HAL
open science

Does the Formalisation of Practices Enhance Equal Hiring Opportunities? An Analysis of a French Nation-Wide Employer Survey

Guillemette de Larquier, Emmanuelle Marchal

To cite this version:

Guillemette de Larquier, Emmanuelle Marchal. Does the Formalisation of Practices Enhance Equal Hiring Opportunities? An Analysis of a French Nation-Wide Employer Survey. 2016. hal-01597719

HAL Id: hal-01597719

https://hal.science/hal-01597719v1

Preprint submitted on 28 Sep 2017

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Does the Formalisation of Practices Enhance Equal Hiring Opportunities?
An Analysis of a French Nation-Wide Employer Survey

Guillemette de Larquier
Université Paris Ouest Nanterre La Défense, EconomiX (CNRS)
and Centre d'études de l'emploi, France

Emmanuelle Marchal
Centre de sociologie des organisations (SciencesPo / CNRS), Paris, France

Pre-print version accepted in Socio-Economic Review. *Please consult published version for tables, appendices, finalised page numbers, etc.*

Abstract

This article addresses the formalisation of hiring processes and its impact on the type of the employee hired. Using the French OFER survey on the hiring practices of 3,584 firms in 2005, we investigate how firms organise the selection of job applicants and analyse the outcome of this selection with regard to the profiles of successful applicants. The data analysis reveals four types of screening processes: an informal process (*streamlined*) and three formalised processes (*written-based*, *testing*, and *professionalised*). The use of a type of screening process depends on the constraints and resources of the firm and on the expected type of match. Finally, logit regressions show that informal recruitment methods tend to penalise women and formal *testing* screening processes seem to favour unemployed or inactive people, whereas the formalised screening processes are likely to penalise individuals without diplomas.

Keywords: hiring process, screening methods, recruitment channels, diversity

JEL classification: J01. Labor Economics, M5. Personnel Economics, Z1. Economic Sociology

1. Introduction

Are recruitment and screening practices able to offer equal hiring opportunities to a diverse range of candidates? Are some practices more favourable or unfavourable to vulnerable categories in the labour market? Our aim is to provide new information to answer these questions by analysing a French survey in which 3,584 establishments were asked to describe the characteristics of the last employee hired and the characteristics of the recruiting and

screening methods used to generate this hire. Of course, processes are more or less selective in terms of level of requirements, and selection criteria have strong repercussions on the chance of applying and on the applicants' characteristics. However, regardless of the level of requirements, we can expect that the type of hiring process chosen by employers has an impact on the underrepresentation or overrepresentation of some groups of workers among new recruits. Courts have largely contributed to strengthening this idea in the United States, where this idea is closely tied to the issue of discrimination. The doctrine of disparate impact, introduced after the 1971 Supreme Court decision in *Griggs v. Duke Power Co*., concedes that hiring practices, even the more neutral practices, can sustain inequities by being more favourable to some groups to the detriment of others. The notion of "indirect discrimination" that has been adopted in Europe repeats the same idea, which is more concerned about the result of a biased method than the employer's intentions.

At the same time, it is also accepted that some practices are fairer and more equal than others. This second idea is supported by the equal opportunity programs introduced by personnel and human resources (HR) experts (Edelman, 1992; Dobbin et al., 1993; Dobbin, 2009) and by the literature on discrimination. In this framework, informal procedures are often considered as a major source of racial and sex-based discrimination. Referrals from networks may have a detrimental effect on those who are already disadvantaged in the labour market (Holzer, 1987; Russell, 1999; Ioannides and Datcher Loury, 2004), and informal interviews allow recruiters to make decisions based on their own subjectivity (Moss and Tilly, 2001). Conversely, the more open recruitment methods and formalised processes are often perceived as bringing guarantees of fairness (Reskin and McBrier, 2000; Moss and Tilly, 2001; Bygren and Kumlin, 2005; Woodhams and Lupton, 2006; Holzer et al., 2006). Does that mean that all firms should adopt similar formalised practices?

A hiring process is composed of two stages, the recruitment phase and the screening phase, and it can be characterised by different interrelated dimensions: not only the degree of formalisation but also the intensity of search and the type of methods used. Regarding the recruitment phase, it is common to distinguish direct applications, word-of-mouth referrals from current employees, friends, and professional contacts as informal methods, and public or private employment agencies, advertisements, and referrals from schools, unions or professional organizations as formal methods (Rees and Shultz, 1970). Regarding the screening phase, we propose in this article to characterise its process rather than to take each method individually, to understand how information about the successful applicant has been

collected and how the assessment has been shaped. Adopting this approach allows us to present an inductively based typology of the diverse screening process patterns among French firms. Second, we wish to measure the effects of the entire hiring procedure, formalised or not, on the type of the last employee hired. We know if the employee is a man or a woman, but other variables, such as race and ethnic origin, are not available in French surveys for legal reasons and for confidentiality. Other data are useful for characterising two vulnerable groups in the labour market: some of them have no diploma and some of them are inactive or unemployed when they apply. The question of this study is whether formalised hiring procedures are more inclusive for these vulnerable categories. In this way, we follow Barbara Reskin's (2003) research agenda by investigating mechanisms of selection adopted by firms and their outcomes on inequalities in the labour market.

The following section presents our background partly based on the French Economics of Conventions School. Section 3 explains the French survey OFER (*Offre d'emploi et recrutement*) and the seven variables retained to capture the diversity of screening processes. In section 4, a cluster analysis reveals four types of screening processes: an informal process (*streamlined*) and three formalised processes (*written-based*, *testing*, and *professionalised*). In section 5, a multinomial logit regression shows which establishments choose which type of screening process and for which job vacancies. Finally, in section 6, logit regressions test the effects of the recruitment channel and the screening process on the type of employee hired. Informal recruitment methods seem to penalise women, and formal *testing* screening processes seem to favour unemployed or inactive people, whereas the three types of formalised screening processes are likely to penalise individuals without diplomas. These results provide new insights in the field of equal opportunity studies in connection with HR practices (Reskin, 2003; Pager and Shepherd, 2008; Dobin, 2009).

