

# Comparison Study of Job Turnover and Job Search Methods between Japan and Europe

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by

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## Introduction

One of the key problems of the labor market is the mismatch between job seekers and vacant jobs. While inefficient job search methods by the unemployed lead to persistent unemployment and productivity slacks by the vacancy posting firms, efficient on the job-search is indispensable to allocate human capital in an efficient way and prevent workers from being stuck in a declining industry. Generally two perspectives are of interest. On the one-side the researcher could take a so called “ex-ante” perspective and investigate the speed with which a particular job search method leads to a new match. On the other side, the so called “ex-post” perspective starts from the successful entry-method and relates it to labor market outcomes. Optimal would be to link both, this information is however rarely available in empirical data.

The major part of the existing literature on job search methods has taken the perspective of the unemployed searcher (i.e. the “ex-ante”-perspective). Examples are Gregg and Wadsworth (1996) and Böheim and Taylor (2002) for the UK, Holzer (1988) for the US and Osberg (1993) for Canada. Holzer finds that the search method “friends and relatives” and “direct search” are used most frequently and are the most productive in generating offers. Gregg and Wadsworth (1996) identify “advertisements” and the “Jobcentre” as the two most popular search methods in the UK. While these search methods have low hit rates, they are used very frequently resulting in the highest number of successful placements in absolute numbers. When modeling the probability of using various search methods, conditional on making a transition into work, they report a positive correlation between the duration of joblessness when searching via a Jobcentre and a negative correlation with the other search methods.

Also for the UK, Böheim and Taylor (2002) find that replying to advertisements and using Job Centres or employment agencies are the two most common methods of job search. The authors highlight the fact that job searchers employ more than one method at a time. Specifically, they identify as the most common strategy a combination of direct application, replying to advertisements, visiting a Jobcentre and friends and contacts. Böheim and Taylor also point out that the search strategy with the highest probability of being employed at the subsequent date of interview, namely applying to potential employers directly, does not correspond to the most common methods. A shortcoming of these studies taking the “ex-ante”-perspective is that they have to assume that the employed job search method is causal for the subsequent employment although the data do not allow observing the entry method.

An exception is Addison and Portugal (2001) who have information on search method and the final entry method in Portuguese data. Indeed, the authors find that the “hit rates” of methods interpreted as search methods leading to an entry via that method in the next period are highest for “self-employment”, “friends and relatives” and “direct application”. However, finding a job via these methods do not necessarily translate into higher earnings. When discussing the low efficacy of public employment service the authors admit that the estimates are to be viewed as a mix of institutional inefficiency and selection effects.

A main purpose of this study is to allow with a cross-country comparison of entry methods between some European countries finally a comparison with job search methods in the US and Japan. On the one hand we have to face the problems as with all cross-country comparison. It is difficult to come up with comparable data. Even if very comparable data are available as for the

European Community Household Panel it is unclear whether the questions and variables mean the same things in different countries. On the one hand the findings might have to do with the specific labor market institutions in each country and there are hardly transferable for policy advice in other countries. However, results might be stronger when finding similar pattern across countries. Finding a similar functioning of labor markets despite other differences between countries would make resulting policy implications even stronger. In this vein, we hope that the analysis described in this report might help to provide a good benchmark of comparison.

## **Data Sources**

Our primary aim was to use one data set to provide an analysis of entry methods across selected European countries, specifically for Denmark, Germany, France, Italy, the Netherlands, and UK. As the current study serves a comparison of job search methods in Europe, Japan and the US, the use of a single data set for Europe would not only be desirable in simplifying the analysis but also to provide one framework of analysis for comparison instead of a number of frameworks which are optimized for the available data for each country at hand. The European Community Household Panel (ECHP) provides standardized data for most of the European countries and we are fortunate to use comparable data for five of our selected European countries. However, for the U.K. there is no information on entry methods in the ECHP. This leads us to use the British Quarterly Labor Force (BQLFS) to analyze entry methods in the UK. The data structure and the information provided in this data set is completely different from the ECHP. Importantly, it does not provide sufficient information on wages to analyze wage changes from previous to current employment and relate these to entry methods. The general structure of the data sets and the selection used for our analysis is explained in the next sub-sections.

### ***The European Community Household Panel (ECHP)***

#### **General description**

The European Community Household Panel (ECHP) is a survey based on a standardized questionnaire that involves annual interviewing of a representative panel of households and individuals in each country, covering a wide range of topics: income, health, education, housing, demographics and employment characteristic, etc. The total duration of the ECHP was 8 years, running from 1994 to 2001. In the first wave, i.e. in 1994, a sample of some 60,500 nationally represented households - i.e. approximately 130,000 adults aged 16 years and over - were interviewed in the then 12 Member States.

Three characteristics make the ECHP a unique source of information. These are (i) its multi-dimensional coverage of a range of topics simultaneously; (ii) a standardized methodology and procedures yielding comparable information across countries; and (iii) a longitudinal or panel design in which information on the same set of households and persons is gathered to study changes over time at the micro level.

Two major areas covered in considerable detail in the ECHP concern the economic activity and personal income of the individuals concerned. In addition, a wide range of other topics are covered, such as the individual's social relations and responsibilities, health, pensions and insurance, degree of satisfaction with various aspects of work and life, education and training, and biographic information. Hence compared to other social surveys in the EU, the ECHP has a much broader and integrative character: it aims to provide comparable and inter-related information on, for instance, earnings and social protection benefits and employment and working conditions and housing and family structures and social relations and attitudes. Information on some of these topics may be less detailed or less precise than that in single-topic sources, but in ECHP it forms a part of a single micro-data source on the basis of which inter-relationships between different fields and the relevance of specific factors for the individuals' living conditions can be analyzed.

Furthermore, these inter-relationships can be studied and compared across countries. Comparability is achieved through a standardized design and common technical and implementation procedures, with centralized support and co-ordination of the national surveys by Eurostat, the central statistical bureau of the EU. The ECHP design has a number of features introduced to enhance cross-national comparability: A common survey structure and procedures, in this case annual interviewing of a representative panel using specified follow-up rules etc., common standards, and where possible common arrangements as well, for data processing and statistical analysis, including editing, variable construction, weighting, data adjustment, variance computation etc., common sampling requirements and standards (concerning sample size, probability selection procedures, respondent and call-back rules etc.), coupled with flexibility in the actual designs to suit national conditions. A central feature of the project is the use of a common 'blue-print' questionnaire which is to serve as the point of departure for all national surveys.

The truly unique feature of ECHP is of course its panel design. Within each country, the original sample of households and persons is followed over time at annual intervals. In addition to providing longitudinal data, ECHP is also designed to provide representative cross-sectional pictures over time by constant renewal of the sample through appropriate follow-up rules. Persons who move or otherwise form or join new households are followed up at their new location. Children in the original sample become eligible for the detailed personal interview as they achieve the age of 16, and children born to sample women are automatically included as a part of the survey population. In this manner, the sample reflects demographic changes in the population and continues to remain representative of the population over time, except for losses due to sample attrition and households formed purely of new immigrants into the population. Furthermore, at any time the detailed survey covers all persons cohabiting with any of the original sample person in the same household. This is so that the sample persons can be studied in the context of their total household. For researchers a further anonymized sub-sample of the original data, the users' database (UDB) is available under strict contractual conditions. A detailed description of this data set with an emphasis on the procedure dealing with non-response in the household panel is provided in Peracchi (2002).

