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The KENYA INSTITUTE for PUBLIC POLICY RESEARCH and ANALYSIS

Job Search in Developing Countries: Empirical Evidence from Kenya

Anthony Wambugu
Eldah Onsomu
Boaz Munga

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Anthony Wambugu
Eldah Onsomu
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Social Sector Division
Kenya Institute for Public Policy
Research and Analysis

KIPPRA Discussion Paper No. 130
2012

The KENYA INSTITUTE for PUBLIC
POLICY RESEARCH and ANALYSIS

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P.O. Box 56445, Nairobi, Kenya
tel: +254 20 2719933/4; fax: +254 20 2719951
email: **admin@kippra.or.ke**
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Abstract

This study considers empirical evidence concerning job search behaviour of non-working individuals in Kenya. The study uses data from a nationally representative Labour Force Survey and discrete choice models to analyse two components of the search activity: the decision to engage in job search and choice of job search method. We find that the incidence of job search among non-working individuals is low. Among active job seekers, the largest proportion used informal job search channels. Formal job search methods such as employment offices are not widely used. Both the decision to engage in job search and the decision on the channel to use are affected by the distribution of demographic variables, human capital variables, and spatial characteristics. Public policy would find this information useful in designing and implementing policies and programmes for job search infrastructure development as part of measures to address unemployment and equality of opportunity in Kenya.

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1. Introduction

1.1 Study Problem

Considerable interest has emerged in recent years in Kenya about unemployment, especially youth unemployment. According to official statistics, the national open unemployment rate decreased from 14.6 per cent in 1998-99 to 12.7 per cent in 2005-06 (Government of Kenya, 2003; 2008). However, the distribution of unemployment is quite uneven. In particular, youth open unemployment rates are relatively high: 25 per cent among 15-19 years old, 24.2 per cent for those aged 20-24, and 15.7 per cent for the 25-29 in 2005-2006 (Government of Kenya, 2008). The problem is more acute in urban areas where youth unemployment rates in 2005-06 were 45.5 per cent among 15-19 years old, 35.8 per cent among those aged 20-24, and 22.8 per cent for 25-29 year olds.

One of the categories of constraints that may hinder access to the labour market is job search constraints (World Bank, 2010). In order to address these constraints, job search assistance programmes are an integral part of the labour market interventions to reduce unemployment (Betcherman *et al.*, 2007). In Kenya, government and private agencies influence the process of job matching by providing services aimed at assisting job seekers to find jobs that match the skill requirements of employers. Information on individual job search decisions (whether or not to search for work, the amount of effort to exert in job search, and the search method to use), is potentially beneficial to the design and implementation of job assistance programmes and interventions.

A major concern with the job search activity of individuals is that it may result in sub-optimal matches (Jovanovic, 1979) and exacerbate unemployment. Unequal access to various job search methods has implications for discussions on inequality of opportunity (Try, 2005). Thus, job search activity may be associated with skewed distribution of search benefits in terms of arrival of job offers. Despite the potential benefit of information on individual job search activity, little is known about the nature of job search and job search methods in Kenya. Most of the existing empirical evidence is confined to developed countries. There is, however, an emerging body of empirical evidence (Sackey and Osei, 2006; Serneels, 2007; and Hinks, 2008) on job search in African labour markets.

This study extends our understanding of the nature of job search in the context of a developing country. Analysis of job search behaviour can suggest ways to improve matching of workers and jobs in the labour market. Furthermore, understanding job search behaviour is also important because job search activity determines the level and duration of unemployment. We address four research questions. First, what is the extent of job search among the non-working persons?; second, which characteristics are associated with the decision to engage in job search?; third, what job search methods do unemployed workers in Kenya use?; and fourth, which characteristics are associated with an individual's choice of job search method?

1.2 Study Objectives

The broad objective of this study is to investigate job search behaviour of non-working Kenyans in the working-age population. We specifically seek to:

(a) Determine the extent of job search among non-working persons in Kenya

(b) Identify the characteristics associated with the decision to search or not for a job

(c) Determine the extent to which various job search methods are used in Kenya

(d) Identify socio-economic characteristics related to choice of job search method

(e) Derive policy implications for job search infrastructure development

1.3 Organization of the Paper

The paper is organized as follows: Section 2 reviews theory and empirical evidence on job search behaviour, while Section 3 describes the analytical framework employed in this study. Section 4 presents and discusses the empirical results, while Section 5 concludes the study.

2. Literature Review

2.1 Theory of Job Search

A key assumption of the neoclassical model of the labour market is that labour market agents have perfect information. For instance, each job seeker has full information regarding jobs on offer given his/her skills. Consequently, a job seeker's decision concerns the hours of work to supply at the prevailing market wage. In contrast, imperfect labour market information forces individuals to search for job openings and gather information on wages and working conditions for the skills he/she can supply. The focus of job search theory is on the behaviour of individuals facing imperfect information about jobs and wage offers in the labour market.