2. Background of the Analysis

2.1. Explaining the firm's search effort and the formalisation of hiring practices

In this section, at the intersection of economics and sociology, we propose to explain the firm's search effort and the formalisation of hiring practices by the constraints and resources of the firm and by the expected type of match.

The diversity of hiring practices can be explained by the variety of institutional configurations surrounding the firms and their labour markets (Aoki and Jackson, 2008); in a given country,

in our case in France, internal diversity may be driven by regional and sectorial specific institutions (Wood et al., 2009). Constraint differences in terms of productive technologies and customer attitudes impact the model of labour management that is economically sustainable: for example, in cost-based competition that occurs in mass services, firms typically adopt low-cost management practices, complying minimally with labour laws, whereas firms in high-level professional services adopt sophisticated HR practices to secure high motivation and low labour turnover (Boxall, 2007). Even more, the heterogeneity of employee groups implies that the internal HR practices cannot be monolithic inside a firm (Lepak and Snell, 1999). For example, the issues and the tools of recruitment and selection differ according to the expected duration of the employment relationship: in the case of short-term job matches, the issue in hiring is to identify workers who can do the job immediately (e.g., by testing job task performance), whereas in the case of long-term and progressive relationships, the selection phase (e.g., by using assessment centres) is likely to identify workers with future potential who could benefit from further training (Lepak and Snell, 1999: 39).

The mainstream economics literature focuses on the trade-off between the hiring costs and the expected match quality (Holzer, 1987), and both the hiring costs and the expected match quality vary with firm size and job vacancies. The higher the quality of the information a recruiter obtains during the hiring procedure (increasing costs), the more secure she is about her final hiring decision. The economic trade-off results in a high or low effort in information search, measured by the number of hiring methods, which indeed vary with employer size and the expected productivity of the match (DeVaro, 2005; Sabatier, 2010; Pellizzari, 2011). Rees (1966) proposes considering that recruiters can increase their information at the extensive margin in the labour market (to find available applicants) and at the intensive margin on each applicant (to assess his or her qualities). Formal recruitment methods are effective at spreading information extensively and may yield large applicant pools, but this information is quite poor, whereas informal recruitment methods convey more reliable and intensive information, even if they reach few people, and that explains their importance in labour markets (Rees and Shultz, 1970). Barron et al. (1985) measure extensive search by the number of applicants interviewed prior to an employment offer and intensive search by the average number of hours that the employer spends recruiting, screening, and interviewing each applicant. Barron et al. show that establishment size and its attractiveness in the labour market (measured by the annualised flow of direct applications per one hundred employees)

have a positive effect on the extensive search. More recently, DeVaro (2008) shows that informal recruitment methods and intensive screening methods are substitutable to assess applicants. In other words, there is no need to intensively screen the few candidates who are provided and pre-screened by social networks.

Without neglecting cost-benefit arguments, organisational sociology has shown how the centralisation and formalisation of the internal labour market (ILM) affect hiring choices (Marsden and Campbell, 1990). A greater reliance on formalised practices and written procedures can be interpreted as a consequence of the bureaucratisation of larger firms and the efforts of personnel departments to expand and solidify their position (Dobbin, 2009). Formalised management practices can also be interpreted as an effort to avoid the arbitrariness of informal systems (Edelman, 1992). Dobbin et al. (1993) show that American firms have rejected quotas in response to case law and formal HR practices have been developed to codify and depersonalise hiring and promotion decisions. Furthermore, large firms are more vulnerable to allegations of discrimination because they are more clearly visible to the public, so they are more likely to implement formal HR practices and equal opportunity policies (Bygren and Kumlin, 2005). On the contrary, in small firms, employers can consider informal management as appropriate for the close working relationships as well as a source of flexibility (Woodhams and Lupton, 2006).

At this point, we have the following expectations about the hiring practices of the French employers of our study. Firstly, the search effort, in particular the number of methods used, will increase with the size of the firm (because the HR department is likely to be larger and the HR tools more available) and with the presence of an ILM (because recruiters have to assess not only abilities to perform a job but also a future potential to progress in the firm). The incentives to enhance search effort should also increase with the expected duration of the employment relationship or the difficulty of dismissing employees (because costs of a bad match are higher) and with the expected productivity of the match (because returns of a good match are higher). As for the attractiveness of the firm in the labour market, its effect is indeterminate. We may expect that an attractive firm does not need to make a high effort in the information search to find a good candidate, but we may also expect that a larger number of methods are needed to screen a larger flow of applications. Secondly, the formalisation of the hiring process will increase with the size of the firm (because the visibility of the HR practices is higher: visible “good” practices can attract good applicants, whereas firms exhibiting “bad” practices can be sued) and with the presence of a organised ILM (because it

is a firm within which the management of labour is "governed by a set of administrative rules and procedures", according to the classic definition of Doeringer and Piore (1971)). The formalisation should also increase with the number of methods used during the recruitment and screening phases, to coordinate and classify information gathered by the different methods.

This last point highlights the fact that search effort and formalisation are inter-dependent; the formalisation increases with the search effort. We thus have expectations about the number and the degree of formalisation of methods, but at this stage, we have said nothing about their types. In the following study, we take into account six types of recruitment methods (public agency, private agency, advertisements, direct applications, personal and professional networks and former employees) and four types of screening methods (curriculum vitae examination, interviews, tests, and simulation of job tasks). The recruitment methods are quite well documented in the literature (Rees and Shultz, 1970; Holzer, 1987; Marsden and Campbell, 1990; DeVaro, 2005; Sabatier, 2010). In section 4, we will focus on the screening methods, and we will show that there is not one way of formalising screening processes, but rather, there are three ways relying on distinct types of methods.

2.2. The impact of hiring methods on the profiles of employees hired

In the second stage of our analysis, we argue that different ways of hiring employees have (dis-)advantages for different groups of people. Job search and employer search studies have highlighted that the type of recruitment method and strategy used on both sides has a critical impact on the type of applicant recruited (Russo et al. 2001; Weber and Mahringer 2008).