## **Problems and limitations**

We identify an entry in a new employment relation when the information provided about the start of the current employment relation is more recent than in the most recent interview which precedes the interview under consideration at which the worker reported to be employed. Accordingly, all information referring to the current employment relation including the information about the entry method is taken from this interview. All information relating to the previous job is taken from the most recent interview in which we observe the individual as employed previous to the one for which we identified a new entry. Also there are some direct questions referring to the previous employment relation in the questionnaire, this information turns out to contain huge amount of missing observations. We therefore choose to refer only to information about the previous job from interviews in which we observe the individual as employed previous to the new entry. To ensure independence of observations in the regressions we restrict our sample to the most recent change into a new employment relation for each individual. However, we do not lose many observations when restricting our sample to one change per individual. To make inferences about changes from previous to current employment relation by this identification procedure we have to impose the assumption that most employment relations are stable. This has to do with the fact that we cannot find out whether the worker was employed in any short term unemployment relation between the (annual) interviews. The information about the length of unemployment before finding the current job draws on a question in the questionnaire. Again, we only refer to this information when we identified the interview as the first in a new employment relation. Answers to this question report the number of months being unemployed for most countries in the ECHP. An exception is Germany where we only have information about the full years being unemployed before finding the current employment relation. We consider this as not useful information and exclude Germany from the analysis which relates the length of unemployment to entry methods in the descriptive statistics and regression analysis. Another problem is the fact that we cannot distinguish very short unemployment periods (e.g. two weeks) from those lasting one month. However, we can observe clearly whether we have observed a direct job to job change (without an intervening unemployment spell). We deflate wages by consumer price index information to make sure that we do only pick up changes in real wages. Wages are defined as earnings of employees. Accordingly, we are not able to link the entry method “self-employment” to wage changes in the descriptive statistics or regression analysis. Some other important information is not provided for each country covered in the ECHP. For instance, we do not have industry information in the ECHP for Germany. In the regression analysis we have chosen a model which we are able to given the available data for all selected European countries. We value a comparable regression model for the selected European countries higher than a perfectly fitted individual model which might prevent a comparison analysis.

## ***The British Quarterly Labor Force Survey (BQLFS)***

### **General description<sup>1</sup>**

The Labour Force Survey (LFS) is a survey of households living at private addresses in Great Britain. Its purpose is to provide information on the UK labor market which can then be used to

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<sup>1</sup> This description follows the description in LFS User Guide Vol.1 (2001)

develop, manage, evaluate and report on labor market policies. It is carried out by the Social Survey Division (SSD) of the Office for National Statistics (ONS) in Great Britain and by the Central Survey Unit of the Department of Finance and Personnel in Northern Ireland on behalf of the Department of Economic Development.

The design of the LFS also allows estimates of change to be made. Because of the continuous overlapping nature of the sample, estimates of change should only be made between non-overlapping 3-month periods. The LFS is intended to be representative of the whole population of the UK. The sample design of the LFS and its detailed implementation are the responsibility of ONS' Social Survey Division. The population covered is all persons resident in private households, all persons resident in National Health Service accommodation and young people living away from the parental home in a student hall of residence or similar institution during term time. (These latter groups are included in the LFS sample specifically to improve the coverage of young people). The sample design currently consists of about 59,000 responding households in Great Britain every quarter, representing 0.3% of the GB population. A sample of approximately 2,000 responding households in Northern Ireland is added to this, representing 0.4% of the NI population, allowing United Kingdom analyses to be made.

Each quarter's LFS sample of 61,000 UK households is made up of five "waves", each of approximately 12,000 private households. Each wave is interviewed in five successive quarters, such that in any one quarter, one wave will be receiving their first interview, one wave their second, and so on, with one wave receiving their fifth and final interview. Thus there is an 80% overlap in the samples for each successive quarter. Households are interviewed face to face at their first inclusion in the survey and by telephone, if possible, at quarterly intervals thereafter, and have their fifth and last quarterly interview on the anniversary of the first. Interviewing for the LFS is continuous in that interviews take place to collect information relating to every week of the year.

The survey results refer to persons resident in private households and in NHS accommodation in the UK. For most people residence at an address is unambiguous. People with more than one address are counted as resident at the sample address if they regard that as their main residence. An improved, that is to say less clustered, sample design was implemented for the quarterly Labour Force Survey. An unclustered sample of addresses with a random start and constant interval is drawn from the Postcode Address File (PAF) for Great Britain south of the Scottish Caledonian Canal. The LFS uses a systematic random sample of addresses from an ordered list (effectively stratified by area). The sample is allocated into 145 interviewing areas. Each of these areas is then split into 13 'stints'. These 13 stint areas have been randomly allocated to the 13 weeks of a quarter. The same stint area is covered by an LFS interviewer in the same week each quarter. A systematic sample of addresses is selected for each quarter throughout the country and is distributed between stint areas to provide a list of addresses to be interviewed each week.

The questionnaire comprises a "core" of questions which are included in every survey, together with "noncore" questions which change from quarter to quarter. These "non-core" questions provide information which is only needed once or twice a year. Some questions in the core are only asked at the first interview as they relate to characteristics which do not change over time (eg. sex, ethnic group). There is also a section on income, which since Spring 1997 has been asked in respondents first and fifth interviews (prior to that it was asked only in the fifth interview). The income data are processed along with the rest of the data each quarter but are grossed up separately.

## **Problems and limitations**

There are several changes in the questionnaire and structure of the BQLFS. To have a relatively homogenous set of information we decided to follow individuals from the Spring quarter 1997 to the spring quarter 2002, resulting in a total of 20 quarters used for our analysis. As obvious from the general description of the labor force survey, household were interviewed in five consecutive quarters. As we need to observe individuals in two different jobs to relate the entry method to any background information related to the current or previous employment relation we take only household for whom 5 survey quarters are available. By this we were able to analyze 16 waves consisting each of about 12.000 private households as mentioned above. Entry method information is available when a worker entered a new employment relation within 3 months prior to the date of the interview. Because the data set provides no information on the previous employment relation all information on the previous employment relation is only available if the individual was observed working in one of the quarters preceding the interview-quarter providing the information of the entry method. Information on the length of the unemployment spell is collected from unemployed workers. To collect this information we check whether a worker reports his employment status as unemployed in the interview preceding the “new entry”-quarter. If this is the case we take the reported category of unemployment length as the unemployment length preceding the new entry. Note however that we could not exactly measure the date when the individual entered the new employment relation. Accordingly, the true unemployment length might be in fact about one or two months longer. In addition we were not able to clearly identify whether a worker had a (short) unemployment spell at all when switching occupations. This has to do with the fact that we have not information about a previous unemployment spell from a question asked to new entrants. As explained we draw instead on a question asked to those unemployed three month prior to the interview as a new entrant. One implication is the category “less than 3 months” of unemployment does not include those with no intervening unemployment spell. Another problem with our variable defining the unemployment length is the fact that we cannot link it to information about the previous job. This has to do with the fact that we only observe information on the previous job if the previous job is in the data collection period (which is five consecutive quarters) which is typically not the case for most of the unemployment periods. Some other important information is missing in the BQLFS. There is no information on the occupation in the quarters we choose for our analysis. In addition we have no usable wage information. This has to do with the fact that the wage variable includes a lot of missing and implausible entries.

## **The Choice of the Dependent Variable**

In this section we will discuss which kind of dependent variables are principally possible and what which one is in the scope of interest for the purpose of the project. A second sub-section will discuss some implications for the interpretation results.