Early discussion of job search behaviour is found in a model developed by Stigler (1962). In this model, the unemployed person keeps searching for work until the marginal cost of further job search equals the marginal benefit. The marginal cost curve is assumed to be upward sloping, while the marginal benefit curve is downward sloping (reflecting diminishing returns to job search).

Further, development of job search theory emerged from the work of McCall (1970) and Mortensen (1970). It is assumed that in any time period, an unemployed person might receive one or more job offers, each with a wage offer drawn from a known cumulative distribution of wage offers. The job seeker accepts the job offer only if the wage offer is greater than or equal to his/her minimum acceptance wage (the lowest wage the unemployed person will consider accepting). The optimal acceptance wage is one that equates the marginal cost and marginal benefit of setting a higher acceptance wage. Revisions to the acceptance wage are allowed if the individual fails to secure a job at the set acceptance wage. However, the job-seeker has imperfect information concerning the exact wage each job offer entails. Instead, he/she only knows the mean and variance of the distribution of possible wage offers. Based on this information, they can compute the expected pay-off of further job search.

These models of job search have a number of implications. First, job search can be treated as a type of human capital investment. The essential idea in the human capital framework is that job search entails incurring current costs, but yields future benefits in terms of job offers and associated wage offers. Second, the models imply that job search

strategies can vary across individuals. Third, variables that increase the acceptance wage, for example education, experience, level of previous wage can influence job search behaviour.

In the early job search models, it was assumed that workers draw a wage offer from a known wage distribution. As such, neither job search method nor job search effort (intensity) affected the arrival rate of job offers. However, Holzer (1988) develops a model in which unemployed workers maximize the sum of current and future utility by choosing not only a minimum acceptance wage, but also a job search strategy. In their choice of job search strategy, individuals choose from a set of job search methods that vary both in productivity (job offers generated) and cost for an unemployed individual.

Recent literature on job search assumes that there are labour market frictions that inhibit efficient job matching. According to Mortensen and Pissarides (1999), labour market friction is the costly delay in the process of finding trading partners and determining the terms of trade. This implies that because of job search frictions, unemployed persons have to spend time and other resources to obtain job offers. Similarly, it takes time and other resources for employers to fill vacancies.

2.2 Empirical Evidence

Most empirical work on job search behaviour is confined to developed countries. Holzer (1987; 1988) examined the extent to which various job search methods were used by 16-23 year olds in the USA. Checking with friends and relatives and direct job applications without referral are the most frequently used job search methods. Moreover, these methods were the most effective in terms of job offers and job acceptances generated. The two search methods account for about 70 per cent of jobs obtained by unemployed white youth, and 60 per cent of jobs obtained by unemployed black youth.

Smirnova (2003) has explored the determinants of job search, search intensity and search strategies using the Russia Longitudinal Monitoring Survey. The most frequently used job search method in Russia is contacting friends and relatives. Women were less likely to search for work, and when they did, their search was less intensive than that by men. There were also spatial differences in job search behaviour between unemployed in metro areas and those in other areas.

A widely held view among employers is that over-qualified individuals would be less committed to their employer as they tend to engage more in job search. This hypothesis is tested by Wald (2005) in a sample of Canadians aged 18 and over, surveyed in 2000.

Battu, Seaman and Zenou (2011) have considered the role of ethnicity in job search behaviour in the UK. The results suggest that personal networks are a popular job search method for ethnic minorities. However, greater use of personal networks in job search does not translate into higher probability of finding work or better job level for them. Using data from Norway, Try (2005) investigated university graduates access to various job search methods. It was found that social capital was a key factor hindering use of informal search methods. Use of public employment services is prevalent among graduates with poorest job prospects.

There are few empirical studies on job search behaviour in African countries. Schoer and Leibbrandt (2006) analyzed data from metro Cape Town in South Africa to investigate why job-seekers use certain job search strategies. A multinomial logit model is estimated to examine the relative importance of different variables in determining the individual choice among four job search strategies: non-searchers, exclusive passive searchers (social networks), exclusive active searchers, and mixed strategy searchers.

The results indicate that individual's age, race, marital status and education appear not to explain differences in the choice of job search strategy. Females have a higher probability of not searching for work compared to other search method categories. Domestic duties are an obstacle to the use of other job search methods by passive searchers. But household composition, health problems and hunger do not seem to hinder job search. Availability of contacts increases chances of using social networks relative to other job search methods. The presence of a household member who relies on social networks increases the chances of an unemployed person also using social networks in job search, pointing towards some form of household job search culture.

Hinks (2008) extended the literature on job search in South Africa by examining the relationship between job search, poverty, social networks and location. The decision to engage in job search is modeled using binary logit approach. The data used came from the 2001 and 2002 Labour Force Surveys. He found that higher education, age, previous work experience, being head of household and having

vocational training are the variables associated with higher probability of searching for work. On the other hand, being female, being married, residing in owned or mortaged house, local unemployment rate and living in a poor household reduce the likelihood of searching for work.

