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Search Methods and Outcomes in Developing Countries: The Case of Venezuela

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Abstract

We use a newly developed panel data set for Venezuela in the period between 1994 and 2002 to analyze three basic questions. The first relates to the influence of personal characteristics and previous labor market experience in the choice of different search methods. The second question addresses the effectiveness of different search methods in moving out of unemployment, controlling for personal characteristics and previous job characteristics. Finally, the third question points to the issue of former labor status by analyzing the relative weight of search method and previous job status in the determination of the likelihood of landing a job or dropping out of the labor force. We conclude that previous job status is a primary determinant of success in moving to employment, and that the use of employment agencies increases the likelihood of that move within each labor status.

JEL classification: J42, J62, J64

1. Introduction

The purpose of this paper is to contribute to our understanding of the distinctive characteristics of the job search process within the context of segmented and poorly institutionalized Latin American labor markets. Even though job search assistance programs have become a standard labor policy recommendation, there is very little empirical evidence on the factors that shape the choice of search methods and the effectiveness of different search methods in finding jobs in developing countries.

Most of the available empirical literature uses developed country databases to analyze transitions between unemployment and employment and the effectiveness of different policy tools in enhancing the quality of job-worker matches. We suspect that the low quality of the institutional environment and the segmentation between formal and informal jobs in developing countries' labor markets mark important differences in the nature and impact of the job search process.

Given the impact of job search processes on the assignment of workers among employment, unemployment, and inactivity, we focus on the impact of different search strategies in determining whether a worker will end an unemployment spell by transition to employment. We use a newly developed panel data set for Venezuela in the period between 1994 and 2002 to obtain some insights into the search process. We confirm that the Venezuelan labor market is very fluid, with gross flows between unemployment, employment, and out of the labor market within the same range of magnitudes observed in Argentina and Mexico. We also find that unemployed job seekers tend to rely on non-institutional, informal search methods, and that only a very small minority uses Employment Agencies (the standard tool of intermediation policies).

The vast majority of job seekers in our sample use informal networks, such as family and friends, to look for a job. Personal characteristics and previous labor market insertion play significant roles in the selection of search strategies, and we use a Multinomial Logit procedure to disentangle the relative contribution of each factor to the choice of search method. Our findings suggest that workers who come from a formal, full-benefit job are most likely to use more formal, structured search methods. Conversely, workers who come from jobs in non-regulated segments of the labor market (informal and self-employed) tend to look mostly through informal methods. Education and duration of unemployment only increase this trait: more

educated workers tend to shy away from informal search methods, and the longer-term unemployed tend to rely more on employment agencies and direct contact with employers.

We next move to the impact of different search strategies on the likelihood of finding a job, remaining unemployed, or dropping out of the labor force. Without controlling for individual and previous job characteristics, we find that employment agencies are marginally more successful than all other methods in moving jobseekers into employment. After introducing controls for personal and previous job characteristics, we find that the search methods maintain very similar rankings. The ranking of search methods is, in fact, totally irresponsive to individual and previous job characteristics: in all cases the use of employment agencies increases (relative to using informal search methods) the likelihood of finding a job in the current period, while the use of media and direct contact with employers reduces it.

We subsequently study the influence of previous labor status (formal employee, informal employee, self-employed, employer and unpaid family help) in the transition to employment or inactivity in this period. The data used in this section is a restricted sample, limited to those who effectively exited from unemployment to either employment or inactivity. As expected, we find that leaving the labor force reduces the likelihood of transitioning into employment by a large amount: 80 percent of those who had a job (formal, informal or self-employment) in a previous period end up in employment, while only 50 percent of those who dropped out of the labor force in the past do so. However, this picture may be somewhat distorted by the absence of controls for personal characteristics and previous labor status.

Once we introduce those controls, we find that former labor status has a dominant influence on the likelihood of finding a job, with formerly self-employed individuals the most likely to find a job, followed in decreasing order by informal and formal employees. Within this ordering, search methods have a decisive influence in the likelihood of transitions. Irrespective of former labor status, use of employment agencies rank first in its effectiveness, followed in decreasing order by informal methods, direct contact with employers, and use of media.

2. Search Theory and Job Search Assistance Policies

Search models emphasize flows between different labor market states, rather than stocks (for example, the level of unemployment at a particular time). In a wide range of search models, the equilibrium unemployment rate depends only on the flow of workers between different labor

statuses, and not on the initial distribution of workers across those states. Thus, only policies that permanently change the rhythm at which workers find or lose jobs affect the unemployment rate. Policies that might temporarily increase employment (such as job subsidies) will not reduce the equilibrium unemployment rate.

In early job search models, such as Mortensen (1970), it was usually assumed that workers drew an offer from a known wage distribution in each period. Therefore, neither search strategy nor search intensity had an effect on the arrival rate of offers. Variation in the arrival rate of offers is first introduced in the literature in association with the personal characteristics of the job seeker. For instance, Narendranathan and Nickell (1985) find that the arrival rate of offers tends to vary systematically with race, skill level, and age: young, white and skilled workers get more frequent offers than others.

The problem with this approach, however, is that personal characteristics are pre-determined from the policy perspective. For search models to conceptually underpin labor intermediation policies, we need to introduce variations in search intensity and/or strategy that can be affected by short-term policies. The first wave of studies of search intensity use U.S. labor market data from a special supplement of the May 1976 Current Population Survey, which provided data on time spent in search activities by unemployed workers. The results obtained by Barron and Mellow (1979) and Barron and Gilley (1979, 1981) suggest that search intensity decreases with the length of the unemployment period and increases with low local unemployment. The results are inconclusive regarding the impact of personal characteristics on search intensity. When looking at the return of search intensity, the results obtained by Barron and Gilley (1981), Chirinko (1982), and Kahn and Low (1988b) suggest that the probability of becoming employed increases with search intensity. These results, though, are difficult to interpret, as some authors refer to contacts with prospective employers as an outcome, while others refer to offers, and still others to accepted offers.

Holzer (1988) criticizes the use of time spent as a measure of search intensity, arguing that use of a time-based measure of search intensity is inadequate to the extent that different search methods have different costs and different productivity (in terms of offers being received or employment obtained) that may vary by individual. He uses U.S. data from the Youth Cohort of the National Longitudinal Survey for the year 1981 to develop a model in which unemployed workers maximize the sum of current and future utility by choosing a reservation wage and a

search strategy. In their choice of search strategy, individuals choose within a set of search activities that vary both in productivity and cost for any given individual. His empirical results show that the most frequently used methods are those that are most productive in generating offers and acceptances. Different individuals choose different search methods, and each of these methods differs significantly in terms of its effect on employment outcomes.

Along these same lines, but with a greater emphasis on employment policies, Gregg and Wadsworth (1996) use a British Labor Force Survey (LFS) for the period 1984-1992 to study the determinants of the use of the public employment agencies and their service network as a tool in the job search process. They also use a 1992 quarterly LFS (where individuals are observed at least twice) to test the effectiveness of public employment agencies in helping unemployed people find a job, controlling for individual characteristics. Public employment services are very important in their sample: over 70 percent of unemployed workers use those services, and around a fifth of all new jobs are found using them. The authors also report that the likelihood of using the public employment service increases if the job seeker has been unemployed for more than a year or was fired from the previous job. The authors find that direct contact with employers, newspaper ads, and use of public employment agencies all increase the probability of exit from unemployment. The impact of public employment agencies on the probability of exit from unemployment is higher for the long-term unemployed. The authors conclude that low-skilled workers and the long-term unemployed are the groups that benefit most from using the public employment service.

Addison and Portugal (2002) introduce the issue of the impact of different search strategies on the quality of the resulting job. They use a quarterly quasi-panel database for Portugal for the period 1992-1997 to analyze these factors, with particular emphasis on the performance of the public employment service. The authors use a highly disaggregated classification of search methods that, for the later period, contains information about the method that was successful in finding a new job. According to their results, different search methods result in (statistically significant) different probabilities of finding a job in the following quarter. Regarding the quality of matching, measured by the wage level in the new job, the authors report that use of the public employment service results in lower wages relative to the use of other search methods. Their conclusions point to the unsettled question of the interaction between selectivity and efficiency in the use of search methods. If low-skilled and disadvantaged

individuals tend to use disproportionately the public employment service, the service's low hit rates and its tendency to place clients in low-paying jobs that do not last may be the result of a mix of the service's inefficiency and the characteristics of its clients.