## ***Job Search and Job Entry in the Available Data Sets***

The major part of the job search literature investigates which job search methods are employed by unemployed or employed job seekers (see for instance Böheim and Taylor 2003 for a recent

example). The success of the respective search method is typically evaluated with the length of the search process, i.e. the time elapsed until the worker finds a new employment match. However, it is often unclear whether the new job was attained through the specific search method or via other channels. Another perspective is to ask those entering a new employment relation about their entry method. While here there is now doubt which method was finally causal for get the final employment relation the information is silent about the history of the search process. Only a few studies are able to link the employed search methods to the final entry method (see Addison and Portugal (2002)). The Japanese data source “Survey on Employment Trends” (SET) provides information on the entry method. As the study for the European countries should provide a comparison with the Japanese data the entry method is chosen as the variable of interest. From the perspective of availability of data to investigate job search in Europe this is fortunate, as the ECHP UDP data set which is the source for the European comparison, provides detailed information about the entry method but only very rough information about the search method. The British Quarterly Labor Force survey, which we use for the analysis for the UK due to the insufficient coverage of the UK in ECHP data, provides also information about the entry method for those recently changing into a new employment relation.

### ***Search Method versus Entry Method***

Figure 1 helps to understand in how far the analysis of entry methods could be related to the search methods of the job searcher and eventually lead to policy recommendations. The variable of interest is the effectiveness of various job search methods in terms of matching speed and income changes. However, both are not directly observable in our data. We do only observe their reflections more or less interfered by disturbing information.

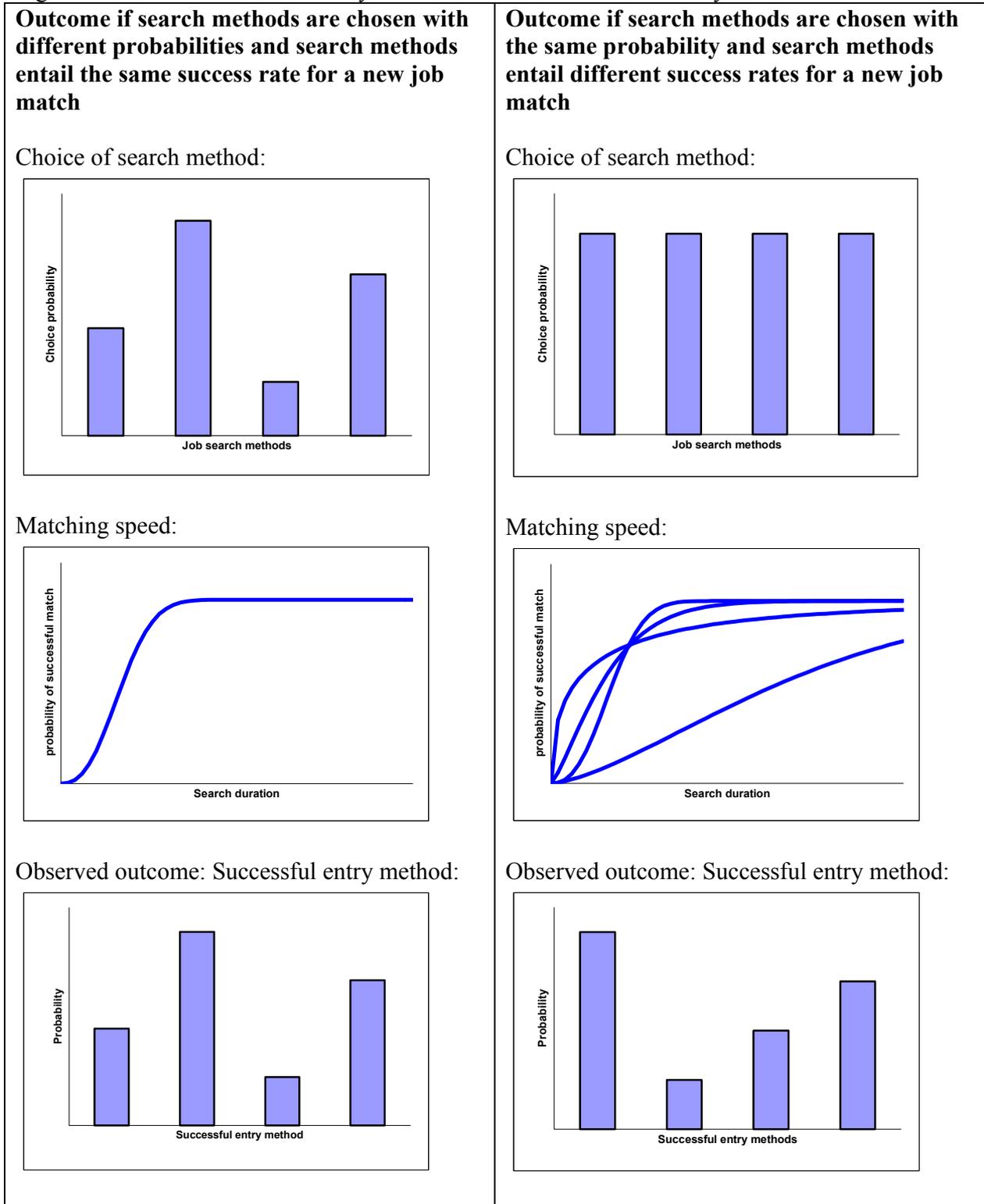
Comparing the left hand side with the right hand side of the figure shows that a comparison of the observed frequencies of successful entry methods alone tells hardly anything about the effectiveness of job search methods. The observed distribution of successful entry methods is a joint result of choice probabilities and effectiveness in terms of matching speed. A high choice probability combined with a low effectiveness may yield the same share for the related method as a low choice probability combined with a high effectiveness. Since we do not observe the distribution of choice probabilities, the distribution of observed successful entry methods does allow for conclusions to the success of certain methods only under strong prior assumptions.

Even when assuming that job searchers only employ one job search method at a time, backward conclusions from the observed successful method to its underlying effectiveness requires knowledge on the distribution of choice probabilities. Unique conclusions are only possible, if we can assume equal choice probabilities for each job search method under investigation.

It appears appropriate to measure effectiveness in a more direct way by analyzing the job search duration attached to different job search methods. However, this again requires more information that is at hand in our data. The observed distribution of job search duration may differ from the true distribution according to the kind and number of job search methods simultaneously applied. The observed mean of job search duration of a method will be downward biased, if this method is competing with methods of higher effectiveness, since it becomes unlikely to observe long spells. As we have no information on the combination of methods used, this kind of bias is likely to occur in our data as well. However, one could at least argue that this kind of bias does not hurt the rank of effectiveness as long as there is no obvious pattern of systematic combinations of job

search methods. Analyzing the observed method specific duration of job search is therefore still more straightforward than analyzing the observed distribution of successful entry methods.

Figure 1: Search Methods and Entry Methods When Success Rates Vary.



As the original choice of job search methods is clearly not uniform, one need to learn about success rates more directly. Table 1 relates the entry method to the average number of months previously unemployed for men in Denmark, France, The Netherlands, and Italy.<sup>2</sup> If we accept that the average length of unemployment is a valid measure of the efficiency of a job search method, we would expect to observe more entries through the efficient search method. As a comparison we present the distribution of entry methods for men in the selected countries in table 2. From an eyeball inspection one could observe that search methods associated with a shorter length of unemployment are chosen with a higher probability. An exception seems to be the entry method “family and friends”. This might give some indication that job searchers use the search method “family and friends” only as an additional search method or search through this channel when other methods are not successful. Another exception is the fact that replying to adds is associated with a comparatively low unemployment duration but is by far the rarest observed entry method. A possible explanation for this observation might be that the group of workers who is able to enter a new employment relation by having answered an advertisement is heavily selected. If for instance only high skill jobs are posted by advertisements in newspapers, the search channel is only open to a small group of workers. However for cells where we observe a short length of unemployment along with huge percentages of success rates we could expect that this search method is chosen with a high probability. But one should be aware of the fact that we do not know in how far job searchers use more than one search channel and how this influences the success rate of a method.<sup>3</sup>

Table 1: Average length of Unemployment and entry method

Entry Method	Denmark	France	The Netherlands	Italy
Direct application	2.1	2.8	2.4	9.6
Adds	1.8	2.6	2.2	8.9
Agency	8.0	5.0	5.4	33.5
Family and friends	2.9	2.5	3.7	11.8
Self-employment	3.3	2.4	4.4	10.6
other	2.5	2.2	3.2	15.2
Note: Calculated with ECHP data 94-99. Numbers only for men				

The issue in how far one could draw conclusions for labor market policy one has to be aware of the fact that employing a search method per se might not lead to a successful match. As will be discussed in the regression analysis below other factors might be important for employability (like educational level, age) and the search method is only the tool for a selected group of searchers. In this vein, it might be questionable whether all job searchers have access to every job search method.

