Unemployment transitions in the mexican labour market and the role of job search channels

Transiciones del desempleo en el mercado laboral mexicano y el papel de los canales de búsqueda de trabajo

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■ **Abstract:** This study examines the overall effects of a set of personal characteristics, search channels and financial variables on the probability of transitioning from unemployment to employment. Using the National Occupational and Employment Survey 2005-2015 (ENOE in Spanish). There seems to be a positive and strong correlation between being formally employed and transitioning to a formal employment in period *t + 1*. There is a "wait unemployment", because those with lower levels of education experience more transitions relative to more educated individuals. There seems to be a presence of a "scarring effect" which is picked up when introducing the duration of weeks of job search in the estimation, and means that unemployment spells are positively associated with remaining unemployed. Finally, women seem to benefit more when using different types of search channels such as uploading or replying a job offer online and using newspapers or classified ads to get a job.

■ **Keywords:** Labour market transitions, job search channels, México.

■ **JEL classification:** J62, J64, J69.

■ **Resumen:** Este estudio examina los efectos generales de un conjunto de características personales, canales de búsqueda y variables de financiamiento, en la probabilidad de experimentar una transición del desempleo al empleo. Utilizando la Encuesta Nacional de Ocupación y Empleo de 2005-2015 (ENOE). Los resultados muestran una correlación fuerte y positiva entre haber sido trabajador formal y experimentar una transición hacia trabajo formal en el periodo t+1. Hay un efecto de desempleo prolongado para individuos con escolaridad superior, debido a que aquellos con menos escolaridad experimentan más transiciones. Los resultados muestran un efecto "scarring", que aparece cuando se introduce la variable de duración de búsqueda de empleo, esto indica que la duración del desempleo está positivamente asociada con permanecer desempleado. Finalmente, las mujeres parecen beneficiarse más cuando

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utilizan diferentes tipos de canales de búsqueda tales como buscar empleo por internet o mediante clasificados en periódico.

■ **Palabras clave:** Transiciones del mercado laboral, canales de búsqueda de empleo, México.

■ **Clasificación JEL:** J62, J64, J69.

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■ *Introduction*

For many years the Mexican labour market has had low rates of unemployment compared to other countries in the OECD (3.74% on average since year 2000). The low rates of unemployment might be partially explained by the fact that much of the workforce is employed in the informal sector.[2] Another phenomenon that can explain such low rates is the widespread absence of unemployment insurance. This means that the risk faced by individuals exiting employment is high, so individuals face a lack of liquidity to finance consumption, making unemployment unaffordable. To deal with this issue, workers will lower their reservation wages and take jobs that are less than ideal because they cannot remain without an income source for long periods of time. (Duval Hernández and Orraca Romano, 2011).

Given the lack of unemployment insurance in the Mexican labour market, the means and channels through which job searchers exit unemployment become important to understand the dynamics of a labour market that has two exits out of unemployment: formal and informal jobs. Recent literature has analyzed how different search channels impact on exits out of unemployment, duration and the type of jobs unemployed individuals exit to. (Addison and Portugal, 2002; Woltermann, 2002; Márquez and Ruiz-Tagle, 2004; Calderón-Madrid, 2008; Meliciani and Radicchia, 2011). This study contributes to this literature by examining the overall effects of a set of personal characteristics, search channels and financial variables on the probability of transitioning from unemployment to employment in either the formal or informal sector.

This analysis is done by examining the factors that could determine exit rates into formal and informal jobs. Specifically, I explore if severance payments, government aid (via training scholarships, aid from a government program and financial aid to start a new business) and assistance from social networks (via remittances or cash transfer) in conjunction with the search channels[3] used have an impact on the probability of exiting unemployment.

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2 According to most recent statistics from the National Statistical Office (INEGI) 60% of employed individuals are informally employed possessing no social security or any of the job benefits that come with being formally employed.

3 These search channels are: asking directly in the workplace, searching online, replying to advertisements, asking friends and relatives, using allocation services and others.

Studies that have analized search channels have concluded that most of the job searchers ask directly to employers for job or via friends and relatives. And these channels are also the most effective in securing a job (Addison and Portugal 2002; Woltermann 2002; Calderón-Madrid 2008; Meliciani and Radicchia, 2011). There is a general consensus that these search channels do not imply jobs that account for the workers personal characteristics, are low paid and short term (Addison and Portugal, 2002; Woltermann, 2002). This study confirms that asking directly in the workplace and asking friends are the most used channels but there is no clear evidence that these channels are determining the transition to a job (either formal or informal). In this sense, other factors, such as previous occupation and personal characteristics show to be determinants of the transition to employment.

Given the availability of self-reported information in the survey I am able to address the following questions: What is the impact of different job search channels on the probability of finding a formal or informal job from one period of time to the other? And what is the impact of different means by which a person finances job search on the probability of transitioning to employment? In particular, what is the impact on the probability of a person transitioning to a formal or informal job conditioned on personal characteristics and different search channels used?

Some interesting findings arise from the analysis of the transitions of job searchers in the Mexican labour market. There seems to be a positive and strong correlation between being formally employed and transitioning to a formal employment in period $t + 1$. There is a "wait unemployment", reflected by the fact that those with lower levels of education experience more transitions relative to more educated individuals. This fact might indicate that individuals with more education would prefer to wait for a formal job offer rather than accepting an informal job. There seems to be a presence of a "scarring effect"[4] which is picked up when introducing the duration of weeks of job search in the estimation, this indicates that unemployment spells are positively associated with remaining unemployed. Finally, the results show a gender difference when using different search channels. Women seem to benefit more when using different types of search channels such as uploading or replying a job offer online and using newspapers or classified ads to get a job. On the other hand, the results show that women experience a stronger "scarring effect" relative to men, as the time they remain unemployed is positively associated with the probability of remaining unemployed.

The structure of the paper is as follows. In the second section I review the existing literature on search channels and job outcomes in developed and developing countries. In the third section, I describe some features of the Mexican labour market, the data used and discuss some summary statistics. In the fourth section, I describe the econometric methodology and in the fifth section report the empirical results. The final section provides some conclusions.

4 The longer an individual remains unemployed, the less likely is to be hired, as this to some extent indicates that the individual's skills depreciate with time (Lockwood, 1991).