Woltermann (2003) is the first paper to use a developing country dataset, the Monthly Employment Survey of Brazil for 1999. She uses data on 8,899 individuals observed for successive months to analyze the transitions between unemployment and employment. Given the particular nature of the Brazilian labor market, the author especially emphasizes transitions into "formal" employment. Her basic hypothesis is that more formal search methods (examinations, employment agency or union, and answering a newspaper ad) result in higher hits in finding a formal job. In order to prove this hypothesis, she proceeds in two steps. In the first, she finds that individuals formerly employed in the formal sector tend to use more formal search methods. In the second, she regresses the probability of transition from unemployment to employment on personal characteristics and search method. She does not find evidence to support the hypothesis that certain search methods are more conducive to formal jobs, even though the use of some search methods is associated with having had a job in the formal sector.

The literature reviewed above shows that both personal characteristics (such as education, gender, and family status) and previous job experience are important determinants of individuals' search strategies. Furthermore, the two papers that discuss the effectiveness of public employment agencies, Gregg and Wadsworth (1996) and Addison and Portugal (2002), share some apprehension about the effectiveness of those agencies in producing high-quality job-worker matches.

3. Data and Transitions

Our data are taken from the Venezuelan Household Survey (*Encuesta de Hogares por Muestreo*), a semi-annual survey collected by the *Oficina Central de Estadística e Informática* (OCEI) since 1976. The survey asks a nationally representative random sample of individuals about their socioeconomic characteristics and their current labor market status. Since a portion of the sample is rotated out of the survey every six-month period, we can build a panel database for the period 1994:2–2002:2 on individuals who are interviewed in two or more successive editions

of the survey.[1] The information contained in the survey allows us to segment the working-age (15 to 64) population in seven mutually exclusive groups: employers, self-employed, employees with social security, employees without social security,[2] other working,[3] unemployed, and out of the labor force. The data does not allow us to identify job-to-job transitions within the same group, but only transitions among those seven groups. We observe a total of 320,495 "transitions," including those observations in which the individual has not changed status between surveys. Table 1 provides additional information on the size and structure of transitions in our sample.

Table 1. Transition Matrix of Individuals Aged 15-64 Interviewed More than Once in the Period 1994:2 to 2002:2

Transition Matrix
From Period 't-1' to Period 't' (frequencies)

Labor Status in 't-1' ⇩	Labor Status in 't'							
	Employer	Self Employed	Formal Employee	Informal Employee	Non-paid Relative	Inactives	Unemployed	**Total**
Employer	4,593	3,216	435	587	80	422	284	**9,617**
Self Employed	3,148	35,832	2,632	6,412	745	8,630	2,815	**60,214**
Formal Employee	463	2,951	49,458	6,646	99	3,143	2,323	**65,083**
Informal Employee	652	6,351	7,919	16,148	536	4,817	3,052	**39,475**
Non-paid Relative	72	882	118	679	1,414	1,374	212	**4,751**
Inactives	393	9,867	3,122	6,321	1,808	96,512	5,314	**123,337**
Unemployed	241	2,964	2,030	3,313	201	4,271	4,998	**18,018**
Total	**9,562**	**62,063**	**65,714**	**40,106**	**4,883**	**119,169**	**18,998**	**320,495**

One interesting trait from Table 1 is the high degree of "persistence" in *t* of the labor status observed in *t-1*. Sixty-five percent of the total number of observations—reached by adding the numbers on the main diagonal and dividing by 320,945, the total number of observations—

[1] Our unit of observation is transitions rather than individuals. This means, for example, that an individual who transitioned from unemployment, then to some kind of employment or inactivity, then back to unemployment and then again into some kind of employment or inactivity during the period 1994:2 to 2002:2 could appear twice in our sample. On the other hand, an individual who maintains the same labor status for *t* periods (for *t>2*) will appear in our sample *t-1* times.

[2] For brevity's sake, we will call these two groups "formal" and "informal," respectively, for the rest of the paper.

[3] This is a residual group that includes employers and non-paid family help. These individuals represent around 5 percent of our total number of observations.

refer to individuals that remain in their original labor status. Since we could observe the individuals in each six-month period, it seems unsurprising that little more than 6 out of 10 remain in their current labor status for such a short period. However, this "persistence" varies considerably among labor statuses. The percent of individuals that remain unemployed from *t-1* to *t* is just 28 percent (4,998/18,018), whereas the figures for inactive individuals and formal employees are 78 percent and 76 percent, respectively.

Table 2 presents comparisons between Venezuelan labor transitions and those of Argentina and Mexico.[4] The average "persistence" in any sort of employment category, i.e., the fraction of individuals who do not change labor status between *t-1* and *t* (that is, that remain either as Employer, Self-Employed, Formal or Informal employee) in the Venezuelan labor market is 84.9 percent, while the numbers for Argentina and Mexico are 86.6 percent and 88.4 percent, respectively. Similarly, the "persistence" in unemployment for Venezuela is 27.7 percent, whereas the figures for Argentina and Mexico are 36.1 percent and 15.3 percent, respectively.

Table 2. Comparisons of Six-Month Transitions for Venezuela (1994-2002), Argentina (1993-2001) and Mexico (1990-2001), Percentages

Transitions	Venezuela	Argentina	Mexico
E--->E	84.9	86.6	88.4
E--->U	4.8	6.4	2.0
E--->I	10.3	7.0	9.6
	100.0	**100.0**	**100.0**
U--->E	48.6	36.9	54.9
U--->U	27.7	36.1	15.3
U--->I	23.7	26.9	29.8
	100.0	**100.0**	**100.0**
I--->E	17.4	11.8	14.3
I--->U	4.3	8.0	1.8
I--->I	78.3	80.2	83.9
	100.0	**100.0**	**100.0**

Note: The averages in the table are weighted by the number of observations in each year of the respective sample.

[4] Data for Gran Buenos Aires (1993-2001) and Mexico (1990-2000).

Our data span eight years with markedly different rates of growth and unemployment in Venezuela. In the period between the second half of 1994 and 2002, real product growth fluctuated between 8.1 percent (1997:1) and almost –8 percent (1998:2), while fluctuations in the unemployment rate were considerably smaller, varying between 6.4 percent (1995:2) and 11 percent (2000:1). Period-by-period data and correlations between flows and growth and unemployment are presented in Graphs 1 to 3.

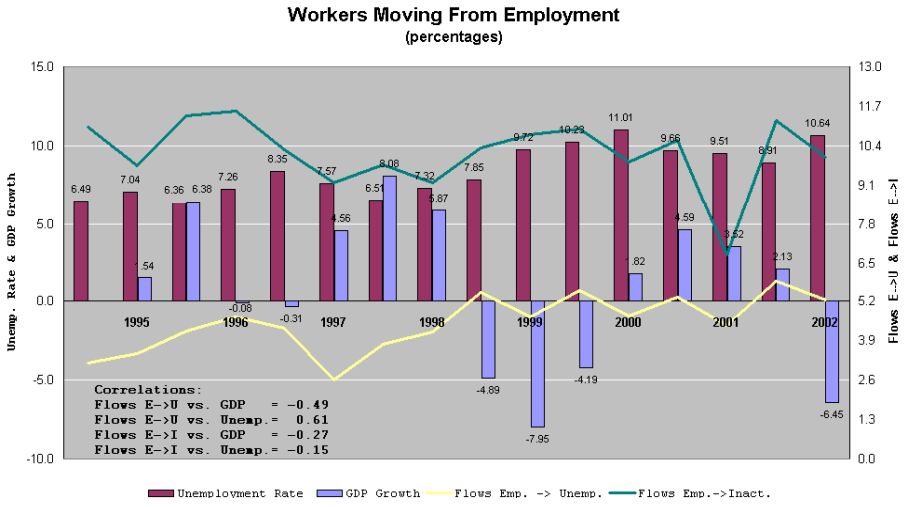
The average rate of employed individuals who move to unemployment is 4.8 percent, and the average rate of employees who move out of the labor force is 10.3 percent. As shown in Graph 1, these numbers are not constant throughout the cycle: the percentage of individuals who move from employment to unemployment ranges from a minimum of 2.6 percent (1997:1) to a maximum of 5.9 percent (2001:2). Similarly, the transitions from employment to inactivity range from a minimum of 6.8 percent (2001:1) to a maximum of 11.6 percent (1996:1). The correlation between product growth and flows out of employment is negative, while the correlation between unemployment rate and employment to unemployment flows is positive. Higher product growth is correlated with a lower risk of becoming unemployed for employed workers.