<sup>2</sup> For Germany we have this information only in full years. For the UK the list of job search methods is different and the previous length of unemployment is only available as an average.

<sup>3</sup> Böheim and Taylor (2002) investigate the importance of combining various job search methods for the length of unemployment.

Table 2: Distribution of Entry methods for men

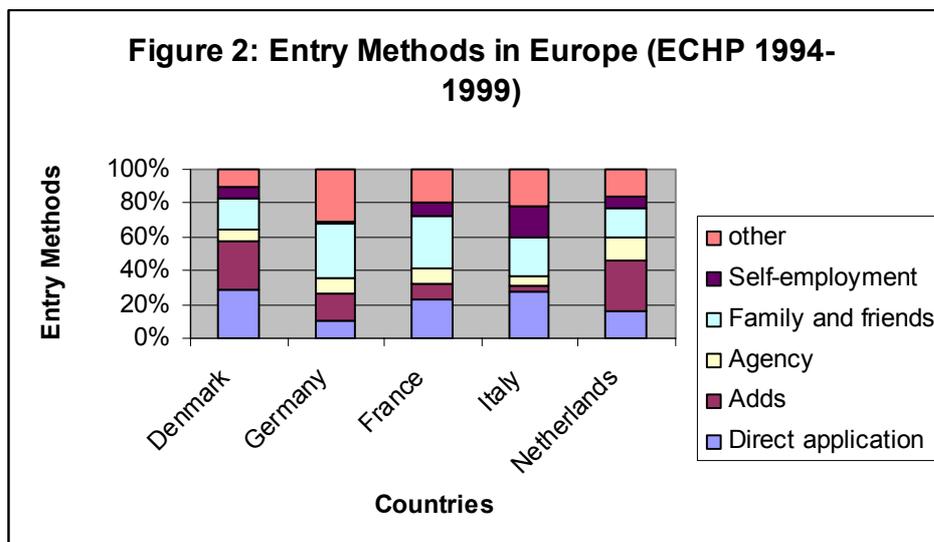
Entry Method	Denmark	France	Netherlands	Italy
Direct application	35.0%	23.1%	17.1%	27.0%
Adds	25.9%	7.9%	25.9%	3.4%
Agency	4.4%	9.1%	15.7%	5.1%
Family and friends	17.5%	30.2%	17.4%	20.5%
Self-employment	8.9%	9.6%	7.8%	21.8%
other	9.3%	20.0%	16.0%	21.1%

Note: Calculated with ECHP data 94-99. Numbers only for men

## Descriptive Statistics

The descriptive results attached to this report will not be discussed in detail. Discussing the differences in the descriptive statistics for the six European countries would be very lengthy. A more detailed comparison will be made when discussing the regression results. However, the descriptive statistics accompanying this report speak very much for themselves. When inspecting these tables one has to be aware that cell sizes are rather small when inspecting unemployment length, wage changes or the distribution of job search methods by certain characteristics.

In the following we will only highlight a few findings. Figures 2 and 2a show the distribution of entry methods in Europe. The corresponding numbers are in tables 3a and 3b. The category family and friends is of comparable size across the European countries. The entry method “other” is a bit difficult to evaluate as we do not know what specific single methods are counted among it. While it is not a very important entry method in Denmark and the UK it covers a huge share of entries in Germany. A typical indication for different institutions in the labor market is shown when inspecting the entry method “direct application” which covers a huge share in Denmark, Italy and the UK but plays only a minor role in Germany.



Figures 3a and 3b compare the distribution of entry methods for job-to-job switchers and those being one year or longer unemployed before finding a new job in Denmark and France. The overall rate of job-to-job switchers is very high in Denmark. Accordingly, the job-to-job switchers dominate most of the entry ways to employment. An exception is the path through an employment agency, which is evenly often used by those unemployed for a longer time. This general pattern is reflected in the numbers for France. While the total fraction of those with a longer unemployment spell is quite substantial in France, these differences are reflected in the respective fraction through the different entry ways. Compared to Denmark those with longer unemployment spells seem to be over-represented in the use of the entry methods “direct application” and “answering to adds”. This might indicate that entry barriers for these job search methods get lower with a higher rate of long term unemployed. However, any conclusions from simple statistics are vague and it needs a more thorough analysis to link entry methods to labor market outcomes.

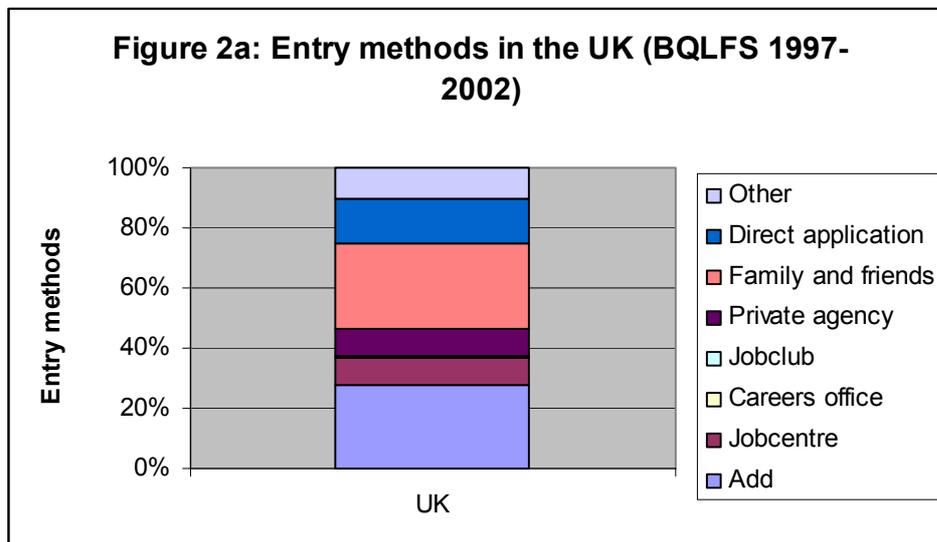
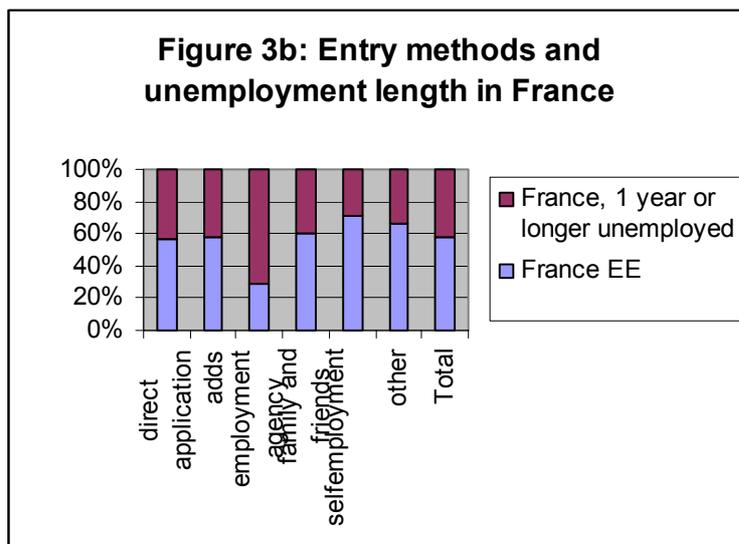
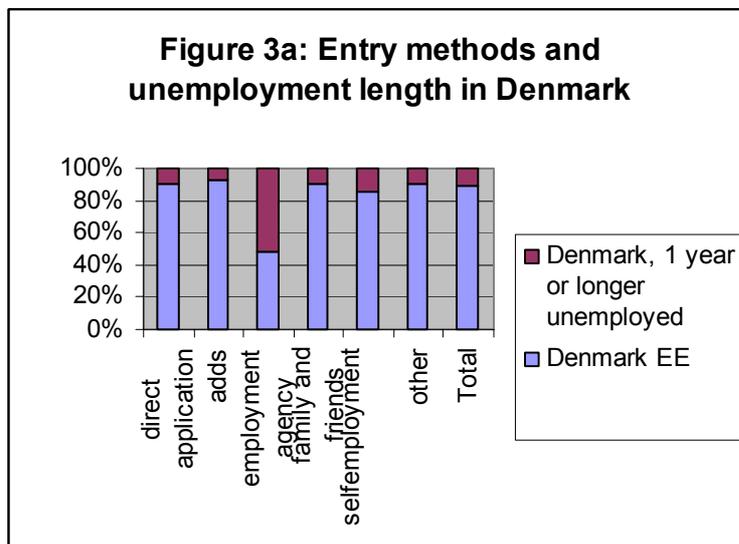


