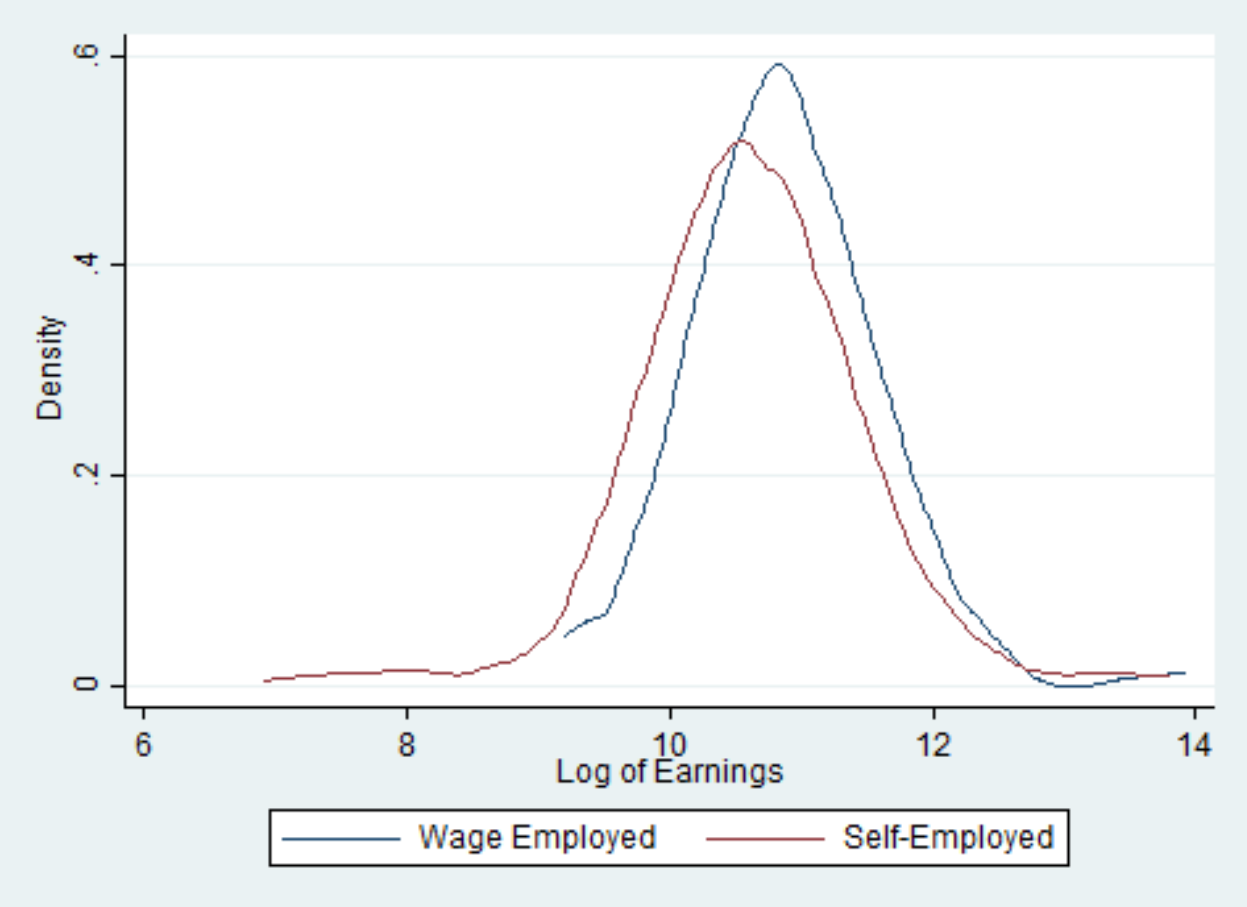
Figure A.3: Age First Job, by First Job Type if entered as Unemployed



Source: Tanzania Household Urban Panel Survey.

Note: The results are for the sample of individuals aged from 20 to 35 inclusive.

Figure A.4: Log Monthly Earnings, By Job Type



Source: Tanzania Household Urban Panel Survey.
Note: The results are for the sample of individuals aged from 20 to 35 inclusive.

Table A.1: Summary Statistics - Current State

	(1) **Self-employed**	(2) **Wage employed**	(3) **Non-workers**
Individual Characteristics:			
Schooling	8.29	8.36	0.846
Primary Education (=1)	0.55	0.60	0.447
Ordinary Level (=1)	0.26	0.26	0.925
Vocational Certificate (=1)	0.11	0.10	0.663
Advanced Level (=1)	0.01	0.02	0.775
Female (=1)	0.63	0.56	0.224
Married (=1)	0.47	0.57	0.065
Number of Children	1.36	1.31	0.731
Age (Years)	28.48	28.48	0.997
Dar es Salam (=1)	0.42	0.55	0.024
Family Characteristics:			
Father's years of schooling	7.72	8.60	0.130
Mother's years of schooling	4.46	5.42	0.055
Labour Market:			
Final Earnings (US $)	16.29	21.11	0.153
Age Entered Labour Market (Years)	19.37	17.82	0.008
Age at First Job (Years)	22.02	21.36	0.214
Labour Market Experience (Years)	8.47	9.39	0.182
Log(Hours Worked)	3.94	3.97	0.490
Observations	174	131	305

Source: Tanzania Household Urban Panel Survey.

Note: The table compares the characteristics of those in single-earner households with those in multiple-earner households, i.e. those where there is only one earner aged 35 or under working in the household with those where there are at least two earners aged 35 and under working in the household.