Sackey and Osei (2006) investigated the extent to which schooling, age and gender influence the choice of job search method in Ghana. They estimate a multinomial logit model based on data from the Ghana living standards survey 1998-99. The dependent variable has five choices: applied to prospective employers, checked at farms/work sites/factories, took action to start business, asked friends/relatives, and took action to start agricultural activities. They find that females are less likely than males to apply to potential employers, but more likely than males to take action to start business. Age increases the chances of applying to potential employers or checking at farms/worksites/ factories. Individuals with more formal education are more likely than those with less formal education to apply to potential employers.

3. Analytical Framework

3.1 Job Search Model

Job search activity can be modelled as comprising two parts: the decision whether to search or not and the decision about how intensively to search, and the search method to use. Osberg (1993) likened job search to fishing, where the probability of catching big fish depends on location and lure. At the start of each period, an individual decides whether or not to search for work as part of a utility maximization problem. An individual decides to search for work in the current period, if the utility from working in the next period exceeds utility from not working in the next period. Job search is therefore likely to vary across individuals depending on variables that influence expected income, search costs, reservation wage and relative preference for leisure (Smirnova, 2003). The decision to search or not is represented by equation (1).

$$S = S(X_1, X_2, X_3) \quad \text{.....(1)}$$

Where S indicates whether or not the individual searched for work, X_1 represents personal characteristics (e.g. age, sex), X_2 represents household characteristics (e.g. household size), and X_3 represents labour market conditions (e.g. regional dummies).

The model estimated in this study is based on the latent variable specification. The individual decides whether or not to search for work. Job search (S = 1) occurs if the expected net utility from job search (S*) is positive. Otherwise, job search does not occur (S = 0). The unobserved latent variable model is equation (2).

$$S^* = X\delta + \varepsilon \quad \text{.....(2)}$$

$$S = 1 \ \ if \ \ S^* > 0$$

$$S = 0 \ \ if \ \ S^* \leq 0$$

Where $X=(X_1, X_2, X_3)$, δ is the vector of unknown parameters, and ε is the error term. The error term represents measurement errors, unobserved factors that affect individual's expected income, search costs, reservation wage (wage required to make the individual indifferent between working and being unemployed) and preference for leisure (Smirnova, 2003). The relationship is formalized in the binary response model:

$$Prob(S = 1 | X) = F(X\delta) \quad \text{.....(3)}$$

If we assume that the cumulative distribution is logistic, that is

$$F(\bullet) = \Lambda(\bullet)$$

we have the logit model. Given equation (3), the associated log-likelihood function can be obtained (Wooldridge, 2010). Maximization of the log-likelihood function yields consistent and asymptotically efficient estimates of the parameters of the latent equation. The marginal effect, partial of a change in variable xj on the probability of searching for work is given by the derivative in (4) for continuous variables:

$$\frac{\partial \Pr ob(S=1)}{\partial x_j} = \Lambda'(X\delta)\delta_j \quad \text{.....(4)}$$

As is evident, the marginal effects (partial effects) depend on the values of explanatory variables. They are obtained by evaluating the derivatives (4) at sample means.

For dummy variables, we compute the difference in the probability of the dummy taking value 1 and value 0 as shown in (5).

$$\Pr(S=1 \mid X) = \Pr(S=1 \mid X, x_j = 1) - \Pr(S=1 \mid X, x_j = 0) \quad \text{.....(5)}$$

3.2 Job Search Method Choice Model

The focus of the model in section 3.1 is to examine the determinants of the individual's decision to search or not to search for work. For those individuals who decide to search, a variety of job search methods is available. This section presents a framework to examine the determinants of job search methods in Kenya. It enables us to identify characteristics associated with individual's choice of job search method.

Consider J mutually exclusive, and collectively exhaustive, outcomes, indexed $j = 1...J$, of a particular event, relating to each person i ($i = 1...N$) in the sample. The dependent variable takes value 1, 2, or 3 depending on which of the three mutually exclusive alternative methods of job search, formal, informal, and directly contacting employers, respectively, the individual used in the week prior to the survey. An unordered multinomial model such as multinomial logit is appropriate, since there is no clear ordering of the outcome variable. The model is represented by equations (6) and (7) based on the latent variable approach.

$$M_{ij}^{*} = Z_{ij}\beta + u_{ij}, \quad j = 1,....J \quad \text{.....(6)}$$

$$M_i = j \quad if \quad M_{ij}^{*} = \max_{j=1,\ldots,J} M_{ij}^{*} \qquad \ldots\ldots(7)$$

Where M_{ij}^{*} is the unobserved latent variable underlying individual *i's* decision on the job search method to adopt. It represents individual *i's* propensity to use various job search channels. Regressors are individual characteristics and household characteristics in vector *Z*, which vary across individuals. The vector β represents parameters to be estimated and $u_i=u_{i1},\ldots u_{iJ}$ is the random vector. The joint density of the random vector is assumed to have *iid* extreme value distribution. The likelihood function for the sample of *N* independent observations, each with a multinomial density, can be derived from Cameron and Trivedi (2005). Maximum likelihood estimation is then used to obtain estimates of the unknown parameters that maximize the log-likelihood equation.