Table 3a: Distribution of Entry Methods in Europe

Entry Method	Denmark	Germany	France	Italy	Netherlands
Direct application	29.18%	10.81%	23.39%	27.64%	15.61%
Adds	28.64%	16.04%	8.83%	3.92%	30%
Agency	6.05%	9.1%	8.86%	5.75%	14.48%
Family and friends	19.28%	31.71%	31.24%	22.29%	16.97%
Self-employment	6.52%	1.86%	8.63%	18.76%	7.18%
other	10.33%	30.49%	19.05%	21.64%	15.77%

Table 3b: Distribution of Entry Methods in the United Kingdom

Entry Method	UK
Add	27.82%
Jobcentre	8.85%
Careers office	0.9%
Jobclub	0.11%
Private agency	8.83%
Family and friends	28.13%
Direct application	14.88%
Other	10.47%



## Regression Results

One way to evaluate entry methods is to regress measures of labor market performance on the entry method and other explanatory variables. Two outcome variables are in the scope of the comparison study: the wage difference between the previous and current job and the time elapsed as being unemployed until starting a new employment relation via a certain entry method which is due to a specific entry method being successful and the time searching for a new job. Even more than for the descriptive statistics the possibility to explain wage changes and unemployment duration with a specific empirical model depends on the availability of data. Because our observation numbers are low compared to those in the Japanese data source SET we were not able to explain wage changes by previous and current job characteristics such as occupation and industry. The latter is unfortunate, since search methods by source and destination industry is one of the scopes of the Japanese study. The income information in the BQLFS does not allow an analysis of wage changes for the UK at all.

### *Regression of Wage Change*

Before inspecting the regression on wage changes in detail one should note that the regression estimates do not fully adjust for a selection bias stemming from the fact that we do only observe wages of workers who have decided to participate in the labor market at the given wages at all. However, by examining wage changes, we are using the first difference of a latent wage level function. Thus, to the extent that selection biases are caused by time-invariant unobserved heterogeneity among persons in the wage-level function, selection bias is differenced out. However, if there is time-dependent unobserved heterogeneity, the selection bias caused by such heterogeneity is not corrected for. To fully address all sources of selection bias would be a large task and is beyond the scope of this project.

Table 4: OLS for wage changes in Europe (Entry method model)

	Denmark	Germany	France	Italy	Netherlands
Direct application	0.055 [0.034]	0.181 [0.086]**	0.064 [0.059]	0.028 [0.059]	0.198 [0.063]***
Adds	0.044 [0.036]	0.159 [0.065]**	0.054 [0.068]	-0.001 [0.073]	0.108 [0.063]*
Family and friends	-0.01 [0.042]	0.056 [0.060]	0.05 [0.061]	0.002 [0.062]	0.116 [0.067]*
Other	0 [0.044]	0.136 [0.059]**	0.095 [0.063]	0.066 [0.063]	0.047 [0.076]
Constant	0.009 [0.030]	-0.106 [0.053]**	-0.072 [0.046]	-0.006 [0.056]	-0.087 [0.051]*
Observations	890	1052	537	491	814
R-squared	0.01	0.01	0	0.01	0.01

Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%;  
\*\*\* significant at 1%.  
OLS regressions with ECHP UDP data 1994-1998, dependent variable: change in logarithm of deflated hourly gross wages from previous job to current job.  
Reference group: agency. Individuals reporting "self-employment" as the entry method are not considered.

As a first approach table 4 shows the results when regressing the logarithm of deflated hourly gross wages from previous job to current job on the entry method and a constant only. The explanatory power is very low to nil which might be due to the fact that the explanatory power of models for difference equations is low in general because of the higher differenced out variation. However this observation could simply have to do with the fact that the entry method is not an important determinant of wage changes between previous job and the new employment relation. One could think about two reasons for this explanation. Firstly, if we agree with some strong assumptions, namely, that most job searchers employ all available job search methods, all job search methods aim at the same part of the wage offer distribution and it is nearly a matter of luck which method is finally successful this result would not be very surprising. A second explanation argues with the fact that wage changes are naturally only observed for individuals who were employed before. If workers are simply disposed to get successfully into new employment relations via a certain job search method, we could not expect to observe a relation between entry methods and differences in wage levels between previous and current job. With the total explanatory power being still low we still find significant coefficients on the job search method in Germany and the Netherlands showing that the explanations given before do at least not explain the institutions in these two countries. Compared to the reference group “private or employment agency” the fact that a worker gets his new job through direct application leads to a wage increase of 18% in Germany and 20% in the Netherlands. Answering to adds leads to 15% wage increase from previous to the current job and a 10% increase in the Netherlands compared to workers who were informed about their new job by a public or private employment agency. Getting the job through methods which were summarized in the group “other” also results in a significant wage increase of 13.6% compared to the method agency in Germany. This entry covers about a third of all entries in Germany and it is unfortunate, as mentioned in the descriptive section above, that we do not know exactly what methods are collected at which share in this method. In the Netherlands we find a weakly significant wage increase for being informed about the new job by family and friends of about 12% compared to getting the job through the employment agency.

When including more explanatory variables which are supposed to explain the difference in wages from previous job to the current job as shown in Table 5 results in an increase in the explanatory power of the estimated models, however, still at a low magnitude. Now the standard errors for the entry method dummies increase in the estimates for Germany at lower coefficient estimates triggering all entry method coefficients insignificant. This observation is mainly due to the inclusion from a dummy for the fact whether the separation from the previous job was voluntary or not. In table 5 we find that voluntary quitters receive wage increases of about 7% compared to those dismissed from their previous job. In a regression not presented here we include all variables as in table 5 except the dummy for a voluntary quit to find significant effects for the job search method as in table 4 for Germany.