■ *Literature review*

The theoretic framework for job search derives from the economics of information and uncertainty (Mortensen, 1986). It is the modeling of the behavior of the unemployed who are actively looking for employment. Job offers will arrive randomly from a known distribution according to a Poisson process. According to the settings of the basic model, the worker's decision problem is to maximize utility by choosing the best possible job offer. If the worker accepts, it will receive a wage continuously over the tenure of the employment and the job will last forever. If a worker rejects a job offer it cannot be recalled. A crucial implication of the Poisson arrival assumption for the basic model is that offers arrive one at a time and the probability of receiving an offer does not depend on the duration of the unemployment spell (Devine and Kiefer, 1991).

The basic model of job search can be extended and the assumption of offers that are exogenous and arrive randomly according to a Poisson process can be relaxed. One can argue that search intensity of the worker has an effect on the probability of receiving a job offer. This is because as the worker searches more intensively, the probability increases. But increasing this effort represents additional costs (Bong Joon, 1981).

There are several studies that extend the basic model and analyze search intensity and the type of search channels used as endogenously given. The results obtained depend on the settings and characteristics of the labour market under study (i.e., access to unemployment insurance, search channels used, cost of search). For example, The model of job search with variable search intensity by Bong Joon (1981) decomposes unemployment duration to search time for an offer and the unemployment duration due to the rejection of offers. Using data from the Panel Study of Income Dynamics (PSID) from 1969 to 1976, a model of completed durations is estimated for the US. The results show that increasing unit costs of search intensity leads to longer unemployment durations. Although this study provides insights on the importance of the intensity of job search and costs of job search, it does not shed light on the type of search channels used by unemployed individuals, which can also have an impact on the probability of receiving a job offer.

One of the studies that provides an insight into the importance of search intensity and the different channels used by unemployed individuals is Holzer (1988). This analysis of different search methods used by unemployed individuals aged between 16-23 years old, presents a model of job search which suggests that search method choices are related to their underlying costs and expected productivities as well as to other factors. Holzer's empirical results suggest that the search channels used more frequently are the ones associated with friends and relatives and going directly in person to the workplace. It also suggests that these are the more productive in generating job offers. Using data from the National Longitudinal Survey (NLS) for the US in 1981, Holzer suggests that the number of methods used is affected by personal characteristics and being on layoff. The latter presumably reflects the market opportunities as well as income sources and needs. The results also suggest that overall search intensity and its allocation across

methods is chosen by unemployed individuals who balance relative productivities and costs. In other words, search intensity leads to a higher job offer probability.

One would anticipate that specific methods have specific outcomes. In this sense, Chirinko (1982) analyses the impact of direct (asking for a job directly in the workplace) and indirect search methods (through friends and advertisements) on the returns to job search on the US using the Current Population Survey (CPS). This study finds that direct methods exert a positive impact on the returns to job search, whilst indirect methods yield a negative impact. There appears to be diminishing returns in the job search process when using indirect methods of job search.

Understanding the dynamics of the labour market and how the different methods of job search affect the probability of escaping unemployment is important for policy purposes. New methods such as searching for jobs online have different outcomes and target different individuals compared to the traditional channels. Understanding this is key to devote more public and private resources to increase the offer of jobs through this channel. In this way, Kuhn and Skuterud (2004) test for the incidence and diffusion of internet job search investigating who searches for jobs online and the outcomes of looking for a job through this channel. They conclude that internet job search is more common among workers with observed characteristics that are usually associated with more rapid re-employment (i.e., occupations with low unemployment rates, young and well educated workers and persons that became unemployed after finishing school or had previous job experience).

Also using duration analysis to inquire into whether internet job search has an impact on diminishing the unemployment spell. They find that it does not appear to decrease search time. In contrast, it appears to have a negative effect, prolonging the time of job search.

Addison and Portugal (2002), using Portugal's Labour Force Survey, assess the effects of different job search strategies on escape rates from unemployment, and measure the effectiveness of the job search strategies on obtaining a job. They find evidence indicating that the most successful methods in finding a job are approaching the employer directly and informal methods (i.e., friends and family networks).

One of the implications of their empirical results is that the effectiveness of the public employment service in Portugal is low. This might be because employers tend to avoid employment service placement. The public employment service has a low success rate and leads to jobs that do not last, where the pay is low and the rewards for observed human capital attributes as well as other job-finding routes are small.

The channels used for job search can be further subdivided into formal and informal ones. Presumably there are certain channels that would be more effective in ensuring a job offer given a worker's characteristics and the desire to access these type of jobs. Márquez and Ruiz-Tagle (2004) suggest that workers who come from formal jobs are more likely to use more formal methods relative to those who come from jobs in non-regulated segments of the labour market. Using the Venezuelan Household Survey, they analyze the impact of a set of different search strategies in determining whether a worker will experience a transition to employment. They conclude that the search

process is a crucial element in the functioning of the Venezuelan labour market. More effective search methods would increase the efficiency of job-worker matches and certain methods would work better than others for a specific type of worker and a specific type of job. Personal characteristics (such as education, age and gender) have an impact on the choice of the search strategy used.

The authors also use a multinomial logit model to estimate the probability of individuals exiting unemployment to inactivity or employment conditional on search methods, personal characteristics and previous job status. In their findings, almost three quarters of job seekers in their sample are using either informal networks of family and friends or direct contact with employers. They find that previous job status (being employed or unemployed) has a dominant impact on transitions to employment.

Individuals will use more intensively those channels that give them a higher chance of securing a job according to their personal characteristics and previous experience. However, there can be a tradeoff between finding a job faster through these channels and the quality of them and in some cases, even a wage penalty can be expected. In this sense, the study by Meliciani and Radicchia (2011) investigate if being recruited through informal channels in the Italian labour market has both a wage penalty for job searchers and affects the duration spells of unemployment, thus reducing search costs. They divide these search channels into friends and relatives and professional ties. They find that there is a wage penalty for those hired through the friends and family channels and a wage premium for those hired through professional ties. They use duration analysis to address search cost reductions and find that the use of these search channels reduces the average spell of unemployment.

Woltermann (2002) examines the effects of various job search methods on the labour market transitions of workers in Brazil (considered as a segmented developing economy) focusing particularly on the impact of search methods on exit rates to different labour force states. The author argues that part of the segmentation of the labour market originates from the lack of information on the vacancies available in the formal sector. The main hypothesis is that different search methods lead to different occupational states and that part of the labour force that enters the informal sector would be better off in a formal job if they had access to more information on labour market and assistance on application procedures. The author estimates the impact on the exit rates for unemployed Brazilian workers using multinomial logit models. The study estimates the effect of the choice of a search method on the exit rates to different occupational states (informally employed, self-employed, searching and inactive) controlling for search channels, gender, position in the household, and education.