The contribution of the French Economics of Conventions School (Eymard-Duvernay et al., 2005; Kampelmann, 2009) is important to go further in this direction. According to this research program, the qualification of goods (persons or products) is not a pre-established and objective fact. There is a great uncertainty about the "worth" of goods because there are several orders of worth—that is, there are several ways of defining, interpreting and assessing goods (Latsis et al., 2010). In the labour market, hiring is a crucial situation where recruiters have to "qualify" labour and workers who do not have worth *per se* (Eymard-Duvernay and Marchal, 1997). The applicants' worth depends on the choice of recruitment and assessment methods, on the way of using them, and on the type of actors involved in the process.

Based on qualitative studies and observations, the approach of work evaluation by Economics

of Conventions shows that recruitment methods and assessment tools are cognitive devices: they filter information about jobs and applicants and select what is relevant. Recruitment methods and assessment tools induce specific "markers of competency" (Marchal et al., 2007), increasing the perception of some qualities and skills versus others. As a result of processes chosen by employers, some applicants are more likely to be shortlisted. Some people are advantaged by certain hiring procedures while others are penalised in the same conditions. Putting the emphasis on direct contact with candidates, for example, does not lead to the same outcome as when the process begins with a strong pre-selection via the examination of curriculum vitae (CVs) and application letters (Marchal, 2013). If the CV is considered as the main source of evaluation, a large period of unemployment or a lack of experience may be a cause for exclusion. However, if the results of psycho-technical tests are favoured, a period of unemployment is no longer a handicap. Salognon (2007) studies an innovative French "back-to-work" method that avoids the CV and the standard deskbound job interview. Long-term unemployed applicants usually lack the confidence to present themselves as valuable based on their work history; they need to demonstrate their knowledge and abilities instead. Their assessment is contextualised: a meeting is organized that includes a tour of the workplace and a trial at the actual workstation. One major conclusion of the observations is that the long-term unemployed are not as 'unemployable' as generally thought (Salognon 2007: 727). That is why, even if new criteria are not explicitly adopted, changing recruitment practices is likely to have an impact on the profiles of those hired. In food retail in France and in the UK, Rieucau (2015) studies the implementation of formal recruitment procedures that remove traditional face-to-face interactions (applications are hand-delivered by job seekers directly at superstores) by at-a-distance interactions (online applications are centralised by HR professionals at headquarters). She shows that by prioritising computer literacy and signals written in online applications, the at-a-distance recruitment procedure favours students and younger workforce at the expense of long-term unemployed and older individuals.

Now, drawing on the results of the previous case studies, we can expose our expectations about the impact of methods on the profiles of employees hired. In this study, using a nation-wide survey, we wish to test these hypotheses by focusing on the case of three categories of vulnerable workers who have a high level of unemployment (women, unemployed or inactive individuals and less-educated people). Firstly, hiring methods that take place in the presence of the candidates (face-to-face evaluation) are more favourable to workers without markers of

competency (*e.g.*, education and experience) and/or with negative 'signals' (*e.g.*, unemployment) than methods used in their absence that take into account only CVs (at-a-distance evaluation). Thus, recruitment methods such as networks (in which interpersonal contacts matter greatly) and screening methods such as interviews or simulations or trials of job tasks are expected to advantage vulnerable workers. On the contrary, recruitment methods such as advertisements and screening methods such as the examination of CVs are expected to disadvantage vulnerable workers. Secondly, contextualisation of evaluation (based on the work to do and its context) is expected to be more favourable to vulnerable workers by allowing vulnerable workers to be more at ease in "showing" their know-how, rather than expecting vulnerable workers to prove their know-how by an indirect method (CV or interview). Thirdly, an increasing number of methods are expected to diminish the chance of a vulnerable worker to be hired because added methods imply added criteria that applicants have to fulfil. At last, as noted in the introduction, formalised methods are expected to decrease racial and sex-based discrimination. Open recruitment methods (opposed to networks) and formalised screening processes are expected to guarantee a fair competition between candidates.

3. Data and Methodology

3.1. Data and summary statistics

Our data come from an original survey conducted in France during the first half of 2005: the *Offre d'emploi et recrutement* (OFER) survey. This study was carried out by the Research and Statistics Department (*Direction de l'animation de la recherche, des études et des statistiques*, DARES) of the French Ministry of Labour in association with the Public Employment Agency (*Agence nationale pour l'emploi*, ANPE) and the Centre for Employment Studies (*Centre d'études de l'emploi*, CEE)[1]. In the first stage, a sample of 31,000 establishments was drawn from the administrative index *Sirene*, which covered all existing establishments in France. Of these, 20,072 establishments were contacted via a preliminary telephone screening to identify the establishments that had hired a worker during the previous 12 months. Finally, face-to-face interviews were conducted in 3,584 establishments regarding their last recruitment. The 3,584 observations, which are rescaled using the weights given by the DARES[2], provide a representative sample of French private sector establishments[3] that hired at least one employee in 2004/2005. The descriptive statistics are reported in Appendices 1 and 2.

The establishments are distributed across seven industries, with the expected predominance of recruitment in the service sectors. The larger surveyed establishments (with more than 50 employees) represent only 8% of the establishments in the dataset, but because of their size, they are involved in 44% of all hiring procedures. On the contrary, 64% of establishments are very small (fewer than ten employees), but their hiring procedures account for less than one quarter of the weighted procedures. More than one out of three establishments in the sample has no personnel department; furthermore, we will see later that the existence of a personnel department does not imply the systematic involvement of an HR professional during the selection process.

Regarding the characteristics of the hiring procedures, in two cases out of ten, the vacant position had to be filled quickly (within less than one week). Moreover, 40% of the positions are non-permanent and 23% are part-time jobs. These characteristics are expected to vary by occupation. The OFER survey allows us to distinguish four types of occupations, from blue-collar workers to corporate managers. More than forty per cent of new recruitments concern white-collar workers.