Table 5: OLS estimates of wage changes in Europe

	Denmark	Germany	France	Italy	Netherlands
FEMALE	-0.03 [0.021]	0.019 [0.036]	0.049 [0.067]	-0.045 [0.029]	0.006 [0.041]
AGE	0.001 [0.002]	0.005 [0.002]**	0.002 [0.004]	-0.003 [0.002]	0.005 [0.003]
MARRIED	-0.06 [0.023]***	-0.082 [0.037]**	0.029 [0.069]	-0.028 [0.029]	0.015 [0.042]
Direct application	0.028 [0.033]	0.141 [0.099]	0.019 [0.081]	0.038 [0.047]	0.199 [0.068]***
Adds	0.021 [0.037]	0.095 [0.074]	-0.089 [0.090]	0.025 [0.059]	0.106 [0.067]
Family and friends	-0.04 [0.043]	-0.025 [0.070]	-0.013 [0.083]	-0.005 [0.051]	0.123 [0.069]*
Other	-0.043 [0.046]	0.057 [0.071]	-0.023 [0.084]	0.099 [0.056]*	0.063 [0.080]
CHOCCUP	-0.042 [0.022]*	-0.014 [0.036]	0 [0.065]	-0.016 [0.026]	0.008 [0.040]
EDU== 1.0000	0.004 [0.031]	-0.049 [0.064]	0.018 [0.093]	0.042 [0.048]	-0.065 [0.064]
EDU== 2.0000	-0.004 [0.032]	-0.062 [0.055]	-0.067 [0.093]	0.024 [0.027]	-0.072 [0.055]
PARTTOREG	-0.071 [0.068]	0.274 [0.112]**	-0.449 [0.187]**	-0.205 [0.071]***	0.117 [0.055]**
REGTOPART	0.061 [0.071]	-0.257 [0.126]**	0.043 [0.161]	0.131 [0.080]	-0.252 [0.065]***
PARTTOPART	0.079 [0.056]	-0.023 [0.062]	-0.12 [0.100]	-0.002 [0.105]	-0.029 [0.053]
NEMONTHSUE	-0.005 [0.005]	-0.002 [0.001]	-0.011 [0.009]	0.001 [0.001]	0 [0.004]
NEVOLUNTQUIT	0.02 [0.024]	0.073 [0.039]*	0.114 [0.061]*	-0.013 [0.029]	0.025 [0.040]
NEYEAR== 95	0.266 [0.089]***	0.04 [0.160]	-0.255 [0.087]***	0.138 [0.039]***	0.298 [0.088]***
NEYEAR== 96	0.238 [0.086]***	0.31 [0.101]***	-0.157 [0.092]*	0.147 [0.044]***	0.386 [0.119]***
NEYEAR== 97	0.263 [0.087]***	0.107 [0.091]	-0.03 [0.133]	0.192 [0.035]***	0.163 [0.092]*
NEYEAR== 98	0.298 [0.087]***	0.219 [0.082]***	-0.175 [0.158]	0.297 [0.057]***	0.276 [0.081]***
NEYEAR== 99	0.233 [0.086]***	0.231 [0.082]***	-0.043 [0.127]	0.194 [0.058]***	0.223 [0.067]***
Constant	-0.184 [0.106]*	-0.379 [0.130]***	0.024 [0.171]	-0.032 [0.086]	-0.469 [0.142]***
Observations	751	839	211	420	752
R-squared	0.05	0.07	0.17	0.17	0.06

Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%;  
\*\*\* significant at 1%.

OLS regressions with ECHP UDP data 1994-1998, dependent variable: change in logarithm of deflated hourly gross wages from previous job to current job. Reference group: agency. Individuals reporting "self-employment" as the entry method are not considered.

In fact it is reasonable that those searching from on the job or quitting but expect to have a high personal re-employment probability preferably use search methods like applying directly to employer or answering to ads. However these workers are supposed to take normally only better paying jobs.<sup>4</sup> This explains the positive coefficient on the indicator variable for a voluntary quit without a significant effect for job search methods and the significant effect when excluding the indicator for a voluntary quit. From a policy point of view this shows that there is no scope for policy intervention as the entry methods are the typical path to enter a new job for voluntary quitters but these entry methods do not provide a wage effect per se. To put it differently, this observation for Germany indicates a reverse causality. Rather than observing higher wage increases because a worker was successful with a certain entry method, we observe a certain entry method because a worker had the chance to move from a lower paying job to a higher paying job. For the Netherlands we still find a significant 20% wage increase when getting a job by direct application rather than by an employment agency and a weakly significant increase when being informed by family or friends about the new job rather than by the employment agency. This effect can be explained at least partially. In the 1990's publicly financed jobs were introduced to help re-integrate (long-term-) unemployed, elderly etc into the labor market. The payment of these positions was on minimum wage level and mediated only by public employment agencies. Not very surprising with having the results from table 4 in mind there are no significant effects from the entry method on the wage differential between current and previous job for the other European countries. Inspecting the other variables there are no surprising results as typically only the dummies for the year when entering the new employment relation are significant picking up cyclical effects on the labor market. There is a significant influence on wage differentials when going from a part time job to a regular job or vice versa compared to those moving from a regular job to a regular job.<sup>5</sup> The presumption is that part-time jobs are worse paid than the regular jobs. For France and Italy we found surprisingly significantly huge wage decreases for moves from part-time jobs to regular jobs compared to job changes between regular jobs. The magnitude of this wage decrease is 45% in France and 20% in Italy; we have no explanation for that.

Table 6 presents regression of hourly deflated wages on the entry method and a constant. One should keep in mind that these regressions are not even corrected for time-invariant unobserved heterogeneity as estimates for the first difference equations are and therefore prone to a considerable selection bias. The table present correlates between the entry method and the hourly wage level. With the exception of Italy there seems to be a common pattern across the other European countries. Compared to the entry method "private or public employment agency" direct application yields wage mark-ups ranging from 14% in Denmark to 31% in Germany. Having replied to an advertised vacancy to get the current job results in a wage mark-up from 23% in Denmark to 43% in Germany and being informed by friends or relatives gives a between 9% in the Netherlands and 25% in Germany higher wage compared to the workers coming into new employment with the help of the employment agency. For "other entry methods" we observe uniformly a positive effect on the wage in the new employment relation among the inspected European countries. Again this effect is lowest for the Netherlands and highest for Germany.

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<sup>4</sup> This might be due to the fact that workers take only jobs where they have a higher match value which increases the marginal product in the new job compared to their previous job or that they move from a declining industry, cutting on the wages of the currently employed to an ascending industry.

<sup>5</sup> Note that this variable should not capture direct hours effects on earnings as in the Japanese data, as we differences in *hourly* wages as the dependent variable.