The author concludes that most job search in Brazil relies on methods that involve directly asking either an employer or friends and family. The effects of search channels on exit rates on different labour force states are also distinguished by the author. For example, the category ‘asked employer’ is the most effective in transitioning to the above mentioned categories, followed by ‘advertisement’ and ‘friends and family’. The categories ‘examination’ and ‘agency or union’ do not appear to have a significant impact. According to the findings of all the search channels only ‘asked employer’ and

'advertisement' yield significant effects for a transition to a formal job. In addition, 'asked employer' and 'asked friends and family' also seem to be highly significant in influencing the odds of getting an informal job against 'searching'.

Finally, for the specific case of México, the paper by Calderón-Madrid (2008) analyses the unemployment duration of job searchers in the Mexican labour market and also analyses the effectiveness of different search channels. Using survival models, Calderón finds that those that relate to social and family networks were more effective in getting an informal job, while newspaper and the internet were effective for those that got a formal job. It is important to point out that my analysis differs from the latter in that I am covering a longer period of time. I have information that covers a span of 10 years and I am also using information of weeks of job search to provide information on the role that duration of unemployment has on the probability of a transition to a job compared to remaining unemployed.

Not all the empirical evidence supports the fact that increasing search intensity leads to a greater probability of job offer arrival and hence a shorter unemployment spell. One of the main reasons for this is that a worker must devote the time and resources to this process, hence it becomes costly. In this sense, Keeley and Robins (1985) findings for the US suggest that the most productive forms of job search are those that are directly associated with direct employer contacts, as these measures are most strongly associated with unemployment duration. But the more methods individuals use, the longer their durations of unemployment. The latter suggests that unemployed individuals using few channels of job search intensively have shorter durations of unemployment compared to those who use many methods in a less intensive way. Search intensity and search channels used can also vary depending on personal characteristics and the type of job a worker is looking for. For example, Weber and Mahringer (2002), find that, on average, unemployed individuals use two methods of job search for the case of Austria. They find that search effort decreases with age and that more educated individuals search harder compared to lower educated ones. Going directly to the workplace accounts for more than half of the jobs found. Women and persons with higher level of career attitude have a higher probability of getting a job through the public employment office. Moreover, they find no significant effect of increasing search effort and higher wages.

As can be observed throughout the literature review, different methodologies for different countries have been used to analyse labour market transitions and the duration of unemployment for unemployed workers. The review of what has been done becomes important to provide a framework in which to place this study, given that the same methodology can be applied to the case of México in order to shed light on how different search channels affect the transition of unemployed job searchers to different labour force states in the Mexican context. Although many of the research has been done using duration analysis, the aim of this research is to analyze a two episode transition (i.e., transition from quarter one to quarter two), given the information provided by the Mexican Employment Survey (ENOE).

■ *The mexican labour market and data*

In México there is no national unemployment insurance program.[5] However, the government provides training scholarships, advice for finding a job through the National Employment Service (SNE in Spanish to unemployed individuals). Individuals that become unemployed, and were previously formal workers, have the right by law (Federal Labour Law for dismissals) to a severance payment that will vary with the type of worker contract they possessed. If the contract was for less than a year, the payment consists of an amount that equals the monthly wage of half the time for which the employee was hired. If the contract was for more than a year the amount consists of six months of wages for the first year and 20 days for each of the years the worker was employed. If the contract was for an indefinite time, the payment consists of 20 days for each of the years worked.

Quitting a job affords no right to a worker in terms of severance payment. Workers in the formal sector have access to fringe benefits. These benefits (provided mainly by the two major health institutions IMSS and ISSSTE[6]) consist of health care, life insurance, housing loans, retirement pension and severance payment. In contrast, workers in informal jobs do not have a legal right to any of these fringe benefits (Calderón-Madrid, 2008). Their work relations and wages are a matter of personal agreement between the employer and employee in this case.

Formal workers in México can be defined as those that are wage earning individuals that have access to public social security provided by the government. A person that owns a small business with employees has to formally register his business to provide these services to all his workers to be considered as formal. In this way, using the self-reported information from the survey, workers are classified as formal, if by the time of the interview, they report being employed and receiving health service from the government. They are defined as informal workers otherwise. It is important to mention that a worker can be hired by a formally constituted firm but have informal worker status.

In this paper the Mexican National Employment Survey (ENOE in Spanish) is used from 2005 to 2015. This survey constitutes a nationally representative random sample of individuals. The National Statistical Office in México (INEGI) asks individuals in this survey about different socioeconomic characteristics and their current employment status. This survey is designed to be a rotating panel where the interviewed individuals remain in the sample for five periods and then exit. Two types of questionnaires are used in this survey: the basic and the extended version. The basic version is used in the second to fourth quarters of each year and the extended version is only used in the first quarter of each year.

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5 The only Mexican state that has an unemployment insurance scheme is México City. This was implemented in 2010 as a state policy by the Local Labour Office. It consists of financial aid for up to six months to finance job search and enhance the transition to formality.

6 IMSS provides social security and health services to workers employed in the private sector whilst ISSSTE provides these services to workers in the public sector.

The extended version contains a duration indicator (number of weeks searching for a job) and questions on issues such as financial and other types of support. The objective of this set of questions is to capture if a person receives any form of financial aid from the government or from friends and relatives regardless of their employment status. As the sample represents only unemployed job searchers, it is of interest to determine if this aid (pecuniary or not) assists a person in exiting unemployment. Considering that this detailed information is only available on the extended versions of the questionnaire. The analysis is limited to the first and second quarter of each year from 2005 to 2015 as this information is important for this analysis. The survey includes questions regarding the job search channel used by individuals. These questions are asked in both surveys (basic and extended) and they capture the alternative search methods used by job searchers. Responses are divided into 11 categories and these are not mutually exclusive. The categories comprise: Directly, private placement agency, government placement agency, job government program, formalities to start a new business, online job advertisement, published or answered a newspaper or other printed source advertisement, went to a union or guild, asked relatives to recommend or inform about a job, check advertisements on newspapers and others. Due to the similarity between categories, the responses were merged into six broader categories in the following way: Ask for job directly, online job advertisement, advertisement (printed, newspaper, radio, and television), social networks, allocation services (public and private allocation service, went to union or guild) and other (arrangements to start a new business and other).

The survey contains questions that facilitates the identification of sources of income to finance job search. According to the questions, income comes from three main sources: Financial aid from friends and relatives, financial aid from a government program and income after employment (e.g., severance payment). Financial aid from friends can come from: Someone abroad, someone in another Mexican state or someone in the same state. In the same way, aid from government may come from the following sources: Fellowship, financial aid to start a new business, financial aid from any other government program. Finally, income after employment can come from either a severance payment, sale of a former business, a retirement pension, unemployment insurance[7] or private unemployment insurance.