As shown in Table 2 above, the average transition from unemployment to employment is 48.6 percent, whereas the average transition from unemployment to inactivity is 23.7 percent. The data presented in Graph 2 show that flows from unemployment to employment vary from 44.7 percent (1999:2) to 58.9 percent (1997:1). Likewise, flows from unemployment to inactivity vary from 12.5 percent (1994:2) to 26.6 percent (1999:2). In this instance all correlations seem to be "well behaved": the flows from unemployment to employment are positively correlated with product growth and negatively correlated with the unemployment rate. In turn, flows from unemployment to inactivity correlate negatively and positively with growth and unemployment rates, respectively. Thus, higher product growth and/or a lower unemployment rate are related with a higher probability of exiting from unemployment into employment.

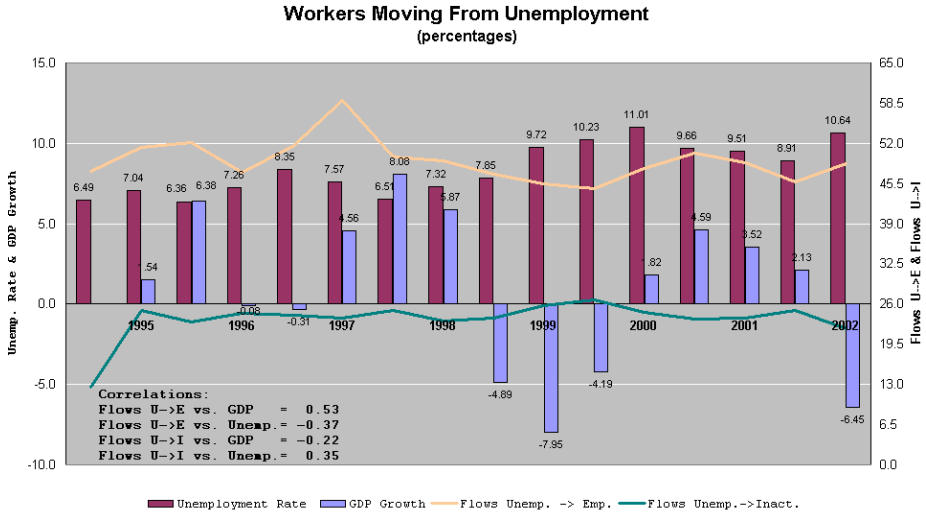
Finally, in Graph 3 we show period-by-period information for the flows from inactivity to employment and unemployment. The average transition from inactivity to employment is 17.4 percent, and the average transition from inactivity to unemployment is 4.3 percent. The flows from inactivity to employment vary from 14.6 percent (1994:2) to 20.1 percent (2002:1), while the flows from inactivity to unemployment vary from 2.5 percent (1994:2) to 7.7 percent (2001:1). The correlation of inflows to employment with product growth is negative as well as

the correlation of transitions from inactivity to unemployment with product growth. The correlations of inflows to employment and transitions to unemployment with unemployment rate are both positive.

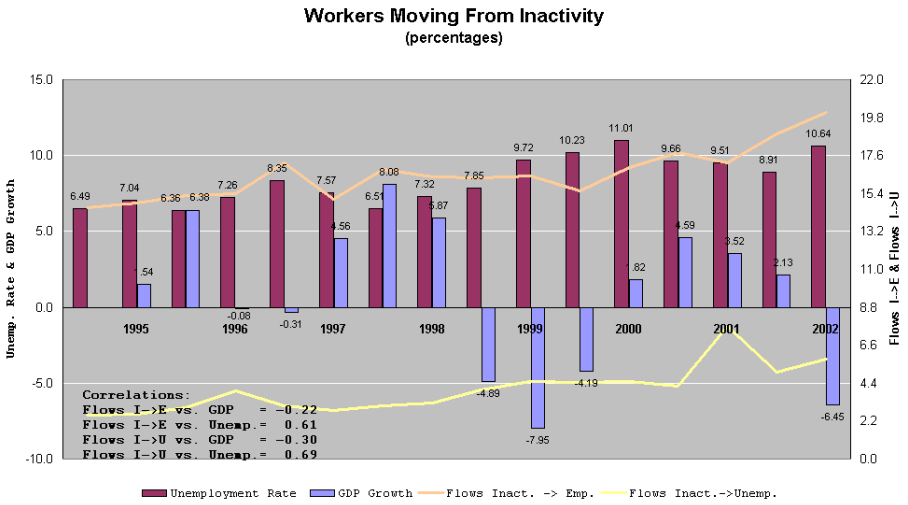
Graph 1



Graph 2



Graph 3



4. How Do the Unemployed Search for a Job?

Unemployed respondents only are asked "What did you do in the last two months to find a job?" They are allowed to give only one response. The implications of this selection and phrasing are (a) that we do not observe on-the-job search activities (which would require all surveyed individuals to answer), and (b) that we cannot observe the use of multiple search methods. On the other hand, the total number of transitions involving unemployment as "original" status is 18,018 (Table 1), a large sample relative to the ones normally available for studies of developing countries.

Our questions about search methods will be based on the statistical analysis of the behavior of the 18,018 individuals who reported having been unemployed at least once and whose labor status we could effectively observe during the subsequent period(s). This group, in turn, can be divided between those who have previously worked (12,929, or 72 percent) and those who are looking for their first job (5,089, or 28 percent). Duration of unemployment is only recorded for those individuals who have worked previously.

Four job search methods can be identified from the former question: use of an employment agency ("agency"), using the media ("advertisement"), direct application to firms ("filling forms"), and "others." This last search method may include all informal search activities, such as asking friends and relatives, and other activities (such as going for training or obtaining certification) that are not among the alternatives presented to the individual in the

questionnaire. The inability to clearly distinguish among those search methods is a weakness of our study and may have a significant effect on our subsequent findings. On the other hand, we suspect that the number of unemployed undertaking training or receiving certifications is very low in Venezuela, given the lack of government programs to support the unemployed.

The issue of employment agencies deserves special mention, given the importance it has acquired in the developed country literature. The Venezuelan system of public employment agencies is regulated in a special section of the Labor Law.[5] The Law states that employment agencies are primarily public and free-of-charge for users, and they will be administered in a tri-partite manner by employers, unions, and the government. On the other hand, the prices of private employment agencies are regulated by the Ministry of Labor. The Ministry of Labor does not publish data on the performance of public employment agencies and, therefore, there is no assessment of their operational efficiency. There are 29 public employment agencies in the country, and they have very limited budgets. Anecdotal evidence suggest that the few existing private employment agencies cater to the needs of the larger firms for the recruitment of managerial personnel and as an outsourcing mechanism for specific functions (cleaning, security, etc.).

Table 3 shows the frequency of search method used by unemployed individuals who have had a job before their current unemployment spell for each available period in the sample.[6] It can be seen that the frequency of all methods but "others" and "filling out forms" is consistently very low. Direct contact with employers ("filling out forms") consistently accounts for over a fifth of the sample, while informal methods ("others") account for more than two-thirds of the total number of observations. This is consistent with the available evidence from developing countries, such as Woltermann (2003), who shows that informal methods and direct contact with employers are the search methods chosen by over 80 percent of her Brazilian sample.

[5] Chapter 2 of Title IX of the Ley Orgánica del Trabajo, República Boliviarana de Venezuela.
[6] Table A-1 in the Appendix presents an identical decomposition for the whole sample (including individuals looking for their first job).

Table 3. Tabulation of Responses to the Question, "What did you do the last two months to find a job?" by Six-Month Period

					tal

					100.00
					100.00
					100.00
					100.00
					100.00
					100.00
					100.00
					100.00
					100.00
					100.00
					100.00
2000:2	3.76	3.84	36.08	56.32	100.00
2001:1	4.15	3.74	38.22	53.89	100.00
2001:2	5.04	5.52	58.84	30.59	100.00
2002:1	1.53	1.94	22.07	74.47	100.00
2002:2	2.30	2.57	25.94	69.19	100.00
Average *	**5.11**	**3.34**	**31.45**	**60.10**	**100.00**

Note 1: Percentages based on 11,634 observations of indiviuals that have worked previously and that we could observe their labor status formerly to the unemployed period.
Note 2: Percentages considering expansion factors.
* Weighted by number of observations

The first question we want to answer is what determines the search methods that people use when looking for a job. People may use different search methods because they differ in their human capital endowments and personal characteristics, or they may use different methods because they have different labor market histories. There are examples in the literature of association between having been a former formal employee and using *formal* search channels (as in "agency," "advertisements" or "filling out forms") as well as a connection between former informal employees and their probable use of *informal* search channels.[7]

[7] This hypothesis was first suggested and tested by Woltermann (2003), although she did not find enough evidence to accept it (avoid rejection).