Observing these huge positive results for the entry methods compared to getting the job through the employment agency indicates that either the searchers registering with the employment agency are negatively selected or employers only register the bad paid jobs with the employment agency

Table 6: OLS estimates of wages in new employment relation  
(entry method model)

	Denmark	Germany	France	Italy	Netherlands
Direct application	0.14 [0.032]***	0.31 [0.040]***	0.171 [0.030]***	-0.04 [0.023]*	0.259 [0.028]***
Adds	0.227 [0.032]***	0.43 [0.035]***	0.284 [0.037]***	0.053 [0.034]	0.247 [0.026]***
Family and friends	0.12 [0.034]***	0.253 [0.034]***	0.141 [0.029]***	-0.091 [0.024]***	0.086 [0.027]***
Other	0.122 [0.045]***	0.416 [0.033]***	0.354 [0.031]***	0.193 [0.023]***	0.095 [0.033]***
Constant	4.429 [0.030]***	2.517 [0.029]***	3.701 [0.025]***	2.467 [0.020]***	3.047 [0.020]***
Observations	2995	3480	3956	3472	3157
R-squared	0.02	0.06	0.04	0.1	0.04
Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. OLS regressions with ECHP UDP data 1994-1998, dependent variable: logarithm of deflated hourly gross in current job. Reference group: agency. Individuals reporting "self-employment" as the entry method are not considered.					

agency. In estimates not presented here were we control for individual characteristics and the fact that the separation from previous job was a voluntary quit as well as the length of unemployment before getting into the new job still yields qualitatively similar coefficients for the entry method dummies, however, on much lower magnitude. This is consistent with the presumption that both, jobs and searchers registered with the unemployment agency are negatively selected. The cross-country comparison suggests that the quality differential for jobs and searchers registered with the employment agency seems to be more pronounced in Germany than in countries such as Denmark or the Netherlands. The estimates for Italy in table 6 tell a different story. Getting a job by applying directly to the employer yields about 4% lower wages and being informed about the current job by friends and relatives leads to 9% lower wages compared to getting a job through the employment agency. This effect is robust in magnitude to the inclusion of more explanatory variables. Here the institutions around job search methods seem to be completely different. The job searchers and vacancies registered with the employment agency seem to be of a much higher quality than in the other countries considered for this study due to a duty to register vacancies with public employment agencies. Until 1997 job placement services in Italy have been exclusively managed directly by the state through local offices of the Ministry of Labor.

## ***Regression of Unemployment Duration***

Table 7 provides estimates for a OLS regression of the duration of unemployment before getting a new job on the entry method and a constant. Note that Germany has to be excluded from this analysis as information on the length of unemployment is only provided in number of years of unemployment which reduces the variation considerably. From a political point of view it is

desirable to learn which search method is associated with only short spells of unemployment to give job searchers advice about the “best” search method. In our analysis we can learn something about the correlation between the entry method and the previous length of unemployment.

Table 7: OLS estimates of unemployment duration before getting a new job  
(entry method model)

	Denmark	France	Italy	Netherlands
Direct application	-4.471 [1.809]**	0.636 [1.147]	-24.559 [4.378]***	3.037 [3.613]
Adds	-4.745 [1.870]**	-1.235 [1.208]	-13.138 [9.048]	-4.387 [2.266]*
Family and friends	-3.407 [1.998]*	1.034 [1.082]	-21.215 [4.416]***	-1.382 [2.681]
Self-employment	-1.458 [2.275]	1.293 [1.643]	-12.001 [4.958]**	3.942 [4.679]
other	-1.892 [2.872]	3.112 [1.756]*	-8.878 [4.611]*	-0.955 [2.856]
Constant	13.642 [1.554]***	9.745 [0.786]***	51.29 [4.057]***	16.558 [1.742]***
Observations	1012	1050	2033	750
R-squared	0.01	0.01	0.03	0.01
Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.				
OLS regressions with ECHP UDP data 1994-1998, dependent variable: Number of month unemployed before entering new employment relation. Reference group: agency.				

Table 7 shows that in Denmark workers accessing a new job through direct application or answering to adds have an average unemployment period which is significantly four months shorter than the unemployment length of workers who get their new job with the help of an employment agency. Being informed about the new job by family and friends shows a weakly significant effect of a three and a half month shorter unemployment period than coming from the employment agency. For Italy we find huge effects for nearly all methods showing considerably shorter unemployment periods compared to those coming from the employment agency: for direct application (2 years), family and friends (21 months), self-employment (1 year), other methods (8 months). This finding is interesting when considering that we concluded from the results of a regression of wage levels on entry methods (table 6) that job searchers and vacancies registered with the employment agency seem to be of a higher quality in Italy than in other countries. The fact that we observe such drastic reductions in the length of unemployment has to do with the fact that the number of workers in long term unemployment is very high in our sample as obvious from the descriptive statistics. For the Netherlands this table shows a weakly significant effect that workers replying to advertisements spent four months less in unemployment than workers conveyed by an employment agency. Interestingly, workers getting their job through other methods need three months more to escape from unemployment than workers getting their job through the employment agency. Assume for the moment that the observed effects are effects from the entry method per se. Then the observed effects could lead to policy recommendations under the additional assumption that a all workers have equal access to each job search method. However for some job search methods it is almost certain that not all

have equal access to it. For instance the entry method “being informed about a job by family and friends” may be observed for a job searcher having a considerable social network or even a family member working with his new employer. Setting up a business as an alternative to unemployment requires certain soft skills and the opportunity to raise a credit. However, it is questionable that the observed coefficients for the entry methods results solely from the entry method per se. In fact it is much more likely that the entry method indicates other observable and unobservable characteristics associated with workers hired through the respective method. If mainly the higher educated job-to-job searcher apply for a new job directly with the employer, we observe in the restricted model of table 7 a negative coefficient for the dummy “direct application” compared to the reference dummy “employment agency” which in fact indicates that this highly educated job hoppers typically apply directly for a new job. In this case, the entry method (and therefore the job search method) is not causal for the observed effect making policy recommendations regarding the optimal job search method obsolete. We investigate this hypothesis about the effect of job search methods in detail in table 8.

Table 7a: : Ordered Logit estimates of unemployment duration before getting a new job (entry method model)

	UK
Replying to a job advertisement (add)	-0.617 [0.067]***
Careers office	-0.572 [0.177]***
Jobclub	1.955 [0.404]***
Private employment agency or business (private agency)	-0.977 [0.096]***
Hearing from someone who worked there (family and friends)	-0.433 [0.069]***
Direct application	-0.71 [0.080]***
Some other way (other)	-0.32 [0.096]***
Observations	8691
Robust standard errors in brackets * significant at 10%; ** significant at 5%; *** significant at 1%	

Table 7a presents the corresponding estimates for the UK. Note, that the dependent variable is a categorical variable of unemployment duration consisting of eight categories (less than 3 months, 3-6 months, 6-12 months, 1-2 years, 2-3 years, 3-4 years, 4-5 years, 5 years or more), where a higher order of the category corresponds to a longer unemployment duration. Estimates in table 7a (and table 8a) are estimates of an ordered logit model and the coefficients should only be interpreted qualitatively. Reference group in the estimates for the UK is the entry method “Jobcentre” which corresponds from the institutional design to the public employment agencies in the other European countries. With the exception “Jobclub” all entry methods are associated with a highly significant lower category of unemployment duration compared with the entry method “Jobcentre”. The entry method “Jobclub” exerts a highly significant positive coefficient on the unemployment duration before entering a new employment relation.

Table 8 presents estimates of a model controlling for other characteristics which might explain the length of unemployment before getting into a new employment relation. In fact, we observe similar results as in Table 7 for the entry method dummies of Denmark, France, and the Netherlands. Coefficients for Italy are lower along with higher standard errors triggering some entry method dummies insignificant. The explanatory power of the extended model is considerably higher. We find a weird effect for Denmark, France and the Netherlands, showing a longer unemployment period for those quitting the previous job voluntarily given other effects equal. The unemployment duration in Italy is mainly driven by cyclical effects. Furthermore, we observe an obvious disadvantage in the employability of female job searchers in Denmark, France, and Italy. The same is true for older job searchers in all countries. Overall the findings in this section are not very encouraging. The entry method per se seems no a good predictor of the unemployment length. Other effects seem to determine the length of unemployment also we could not identify clear effects which are consistent across countries.