The marginal effect of a specific regressor is calculated as:

$$\frac{\partial \Pr(y=i|x)}{\partial x_k} = P(y=i|x)\left[\beta_{ki} - \sum_{j=1}^{J} \beta_{kj} \Pr(y=j|x)\right] \qquad \ldots\ldots(8)$$

For dummy variable regressors, difference in probability when *xk* jumps from *xs* to *xe* is calculated as:

$$\Delta \Pr(y=i|x) = \Pr(y=i|x, x_k = x_e) - \Pr(y=i|x, x_k = x_s) \qquad \ldots\ldots(9)$$

3.3 Data, Variable Definitions and Measurement

We use data drawn from the Labour Force Survey (LFS) 1998-99 conducted by the Kenya National Bureau of Statistics (KNBS) in Kenya. The data have two advantages: first, it is the most recent, comprehensive and reliable LFS data for Kenya; and second, it is the only dataset with information on both the incidence of job search and use of job search methods. The survey was carried out on a random sample of households. The details of sampling and data collection procedures are contained in the LFS report (Government of Kenya, 2003). The analysis in this study is restricted to non-working individuals in the working-age-population of 15-64 years.

We focus on two components of job search activity in Kenya. Job search is measured as a binary variable, while job search method is an unordered categorical variable. Survey respondents were asked a question about their "main method for seeking work in the last week".

The options were: wrote to employer, applied to union office, applied to government employment bureau, applied to private employment bureau and answered employment advert, asked relatives/friends, and directly contacting the employer. We aggregate into three job search channels: formal channel (wrote to employer, applied to union office, applied to government employment bureau, applied to private employment bureau and answered employment advert), informal channel (asked relatives/friends), and direct contact (directly contacting the employer).

The explanatory variables include demographic variables (household size, individual's age, sex of the individual, household headship status), human capital variables (training and highest level of academic education attained), and region (urban or rural) of and province of residence. In addition, we use information on employment status and job search activity. Appendix Table 1 defines variables used in the analysis.

4. Results and Discussion

4.1 Incidence of Job Search

Majority of persons with non-working individuals did not actively search for work in the week prior to the Labour Force Survey (LFS). Table 4.1 reports basic statistics on the incidence of job search (whether or not an individual looked for work in the week before the labour force survey). As Table 4.1 indicates, approximately 20 per cent of the sample reported that they searched for work, while over 80 per cent did not search for work.

Table 4.1: Incidence of job search in Kenya

	Frequency	%
Did not search for work	7,395	82.46 (79.91)
Searched for work	1,573	17.54 (20.09)
Total	8,968	100.00

Source: Sample survey
Note: Weighted percent in parentheses.

Individuals who are not working but are actively searching for work are said to be openly unemployed.

4.2 Use of Job Search Methods

Social networks potentially play an important role in matching workers to employers in Kenya's labour market. Table 4.2 reports statistics on utilization of each method of job search in the week preceding the LFS. According to Table 4.2, the most frequently used method of job search is informal method (friends and relatives). Unfortunately, the survey did not collect information on the number of job search methods used

Table 4.2: Job search method use in the week before the survey

Job search method	Frequency	%
Formal	93	5.91 (6.73)
Informal	1,308	83.15 (80.52)
Direct contact	172	10.93 (12.74)
Total	1,573	100.00

Source: Sample survey
Note: Weighted percent in parentheses

by an individual. We were therefore not able to model the intensity of job search.

Slightly over 80 per cent of job seekers relied on friends and relatives in their search for work. A further 12 per cent of job seekers contacted employers directly, while less that 10 per cent used formal channels to search for work. Dominance of the informal channel in job search has been documented in other labour markets (in developed and developing countries) since the work by Rees (1966). It could be that this job search method is the most productive in generating job offers, hence its popularity. It might also be relatively cheap. Job seekers who contact employers directly may be lacking adequate information about the wage offer distribution. Kahn and Low (1990) refer to this method as random search behaviour.

4.3 Descriptive Statistics

Table 4.3 presents descriptive statistics for the variables used to explain individual's decision to search or not to search for work. The results of independent sample t-tests for differences between the two groups are also shown. Table 4.4 presents, for each job search method, descriptive statistics for the variables used to explain the main job search method chosen.

4.4 Binary Logit Model: Determinants of Job Search Decision

Table 4.5 reports parameter estimates of a binary logit model of the probability that an individual engaged in job search in the week preceding the Labour Force Survey. To facilitate discussion, estimated marginal effects (for continuous variables) and differences in probability (for dummy variables) are presented in column 3. Men, household heads, married persons, urban residents and those with vocational or professional training are more likely to actively search for work.