In 19% of the hiring procedures, the recruitment channel was the free-of-charge public employment agency, which is compelled to specialise its services for unemployed workers. The use of private employment agencies as recruitment channels (11%) is less frequent in France, where the public employment service had a monopoly on all job placements before 2005. Newspaper and internet advertisements represent 12% of the recruitment channels; these methods imply a costly search for a candidate in the external labour market. Direct applications are the most common recruitment channel (23%). In this case, the employer's strategy is, above all, to maintain the firm's attractiveness in general, not to actively seek applicants each time it is necessary. The personal contacts and professional networks together account for nearly 23% of the cases, whereas 10% of the successful applications come from former employees. Hence, in these latter cases, successful applicants are not perfect strangers to the firms.

Finally, women represent 47% of the successful applicants. Young workers (less than 22 years old) represent 23% of new employees, whereas workers older than 50 represent only 5%. In total, 19% of new employees have no diploma (or their educational history is unknown), and 31% have an educational level under *Baccalauréat* (the certificate indicating completion of secondary school in France). Half of the employees hired were unemployed or inactive when they applied for a job, 37% were already employed, and 12% were students.

Their race or ethnicity cannot be identified, as we noted above.

3.2. Multidimensional characterisation of screening processes

The employers' search process can be captured by directly considering the variable provided by the OFER survey: the method that is responsible of the successful recruitment[4]. However, the same exercise cannot be repeated for screening processes that potentially require the contribution of a great variety of assessment tools and of actors. The first step for us consists of choosing relevant variables to characterise how the screening processes are undertaken.

As DeVaro and Fields (2008) have shown, the reason or the effect of a particular hiring method depends on the other methods simultaneously used; they are expected to be complementary with each other. That is also the assumption of this article: we analyse the screening phase as an organised bundle of methods used by specific actors. Using a multiple correspondence analysis and a hierarchical cluster analysis, we decided to build a new variable to capture the screening process as a whole. Seven categorical variables have been retained to characterise the screening processes. The basic assumption is that some underlying ways of screening are responsible for the covariation among the seven variables. Consequently, the choice of these variables to characterise the screening processes is determinant.

We take into account three dimensions of screening processes: the choice of the methods, the intensity of selection applied through these methods, and the organisation of the process. The two first dimensions aim to characterise how the "abilities", the "competencies" or the "merits" of candidates are approached. According to our theoretical framework based on Economics of Conventions, each assessment method enlists a certain idea of what is important to succeed in the job. Each method (CV examination, interviews, tests and job task performance) provides recruiters with different information at different stages of the process. In particular, the treatment of information varies with the presence of the candidate at the time of her/his evaluation. Facing a job interview requires interpersonal skills that are useless if applicants have been eliminated earlier in the process due to their tests results or the educational and career pathways mentioned in their CV. In addition, we admit that those who are tested in a working situation can be advantaged if they have some knowledge on how to counteract their lack of a diploma.

The relative number of applications rejected during CV examination. The ratio of the number of applications rejected during their examination is an indicator of the closure of the screening

process: it is based on general and written signals that are analysed in the absence of the applicant. In the following multiple correspondence analysis, the ratio is converted into a categorical variable taking three values: from no rejected applications (39%) (this occurrence suggests that the CV is not used as a selection tool) to more than one out of two CVs rejected (28%), with an intermediate value (33%).

The number of interviews with the successful applicant. This variable is an indicator of an intensive search for information, similar to the indicators built by Barron et al. (1985). We consider the number of interviews that the successful applicant completed before receiving a job offer. A single interview was sufficient in 47% of the screening processes, two interviews were sufficient in 37% of the cases, and more than three interviews were needed in only 16% of the cases.

The number of tests. This variable is another indicator assessing recruiters' intensive search. The number of different tests used during the whole screening process can be determined. The most frequent used tests are work samples and situational tests (13%), then, in descending order, knowledge and intelligence tests (11%), personality tests (10%), graphology tests (3%), leaderless group tests (2 %) and others. More than three quarters of the screening processes involved no tests in the OFER survey, whereas 13% included one test, and 10% included two or more tests.

Real or simulated job tasks. This fourth indicator gives an idea of the contextualisation of work evaluation. In our French data, four times out of ten, recruiters asked applicants to perform a job task in a real or simulated working context. The evaluation may be informal: the candidate is put into the actual job, where he or she may spend some time doing real work. Another more formalised evaluation is the work sample method. It affords direct measurement of job performance by extracting samples of behaviour under realistic simulated job conditions. Finally, in highly formal situational tests, every individual performs the same tasks under the same conditions and is scored in a standardised way.

The last three variables aim to help clarify the extent to which the screening process is organised and formalised. Organisational theory insists on the control exercised by personnel experts and on the role of job descriptions that put requisites in writing (Dobbin, 2009). The presence of a job description and HR professionals are determinant variables for ascertaining whether the process is improvised or planned and whether it is segmented into different stages. Another crucial point is the need for coordination between several actors.

Job description. The first variable captures the presence of a written job description, which suggests that a preliminary job analysis has been performed, not necessarily just before this hiring procedure but also in the past. The job description can indicate the position of the job in the establishment, the responsibilities and tasks of the function, and hence the requirements for performing that job. The selection criteria listed in the job description can be used to short-list candidates and to conduct interviews. By contrast, it is difficult to imagine that a set of fixed criteria has been applied in the absence of such a document. In the OFER survey, a job description had been written for 53% of the hiring procedures.

The involvement of HR professionals. Cohen and Pfeffer (1986) show that the presence of a personnel department is related to more stringent hiring standards. HR professionals may want to justify their role in the organisation by increasing hiring standards, but such practices are also consistent with professional role-derived beliefs about how things should be done (Cohen and Pfeffer, 1986: 20). We assume that it is not the presence of HR professionals in the establishment but rather their involvement in the screening process that changes the way of using methods. For example, an HR professional is expected to prepare and conduct an interview in a different way than the direct supervisor of the future employee. In fact, their presence is limited; only 32.7% of the processes that we study involved an HR professional.