As the number of people that did not have access to any of the three sources of income to finance job search is relatively small, the categories are merged to create three binary variables that capture whether they had access to income or not. Hence, a zero captures if a person did not have access (to aid from government, friends or income from a previous job) and one captures if the person did have access to any of the above.

Finally, the survey is a rotating panel of five interviews and for the purpose of the analysis I only considered those individuals that by the first quarter of each year were in their first to fourth interview. This allows tracking them to the next quarter of the survey and identify which channels they used to find a job in the first quarter and their

7 This applies to those living in the México City and that have access to this benefit.

labour market status in the second quarter. All these individuals state that by the first quarter they were unemployed and actively looking for a job. In this way I also drop all those that appear only in one quarter of the sample and I only retain those cases that had previous job experience.[8] For the sake of homogeneity in the sample I only observe the exit out of unemployment of those that have previous job experience and are actively looking for a job. Those that have never being employed have different personal characteristics and motivations.

Understanding the different channels by which unemployed individuals have access to jobs in México becomes important given its dual nature. There is a large debate on the segmentation of the Mexican labour market. Some argue that individuals have to work in informal jobs because the formal sector cannot offer sufficient jobs and thus individuals have to engage in informal activities to secure an income. On the other hand, there are others that argue that workers choose freely in which sector to work and the choice only depends on the wage and other factors that are preferred by them.[9] The effectiveness of some channels over others reflects how the labour market is composed. For example, public funds are devoted to government placement agencies and if job searchers are not using these channels or the type of jobs found through these channels are temporary or low paid. Then these public funds can be more efficiently spent in other public programs such as training or scholarships for unemployed individuals.

Table 1 reports the summary statistics for the variables of interest in the selected sample for the first quarter of each year. It can be seen that 70% of the sample is comprised of male job searchers, 65% are heads of household and the proportion that has access to any type of income to finance job search is relatively small. The sample is evenly distributed among educational categories, although it is worth mentioning that, on average, secondary schooling has the highest proportion of job searchers (30%). Approximately 6% of the sample has access to income after work or financial aid from friends and relatives and only 2% to aid from government. When looking at the stated reasons for job loss, it can be seen that being dismissed or finishing a job accounts for 60%, whereas 31% of job searchers reported that dissatisfaction with the previous job was the main reason for exiting their job. Regarding the search channels, three are worth mentioning: going directly to the workplace (74%), social networks (14%) and advertisements (13%). For the case of the five Mexican regions, the north and center comprise approximately 59% of the sample and the east, west and south regions the remaining 41%.

Finally, a variable that captures the mean weeks of job search is also included in the analysis. The purpose of adding a time variable to the model is to capture the possible existence of a "scarring effect" as explained in Lockwood (1991). This is that the longer the spell of unemployment a person experiences provides an indicator of low productivity to firms and hence is less likely to be hired. Furthermore, individuals that

8 I dropped those that stated that they did not have job experience because I could not distinguish between those having no work experience and those that did not report whether they had experience or not.

9 Esquivel and Diaz-Ordaz (2008), discuss in specific the segmentation of México's labour market. On the other hand, Maloney (2004) and Alcaraz, *et al.* (2015) argue that individual preferences influence the sector in which an individual decides to get a job.

experience repeat interruptions would end up in jobs that are low paid and unstable (Arulampalam,2001).[10] The fact that on this sample, unemployed individuals spent on average approximately two weeks looking for a job before the interview, indicates that transitions out of unemployment in México are relatively fast. And it could be a possible indication that remaining unemployed for long periods of time becomes costly and unaffordable given the lack of unemployment insurance.

Table 1
Descriptive Statistics for independent variables

Age Category	
18 to 22 years	0.24
23 to 28 years	0.25
29 to 35 years	0.18
36 to 44 years	0.16
45 years and more	0.17
Position in the household	
Head	0.65
Non Head	0.35
Marital status	
Married or free union	0.56
Not married	0.44
Gender	
Male	0.7
Female	0.3
Education	
Elementary school	0.21
Secondary School	0.30
High School	0.22
More than high school	0.27
Financial cushion	
No financial cushion	0.94
Financial cushion	0.06
Government aid	
No government aid	0.98
Aid from government	0.02

Aid from friends or relatives	
No financial aid	0.95
Financial aid	0.05
Previous job	
Formal	0.45
Informal	0.55
Reason for job loss	
Dismissed of finished previous job	0.60
Dissatisfaction with previous job	0.31
Left or closed previous business	0.06
Other	0.03
Search Channel	
Directly	0.74
On-line job advertisement	0.08
Advertisement	0.13
Social networks	0.14
Allocation service	0.04
Other forms of job search	0.04
Mexican Regions	
North	0.30
West	0.12
East	0.12
Center	0.29
South	0.17
Weeks of job search (mean)	1.89
	(1.26)
Number of observations	35,730

Source: Own elaboration.

[10] See Narendranathan and Elias (1993) and Arulampalam *et al*. (2000) for a detailed analysis of the "scarring effect" for the UK labour market.

It is important to acknowledge that the search channels used by job searchers are endogenous to personal characteristics of the individual and previous work experience in a given sector. Moreover, an unemployed individual will use the channels that are more likely to help him to secure a job. For this reason, the results presented here in section 5 should be interpreted with care as I am not claiming causality. Instead, this exercise aims at looking how one search channel increases the probability of securing a job relative to others. Looking at how different search channels affect the probability of securing a job is by itself an interesting exercise that allows to draw conclusions on the dynamics of a labour market that is characterized by being dual.

Another thing that it is worth mentioning is that even though I am not explicitly addressing the possible issue of self-selection into either formal or informal jobs. As I am only analyzing the choice of channels rather than wage returns of each of these sectors. The multinomial logit is estimating the preference of individuals for a given job conditioned on personal characteristics and the channels used. To properly address the issue of self-selection, information on wages is necessary.[11] This will facilitate the estimation of the selection of individuals for a job via a two-step procedure. However, this analysis is out of the scope of this paper.

- *Econometric methodology*

For the case where more than two destinations in the dependent variable are possible, the ordering among the destinations is irrelevant and regressors do not vary over alternatives, the multinomial logit model (MNL) is more appropriate.

Let $y_{ij} = 1$ if the i^{th} individual in t experiences a transition in $t + 1$ into one of the four labour market states (unemployed, formal job, informal job, out of the labour force) and $y_{ij} = 0$ otherwise, and where $j = 1, 2, 3, 4$.