The positive statistically significant coefficient on the male dummy variable suggests that the incidence of job search is higher (1.84%) among males than females. Likewise, the positive statistically significant coefficient on household headship dummy variable suggests that household heads are more likely to search for work than non-household heads (3.95%). Further, marriage does not appear to deter job search.

Table 4.3: Characteristics of job searchers and non-searchers

Variable	Searchers		Non-searchers		t-statistic
	Mean	Std dev.	Mean	Std dev.	
Male	0.390	0.488	0.455	0.498	4.771***
Household head	0.174	0.379	0.112	0.316	-6.608***
Marital status	0.541	0.498	0.272	0.445	-21.293***
Age 15_24	0.521	0.500	0.732	0.443	16.798***
Age 25_34	0.267	0.443	0.091	0.287	-19.864***
Age 35_44	0.151	0.358	0.058	0.234	-12.923***
Age 45_54	0.058	0.235	0.054	0.226	-0.695
Primary education	0.522	0.500	0.580	0.494	4.257***
Secondary education	0.336	0.473	0.280	0.449	-4.492***
University education	0.006	0.080	0.011	0.103	1.612
Technical/ vocational	0.067	0.250	0.021	0.144	-9.773***
Urban residence	0.448	0.497	0.093	0.290	-38.143***
Owns house	0.453	0.498	0.699	0.459	19.009***
Rents house	0.345	0.475	0.094	0.291	-27.307***
Household size	5.660	3.030	6.740	3.058	12.737***
Central Province	0.027	0.163	0.113	0.316	10.399***
Coast Province	0.222	0.416	0.119	0.324	-10.843***
Eastern Province	0.079	0.271	0.118	0.322	4.383***
North Eastern province	0.017	0.130	0.003	0.054	-6.951***
Nyanza Province	0.242	0.429	0.181	0.385	-5.575***
Rift Valley Province	0.343	0.475	0.282	0.450	-4.839***
Western province	0.049	0.216	0.164	0.370	11.902***

Source: Sample survey

**** Statistically significant difference at 1 per cent level of significance*

Married individuals are 8.28 per cent more likely than unmarried persons to engage in job search.

Age of the individual is an important factor in job search decision. There are positive and statistically significant coefficients on age group dummies (reference is age group 55-64). The result indicates that unemployed person aged 15-24, 25-34, 35-44 and 45-54 are more likely to actively search for jobs than those aged 55-64. In addition,

Table 4.4: Characteristics of job searchers by job search method

	Formal channel		Informal channel		Direct contact	
	Mean	Std dev	Mean	Std dev	Mean	Std dev
Male	0.516	0.502	0.349	0.477	0.628	0.485
Household head	0.129	0.337	0.167	0.374	0.250	0.434
Marital status	0.280	0.451	0.595	0.491	0.273	0.447
Age15_24	0.570	0.498	0.502	0.500	0.640	0.482
Age25_34	0.366	0.484	0.268	0.443	0.203	0.404
Age35_44	0.054	0.227	0.164	0.371	0.105	0.307
Age45_54	0.011	0.104	0.064	0.245	0.041	0.198
Primary education	0.118	0.325	0.548	0.498	0.541	0.500
Secondary education	0.828	0.379	0.300	0.458	0.349	0.478
University education	0.032	0.178	0.003	0.055	0.017	0.131
Technical/vocational	0.183	0.389	0.055	0.228	0.093	0.291
Urban residence	0.409	0.494	0.459	0.498	0.390	0.489
Owns house	0.527	0.502	0.440	0.497	0.517	0.501
Rents house	0.323	0.470	0.343	0.475	0.366	0.483
Household size	5.742	2.591	5.667	3.045	5.564	3.148
Central Province	0.011	0.104	0.015	0.123	0.128	0.335
Coast Province	0.054	0.227	0.241	0.428	0.169	0.375
Eastern Province	0.086	0.282	0.080	0.272	0.070	0.255
North Eastern Province	0.043	0.204	0.013	0.113	0.035	0.184
Nyanza Province	0.194	0.397	0.262	0.440	0.116	0.321
Rift Valley Province	0.344	0.478	0.349	0.477	0.302	0.461
Western Province	0.226	0.420	0.024	0.155	0.140	0.348

Source: Sample survey

the estimated partial effects of the age dummies suggest a concave relationship between age of the individual and probability of job search. Individuals aged 15-24 are 27 per cent likely to search for work and those aged 25-34 and those aged 35-44 are 81 per cent more likely to engage in job search. But those aged 45-55 are 67.9 per cent more likely to search for jobs. The younger the worker is, the longer the working period ahead. Consequently, such workers are more likely to search as they have greater potential gain from job search.