The number of firm functions involved in the screening process. The last organisational variable raises the question of the coordination between actors coming from different departments of the establishment. We counted the number of functions, not the number of individuals, to emphasise the different viewpoints during the evaluation because different functions may have different goals. We assume that formalised means of selection are more common when the process involves more functions to coordinate actions and to reconcile their various viewpoints (e.g., more written documents, more frequent planned meetings). Frequently, only one type of actor was involved in the selection process (46%), very often the owner or director herself. Two types of actors were involved in 37% of the screening processes, and three or more types were involved in 17%.

4. The Typology of Screening Processes

A multiple correspondence analysis (MCA) is used to reduce the amount of information given by the seven previous indicators observed for the 3,584 weighted screening processes. The aim of the hierarchical cluster analysis (HCA) is to group the screening processes (described by the new variables computed by the MCA[5]) in such a way that the profiles in a particular cluster are more similar to each other than they are to those of other clusters. The whole HCA

can be presented in an upside-down tree diagram, showing the order in which screening processes are grouped and the increase in the information loss due to each fusion. By following the elbow criterion, that is, looking for a jump in the loss, we decide to cut the tree at the point associated with four clusters. Table 1 presents the results of the analysis.

The four empirical clusters allow us to set four ways of screening applicants. Each of them combines a characterisation of the methods used during the process, taking into account the intensity of the selection and a characterisation of the organisation of the screening process. For each response category, the Tukey-Kramer test is computed to compare the mean for the cluster to the mean for the rest of the population of screening processes. The significant statistics show that each cluster has a statistically distinctive pattern. A cluster is clearly distinct from the other, characterised by numerous 'no' or 'zero' categories; the associated type could be labelled informal, but we prefer the label *streamlined* to emphasise the very few methods or actors involved. The three other clusters present three different ways of formalising the screening processes, involving written tools, tests, and HR professionals, which are significantly over-represented in each pattern. They can be labelled as *written-based*, *testing* and *professionalised* screening processes.

[Table 1 here]

The streamlined screening process. This cluster, which accounts for 29% of the weighted population, is characterised by its lack of means: in the great majority of cases, there is neither a CV examination (92%) nor a test (95%), and applicants complete no more than one interview (84%) with only one type of actor (81%). The degree of formalisation is low. The presence of a written job description is rare. Even when a personnel department exists, no HR professional is involved during the screening process. Therefore, in this cluster, the employers do not rely on professional screening methods but rely rather on other markers of competency, which are more interpersonal and subjective. In some cases (35%), the performance of job tasks is observed in a work situation.

The written-based screening process. This cluster—the largest one—contains 35% of the screening processes (weighted percentage). It is the primary way of formalising the screening phase of a hiring procedure without incurring the costs of tests and HR expertise. In seven cases out of ten, a written job description provides some guidelines to settle the set of selection criteria, mainly used during the CV examination. Actually, selection based on CV is an essential step of this pattern. In this cluster, we observe the highest mean in the category "More than one out of two CV is rejected" (46%) and the lowest mean in the category "No

CV rejected" (14%). The recruiters rely on general and written signals to decide who must be rejected or not. Then, in most cases, additional information is obtained via two interviews with two types of actors (two different firm functions are involved). The *written-based* screening process rarely involves tests and is the most "de-contextualised" type: a substantial part of the selection process takes place in the absence of the applicants (at-a-distance evaluation), and the process does not take the work situation into account in 85% of the cases.

The testing screening process. The third cluster, containing 22% of the screening processes, is mainly characterised by its high frequency of face-to-face evaluations based on the observation of real or simulated job task performance (94%). Knowledge, intelligence or personality tests are often used as well: the cluster presents the highest occurrence of all types of tests (64%). In comparison with the preceding type, the closure by the CV examination is low: half the time, less than one application out of two is rejected by this method, which is coherent with a less frequent use of job description. Here, recruiters prefer rejecting applicants on the basis of poor test performance rather than ruling them out on the sole basis of the applicants' CV. In this screening process type, several actors with different functions can be involved to evaluate applicants, but the presence of an HR professional is less frequent than in the *written-based* or *professionalised* clusters.

The professionalised screening process. Finally, the fourth cluster contains 14% of the weighted population. Its two main distinctive features are that an HR professional is quite systematically involved (90%) and that at least three types of functions take part in the screening process (in 82% of the cases). In terms of tools, there are many interviews: three or more consecutive interviews are conducted in 57% of the cases, with actors assuming various responsibilities in the establishment. These different features lead to depersonalisation of the hiring decision, which is spread over time and among several actors. The frequency of job description is the same as in the *written-based* process type but with a lower indication of closure by CV examination: there are only 36% of hiring procedures with "More than one out of two CV rejected". Thus, the CV examination is less selective, and more interviews and tests are used to obtain additional information about the applicants' quality. The *professionalised* screening processes are expected to be the most expensive in terms of direct costs and opportunity costs (monetary expense and employee time spent screening). Note that in this *professionalised* type, real or simulated job task performance is not frequent.

5. Establishments using Different Types of Screening Processes

Table 2 reports the average marginal effects of a multinomial Logit model where the four

clusters are the four categories of the dependent variable. The model estimates the probability that a hiring procedure belongs to a given cluster, and establishment and vacancy characteristics are the explanatory variables.

[Table 2 here]

Many studies have shown the determinant effect of employer size on recruitment and screening choices (Barron et al., 1985; Holzer, 1987; Bygren and Kumlin, 2005; Woodhams and Lupton, 2006; Pellizzari, 2011). Here, we expect that the establishment size increases both the search effort and the degree of formalisation because large firms have the financial and organisational means to implement sophisticated screening processes and to avoid controversial HR practices that can be visible in the labour market. Table 2 shows that larger establishments (more than 500 employees) are more likely to neglect the *streamlined* process and to adopt the *professionalised* process (with the involvement of an HR professional, including tests and many interviews with individuals occupying different functions in the firm). On the contrary, smaller establishments more often adopt the less expensive *streamlined* screening process than the *written-based* and *professionalised* ways of screening candidates. It is worth noting that the *testing* type does not depend on the size of the establishment: small and large establishments have a higher probability of testing their candidates by asking them to perform a task. Certainly, the *testing* screening process can replace the *streamlined* process in small establishments without costly effort.