$Prob[\, y_{ij} = 1 \,] = \pi_{ij}$ and since the individual probabilities sum one we have:

$$\pi_{i1} + \pi_{i2} + \pi_{i3} + \pi_{i4} = 1$$

One can express this four category multinomial logit model using the index relationship $x_0\, i\beta j$ as follows.

(1) $$\pi_{i1} = \frac{\exp[\, x_i' \beta_1 \,]}{\exp[\, x_i' \beta_1 \,] + \exp[\, x_i' \beta_2 \,] + \exp[\, x_i' \beta_3 \,] + \exp[\, x_i' \beta_4 \,]}$$

(2) $$\pi_{i2} = \frac{\exp[\, x_i' \beta_2 \,]}{\exp[\, x_i' \beta_1 \,] + \exp[\, x_i' \beta_2 \,] + \exp[\, x_i' \beta_3 \,] + \exp[\, x_i' \beta_4 \,]}$$

[11] Moreover, given that individuals can choose among more than one option, modelling this self-selection issue can be addressed using a multinomial logit model as employed in Wu (2010).

$$\pi_{i3} = \frac{\exp[x_i'\beta_3]}{\exp[x_i'\beta_1] + \exp[x_i'\beta_2] + \exp[x_i'\beta_3] + \exp[x_i'\beta_4]} \tag{3}$$

$$\pi_{i4} = \frac{\exp[x_i'\beta_4]}{\exp[x_i'\beta_1] + \exp[x_i'\beta_2] + \exp[x_i'\beta_3] + \exp[x_i'\beta_4]} \tag{4}$$

The parameters of the multinomial logit model are estimated by specifying the following log likelihood function after substituting for π_{ij}.

The multinomial logit can be re-expressed in a general form as:

$$\pi_{ij} = \frac{\exp[x_i'\beta_j]}{\sum_j^k \exp[x_i'\beta_j]} \tag{5}$$

Where k is the number of outcomes being modeled which are four in this case. This equation expresses the probability that an individual with characteristics x_i experiences a transition to the j^{th} labour force state. However, a normalization is required for identification and this is achieved by arbitrarily setting the elements of the β_1 vector to zero. This is referred to as Theil normalization.

For this four-outcome model of labour force transitions described by equations (1) to (4), the restriction implies that the probabilities are re-expressed as:

$$\pi_{i1} = \frac{1}{\exp[x_i'\beta_1] + \exp[x_i'\beta_2] + \exp[x_i'\beta_3] + \exp[x_i'\beta_4]} \tag{6}$$

$$\pi_{i2} = \frac{\exp[x_i'\beta_2]}{\exp[x_i'\beta_1] + \exp[x_i'\beta_2] + \exp[x_i'\beta_3] + \exp[x_i'\beta_4]} \tag{7}$$

$$\pi_{i3} = \frac{\exp[x_i'\beta_3]}{\exp[x_i'\beta_1] + \exp[x_i'\beta_2] + \exp[x_i'\beta_3] + \exp[x_i'\beta_4]} \tag{8}$$

$$\pi_{i4} = \frac{\exp[x_i'\beta_4]}{\exp[x_i'\beta_1] + \exp[x_i'\beta_2] + \exp[x_i'\beta_3] + \exp[x_i'\beta_4]} \tag{9}$$

Given that $\exp(0) = 1$.

The parameters of the multinomial logit model are estimated by specifying the following log likelihood function after substituting for πij.

(10) $$L = \sum_i^n \sum_j^k y_{ij} \log(\pi_{ij})$$

Finally, for this multinomial logit model there is no single conditional mean of the dependent variable, *y*. Instead one has to model the probabilities of the different outcomes, because we have an interest in how these probabilities change as regressors change. In other words, if a change in *x* increases the probability of attachment to one category, it must reduce the probability in one or more of the other categories to ensure the underlying probabilities sum to one. In the case of having discrete binary variables as regressors, as in this case, one would estimate impact effects rather than marginal effects.[12]

- *Transitions out of the labour force by female and male job searchers*

The effects of personal characteristics, search channels and financial aid on the probability of transitioning from unemployment in the first quarter of the survey to either a formal or informal job or even out of the labour force is estimated. As described before, the categories are: unemployed, employed in a formal job, employed in an informal job and out of the labour force.[13] The multinomial logit model controls for age, gender, marital status, position in the household (i.e., being the head), regional dummies (north, south, east, west, center), educational categories (elementary school, secondary school, high school and more than high school) if the previous job was formal, reason for job loss (dismissed, dissatisfaction, left previous business and others) and a variable that captures the size of community is estimated.[14]

I also introduce three variables to capture if a person is in receipt of any sort of financial aid (i.e., financial aid from friends and relatives, financial aid from government or any sort of income after work which can be considered as a "financial cushion"). I introduce the different search channels used by workers to find a job (i.e., directly to the workplace, job offer on line, advertisement in newspaper or classifieds, friends and relatives, used public or private allocation service and others).

Finally, I introduce the duration variable to the estimation, which captures the number of weeks that a person spent searching for a job. Adding the information of weeks of job search is important because the time an individual devotes to job search is positively correlated with remaining unemployed. Although as shown in table 1, the time that an individual devotes to job search before leaving unemployment is not greater than two weeks on average (with a standard deviation of approximately 1 week). It becomes informative to know whether individuals are experiencing a "scarring effect".

In order to shed light on any gender differences that may arise in the Mexican labour market transitions, the model is divided by male and female workers subsamples.

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12 See chapter 15 of Cameron and Trivedi (2005) for details on the estimation of impact effects.

13 All of the individuals are unemployed in the first quarter of the sample. Therefore they transition to four different labour market states in the second quarter: remaining unemployed (U-U), formal job (U-F), Informal job (U-I) and Out of the labour force (U-O).

14 This is a variable divided into four categories: population of more than 100,000; population from 15,000 to 99,999; population from 2,500 to 14,999; population from 2,500 to 14,999; and population of less than 2,500.

The results for the estimation of labour market transitions for the full sample are not presented here due to space constraint. However, the results are available upon request.