Post-school skills appear to be the critical human capital variable influencing the decision to engage in job search. The positive and statistically significant coefficient on vocational/professional training

dummy suggests that those persons who have invested in post-school training are more likely to search for work than those with no training (9.12% higher). However, the statistical insignificance of formal schooling variables does not mean they are not important. This is because to invest in many forms of training, a person requires some formal schooling depending on the training they desire to invest in. Wald (2005) found a similar result. An interesting finding is the negative and statistically significant coefficient on university education dummy. It suggests that university graduates are less likely than persons with no education to actively search for work (7.57% lower). Perhaps university education raises the reservation wage and discourages active job search.

Job search is found to decrease with household size. The negative statistically significant coefficient on household size suggests that an additional household member reduces the probability of an individual engaging in job search by 0.62 per cent. This finding may indicate that a large household raises the individual's reservation wage and deters job search. On the other hand, additional children may discourage job search, especially by women, to take care of the children.

An important finding is the positive and statistically significant coefficients on the regional dummy variables. This result suggests that individuals residing in these provinces are more likely to engage in active job search compared to those in Nairobi. These dummies may capture local labour market conditions in the respective regions.

Table 4.5: Binary logit model of determinants of job search

Variable	Coefficient estimated	Marginal effect
Male	0.190**	0.0184**
	(0.0822)	(0.00830)
Household head	0.369***	0.0395***
	(0.124)	(0.0145)
Married	0.769***	0.0828***
	(0.115)	(0.0143)
Age 15_24	3.817***	0.270***
	(0.538)	(0.0332)
Age 25_34	4.642***	0.813***
	(0.539)	(0.0538)
Age 35_44	4.511***	0.808***
	(0.538)	(0.0522)
Age 45_54	3.513***	0.679***
	(0.536)	(0.0899)
Primary education	-0.0315	-0.00302
	(0.162)	(0.0156)
Secondary education	-0.0706	-0.00669
	(0.173)	(0.0163)
University education	-1.274***	-0.0757***
	(0.444)	(0.0152)
Vocational/professional training	0.731***	0.0912***
	(0.212)	(0.0334)
Urban residence	2.043***	0.323***
	(0.132)	(0.0277)
Owns a house	-0.194	-0.0191
	(0.125)	(0.0125)
Rents a house	-0.0643	-0.00606
	(0.144)	(0.0133)
Household size	-0.0645***	-0.00619***
	(0.0173)	(0.00166)
Central Province	0.945**	0.121*
	(0.435)	(0.0720)
Coast Province	2.406***	0.410***
	(0.361)	(0.0808)
Eastern Province	1.775***	0.278***
	(0.367)	(0.0787)
North Eastern Province	2.340***	0.446***

	(0.481)	(0.119)
Nyanza Province	2.233***	0.350***
	(0.357)	(0.0743)
Rift Valley Province	2.426***	0.345***
	(0.362)	(0.0671)
Western Province	0.706*	0.0824
	(0.411)	(0.0581)
Constant	-7.838***	
	(0.651)	
Number of observations	8,958	8,958
Log L	-3101.615	
LR Wald chi-square (22)	848.17; p-value = 0.000	
Pseudo R-squared	0.2550	

*Note: Dependent variable, Search=1 if individual searched for work, 0 otherwise. Robust standard errors are in parentheses. Coefficient different from zero at 1(***), 5(**), 10(*) % significance levels, respectively.*

°The effect of increasing the value of an explanatory variable by one on the absolute value of the probability of job search. Continuous variables evaluated at mean values, dummy variables evaluated against reference group.

The positive and statistically significant coefficient on the urban residency dummy suggests that urban dwellers are more likely to search for work than their rural counterparts (32.3% higher). High cost of living in urban areas may lower the reservation wage of a potential job searcher, thus encourage him/her to actively look for work. Urban areas may also be associated with lower job search costs relative to rural areas. This is mainly due to better job search infrastructure, including easy access to job advertisements through media, job search networks in urban areas, especially close contacts with relatives and friends who have potential to assist relatives in getting jobs and relatively better communication facilities both physical (road networks) and through telecommunication. Urban dwellers also have access to relevant information with regard to job opportunities through employment bureau services. Most of these services are rarely available in rural areas.

4.5 Multinomial Logit Model: Job Search Method Choice

Table 4.6 reports results of a multinomial logit model of the probability that an unemployed individual chose a particular job search method.

As indicated previously, the job search method data in the labour force survey was aggregated together, creating three aggregated job search methods from seven separate methods.

The negative and statistically significant coefficient on male dummy (column 4) suggests that males are less likely to use informal job search methods (relative to directly contacting employers). Compared to an unemployed female, an unemployed male had 4.71 per cent lower probability of using informal job search methods.

As shown in column 4, the coefficient on household headship status is negative and statistically significant. Compared to a non-household head, a household head had 9.13 per cent lower probability of using informal job search methods.

The negative and statistically significant coefficient on marital status dummy in column 2 suggests that marriage had adverse effect on use of formal job search methods. In contrast, the positive and statistically significant coefficient in column 4 suggests favourable effect of marriage on use of informal job search methods. A married person had 2.09 per cent lower probability of using formal job search method, and 11.1 per cent higher probability of using informal job search methods. This variable may be a proxy for social network.