A first look at the relationship between former labor status and search method is presented in Table 4. There we present a cross-tabulation of those two variables, excluding from our sample both those who have not previously worked (no "origin" labor status), and the "origin" labor statuses of employer and non-paid family help. The first exclusion is justified on the grounds that labor market entrants by definition do not have a history that can shape their choice of search method, therefore those observations shown as "inactive" in the table refer to individuals who had previously worked but had dropped out of the labor force the first time we observed them. The second is adopted just to avoid clutter given the small number of observations in those two "origin" states.

The figures in Table 4 show that, regardless of previous labor status, unemployed individuals tend to use mostly *informal* methods (the search channel "other") instead of any of the *formal* search methods. The numbers vary from 52 percent (for former formal employees) to 73 percent (for former informal employees and former self-employed). Again, the "filling out forms" search method is consistently second across former labor states. These results are not surprising given that this table only presents a decomposition by former labor status of the overall distribution among the search methods presented in Table 3.

Table 4. Search Method Chosen and Former Labor Status for Unemployed with Prior Work Experience

Former Labor Status	Search Method Chosen				
	Agency	Advertisment	Filling Forms	Others	Total
Formal Employment	101 4.38 23.99	78 3.39 21.43	919 39.89 28.74	1,206 52.34 16.62	2,304 100.00 20.50
Informal Employment	87 3.18 20.67	77 2.81 21.15	585 21.37 18.29	1,989 72.64 27.42	2,738 100.00 24.36
Self Employment	82 3.39 19.48	62 2.57 17.03	518 21.43 16.20	1,755 72.61 24.19	2,417 100.00 21.51
Inactive	151 4.00 35.87	147 3.89 40.38	1,176 31.12 36.77	2,305 60.99 31.77	3,779 100.00 33.63
Total	421 3.75 100.00	364 3.24 100.00	3,198 28.46 100.00	7,255 64.56 100.00	11,238 100.00 100.00

Note 1: Numbers for each cell represent frequency, row percentage, and columns percentage, respectively.
Note 2: Sample constrained to individuals that: have worked previously, whose labor status prior to the period of unemployment could be observed, and is not 'employer' and 'unpaid relatives'.

The classification presented in Table 4 does not take into account the influence that human capital endowments and personal characteristics have on the choice of search method. In order to understand this relationship, while simultaneously controlling for former labor status, we used a Multinomial Logit model to regress the probability of individuals' use of different search methods on their former labor status and personal characteristics. More formally, we estimate the impact of previous labor status and personal characteristics on the probability of choosing a search method, conditional on having been employed in some period in the past (thus excluding new entrants) and having been unemployed in the last period.

$$\Pr\left(method_{t-1} = j\right) = F\left[\begin{array}{l} PersChar_t ; LastJobChars_{T<(t-1)} \mid \\ Lab\_Status_{t-1} = Unemployed; Lab\_Status_{T<(t-1)} = Employed \end{array}\right]$$

Table 5 sketches the main findings.[8] The first three columns show informal methods ("others" in the terminology of Table 4) as the baseline selection of search method, comparing the probability of choosing that method with the probability of choosing "agency," "advertisement" and "filling out forms." In the next three columns we added the remaining pairs of search channels as baseline, thereby comparing all possible pairs of search methods.

[8] Table A2 of the Appendix presents the coefficients of the Multinomial Logit regression, in terms of the odd ratios values and statistical significance along with tests of significance on the parameters, categories and predictions.

Table 5. Impact of Former Occupational Status and Personal Characteristics on the Probability of Use of Search Method (multinomial logit regression)[9] [10]

Sample restricted to those having been employed in the past (no new entrants)
Coefficients for "Former employer" and "Former famil;y help" are calculated but not reported.

The table shows the impact of each variable on the probability of choosing a particular search method X compared with the probability of choosing another search method Y. If the table reports a positive sign for a particular variable (from the left side of the table) in the comparison of method X against Y, we will say that higher values of that variable increase the likelihood of choosing method X over Y.

Having a white-collar job before the unemployment spell increases the likelihood of choosing more institutional search methods (employment agencies) or directly contacting potential employers. Coming from a service job increases the probability of using an employment agency over any other search method, while coming from a construction job reduces the likelihood of directly contacting potential employers.

[9] There could seem to be a contradiction in simultaneously presenting this regression with both *formerly inactive* and *durat* as regressors. Since the requirement for appearing in the duration variable is having worked *any period* before being unemployed, the requirement only excludes new entrants who, by definition, do not have previous labor market status.

[10] The statistical significance of coefficients was evaluated by a series of Wald tests as suggested by Long (1997) and Long and Freese (2003). See Appendix for a full presentation of those tests.

Age has significant effects only in that it reduces the probability of individuals choosing direct contact with employers ("filling out forms") over any other search method. On the other hand, an individual's level of education seems to significantly raise the probability that an individual will choose a *formal* search method ("agency," "advertisement" or "filling out forms") instead of the more informal method "others." Gender (coded as 1 for males and 0 for females) has a significant impact: males are less likely to use media ("advertisement") and to directly contact potential employers ("filling out forms") than informal methods or an employment agency ("others" and "agency"). Being a head of household does not appear to have any significant effect on the search channel chosen. Finally, our results suggest that the longer-term unemployed tend to use more formal search methods. Duration of the unemployment spell has a positive effect on the probability of using employment agencies and direct contact with potential employers ("agency" and "filling out forms") over the more informal method "others." These results are consistent with previous findings by Addison and Portugal (2002) and Woltermann (2003).

In order to identify the impact of former labor status on the choice of search method, we need to omit one category (here, formerly formal employee) and compare the other labor categories to this baseline. Thus, being a formerly informal employee (compared to a formerly formal employee) increases the probability of choosing more informal methods ("others") over the more formal "agency," "advertisement" or "filling forms." Having dropped out of the labor force in the past (former inactive) reduces the probability of using direct contact with potential employers relative to both informal methods and to the use of an employment agency. The formerly self-employed tend to use the mostly informal method "others" rather than direct contact with employers or media ("filling out forms" and "advertisement").

5. Where Do People End Up?

The second question we want to deal with relates to the effectiveness of different search methods in moving searchers into jobs. Here again we want to differentiate the influence of personal characteristics from the influence of different search methods. Table 6 presents a cross-tabulation of the labor status enjoyed by the individual after being unemployed and the search method that he or she declared using in the previous period while looking for a job.

Table 6. Labor Status after Unemployment and Search Method Used

Search Method Chosen	Transitions from Unemployment: Remain Unemplo	Transition to Employment	Transition to Inactivity	Total
Agency	187 29.4 5.04	336 52.83 5.42	113 17.77 4.14	636 100 5.04
Advertisement	109 29.46 2.94	170 45.95 2.74	91 24.59 3.33	370 100 2.93
Filling Forms	1,219 32.64 32.88	1,705 45.65 27.53	811 21.71 29.71	3,735 100 29.57
Others	2,192 27.78 59.13	3,983 50.48 64.3	1,715 21.74 62.82	7,890 100 62.47
Total	3,707 29.35 100	6,194 49.04 100	2,730 21.61 100	12,631 100 100

Note 1: Numbers for each cell represent frequency, row percentage, and columns percentage, respectively.
Note 2: Sample constrained to individuals that: are not new entrants and did not move to either 'employer' or 'unpaid relatives' status.

Almost one third of the unemployed in our sample remained in the same condition during the subsequent period. More than 20 percent of the former unemployed dropped out of the labor force, and around half of them transitioned into employment. As expected (since some of these numbers duplicate those presented in Table 2), the frequency ranking of search methods shows that almost two-thirds of the sample reported using informal methods ("others"), followed by direct contact with employers ("filling out forms"), with "agency" and use of media ("advertisement") a distant last.

[11] Here it is important to note the difference between the search method used in the preceding period and the search method through which the individual actually finds his or her job. Indeed, Addison and Portugal (2002) remark that a considerable gap can actually exist between the two methods. They show that out of 4,760 workers (from their interviewed sample) who found a job in the period 1995-96, only 1,129 reported finding a job in *t* via the method reported using in *t-1*.

Among those who reported use of "agency," 29 percent remained unemployed, 18 percent transitioned to inactivity, and a little over half moved into employment. The final distribution by destination of those who used media ("advertisement") to look for a job is almost identical to those who used "agency," with a slight difference in the percentage of those who dropped out of the labor force.

The fundamental insight that the figures of Table 6 reveal is related to the connection between particular search methods and labor market outcomes. Using employment agencies is marginally more successful than all other methods in moving into employment, closely followed by informal methods. However, these are average effects that do not take into account that individuals with different personal characteristics or employment stories may systematically choose different methods.