Looking at gender differences provides additional information to understand the dynamics of the labour market and observe if any channel is being more efficient for one group compared to the other. However, it is important to test first whether there are any gender differences in the model. For this purpose, I conducted a composite likelihood ratio test to see if there are systematic differences between the fit of the full model against the model with only male workers and the model with only female workers. The null hypothesis is that there are no systematic differences. The result of the test rejects the null hypothesis with *Prob > chi2 = 0.00010*. Following the result of the test, I estimate the model with subsamples for male and female job searchers. The results of the female subsample estimations are presented in table 2 and the results for the male subsample are presented in table 3.[15] Clustered standard errors by individuals are reported in parenthesis.[16]

The category of schooling is usually a good predictor of the type of job. Ex-ante it is expected that those with higher levels of education will be more likely to access a formal job relative to an informal one. The results from this estimation confirm that relative to those unemployed and that have education beyond high school, having elementary or secondary school increases the probability of transition to an informal job for both male and female job searchers. But this also decreases the probability of transition to a formal one. Having high school only increases the probability of a transition to formal jobs for male job searchers. In addition, having only elementary education increases the probability of going out of the labour force by 9.0 percentage points for female job searchers.

Relative to remaining unemployed in the second period. Being previously employed in the formal labour market has a positive impact on the probability of a transition to a formal job for both female and male workers as can be observed in table 2 and 3. On the other hand, it decreases the probability of transitioning to an informal job or exiting the labour force. As explained before, I acknowledge that this result is endogenous to the individual as being previously formal increases the likelihood of being formal in the present. Previously formal workers would prefer re-entering a formal job rather than accepting an informal job offer even though this would mean staying unemployed for an additional period. This is commonly known in the literature as "wait unemployment". Where conditioned on personal characteristics and reservation wage, individuals will prefer to remain unemployed longer that to get a less desired job.[17] This result is also consistent with (Calderón-Madrid, 2008) where he reports that workers whose previous job was informal search for a shorter period before moving out of unemployment.

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15 As part of the econometric analysis of the model the Independence of Irrelevant Alternatives (IIA) proposition is tested for the three outcomes of the model: remaining unemployed, transitioning to employment in the formal sector and transitioning to employment in the informal sector. The result of the Small Small-Hsiao test supports the null hypothesis. This means that the alternatives are independent of each other and thus supports the use of the MNL model.

16 Full results including the regional and size of community are available upon request from the author.

17 For an analysis of "wait unemployment" in public sector jobs for highly skilled workers for Pakistan see Reilly and Hyder (2006).

The information regarding the reason for unemployment was included as this permits the identification of how different reasons for losing a job in the past affect the probability of securing a job in the future. For females, table 3 shows that being dismissed from a previous job, increases the probability of securing a formal job for females by 1.6 percentage points. On the other hand, leaving or closing a previous owned business decreases the probability of a formal job by 5.4 percentage points but it increases the probability of an informal job by 6.8 percentage points.

For the case of male job searchers. Results in table 3 show that unlike female, being dismissed from a previous job increases the probability of securing an informal job by 1.5 percentage points. Leaving or closing a previous business increases the probability of securing an informal job by 7.7 percentage points. This result is similar to the subsample for female job searchers. The fact that closing a previous business increases the probability of an informal job for both male and female job searchers, might be a reflection that in México many owned businesses are not formally registered. As a consequence, closing and reopening implies no additional bureaucratic costs which facilitates this process. Additionally, owning a business gives workers the advantage of flexible working hours and this can be an important aspect for female workers to consider when there are young children in the house.

One of the main characteristics of the Mexican labour market is the absence of unemployment insurance. Having no financial support to finance job search pushes workers to exit unemployment relatively fast. This might partially explain why the duration of job search is no more than two weeks on average as seen in table 1. Another reason that can explain the relative short duration of unemployment is that as previously discussed in the literature review, the job search process is costly and only those that have access to any sort of financial support can afford remaining unemployed for a longer period of time.

Furthermore, the results show that relative to remaining unemployed. Receiving financial assistance from the government via scholarships or other type of support decreases the probability of a female experiencing a transition to a formal job in the second quarter of each year. Additionally, it increases the probability of going out of the labour force. For the case of receiving financial assistance from relatives, the results show that this decreases the probability of experiencing a transition to an informal job by 2.8 percentage points and it increases the probability of going out of the labour force by 3.5 percentage points. These results are consistent with the literature that points out that receiving assistance can extend the time a worker spends searching for a job. In this case, females would stop searching for a job actively either when they receive financial assistance from friends or relatives or any other help from the government. This result is not surprising, as it is a known fact that Mexican families typically have a male figure as the head of household and female labour in many cases is only a complement of the household income.

Additionally, it can be observed that Male job searchers benefit from having a severance payment as this would help finance job search. In specific, having a financial "cushion" increases the probability of a male job searcher of experiencing a transition

to a formal job by 3.0 percentage points. But this reduces the probability of a transition to an informal job by 3.8 percentage points. In México receiving a severance payment after a job dismissal is strongly associated with a formal job, as this benefit is established by law. Individuals with a severance payment would most likely get a formal job, because this is what their previous labour status was. Receiving financial help from the government or any other type of help increases the probability of a male job searcher exiting the labour force by 8.7 percentage points. Aid from the government might discourage workers from an active job search and take time off instead. Receiving financial assistance from friends or relatives also increases the probability of the job searchers going out of the labour force by 3.4 percentage points and it decreases the probability of a transition to a formal job.

These results confirm that having a financial support increases workers' reservation wages and this allows them to search for a job that is more appropriate to their personal characteristics and preferences rather lowering their expectations and take any job to secure an income. The findings presented here are in line with the related literature findings on the effect of a financial cushion on the duration of unemployment which suggest that those who are without this income would transit to employment faster.

Holzer (1988) in his model suggests that search method choices are related to their underlying costs and expected productivities. Job searchers would presumably choose the search channels that are less costly and more likely to secure a job according to their experience (e.g., going directly to the workplace or via friends and relatives). Following this idea, workers would avoid using various search channels simultaneously as this implies high search costs.[18] In this sense, as shown in table 3. Females seem to benefit largely from the search channels when it comes to securing a formal job. More specifically, asking directly for a job in the workplace, uploading or replying a job offer online, using advertisements in newspapers and allocation services. All these options increase the probability of a female securing a formal job by 3.1, 3.0, 2.6 and 4.1 respectively. On the other hand, these channels do not seem to be efficient when it comes to securing informal jobs. It is worth mentioning that, although being the second most used channel, the friends and family do not seem to be benefiting females to secure any type of job.

For the case of males. Going directly to the workplace increases the probability of experiencing a transition to a formal job by 1.9 percentage points but it decreases the probability of a job as an informal by 3.5 percentage points. Using advertisements in newspapers increases the probability of a formal job by 2.7 percentage points whereas it decreases the probability of an informal job by 6.5 percentage points. Asking for friends or relatives to recommend for a job increases the probability of a job searcher experiencing a transition to an informal job by 2.3 percentage points but it has the opposite effect for the case of a formal job. This channel does not seem to be efficient as it reduces the probability of a formal job by 1.9 percentage points. In contrast, Calderón-

18 I constructed a variable to capture the number of search channels used by individuals by adding the 5 search channels. The variable shows that the maximum number of channels used were 4, and the mean of search channels used is 1.17. This confirms that workers in this sample, on average, generally rely only on just one search channel.