We introduce as a proxy of an ILM the information about the existence of a collective agreement stating that job vacancies have to be posted inside the firm first. Table 2 shows that establishments with ILM are less likely to adopt a *streamlined* effect. Our interpretation is that recruiters will increase their effort to avoid hazardous decisions because costs of dismissing employees are higher in ILM. It appears that *testing* and *professionalised* types of processes are more likely to be adopted to screen candidates at the ports of entry of ILM.

The attractiveness of the firm in the labour market may also influence hiring practices (Barron et al., 1985). As a proxy for this question, the OFER survey provides the number of direct applications each establishment receives in a year. Because large firms attract more direct applications than small ones, we cross the establishment size and the number of direct applications received to measure the establishment's attractiveness. Table 2 shows that when the firm's attractiveness is high, employers prefer to avoid *streamlined* processes. This process seems to be inappropriate to assess many applicants; there are not enough methods to decide between them. On the contrary, *written-based* and *professionalised* processes seem to

be well fit to select many applications based on at-a-distance examination of CVs. A low level of attractiveness has a significant negative effect on the probability that the screening process belongs to the *professionalised* cluster. When employers attract few applications, formalised screening processes seem to be unnecessary.

HR practices are likely to vary with position and qualification levels (Lepak and Snell, 1999). Table 2 shows that the *professionalised* type process is applied for higher skilled occupational categories, such as technicians, professionals and managers (in comparison with white-collar workers). According to the economic argument, for an expected high-productivity match, it is cost effective to increase the number of methods or the use of the formal and potentially expensive ones (DeVaro, 2005; Pellizari, 2011). Even *written-based* and *testing* processes (which do not involve many professionals in the firm during the screening phase) do not seem appropriate to select managers. Conversely, employers are less likely to adopt a formalised evaluation when they have to fill a blue-collar job or a part-time or non-permanent job. Unsurprisingly, the fact that some jobs need to be filled within a week increases the probability of the adoption of a *streamlined* process. It is a quick way of screening candidates.

In comparison with hiring procedures in commerce and transport (a cost-based competition and low-wage sector), food industry, manufacturing sector and financial and business services (high-level professional and high-wage sectors) are more likely to include a *professionalised* screening process. In commerce and transport, the expected productivity of the match is lower and cannot justify an expensive hiring procedure, and, moreover, the usual skills required are availability, flexibility, and good health and interpersonal qualities that employers like to evaluate directly in a face-to-face interaction (Rieucau, 2014). However, in construction, where a majority of small firms mainly hire blue-collar workers and where there are many short-term contracts, employers are more likely than employers in commerce and transport to adopt a *streamlined* screening process. In this sector, hired workers show their abilities in real building sites, and in the case of ex-post bad quality of the match, job separations are common and quite inexpensive. On the contrary, table 2 shows that in the manufacturing industry (in comparison with the commerce and transport sector), the probability of using a *streamlined* screening process is decreased. Usually, manufacturing establishments hire relatively well-paid blue-collar workers, and dismissals can be more expensive than in the construction sector. *Written-based* screening processes will be adopted more frequently by establishments in administration, health and social services. In this sector, qualifications, diplomas, and professional certificates are conventional requisites and they are easily listed on a CV. Thus,

we surmise that a first selection based on a CV examination and two interviews are sufficient to check the quality of the past apprenticeships and training courses. At last, the use of *testing* screening processes does not depend on the type of sectors.

6. Who gets the job?

A given type of screening process can have a "disparate impact" because it may favour or penalise different categories of applicants. That is our main assumption based on the approach of the Economics of Conventions regarding the evaluation of the quality. Table 3 reports the average marginal effects from three logit regressions of the probability that the employee hired is a woman, an unemployed or inactive individual, or an individual without a (known) diploma. These three categories of people have a high level of unemployment in the French labour market. Gender is an "ascriptive" characteristic that is observable and raises the issue of discrimination (Reskin, 2003). The two other categories raise the issue of exclusion from employment of vulnerable populations, characterised by negative "signals" because of a lack of education or a supposed loss of productivity linked to a situation of unemployment. Both are overrepresented among long-term unemployment. We focus here on the estimated effect of the two hiring phases (recruitment and screening) on the type of employee hired, after controlling for establishment and vacancy characteristics, the local unemployment rate and the other characteristics of the hired worker.

[Table 3 here]

The impact of recruitment methods on the hiring of women. The first regression in Table 3 reports two significant effects of recruitment channels on gender. There is a negative effect of personal and professional networks (in comparison with direct applications) on the probability of hiring a woman. This first result is consistent with the literature considering that women suffer from their weak social connections with those holding jobs (Ioannides and Datcher Loury, 2004). Using social networks to identify and select people is considered less favourable to woman because it tends to favour "ingroups" who are best introduced and to replicate the establishment's demographic composition (Bygren and Kumlin, 2005), in particular in managerial positions (Reskin and McBrier, 2000). On the job search side, the potential male advantage would come from opportunities to work more hours and travel more to develop contacts and collect information (Petersen et al., 2000). Another argument is that women and men have different patterns of sociability: women have more home-centred social activity and neighbourhood or kinship links, which are less useful in providing information about job opportunities (Russell, 1999). The second result is less common: when the public

agency, that is, a formal recruitment method, is the channel conveying the successful applicant, the probability that the latter is a woman decreases. However, the significance at 10% leads us to remain prudent about this result. At last, the notable result of the first regression is the lack of a significant effect, all other things being equal, of screening process types on gender. In other words, the three ways of formalising screening processes are no more or no less favourable to female candidates than a *streamlined* process. Actually, reviews about this question find no evidence of female disadvantage in the screening phase (Petersen et al., 2000), except the specific case of the symphony orchestra[6] analysed by Goldin and Rouse (2000). We know more about cognitive foundations of bias, regarding gender and racial stereotypes, than about the role of assessment practices themselves, which could be favourable to either men or women.