In general, formal schooling seems to encourage use of formal methods of job search and discourages use of informal methods. The positive and statistically significant coefficient on secondary education dummy suggests that compared to individuals with no education, secondary school graduates had 8.29 per cent higher probability of using formal methods. In contrast, secondary school graduates had 9.18 per cent lower probability of using informal methods. Similarly, compared with individuals with no education, university graduates had 51.8 per cent lower probability of using informal job search methods.

The results also indicate significant spatial effects on job search method choice. The positive and statistically significant coefficient on urban dummy in column 4 suggests that urban dwellers had 4.81 percent higher probability of using informal methods. This might reflect greater access to social networks in urban areas. Compared to individuals in Nairobi, for individuals in Central Province the probability of using formal methods (relative to directly contacting employers) was 1.51 per cent lower, while for individuals in Coast Province it was 2.51 per cent lower. In contrast, for individuals in Coast Province, the probability of

using informal methods was 8.60 percentage points higher, Eastern (6.78% higher), Nyanza (9.15% higher), and 7.16 per cent higher for Rift Valley.

Housing status is also an important factor in choice of job search methods. Compared to individuals in employer-provided housing, individuals living in own house and those renting a house are less likely to use informal methods. A house owner had 4.4 per cent lower probability of using informal methods, while a house renter had 12.3 per cent lower probability of using informal methods.

Table 4.6: Multinomial logit model of job search method choice

	Formal method		Informal method	
	Column 1	Column 2	Column 3	Column 4
	Coefficient	Marginal effect	Coefficient	Marginal effect
Male	-0.521	0.000744	-0.613***	-0.0471***
	(0.350)	(0.00523)	(0.218)	(0.0182)
Household head	-0.496	0.00673	-0.926***	-0.0913***
	(0.434)	(0.00891)	(0.276)	(0.0333)
Married	0.0357	-0.0209***	1.204***	0.111***
	(0.339)	(0.00768)	(0.208)	(0.0191)
Age	0.443**	0.00787***	0.0133	-0.00631
	(0.177)	(0.00277)	(0.0737)	(0.00597)
Age squared	-0.00732**	-0.000135***	5.33e-05	0.000128
	(0.00306)	(4.74e-05)	(0.00115)	(9.41e-05)
Primary education	0.0831	0.00212	-0.0356	-0.00447
	(0.866)	(0.0153)	(0.366)	(0.0311)
Secondary education	2.302***	0.0829*	-0.221	-0.0918*
	(0.849)	(0.0452)	(0.403)	(0.0536)
University education	1.956*	0.366	-1.943**	-0.518**
	(1.161)	(0.234)	(0.981)	(0.208)
Vocational/ professional training	0.307	0.0189	-0.485	-0.0579
	(0.424)	(0.0130)	(0.331)	(0.0363)
Urban residence	-0.129	-0.0113	0.540*	0.0481**
	(0.533)	(0.00920)	(0.293)	(0.0227)
Owns house	0.189	0.0117	-0.464	-0.0444*
	(0.431)	(0.00805)	(0.309)	(0.0256)
Rents house	-0.382	0.0157	-1.267***	-0.123***

	(0.574)	(0.0138)	(0.340)	(0.0377)
Household size	-0.0198	-0.000740	0.0224	0.00227
	(0.0522)	(0.000831)	(0.0338)	(0.00261)
Central Province	-2.412*	-0.0151**	-1.006	-0.0937
	(1.357)	(0.00633)	(0.696)	(0.104)
Coast Province	-0.991	-0.0250***	1.115*	0.0860***
	(0.846)	(0.00865)	(0.578)	(0.0299)
Eastern Province	0.180	-0.0120	1.170*	0.0678***
	(0.823)	(0.00777)	(0.604)	(0.0237)
North Eastern Province	1.247	0.0797	-0.586	-0.122
	(0.895)	(0.0817)	(0.955)	(0.146)
Nyanza Province	0.538	-0.0127	1.465**	0.0915***
	(0.825)	(0.0108)	(0.591)	(0.0308)
Rift Valley Province	0.209	-0.0113	0.956*	0.0716*
	(0.745)	(0.0122)	(0.557)	(0.0390)
Western province	0.384	0.0253	-0.585	-0.0740
	(0.810)	(0.0336)	(0.614)	(0.0795)
Constant	-7.786***		1.271	
	(2.492)		(1.267)	
Number of observations	1573			
Log L	-685.952			
LR Wald chi-square (40)	326.62			
Pseudo R-squared	0.2249			

NOTE: Dependent variable: three-level job search method choice: formal method, informal methods, and direct contact (reference). Robust standard errors are in parentheses. Significance levels are 1(***), 5(**) and 10(*) %, respectively. Marginal effects - the effect of increasing the value of an explanatory variable by one on the absolute value of the probability of job search method. Continuous variables evaluated at mean values, dummy variables evaluated against reference group.