In order to control for the impact of personal characteristics (and paralleling the procedure in Section 4 above), we estimated a Multinomial Logit model[13] of the probability of moving from unemployment to each labor status in the next period on the search methods used, as well as on his or her personal characteristics. Formally, we estimated:

$$\Pr\left(Lab\_Status_t = j\right) = F\left[\begin{array}{l} PersChar_t ; Search\_method_{t-1} = k \mid \\ Lab\_Status_{t-1} = Unemployed; Lab\_Status_{T<(t-1)} = Employed \end{array}\right]$$

Again, we took a baseline outcome (in this case labor status) and compared the probability of transitioning to each labor status against the baseline. In order to allow comparisons among outcomes (and their statistical significance), we continuously changed the baseline. In this case, in order to isolate the impact of each search method on the probability of escaping from unemployment, we compared the search methods "agency," "advertisement" and "filling out forms" against "others." The complete results are presented in the Appendix jointly with tests of significance, and Table 7 presents the principal findings in terms of the signs of the significant effects.

[13] In order to control for the fact that some individuals' transitions (or lack of transitions) appear repeatedly in the sample, we use Stata's clustering option in the estimation.

Table 7. Impact of Search Method Used and Personal Characteristics on the Probability of Transitioning from Unemployment (multinomial logit regression)

		Probability of Transition Out from Unemployment (Signs)		
		Emp. v/s Unemp.	Inact. v/s Unemp.	Inact. v/s Emp.
Search Method Chosen	Agency	?	-	-
	Advertisement	?	?	?
	Filling Forms	-	-	?
	Others *			
	White Collar	?	?	?
	Services	?	?	?
	Construction	-	?	?
	Age	?	-	?
	Education	-	-	-
	Gender	?	-	-
	Household Head	+	?	-
	Unemployment Duration	-	+	+
	Observations	**12878**	**12878**	**12878**

* Comparison Search Method

Once last job and personal characteristics are controlled for, informal methods are better for finding jobs than contacting potential employers. Use of employment agencies signals that the worker is not too likely to drop out of the labor force (negative signs in the last two columns), but we do not find any significant effect on changing the likelihood of transition to employment. Direct contact with potential employers increases the likelihood of remaining unemployed, thus searching for another period.[14]

[14] In doing this analysis, we have to keep in mind that the signs shown for the search methods are always referred to as the comparison group (method "others"). As a result, any statistically significant relationship will be reversed when we refer to this comparison group. That is, the "negative" correlations of Table 7 should be understood as "positive" when we refer to the search method "others," and vice versa.

The introduction of controls gives us some insight into the effects of individual characteristics on the transitions from unemployment. Unfortunately, we cannot find any significant effect of the characteristics of the job before the unemployment spell: neither sector nor occupation has any significant effect. The only exception is having had a job in the construction sector. Compared with having had a job in the industrial sector (omitted category), a previous job in construction reduces the probability of finding a new job relative to remaining unemployed. Regarding age, our results suggest that older unemployed individuals are more likely to continue searching than moving to inactivity. Like older individuals, more educated unemployed individuals are less likely to drop out of the labor force, but they are also more likely to remain unemployed. Men are less likely than women to end in inactivity. Being head of the household diminishes the likelihood of transitioning into inactivity and has a positive impact on the likelihood of getting a job compared to remaining unemployed. Our results also suggest that the longer the individual remains unemployed, the more likely he or she is to become inactive. Similarly, the longer-term unemployed are more likely to remain unemployed.[15]

Up to this point, we have discussed the augmenting (or diminishing) impact of search methods and individual characteristics on the odds-ratio of transition from unemployment to a different labor status. The next step is to quantify that impact in terms of its marginal contribution to the probability of moving to each final labor status. Expressed in mathematical terms, we are interested in the marginal change of the probability of finishing in labor status m when a particular variable x_k changes. Since all the parameters presented in Table 7 are jointly determined, this change depends upon, in addition to the parameter associated with x_k, the values of all the other parameters different from x_k as well as the values of the variables associated with those parameters. In others words, we will have

$$\frac{\partial \Pr(y = m \mid x)}{\partial x_k} = f(\beta_k, \beta, x)$$

We have used the fact that the selection of each particular search method is a categorical variable, given that the questionnaire allows us to identify only one search method, so we

[15] Again, in order to control for the fact that most of the individuals who remained in unemployment appear repeatedly in our sample, we use Stata's clustering option.

constructed dummy variables associated with each search method, taking a value of 1 if the individual reported use of that particular search method. Thus, for the case of these dummy variables we are actually interested in the partial change when x_k (named now d_k) goes from 0 to 1 while keeping the rest of their variables at their means.[18]

$$\frac{\Delta \Pr(y = m \mid x)}{\Delta d_k} = \Pr\left(y = m \mid x = \bar{x}, d_k = 1, d_{\neq k} = 0\right) - \Pr\left(y = m \mid x = \bar{x}, d_k = 0, d_{\neq k} = 0\right)$$

As we had to work with an omitted category (search method "others"), each value of the table represents the increase (decrease) in the probability of finding a job (first column), dropping out of the labor force (second column) or remaining unemployed (third column) using each search method, relative to the search method "others." Thus, each line in Table 8 shows the change in the probability of exiting to employment, moving to inactivity or remaining in unemployment for an "average" individual (where all right-hand side variables have values equal to the sample mean).

Table 8. Evaluation of the Effectiveness of Each Search Method, Partial Change

Search Method Used ⇩	Partial change in the probability of transitioning to: (percentages)		
	Employment	Inactivity	Unemployment
Agency	1.82	-3.80	1.98
Advertisement	-2.83	0.26	2.56
Filling Forms	-1.93	-2.47	4.40
Others	---	---	---

Further analysis of the partial change of the model sketched in Table 7 is presented in Table 9. Here we present some illustrative results for selected categories of workers.[19] The table shows the change in the probability of transitioning to employment for workers classified according to the occupation and sector where they had a job before the unemployment spell. Again, each value of the table represents the increase (decrease) in the probability of finding a job using each search method, relative to the search method "others."

[18] Since it is a categorical variable, all the dummy variables different from the variable under evaluation will be kept at zero.

Table 9. Evaluation of the Effectiveness of Each Search Method for Selected Categories of Workers, Partial Change

Partial Change in the probability of transitioning to Employment (percentages compared to having used serch methods others)

Assuming all individuals are:	Search Method Used: Agency	Advertisement	Filling Forms
Unconstrained	1.82	-2.83	-1.93
Former White Collar	1.77	-2.84	-1.99
Formerly Working at the Service Sector	1.95	-2.79	-1.79
One Year Unemployed	1.92	-2.80	-1.84
Former White Collar & Formerly Working at the Service Sector	1.90	-2.80	-1.85
Former White Collar & One Year Unemployed	1.87	-2.81	-1.89
Formerly Working at the Service Sector & One Year Unemployed	2.06	-2.77	-1.70
Former White Collar, Formerly Working at the Service Sector & One Year Unemployed	2.00	-2.78	-1.76

The first line in Table 9 is the same as the first column of Table 8. Each line thereafter shows the change for an individual described in the row heading. One notable trait of the figures presented in Table 9 is how little difference former occupation, sector, and duration of unemployment make. The ranking of search methods is, in fact, totally irresponsive to these characteristics: for any of these "representative" individuals the use of employment agencies increase (relative to using informal search methods) the likelihood of finding a job, while the use of media and direct contact with employers reduces it.

Since we are comparing against the search method "others," this gives us a yardstick that allows us to obtain, from Table 8, a *scale rating* of the search methods according to their impact on leading to a particular labor status. From this *scale rating*, the derivation of an *ordered ranking* of these search methods is straightforward. The following table presents the *ordered ranking* of the search methods—in terms of their propensity to lead to each labor status—along with the *scale rating* (in parentheses).

[19] Those workers who, as shown in Table 5, are more willing to use the search method "agency."

Table 10. Effectiveness of Search Method in Leading to Labor Status (Ranking and Rating of Contributions)

Ranking (and rating) of the probability of transitioning to:					
Employment		**Inactivity**		**Unemployment**	
1	Agency	1	Advertisement	1	Filling_Forms
2 (1.82)	Others	2 (0.26)	Others	2 (1.83)	Advertisement
3 (3.75)	Filling_Forms	3 (2.73)	Filling_Forms	3 (2.42)	Agency
4 (4.65)	Advertisement	4 (4.06)	Agency	4 (4.40)	Others

The results suggest that the "best" search method to move into employment, according to our model, would be using employment agencies, followed by informal methods. Direct contact with employers ranks third, while the use of media is the least helpful in landing a job.