The impact of recruitment and screening methods for people out of employment. The second regression estimates the probability of hiring unemployed or inactive people. Here, the recruitment methods have strong effects on the type of employee hired. Unsurprisingly, when the applicant is recruited through the public employment agency (instead of direct applications), the probability of finding someone out of employment largely increases (Russo et al., 2001). Conversely, private (profit or non-profit) agencies appear to be unfavourable to unemployed and inactive applicants. Head-hunter agencies are typically paid to hire people who are already employed. Non-profit intermediaries are mainly the French association for managerial employment, schools, and training institutions; their service is focused not on unemployed people but rather on managers seeking a new job. Personal and professional networks and the recalling of former employees seem to be unfavourable to unemployed and inactive people who are more isolated from job information networks: a great portion of unemployed individuals have friendship networks composed almost entirely of other unemployed people (Russell, 1999). After controlling for the effects of recruitment methods, a positive correlation remains between the *testing* process and the recruitment of an unemployed or an inactive person. This favourable effect is measured in comparison with the *streamlined* process effect; thus, it appears that unemployment is considered so negatively that a process based on a sole interview is insufficient to counterbalance it. All other things being equal, the *testing* type of screening process (in which the evaluation is contextualised) seems to give people out of employment an opportunity to change the employer's prejudices about their poor signals and their lack of personal and professional recommendations. They gain a chance to access employment by showing their know-how, abilities, knowledge or

personality through test results. Long-term unemployed applicants usually lack the confidence to present themselves as valuable based on their work history; they need to prove their knowledge and abilities instead. That is also the conclusion drawn by Salognon (2007) about the French "back-to-work" program IOD that avoids the CV and the standard deskbound job interview.

The strong impact of screening processes for less-educated people. The last regression of Table 3 shows that the type of recruitment method conveying the successful applicant has no significant effect on the probability that the latter has no (known) diploma. On the contrary, the three formalised types of screening processes have a significant negative effect in comparison with the *streamlined* type. In other words, face-to-face interactions favour less-educated candidates. Formalised ways of screening are a less subjective way to assess people, especially from minority ethnic groups (Holzer et al. 2006), but it appears that CV examination, tests or interviews conducted by HR professionals do not provide recruiters with in-depth information counterbalancing the lack of diploma. On the contrary, the formalisation of the screening process tends to strengthen the diploma requirements. Albrecht and van Ours (2006) show that Dutch employers are more likely to deviate from their educational standards when an informal method is used. The consequence is the valorisation of less-educated people by using a *streamlined* process and their exclusion from firms where a formalised hiring process is implemented. A diploma is a crucial signal in the French labour market (Marchal et al., 2007). If applicants lack this signal, the chance that their application will survive the screening phase of the *written-based* process (*e.g.*, the CV examination) is very low (Behrenz, 2001). In comparison with the *streamlined* type, the chance of being hired at the end of a *testing* type of screening process appears to be lower for less-educated people. We may assume that these people are likely less used to evaluations or may be more reluctant to be evaluated through different types of tests because of their school failures: there is a replication of the 'sorting out' process during the selection, which begins in school (Solga, 2002). Last but not least, the *professional* type has the largest negative impact on the probability of hiring an individual with no (known) diploma. In this type, HR professionals are almost always involved and tend to introduce more stringent standards (Cohen and Pfeffer, 1986). Moreover, officials representing three or more of the firm's functions are usually involved in the screening process. Therefore, even in processes regulated by HR professionals, other officials' judgments play a role (Lupton, 2000; Reskin and McBrier, 2000). Each official who performs a different function may add his or her own criteria to the initial list of requirements,

each one paying attention to a specific dimension of the vacancy to be filled. Consequently, the screening phase may be more selective because the number of requirements increases with the number of assessors in the firm.

Finally, in the French OFER survey, compared to *streamlined* processes (which can be criticised for being informal and subjective), *written-based*, *testing* and *professionalised* types of screening processes do have "disparate impact". They lower the chances of less-educated people; they are neutral in terms of gender; and *testing* screening processes give unemployed or inactive individuals a chance to access employment. As for the recruitment channels, they seem to have a more significant incidence than screening process types on the probability of hiring a female employee; they impact the chance of hiring an individual out of employment, but they seem to have no effect on the probability of hiring an individual with no diploma.

7. Conclusion

The approach used in this article aimed to pay special attention to the organisation of the hiring process and to the impact of hiring practices on the type of worker who is hired. It takes advantage of a French survey where 3,584 employers were asked about their last recruitment.

Our first contribution is methodological. We postulate that screening processes are an organised bundle of methods combining specific tools and actors, and we propose an inductive typology identifying four patterns of screening processes: the *streamlined*, *written-based*, *testing* and *professionalised* screening processes. This analysis overcomes the traditional opposition between informal and formal practices. Only the *streamlined* screening process can be considered informal, whereas the three others types refer to different ways of formalising procedures that promote written tools, tests and HR professionalism.

Our second contribution is empirical. Our results confirm with a nation-wide employer survey the hypothesis postulated by Economics of Conventions on the base of case studies: hiring practices filter different types of information and draw attention to distinct qualities and skills, and hence, they are likely to favour or penalise diverse types of applicants. Three main characteristics have been tested: the gender of the new recruit, the out-of-employment situation and the lack of a (known) diploma. Our logistic regressions show that recruitment and screening practices have no systematic and uniform effect on the three groups. Women are penalised by personal and professional networks, that is, informal recruitment methods; however, the three formalised types of screening processes do not favour or penalise them. Recruitment methods have an impact on the probability of hiring someone unemployed or

inactive, but recruitment methods do not seem to sort out people according to their lack of diploma. At last, if the *streamlined* way of screening applicants is favourable to non-educated people, it is not the case for people out of work; *testing* as a screening process is a more favourable way of valorising them. Thus, our results show that formalisation of recruitment methods and screening processes can enhance, however not systematically, the chance of vulnerable categories to access to employment.