Madrid (2008) finds that those that rely on newspaper, radio and the internet escape faster from unemployment than those relying on social networks. The results discussed reveal that compared to male, female job searchers benefit more from the search channels when trying to access a formal job. In specific, allocation services only benefit female workers but not male. Male on the other hand, benefit more from asking friends or relatives to recommend a job whereas females do not access jobs through this channel.

Finally, the variable that captures the weeks of job search is also introduced in the regression for both male and female. The results suggest that on average, an additional week of job search decreases the probability of a female job searcher securing a formal job by 0.01 percentage points. In contrast, the probability of remaining unemployed increases by 0.09 percentage points. According to these results, there is some evidence of a scarring effect for women, although the coefficient is not big. This can be partly explained by the fact that in this particular case, job searchers do not seem to be experiencing long periods of unemployment prior to securing a job. For the case of the male subsample, table 3 show that relative to remaining unemployed an additional week of job search decreases the probability of both formal and informal jobs. In specific, an additional week of job search for males decreases the probability of a transition to a formal job by 0.04 also an informal job by 0.05 percentage points. The results for males is similar to the ones for females in the sense that there is some evidence of a scarring effect. Despite the result not being big, there is some evidence of a "scarring effect" in the Mexican labour market, as mentioned in Lockwood (1991). This is that taking duration of unemployment as exogenously given, the worker's unemployment spell previous to being hired conveys negative information on the worker's productivity. Presumably those that have been more time unemployed are perceived by employers as less productive due to the depreciation of skills that unemployment spells bring about. So employers use this information to sort good workers from bad workers (Arulampalam, 2001). Many specifications were used for the time, introducing log of time and by grouping the weeks in quarters, taking to account the quarterly nature of the survey and taking the first quarter as the base category for the regression.[19] The magnitude and coefficients of time hold for the case of introducing the log time of the weeks of job search.

There seems to be a scarring effect for both genders but this result is not robust enough, which in part might be minimized by the fact that on average job searchers spend two weeks before they secure a job. Financial assistance is having a discouraging effect as it increases the probability of quitting active job search for both male and female. A notable exception is having a severance payment, labelled here as "financial cushion", having this actually increases the probability of securing a formal job, although this is only effective for male job searchers. Allocation services seem to benefit more female job searchers compared to their male counterparts.

19 The different specifications used are available upon request from the author.

Table 2
Female subsample estimation for Job search channels (Impact and marginal effects)

	Outcome Employment Status			
	Unemployed	Formal	Informal	Out of the labour force
1 if married or free union	-0.0883***	-0.0503***	-0.0366***	0.175***
	(0.00854)	(0.00817)	(0.00986)	(0.0112)
Head of household	0.0119	-0.00250	0.0555***	-0.0649***
	(0.0126)	(0.0120)	(0.0139)	(0.0139)
18 to 22 years	0.0121	0.0800***	-0.0599***	-0.0323
	(0.0192)	(0.0218)	(0.0175)	(0.0200)
23 to 28 years	0.0571***	0.0970***	-0.0445***	-0.110***
	(0.0191)	(0.0208)	(0.0169)	(0.0180)
29 to 35 years	0.0692***	0.0897***	-0.0232	-0.136***
	(0.0205)	(0.0223)	(0.0174)	(0.0168)
36 to 44 years	0.0468**	0.0900***	-0.0176	-0.119***
	(0.0201)	(0.0225)	(0.0173)	(0.0170)
Elementary school	-0.0727***	-0.0618***	0.0442***	0.0903***
	(0.0117)	(0.0118)	(0.0159)	(0.0176)
Secondary school	-0.0542***	-0.0243***	0.0301**	0.0484***
	(0.00954)	(0.00937)	(0.0121)	(0.0132)
High school	-0.0386***	-0.00657	-0.00344	0.0486***
	(0.00970)	(0.00976)	(0.0123)	(0.0134)
Previous job formal	0.0195**	0.127***	-0.105***	-0.0416***
	(0.00815)	(0.00812)	(0.00919)	(0.00994)
Dismissed or finished previous job	0.0275***	0.0165**	-0.00653	-0.0374***
	(0.00820)	(0.00771)	(0.00923)	(0.00989)
Left or closed previous business	-0.0235	-0.0541***	0.0682***	0.00942
	(0.0201)	(0.0203)	(0.0222)	(0.0228)
Other reasons for job loss	-0.0157	-0.0329	0.0280	0.0206
	(0.0245)	(0.0230)	(0.0260)	(0.0289)
Financial cushion	-0.00253	0.0199	0.0211	-0.0384*
	(0.0171)	(0.0163)	(0.0209)	(0.0210)
Financial aid from government	-0.0285	-0.0615***	0.00989	0.0801***
	(0.0194)	(0.0173)	(0.0211)	(0.0235)
Financial aid from relatives	0.00259	-0.00928	-0.0289*	0.0356**
	(0.0144)	(0.0139)	(0.0150)	(0.0181)
Went directly to the work place	0.0121	0.0319***	-0.00884	-0.0352**
	(0.0110)	(0.0105)	(0.0134)	(0.0146)
Uploaded or replied to a job offer online	0.0268*	0.0302**	-0.0211	-0.0359**
	(0.0141)	(0.0140)	(0.0160)	(0.0172)

	Outcome Employment Status			
	Unemployed	Formal	Informal	Out of the labour force
Used advertisement in newspaper or classifieds to get job	0.00984	0.0267**	0.00494	-0.0415***
	(0.0117)	(0.0118)	(0.0133)	(0.0139)
Asked to relatives and friends to recommend his job	-0.0277**	-0.00307	0.0241	0.00666
	(0.0131)	(0.0134)	(0.0160)	(0.0169)
Used allocation services to get job (public of private)	0.0666***	0.0417**	-0.0599***	-0.0485**
	(0.0190)	(0.0185)	(0.0187)	(0.0214)
Used other channels to find a job	-0.00507	-0.0118	0.0339	-0.0170
	(0.0214)	(0.0209)	(0.0244)	(0.0252)
Weeks of job search	0.00903***	-0.0129***	-0.00264	0.00655*
	(0.00298)	(0.00329)	(0.00361)	(0.00380)
Observations	11,177			
Pseudo R-squared	0.051			

Standard errors in parentheses.