The use of media (advertisements) seems to be the search method that most increases the likelihood of dropping out of the labor force. In contrast, individuals who use "agency" seem to be least likely to drop out of the labor force. Contacting employers and using media are methods that increase the probability of remaining unemployed and thus searching for another period.

6. Persistence of Labor Status? Former Labor Status as a Major Determinant of Transitions

We now turn to the question of the importance of prior labor status as a determinant of the seeker's new job after unemployment. We will first discuss the influence of former labor status on the likelihood of moving to employment.[20] From there, and taking into account the important influence of prior labor status on the selection of search method, we will move to disentangle (controlling by personal characteristics) the relative influence of previous labor status and search method on the likelihood of moving into employment (or inactivity).

Table 11 describes the transitions between labor statuses of individuals who find a job (or move to inactivity) after an unemployment episode. More formally, we focus here on the sub-sample of individuals who followed an "Employment (or inactivity)→ Unemployment → Employment (or inactivity)" trajectory.

[20] Former labor status includes inactive last period, formal, informal, and self-employment, and employers and unpaid family help. In order to avoid clutter (and given the small size of these groups), we do not report results for the last two categories. Complete results are available from the authors upon request.

Table 11. Transition Matrix after Unemployment

Former Labor Status ⇩	Transitions from Unemployment (only those who exited): Transition to Employment	Transition to Inactivity	Total
Formal Emp.	423	99	522
Informal Emp.	503	130	633
Self Employment	417	108	525
Inactive	378	445	823
Total	1,721	782	2,503

This table is similar to Table 1 in Section 3 above, where we discussed the "persistence" of labor status for our entire sample, including those who remained in unemployment the last time we observed them. Here we restrict the sample to those that exited from unemployment, either to employment or to inactivity. Around 80 percent of those who come from an employment→ unemployment transition (without an intermediate step through inactivity) end up in a new job. As expected, for those that dropped out of the labor force and reentered the probability of finding a job is much lower (around 45 percent).

The figures in Table 11, however, give us only an incomplete picture of the process. The likelihood of moving into employment is a function not only of former labor status, but also of the personal characteristics of the searcher and the method she used to look for a job. In order to isolate the impact of former labor status on the probability of escaping from unemployment, we need to move on to a regression analysis similar to the one used in the previous section to appraise the impact of previous labor status jointly with the impact of the search methods chosen on the transitions out of unemployment (while controlling by the individual's characteristics). Thus, we estimate

$$\Pr(Lab\_Status = k_{(t)}) = F\left(\begin{matrix} Search\_Method_{(t-1)}; Labor\_status_{(T<(t-1))}; PersChars_{(t-1)} \mid \\ \left[\begin{matrix} Lab\_Status = Unemployed_{(t-1)}; Lab\_Status = Employed_{(T<(t-1))}; \\ Labor\_status \neq Unemployed_{t} \end{matrix}\right] \end{matrix}\right)$$

We use the selection of search method "others" together with former labor status "formal employee" as a baseline (conjoint) comparison category. In general terms, the results presented in Table 12 mirror most of the results from Table 7, minus some relationships that are no longer statistically significant. The decrease in the significance of the parameter estimates is due to a decrease in the sample size (which drops from 12,878 to 3,518 observations) rather than the incorporation of these new controls.[21] In the cases where the significance is maintained, most of the parameters' estimates keep the same sign as the estimates presented in Table 7.

Table 12. Impact of Search Method Used, Former Labor Status Enjoyed and Personal Characteristics on the Probability of Transitioning from Unemployment, Multinomial Logit Regression

		Probability of Transition from Unemployment (Signs)		
		Emp. v/s Unemp.	Inact. v/s Unemp.	Inact. v/s Emp.
Search Method Chosen	Agency	?	?	?
	Advertisement	?	?	?
	Filling Forms	?	-	?
	Others *			
Former Occupational State	Former Informal	?	?	?
	Former Inactive	?	+	+
	Former Self Emp.	+	?	?
	Former Formal *			
	White Collar	?	?	?
	Services	?	?	-
	Construction	?	-	?
	Age	?	?	?
	Education	-	-	-
	Gender	-	-	-
	Household Head	+	?	-
	Unemployment Duration	-	?	+
	Observations	**3518**	**3518**	**3518**

* Comparison search method & former labor status

[21] Before incorporating the controls, we regressed the same Multinomial Logit presented in Table 7 but constrained to those individuals for whom we could observe their former labor status. Then we inserted the former labor status as controls whereby the significance and values for the variables different from the controls were kept.

Most importantly for our purposes, in this reduced sample the incorporation of controls for former labor status reduces the significance of the coefficients associated to search methods. Direct contact with potential employers reduces the probability of dropping out of the labor force once controls for personal characteristics, previous job, and former labor status are incorporated. With this exception, the use of different search methods does not increase or decrease (relative to the use of informal method "other") the likelihood of moving into employment.

In addition, there are some significant differences in the controls. Once we control by former labor status of the individual, age no longer has any impact on the probability of moving out of unemployment. Being head of the household now clearly raises the probability of moving to employment and reduces the likelihood of dropping out of the labor force. Compared to being a formerly formal employee, coming from self-employment increases the probability of moving to employment. Being formerly inactive raises the probability of returning to that state (relative to those who came from formal employment).

In short, these results seem to support the hypothesis that, in determining the final transitions of individuals from unemployment, previous labor status has a larger effect than the search method used. This "persistence effect" may be either due to non-observable personal characteristics or due to a "true persistence" in which the labor status formerly enjoyed by workers has a real impact on their human capital (Heckman, 1981). We could not disentangle which effect dominates here, but certainly, there might exist a combination of both.

In order to gauge the overall effect of prior labor status on transitions, in Table 13 we compute the partial change in the probability of moving to each labor status from each "origin" status after experiencing an unemployment spell. As in Table 8, Table 13 shows the change in the probability of transitioning to each labor status j for each dummy variable d_k representing each former labor status. Each figure in the table represents the increase (decrease) in the probability of moving to the labor status j with respect to the baseline being formerly formal employee.

Table 13. Evaluation of Impact of Prior Labor Status on Transition Out of Unemployment, Partial Change

Former Labor Status ⇩	Partial change in the probability of transitioning to: (percentages)		
	Employment	Inactivity	Unemployment
Formal Emp.	---	---	---
Informal Emp.	1.88	1.97	-3.84
Self-Emp.	3.92	1.85	-5.77
Inactive	-15.20	18.28	-3.08

Being a formerly informal employee raises the probability of moving to employment (comparing again with the omitted category formerly formal), as well as the probability of becoming inactive. Individuals who were self-employed before entering unemployment have a higher probability of exiting into employment, while they are much less likely to remain unemployed. For those moving from inactivity, there is a high increase in the probability of dropping out again as well as a large reduction in the probability of moving to employment or continuing to search. Table 14 presents the *scale rating* along with an *ordered ranking* of these former statuses.

Table 14. Effectiveness of Former Labor Status in Transition Out of Unemployment (Ranking and Rating of Contributions)

Ranking (and rating) of the probability of transitioning to:					
Employment		**Inactivity**		**Unemployment**	
1	Self_Emp	1	Inactive	1	Formal
2 (2.04)	Informal	2 (16.31)	Informal	2 (3.08)	Inactive
3 (3.92)	Formal	3 (16.42)	Self_Emp	3 (3.84)	Informal
4 (19.12)	Inactive	4 (18.28)	Formal	4 (5.77)	Self_Emp

Coming from inactivity makes it much harder to transition to employment. The *relative distance* of the likelihood of moving to employment is quite large: in all cases individuals classified as inactive are at a *relative distance* greater than 15 percentage points from any other labor status origin. For individuals who did not exit from unemployment, the table shows that formerly formal employees present the highest probability of remaining in unemployment.

Returning to the model sketched in Table 12, Table 15 presents the *ordered ranking* (along with the *relative rating*) of the combinatory former labor status/search method and its effects on the probability of transitioning to each labor status. We evaluate all the possible combinations of search channels and former labor statuses, taking as a baseline the pair "formerly formal employee using search method 'others.'" We will focus only on the relation of rankings and ratings of the possible combinations in leading to each labor status *j*.