5. Conclusion and Policy Recommendations

5.1 Conclusion

This study examined two components of job search activity in Kenya: the incidence of job search and job finding methods. Maximum likelihood logit estimation is conducted on a nationally representative Labour Force Survey data to answer two questions: First, who are the job seekers? Second, which methods do they use and what factors are associated with choice of method used?

The incidence of job search among non-working individuals is low, less than 25 per cent. Why were so many individuals recorded as not working, yet few were actively engaged in job search? Some individuals were probably genuinely discouraged workers. That is, they had searched for work for so long that they had given up ever finding a job. However, a large proportion of individuals were probably still hoping to obtain modern sector wage jobs but saw little point in undertaking active job search. If this is the case, classifying only those in active job search in the week prior to the survey as job seekers is too restrictive. Perhaps a superior approach would be to further classify those who reported not working but were not searching into two groups; that is, those who are willing to work and those who are not willing to work.

We used logit analysis to investigate the relationship between the likelihood of someone searching for work and a set of individual and household characteristics, including the individual's age, education, gender and region of residence. The results suggest that the probability of job search was higher for males, household heads, married persons, those with vocational and professional training, age 25-44, and urban dwellers.

Further, the data suggests that over four fifth of the unemployed (narrowly defined) reported they used informal job search channels. Thus, contacts made through family, friends and relatives play a key role in the Kenyan labour market. Formal channels are used by a very small percentage of those seeking work.

Results of multinomial logit analysis suggest that educated individuals (at least secondary education) are more likely to use formal job search methods. Males are less likely to use informal channels,

while the married and urban dwellers are more likely to use informal channels.

5.2 Policy Recommendations

(a) In addition to other measures being taken to deal with unemployment, more of the non-working-age population should be encouraged to actively search for work. Many individuals, after searching for a long time, might be discouraged and leave the labour force to work as unpaid family workers (including many women categorized in labour force surveys as home makers). This will require improvement in job search infrastructure and labour market information.

(b) Widespread use of informal job search methods may be driven by its higher productivity in terms of arrival of job offers and better subsequent labour market outcomes. However, informal channels have various weaknesses, including deepening inequalities and those with no or weak social networks are likely to remain continually disadvantaged in accessing decent employment. Investing in education and training can play an important role in mitigating such outcomes, as more educated individuals gain access to alternative job search channels.

(c) Public and private employment agencies present an important channel for promoting efficient job search and job matching. The government and private sector stakeholders should invest in job search infrastructure. This can be in form of strengthening public employment services under the Ministry in charge of Labour, the Public Service Commission, and private sector employment services, among others. It can also provide incentives to private employment service providers to extend services to underserved areas.

(d) Public job search assistance programmes should presumably take into account place of residence, gender, marital status, and position in the household. These variables significantly influence job search behaviour. While some of these variables reflect differences in tastes, others may reflect access to social networks. These variables can be used in targeting job search assistance programmes.

(e) In order to ensure accessibility to information that can guide policy decisions on job search related questions, the agency charged with the responsibly of collecting and compiling labour force survey data should introduce information on intensity of job search, that is the number of job search methods used by an individual.

(f) While it is necessary to develop job search infrastructure, invest in education and training, and have targeted job search assistance programmes, these must be accompanied by an increase in employment opportunities, hence calling for increased investment in both rural and urban economies. In the rural areas, improving the investment climate for rural non-farm enterprises provides an opportunity to expand non-agricultural employment.

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Appendix

Appendix Table 1: Definition of variables

Variable	Definition
Job search	Dummy = 1 if individual searched for work in week prior to the LFS
Job search method	= 1 if individual used formal channel = 2 if individual used informal channel = 3 if individual used direct contact
Male	Dummy =1 if individual is male
Household head	Dummy =1 if head of household
Married	Dummy =1 if married
Age group (ref.: Age55_64)	Age group (ref.: 20–29)
Age15_24	Dummy =1 if 15 -24 years old
Age25_34	Dummy =1 if 25- 34 years old
Age35_44	Dummy = 1 if 35-44 years old
Age45_54	Dummy = 1 if 35-44 years old
Highest education (ref.: no education)	
Primary education	Dummy=1 if educational level is primary
Secondary education	Dummy=1 if educational level is secondary
University education	Dummy=1 if educational level is university
Vocational and professional training	Dummy=1 if individual has vocational training
Urban	Dummy=1 if individual lives in an urban area
House owner	Dummy =1 if individual lives in own house
Tenant	Dummy =1 if individual lives in rented house
Household size	Number of individuals in the household
Central	Dummy=1 if individual lives in Central Province
Coast	Dummy=1 if individual lives in Coast Province
Eastern	Dummy=1 if individual lives in Eastern Province
North Eastern	Dummy=1 if individual lives in North Eastern Province
Nyanza	Dummy=1 if individual lives in Nyanza Province
Rift Valley	Dummy=1 if individual lives in Rift Valley Province
Western	Dummy=1 if individual lives in Western Province