* p<0.1 ** p<0.05 *** p<0.01

Source: Own elaboration.

Table 3
Male subsample estimation for Job search channels (Impact and marginal effects)

	Outcome Employment Status			
	Unemployed	Formal	Informal	Out of the labour force
1 if married or free union	-0.0540***	0.0578***	0.0650***	-0.0688***
	(0.00789)	(0.00722)	(0.00936)	(0.00604)
Head of household	-0.0334***	0.00652	0.0418***	-0.0149**
	(0.00854)	(0.00791)	(0.0102)	(0.00672)
18 to 22 years	-0.0707***	0.139***	-0.0122	-0.0558***
	(0.00975)	(0.0134)	(0.0134)	(0.00631)
23 to 28 years	-0.0594***	0.134***	0.0165	-0.0916***
	(0.00917)	(0.0122)	(0.0124)	(0.00530)
29 to 35 years	-0.0554***	0.122***	0.0255**	-0.0922***
	(0.00889)	(0.0120)	(0.0121)	(0.00484)
36 to 44 years	-0.0448***	0.0597***	0.0635***	-0.0784***
	(0.00885)	(0.0110)	(0.0117)	(0.00502)
Elementary school	-0.0915***	-0.0853***	0.179***	-0.00224
	(0.00784)	(0.00762)	(0.0110)	(0.00676)
Secondary school	-0.0711***	-0.00824	0.117***	-0.0379***
	(0.00750)	(0.00742)	(0.0102)	(0.00618)
High school	-0.0452***	0.0236***	0.0261**	-0.00454
	(0.00796)	(0.00826)	(0.0111)	(0.00673)

	Outcome Employment Status			
	Unemployed	Formal	Informal	Out of the labour force
Previous job formal	0.0498***	0.161***	-0.179***	-0.0316***
	(0.00619)	(0.00611)	(0.00705)	(0.00466)
Dismissed or finished previous job	0.0221***	-0.00489	0.0159**	-0.0332***
	(0.00665)	(0.00604)	(0.00804)	(0.00530)
Left or closed previous business	-0.00131	-0.0516***	0.0774***	-0.0245***
	(0.0144)	(0.0130)	(0.0163)	(0.00877)
Other reasons for job loss	-0.0120	-0.0363**	0.0469**	0.00144
	(0.0175)	(0.0150)	(0.0199)	(0.0123)
Financial cushion	0.00647	0.0307***	-0.0389***	0.00168
	(0.0113)	(0.0103)	(0.0142)	(0.00969)
Financial aid from government	-0.0714***	0.0176	-0.0333	0.0871***
	(0.0221)	(0.0250)	(0.0292)	(0.0227)
Financial aid from relatives	0.0176	-0.0337**	-0.0183	0.0343***
	(0.0162)	(0.0133)	(0.0184)	(0.0129)
Went directly to the work place	0.0206**	0.0197**	-0.0352***	-0.00501
	(0.00851)	(0.00815)	(0.0110)	(0.00684)
Uploaded or replied to a job offer online	0.0203	0.0103	-0.0384**	0.00777
	(0.0124)	(0.0114)	(0.0154)	(0.0102)
Used advertisement in newspaper or classifieds to get job	0.0485***	0.0273***	-0.0652***	-0.0106
	(0.00986)	(0.00906)	(0.0113)	(0.00719)
Asked to relatives and friends to recommend his job	-0.0154*	-0.0196**	0.0234**	0.0116
	(0.00924)	(0.00865)	(0.0112)	(0.00728)
Used allocation services to get job (public of private)	0.0558***	0.0217	-0.0591***	-0.0184
	(0.0165)	(0.0149)	(0.0188)	(0.0116)
Used other channels to find a job	0.0184	-0.0309*	0.0285	-0.0160
	(0.0186)	(0.0158)	(0.0217)	(0.0127)
Weeks of job search	0.0107***	-0.00458**	-0.00507*	-0.00109
	(0.00211)	(0.00216)	(0.00269)	(0.00170)
Observations	24,553			
Pseudo R-squared	0.070			

Standard errors in parentheses.
* p<0.1 ** p<0.05 *** p<0.01

Source: Own elaboration.

■ *Conclusions and policy implications*

The aim of this study was to disentangle the effects of a set of personal characteristics and different search channels on the probability of an individual experiencing a transition to different labour market states. The empirical literature suggests that the use of search channels is associated to their underlying costs and expected productivities

(Holzer, 1988). This implies that using more channels for job search becomes costly, so individuals would opt for those that in their experience, increase the probability of accessing a job.

Some interesting facts arise from the analysis of labour market transitions. First, the results of the estimation reveal that there seems to be a strong and positive correlation between being formally employed and transitioning to employment in the formal sector in period $t + 1$. Second, there is a "wait unemployment" reflected by the fact that those with lower levels of education experience more transitions relative to more educated individuals, because presumably they would wait for an offer in the formal sector and discard those offers from the informal sector. This result is confirmed by the positive impact of the variable which captures if a person was previously a formal worker on two outcomes: remaining unemployed and experiencing a transition to a formal job. Alternatively the negative impact on experiencing a transition to an informal job.

Third, there seems to be a "scarring effect" which is picked up from the negative effect of the variable weeks of search, unemployment spells are positively associated with remaining unemployed and negatively associated with transitions to either formal or informal jobs. However, this as on average job searchers spent 2 weeks before exiting unemployment. This should be interpreted with care. Fourth, the results of the analysis show the existence of a gender difference when using the different search channels. Women seem to benefit more to some extent when using various types of search channels and securing a formal jobs such as going directly to the workplace, uploading or replying a job offer online and using newspaper ads to get a job. Male job searchers on the other side, to secure formal job seem to benefit from attending directly to the workplace and using advertisements in newspapers. For informal jobs, males benefit more from asking friends or relatives to recommend for a job.

Even though this study is merely a description of the dynamics of a transition of workers from quarter 1 to quarter 2 from a period of 2005-2015, conditioned on using different types if search channels and given personal characteristics. Some conclusions are worth being pointed out for policy purposes. The fact that male job searchers are not being benefited from the use of channels such as allocation offices (public of private), is a signal that these offices can be improved to help workers get a formal or informal job. Not only it is important for this channel to work, but the quality of jobs that can be accessed through this channel is also important. In this sense, Addison and Portugal (2002) find that the use of allocation services has a low hit rate and leads to non-lasting and low paid jobs. In this sense, improving allocation services has to include not only helping job searcher to get a job, but also, help them get a job according to their schooling level and experience.

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