Table 15. Effectiveness of Each Pair of Search Method Used and Former Labor Status in Leading to Each Labor Status (Ranking of Marginal Contributions)

Ranking (and rating) of the probability of transitioning to:									
	Employment			**Inactivity**			**Unemployment**		
1		Self_Emp_Agency	1		Inactive_Others	1		Formal_Advertisement
2	(1.90)	Informal_Agency	2	(3.00)	Inactive_Agency	2	(2.38)	Inactive_Advertisement
3	(3.56)	Formal_Agency	3	(3.98)	Inactive_Filling_Forms	3	(2.44)	Formal_Filling_Forms
4	(5.09)	Self_Emp_Others	4	(7.06)	Inactive_Advertisement	4	(4.13)	Informal_Advertisement
5	(6.38)	Self_Emp_Filling_Forms	5	(16.98)	Informal_Others	5	(5.32)	Inactive_Filling_Forms
6	(6.98)	Self_Emp_Advertisement	6	(17.12)	Self_Emp_Others	6	(6.27)	Formal_Others
7	(7.09)	Informal_Others	7	(18.97)	Informal_Agency	7	(6.29)	Self_Emp_Advertisement
8	(8.50)	Informal_Filling_Forms	8	(19.03)	Formal_Others	8	(6.46)	Informal_Filling_Forms
9	(8.82)	Formal_Others	9	(19.14)	Self_Emp_Agency	9	(8.51)	Self_Emp_Filling_Forms
10	(9.19)	Informal_Advertisement	10	(19.16)	Informal_Filling_Forms	10	(9.54)	Inactive_Others
11	(10.65)	Formal_Filling_Forms	11	(19.24)	Self_Emp_Filling_Forms	11	(9.85)	Formal_Agency
12	(11.62)	Formal_Advertisement	12	(20.72)	Formal_Agency	12	(10.04)	Informal_Others
13	(19.22)	Inactive_Agency	13	(20.81)	Informal_Advertisement	13	(11.91)	Inactive_Agency
14	(24.58)	Inactive_Others	14	(20.85)	Self_Emp_Advertisement	14	(11.91)	Self_Emp_Others
15	(24.68)	Inactive_Advertisement	15	(21.03)	Formal_Filling_Forms	15	(13.25)	Informal_Agency
16	(24.82)	Inactive_Filling_Forms	16	(22.50)	Formal_Advertisement	16	(14.98)	Self_Emp_Agency

The salient observation that arises from Table 15 is the prevalence of the ordering given by the former labor status. In a sense it creates an almost *lexicographic* ordering: prior labor status prevails in its impact, while a "secondary ordering" is given by the search methods used. In addition, this almost *lexicographic* ordering suggests the lack of synergies (either with a positive or negative effect) between former labor statuses and search channels. In other words, for those who had been formerly self-employed, there are not many gains or losses (in terms of the probabilities of transitioning to employment) from using any particular search method: self-employment as an "origin" status covers four of the six higher positions in the "transition to employment" column in Table 15. Conversely, the use of employment agencies produces the maximum increase in the likelihood of transitioning to employment, regardless of former labor

status: use of employment agencies ("agency") covers the first three positions in the same "transition to employment" column in Table 15.

7. Conclusions, Future Research and Policy Recommendations

The search process is a crucial element in the functioning of the labor market. More effective search methods can reduce the unemployment rate simply by increasing the efficiency of job-worker matches. Furthermore, certain search methods may be more conducive than others to transitions into employment.

The results presented in this paper, however, do not allow for much optimism about the effectiveness of search methods in improving the quality of matches, or even the frequency of placements. In the first place, it is noteworthy that almost three-quarters of the jobseekers in our sample are using either informal networks of family and friends, or directly contacting employers without any help or support from employment agencies (which are used by a very small fraction of jobseekers). From the perspective of policymaking, this implies that employment agencies, like the one available in Venezuela during this period, are underutilized as a tool of job search assistance. Policy efforts should be directed to enhancing the strategies people use, rather than strengthening instruments they do not.

Secondly, labor market history, more than education, age or gender, is crucial in determining which search strategy to use. This casts some doubt on how to target job search assistance support, normally tailored to individual observable characteristics. An individual's search strategy is shaped primarily by previous labor market insertion, most likely because the network of friends and co-workers constructed in recent jobs is the best instrument available. In that context, policies should work to complement and strengthen those networks, rather than to redirect searchers to different strategies based on their education, gender or age.

Third, and limiting our observation to the cases where there was a transition out of unemployment (finding a job or dropping out of the labor force), we find that previous job status has a dominant impact on producing transitions to employment, with search methods displaying important but second-order influence. When we rank both former job status and search method together we find that the self-employed are the most likely to move to employment (followed by their informal and formal employees counterparts), and that within each group of labor status employment agencies are the most helpful in finding a job. This signifies that, even though

unemployed individuals do not broadly use employment agencies, the use of an agency still helps in the transition to employment. Thus, these results do not imply that job search assistance policies are unimportant or irrelevant.

Nevertheless, these results sound a note of caution for the usual recommendation of intermediation policies. If jobseekers do not use employment agencies in spite of the augmenting effects they seem to have on the probability of finding a job, strengthening those agencies may be a rather expensive and fundamentally inconsequential policy measure.

Still, our results should be interpreted with caution given certain important limitations in our data. First, we do not analyze how people look for their first job. In fact, the distribution of new entrants among search strategies is not very different from that of jobseekers with previous labor market experience. Second, we do not have information about employed job searchers and, in fact, we do not know the frequency of seeking a new job while employed relative to seeking a new job while unemployed. Third, our data does not allow for multiple search strategies. It is most likely that people use multiple search channels, and we can only hope, as stated by Addison and Portugal (2002), that the channel they report is the most important. These data shortcomings do not necessarily invalidate our conclusions, but rather point to caution in the interpretation and to the need of further research to enhance our understanding of such an important policy question.

Further research requires new panel data sets that include higher-quality questions about the job search. A good data set should include employed workers in the search question(s), and the question(s) on search activities should allow for multiple answers. More research is needed on the search strategies of new entrants, a question we did not focus on in this paper. Finally, more empirical analysis of the nature of the mechanisms people use to look for a job is crucial to enhance the relevance of policy recommendations. We should not continue to unequivocally associate employment agencies (and particularly public employment agencies) with job search assistance policies, but rather find mechanisms to expand access to, and enhance the effectiveness of, the informal networks that the vast majority of job seekers use.

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Appendix

Estimates for Table 5. "Probability of Choosing Search Method"

Probability of Choosing Search Method (Odd Ratios)

	Agency v/s Others	Advertisement v/s Others	Filling Forms v/s Others	Advertisement v/s Agency	Filling Forms v/s Agency	Filling Forms v/s Advertisement
Former Informal	0.606	0.630	0.465	1.039	0.767	0.739
	(2.55)*	(1.99)*	(8.38)**	(0.13)	(1.33)	(1.32)
Former Inactive	0.907	0.707	0.600	0.779	0.661	0.849
	(0.57)	(1.65)+	(5.87)**	(0.97)	(2.43)*	(0.79)
Former Self Emp.	0.809	0.582	0.471	0.720	0.583	0.809
	(1.04)	(2.22)*	(8.07)**	(1.09)	(2.59)**	(0.87)
Former Employer	0.170	0.349	0.267	2.047	1.567	0.766
	(2.33)*	(1.78)+	(4.01)**	(0.78)	(0.59)	(0.44)
Former Unpaid R.	0.770	0.081	0.349	0.106	0.454	4.300
	(0.51)	(2.86)**	(3.65)**	(2.31)*	(1.47)	(1.62)
Former Formal	---	---	---	---	---	---
White Collar	1.536	1.274	1.427	0.830	0.929	1.120
	(2.38)*	(1.28)	(4.28)**	(0.75)	(0.41)	(0.60)
Services	1.399	0.968	0.998	0.692	0.713	1.031
	(1.92)+	(0.16)	(0.03)	(1.43)	(1.92)+	(0.15)
Construction	1.070	1.040	0.593	0.972	0.554	0.570
	(0.33)	(0.15)	(5.36)**	(0.09)	(2.77)**	(2.19)*
Age	1.000	1.005	0.985	1.005	0.985	0.980
	(0.03)	(0.66)	(4.17)**	(0.47)	(2.06)*	(2.60)**
Education	1.065	1.126	1.149	1.057	1.078	1.021
	(3.02)**	(4.59)**	(13.42)**	(1.75)+	(3.58)**	(0.79)
Gender	1.290	0.625	0.834	0.485	0.647	1.334
	(1.69)+	(2.64)**	(2.46)*	(3.27)**	(2.89)**	(1.61)
Household Head	1.019	0.829	0.909	0.814	0.892	1.096
	(0.09)	(0.82)	(1.02)	(0.70)	(0.54)	(0.40)
Unemployment Duration	1.017	1.011	1.013	0.994	0.996	1.002
	(2.49)*	(1.29)	(3.50)**	(0.58)	(0.60)	(0.23)
Observations	**11574**	**11574**	**11574**	**11574**	**11574**	**11574**

Absolute value of z statistics in parentheses
+ significant at 10%; * significant at 5%; ** significant at 1%
Note 1: Cluster regression analysis based on individual grouping
Note 2: Half yearly dummy variables added in the regression but omitted here.