Table 8a presents the results for including additional controls in an ordered logit model of eight categories of unemployment duration on entry methods for the UK. The list of controls differs slightly from the model estimated for the other European countries with the ECHP due to the availability of information in the BQLFS. However the explanatory power of the model estimated for the UK seems to be higher than that for the other European countries. Compared to the reference “Jobcentre” the entry method “Jobclub” still shows a highly significant positive effect. Finding a job through a private employment agency is related to a weakly significant shorter unemployment duration which is interesting when considering the fact that we are not able to separate public and private employment agencies for the countries investigated with the help of the ECHP. When assuming that the institutions “Jobcentre” in the UK and the public employment agencies in the other European countries and that private employment agencies are comparable across Europe, this would imply that we underestimate the effect of all other entry methods compared to the reference group “employment agency” in the European countries investigated with data from the ECHP. We include a dummy variable for a change of industry in the regressions for the UK. This dummy variable is highly significant positively correlated with the unemployment length before getting in a new job. This might have to do that only people who are unemployed for a longer time accept the loss of industry specific human capital associated with accepting a job in a different industry. While for age we observe an expectable positive association with the length of unemployment duration before finding a job we observe a surprisingly significant effect for women on the length of unemployment before finding job. This finding is confirmed by Gregg and Wadsworth (1996). They found a higher total “Hit Rate” of successful placements of unemployed women in comparison to men over all search methods in 1992 in Britain, although women use less search methods to find a job. We suppose that this is due to a selection process. In case women do not find immediately a new job they leave the labor market more often than men and go out of the labor force instead of register with the employment offices any longer (i.e. remain unemployed). Another explanation can be the fact that women are less choosy than men when getting a job offer.

Table 8: OLS estimates of unemployment duration before getting a new job

	Denmark	France	Italy	Netherlands
FEMALE	3.417 [1.233]***	3.37 [0.9333]***	16.281 [2.692]***	1.181 [1.693]
AGE	0.343 [0.081]***	0.358 [0.057]***	1.454 [0.256]***	0.713 [0.095]***
MARRIED	-3.668 [1.617]**	-1.342 [0.969]	-3.027 [3.500]	-5.527 [1.862]***
Direct application	-4.6 [1.903]**	1.681 [1.326]	-10.421 [5.187]**	1.425 [3.251]
Adds	-4.486 [2.032]**	-1.524 [1.209]	-5.5 [9.525]	-1.674 [2.294]
Family and friends	-2.637 [2.028]	0.596 [1.210]	-7.359 [5.302]	-2.672 [2.419]
Self-employment	-2.344 [2.406]	0.371 [1.793]	-9.125 [5.424]*	1.269 [4.289]
other	-2.78 [2.932]	4.389 [1.892]**	-6.009 [6.054]	0.081 [2.818]
EDU== 1.0000	-0.539 [1.836]	-4.826 [1.169]***	-11.763 [5.392]**	-1.924 [2.423]
EDU== 2.0000	-3.499 [1.430]**	-1.267 [1.142]	-1.192 [2.691]	-0.789 [1.981]
NEVOLUNTQUIT	3.037 [1.358]**	2.232 [1.298]*	4.169 [2.562]	11.365 [2.149]***
NEYEAR== 95	1.573 [1.860]	-0.718 [1.385]	-8.33 [4.088]**	0.924 [3.322]
NEYEAR== 96	0.652 [2.016]	-0.883 [1.073]	-16.272 [3.199]***	6.644 [4.129]
NEYEAR== 97	-2.51 [1.765]	-0.644 [2.076]	-8.698 [3.085]***	3.342 [3.114]
NEYEAR== 98	-1.024 [1.859]	1.017 [2.893]	-6.269 [5.439]	4.257 [2.782]
NEYEAR== 99	-0.645 [1.861]	0.049 [1.699]	-5.849 [7.306]	1.203 [2.306]
Constant	1.972 [2.887]	-2.48 [2.490]	-13.373 [9.860]	-15.172 [4.299]***
Observations	936	829	946	617
R-squared	0.06	0.1	0.19	0.15

Robust standard errors in brackets. \* significant at 10%; \*\* significant at 5%;  
\*\*\* significant at 1%.

OLS regressions with ECHP UDP data 1994-1998, dependent variable: Number of month unemployed before entering new employment relation. Reference group: agency.

Table 8a: Ordered Logit estimates of unemployment duration before getting a new job

	UK
FEMALE	-0.22 [0.106]**
AGE	0.012 [0.005]**
MARRIED	-0.067 [0.125]
Replying to a job advertisement (add)	0.031 [0.166]
Careers office	0.077 [0.550]
Jobclub	3.559 [0.225]***
Private employment agency or business (private agency)	-0.392 [0.223]*
Hearing from someone who worked there (family and friends)	0.01 [0.170]
Direct application	0.042 [0.200]
Some other way (other)	0.241 [0.221]
CHIND	0.303 [0.109]***
EDU== 1.0000	-0.245 [0.153]
EDU== 2.0000	-0.178 [0.128]
Observations	2212
Robust standard errors in brackets * significant at 10%; ** significant at 5%; *** significant at 1%	

## Conclusion

With a comparison of the distribution of entry methods across Europe we have provided an impression of similarities and differences. While the overall pattern is similar some countries show some peculiarities. For instance, direct applications play a minor role in Germany while the entry method “other” accounts for a third of all entries. A comparison of the relation between entry methods and the unemployment length in Denmark and France showed a similar share of all entry paths although the total shares of those with longer unemployment spells are fundamentally different. However, the descriptive statistics have shown, that it needs more thorough analysis to say more about the link between entry methods and labor market outcomes.

We related the entry methods to two different labor market outcomes to learn more about the effectiveness of certain job search methods. Empirically, there is no clear relationship between the entry method and the wage change from the previous job to the current job. We discussed several reasons for it. Most importantly, the fact that the effect of the entry method on the wage

change fully disappears once controlling for other observables of the job entrant indicates that the entry method is a restrictively accessible gate for a certain group of workers to realize an increase in wages by entering a particular job rather than the reason for the wage increase.

As a comparison we provided results for regression of wage levels on the entry method. With the exception of Italy we find that all entry methods are related with higher wage jobs compared to the entry method “employment agency”. This result holds even when controlling for other observables which raises concerns that the job searchers and vacancies registered with the employment agency are negatively selected. However, estimates of this kind do not even control for time-invariant unobserved heterogeneity.

With respect to the unemployment length associated with certain entry methods we found in a first approach that in European countries nearly all entry methods are associated with a shorter unemployment length compared to the entry method “employment agency”. An exception is France where job entrants coming from the employment agency were not as long unemployed as workers entering via other methods. However, the coefficients observed for the search methods mainly stay or turn insignificant once controlling for other observables.

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## Appendix

### *Description of variables*

<b>Socio-economic variables</b>	
FEMALE (yes=1)	gender: female
AGE	age when entering new employment relation
<b>Highest Level of general of higher education completed</b>	
EDU1 (yes=1)	Recognised third level education (ISCED 5-7)
EDU2 (yes=1)	Second stage of secondary level education (ISCED 3)
EDU3 (yes=1)	Less than second stage of secondary education (ISCED 0-2)
<b>Change in working hours</b>	
PARTTOREG (yes=1)	part-time previous job to full-time current job
REGTOPART (yes=1)	full-time previous job to part-time current job
PARTTOPART (yes=1)	part-time previous job to part-time current job
<b>Other variables</b>	
NEMONTHSUE	number of month unemployed before entering new employment relation
NEVOLUNTQUIT (yes=1)	Separation from previous job was a voluntary quit
CHOCUP (yes=1)	Change occupation from previous to current job
CHIND (yes=1)	Change industry from previous to current job
BETTERCOMMUT (yes=1)	higher value of satisfaction with commuting time to work in current job compared with previous job on a scale from 1-6.
NEYEAR = year (yes=1)	Year when entering new employment relation: year