Estimates Table 7: "Probability of Transition Out of Unemployment"

Probability of Transition Out from Unemployment
(Odd Ratios)

	Emp. v/s Unemp.	Inact. v/s Unemp.	Inact. v/s Emp.
Agency	0.967	0.753	0.779
	(0.28)	(1.88)+	(1.74)+
Advertisement	0.867	0.928	1.071
	(0.90)	(0.38)	(0.39)
Filling Forms	0.833	0.756	0.908
	(2.88)**	(3.51)**	(1.33)
Others	---	---	---
White Collar	0.953	0.959	1.007
	(0.63)	(0.45)	(0.08)
Services	1.077	1.150	1.067
	(1.04)	(1.55)	(0.83)
Construction	0.815	0.927	1.137
	(2.58)*	(0.71)	(1.28)
Age	0.997	0.991	0.994
	(0.86)	(2.13)*	(1.57)
Education	0.983	0.945	0.961
	(1.79)+	(4.84)**	(3.78)**
Gender	1.018	0.289	0.283
	(0.24)	(14.70)**	(17.30)**
Household Head	1.620	0.912	0.563
	(6.13)**	(0.86)	(5.91)**
Unemployment Duration	0.980	1.012	1.032
	(5.53)**	(3.61)**	(9.50)**
Observations	**12878**	**12878**	**12878**

Absolute value of z statistics in parentheses
+ significant at 10%; * significant at 5%; ** significant at 1%
Note 1: Cluster regression analysis based on individual grouping
Note 2: Half yearly dummy variables added in the regression but omitted here

Estimates for Table 12. "Probability of Transition from Unemployment"

Probability of Transition from Unemployment
(Odd Ratios)

	Emp. v/s Unemp.	Inact. v/s Unemp.	Inact. v/s Emp.
Agency	1.243	0.998	0.803
	(0.84)	(0.01)	(0.82)
Advertisement	0.784	0.617	0.787
	(0.84)	(1.46)	(0.80)
Filling Forms	0.857	0.757	0.884
	(1.27)	(1.83)+	(0.89)
Others	---	---	---
Former Informal	1.181	1.316	1.114
	(1.11)	(1.34)	(0.57)
Former Inactive	0.811	2.675	3.299
	(1.38)	(5.38)**	(7.02)**
Former Self Emp.	1.317	1.407	1.068
	(1.73)+	(1.51)	(0.31)
Former Employer	0.931	1.062	1.141
	(0.18)	(0.11)	(0.26)
Former Unpaid R.	48.875	51.638	1.057
	(3.68)**	(3.44)**	(0.09)
Former Formal	---	---	---
White Collar	0.960	1.153	1.201
	(0.27)	(0.78)	(1.05)
Services	1.173	0.784	0.668
	(1.14)	(1.42)	(2.62)**
Construction	0.809	0.661	0.817
	(1.38)	(2.13)*	(1.08)
Age	1.000	0.998	0.998
	(0.02)	(0.22)	(0.25)
Education	0.961	0.923	0.960
	(2.25)*	(3.73)**	(1.96)*
Gender	0.763	0.293	0.384
	(1.86)+	(7.25)**	(6.59)**
Household Head	1.458	0.742	0.509
	(2.53)*	(1.51)	(3.61)**
Unemployment Duration	0.978	1.011	1.034
	(3.09)**	(1.60)	(4.89)**
Observations	**3518**	**3518**	**3518**

Absolute value of z statistics in parentheses
+ significant at 10%; * significant at 5%; ** significant at 1%
Note 1: Cluster regression analysis based on individual grouping
Note 2: Half yearly dummy variables added in the regression but omitted here.

Wald Tests on Equality of Parameter Estimates

Wald Test on the regressors of the Table 5:
"Probability of Choosing Search Method"

Regresor	Chi2_Value	Degrees of Freedom	P_Value
Pool_Former_Lab_Sts	114	15	0.00
White_Collar	20	3	0.00
Services	4	3	0.27
Construction	32	3	0.00
Age	20	3	0.00
Education	185	3	0.00
Gender	17	3	0.00
H_Head	2	3	0.67
Duration	14	3	0.00
Pool_time_Dummies	9162	45	0.00
Former Informal=Former Formal	71	3	0.00
Former Inactive=Former Formal	35	3	0.00
Former Self Emp.=Former Formal	66	3	0.00
Former Employer=Former Formal	19	3	0.00
Former Unpaid Relatives=Former Formal	20	3	0.00
Former Informal=Former Inactive	11	3	0.01
Former Informal=Former Self Emp.	2	3	0.60
Former Informal=Former Employer	5	3	0.18
Former Informal=Former Unpaid Relative	7	3	0.08
Former Inactive=Former Self Emp.	7	3	0.06
Former Inactive=Former Employer	9	3	0.03
Former Inactive=Former Unpaid Relative	9	3	0.03
Former Self Emp.=Former Employer	6	3	0.11
Former Self Emp.=Former Unpaid Relative	6	3	0.12
Former Employer=Former Unpaid Relative	5	3	0.14

Wald Test on the regressors of the Table 7:
"Probability of Transitioning Out from Unemployment"

Regresor	Chi2_Value	Degrees of Freedom	P_Value
Pool_Methods	17	6	0.01
White_Collar	0	2	0.81
Services	2	2	0.29
Construction	7	2	0.03
Age	5	2	0.10
Education	24	2	0.00
Gender	334	2	0.00
H_Head	57	2	0.00
Duration	90	2	0.00
Pool_time_Dummies	79	28	0.00
Agency=Others	4	2	0.14
Advertisement=Others	1	2	0.67
Filling_Forms=Others	14	2	0.00
Agency=Advertisement	2	2	0.35
Agency=Filling_Forms	2	2	0.39
Advertisement=Filling_Forms	1	2	0.54

Wald Test on the regressors of the Table 12:
"Probability of Transition from Unemployment"

Regresor	Chi2_Value	Degrees of Freedom	P_Value
Pool_Methods	6	6	0.39
Pool_Former_Labor_Status	100	10	0.00
White_Collar	1	2	0.57
Services	7	2	0.03
Construction	5	2	0.09
Age	0	2	0.97
Education	14	2	0.00
Gender	61	2	0.00
H_Head	15	2	0.00
Duration	24	2	0.00
Pool_time_Dummies	38	26	0.06
Agency=Others	1	2	0.62
Advertisement=Others	2	2	0.34
Filling_Forms=Others	4	2	0.17
Agency=Advertisement	2	2	0.37
Agency=Filling Forms	2	2	0.32
Advertisement=Filling_Forms	0	2	0.82
Informal_Emp=Formal_Emp	2	2	0.35
Inactive=Formal_Emp	51	2	0.00
Self_Emp=Formal_Emp	4	2	0.16
Employer=Formal_Emp	0	2	0.96
Unpaid_Relative=Formal_Emp	14	2	0.00
Informal_Emp=Inactive	46	2	0.00
Informal_Emp=Self_Emp	0	2	0.78
Informal_Emp=Employer	0	2	0.83
Informal_Emp=Unpaid_Relative	13	2	0.00
Inactive=Self_Emp	37	2	0.00
Inactive=Employer	4	2	0.11
Inactive=Unpaid_Relative	17	2	0.00
Self_Emp=Employer	1	2	0.69
Self_Emp=Unpaid_Relative	12	2	0.00
Employer=Unpaid_Relative	13	2	0.00

Wald Tests on Equality of the Categories of the Dependent Variables

Wald Test on the 'outcomes' of the Table 5:
"Probability of Choosing Search Method"

Testing	Chi2_Value	Degrees of Freedom	P_Value
Agency = Others	3857	28	0.00
Agency = Advertisement	481	28	0.00
Agency = Filling Forms	1564	28	0.00
Advertisement = Others	6055	28	0.00
Advertisement = Filling Forms	3293	28	0.00
Filling Forms = Others	875	28	0.00

Wald Test on the 'outcomes' of the Table 7:
"Probability of Transitioning Out from Unemployment"

Testing	Chi2_Value	Degrees of Freedom	P_Value
Employed = Unemployed	160	25	0.00
Employed = Inactive	634	25	0.00
Inactive = Unemployed	387	25	0.00

Wald Test on the 'outcomes' of the Table 12:
"Probability of Transition from Unemployment"

Testing	Chi2_Value	Degrees of Freedom	P_Value
Employed = Unemployed	85	29	0.00
Employed = Inactive	312	29	0.00
Inactive = Unemployed	173	29	0.00