At last, we show that screening processes depend on the characteristics of the job vacancy and according to economical and organisational constraints and resources. The diverse needs of firms explain the firms' resistance to the normalisation of their hiring practices. Such a resistance was observed in France when the implementation of the Equal Opportunity Act of 31 March 2006 was attempted (Marchal, 2013). Because several studies have revealed that discrimination begins at the first step of the recruiting process, the law anticipated imposing the use of anonymous CVs in any and all hiring procedures. An implicit norm was that each procedure must begin with the sorting of applications and must be followed by interviews with a limited number of candidates. However, as our study has shown, practices extend largely beyond this pattern. Furthermore, the results of the quantitative experimental study conducted in 2010 were a considerable surprise; they showed that both job applicants with immigrant backgrounds and applicants residing in sensitive urban areas were actually penalised by the use of anonymous CVs. Finally, the method of enhancing equal hiring opportunities and the degree to which formalisation could reduce discrimination remain open to debate (Pager and Shepherd, 2008).

References

Albrecht JW, van Ours JC (2006) "Using Employer Hiring Behavior to Test the Educational Signaling Hypothesis", *Scandinavian Journal of Economics*, 108, 361-72.

Aoki, M., and Jackson, G. (2008) "Understanding an Emerging Diversity of Corporate Governance and Organizational Architecture: An Essentiality-Based Analysis", *Industrial and Corporate Change*, 17, 1-27.

Barron, J. M., Bishop, J. and Dunkelberg, W. C. (1985) "Employer Search: the Interviewing and Hiring of New Employees", *The Review of Economics and Statistics*, 67, 43-52.

Behrenz, L. (2001) "Who Gets the Job and Why? An Explorative Study of Employers' Recruitment Behavior", *Journal of Applied Economics*, 4, 255-78.

Boxall, P. (2007) "The Goals of HRM", In Boxall, P., Purcell, J. and Wright, P. (eds.), *The Oxford Handbook of Human Resource Management*, Oxford, Oxford University Press, pp. 48-67.

Bygren, M. and Kumlin, J. (2005) “Mechanisms of Organizational Sex Segregation: Organizational Characteristics and the Sex of Newly Recruited Employees”, *Work and Occupations*, 32, 39-65

Cohen, Y. and Pfeffer, J. (1986) “Organizational Hiring Standards”, *Administrative Science Quarterly*, 31, 1-24.

DeVaro, J. (2005) “Employer Recruitment Strategies and the Labor Market Outcomes of New Hires”, *Economic Inquiry*, 43, 263-282.

DeVaro, J. and Fields, G. S. (2008) “Employer Stategies for Recruitment and Screening : High-Performance Systems or Diminishing Returns ? ”, Working paper no. 73, ILR Collection, Cornell University.

DeVaro, J. (2008) “The Labor Market Effects of Employer Recruitment Choice”, *European Economic Review*, 8, 283-314.

Dobbin, F. (2009) *Inventing Equal Opportunity*, Princeton: Princeton University Press.

Dobbin, F., Sutton, J. R., Meyer, J. W. and Scott R. (1993) “Equal Opportunity Law and the Construction of Internal Labor Markets”, *American Journal of Sociology*, 99, 396-427.

Doeringer, P., and Piore, M. (1971) *Internal labor market and manpower analysis*, Lexington, Massachusetts: D.C. Heath.

Edelman, L. (1992) “Legal Ambiguity and Symbolic Structures: Organizational Mediation of Civil Rights Law”, *American Journal of Sociology*, 97, 1531-1576.

Eymard-Duvernay, F. and Marchal, E. (1997) *Façons de recruter: le jugement des compétences sur le marché du travail*, Paris: Métailié.

Eymard-Duvernay, F., Favereau, O., Orléan, A., Salais, A. and Thévenot, L. (2005) “Values, Coordination and Rationality: The Economics of Conventions”. In Oleinik, A. (ed.) *The Institutional Economics of Russia’s Transformations*, Aldershot (UK), Ashgate, pp. 21-44.

Goldin, C. and Rouse, C. (2000) “Orchestrating Impartiality: the impact of “Blind” Auditions on Female Musicians”, The American Economic Review, 4, 7125-7141.

Holzer, H. J. (1987) “Hiring Procedures in the Firm: Their Economic Determinants and Outcomes”. In Kleiner M, Block R, Roomkin M, and Salsburg S (eds) *Human Resources and Firm Performance*, Madison (Wis.), Industrial Relations Research Association, 243-274.

Holzer, H. J., Raphael, S. and Stoll, M. A. (2006) “Perceived Criminality, Criminal Background Checks, and the Racial Hiring Practices of Employers”, *Journal of Law and Economics*, 49, 451-80.

Ioannides Y, Datcher Loury L (2004) Job Information Networks, Neighbourhood Effects and Inequalities. *Journal of Economic Literature* 42, 1056-1093.

Kampelmann, S. (2009) “Inequality Measures as Conventions: New Interpretations of a Classic Operationalization Problem”, *Socio-Economic Review*, 7, 669-694.

Latsis, J., de Larquier, G. and Bessis, F. (2010) “Are Conventions Solutions? Contrasting Visions of the Relationship between Convention and Uncertainty”, *Journal of Post Keynesian Economics*, 32, 535-58.

Lepak, D. and Snell, S. (1999) “The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development”, *Academy of Management Review*, 24, 31-48.

Lupton, B. (2000) “Pouring the Coffee at Interview? Personnel’s Role in the Selection of

Doctors", *Personnel Review*, 29, 48-64.

Marchal, E. (2013) "Uncertainties Regarding Applicant Quality: The Anonymous Resume Put in test". In Beckert, J. and Musselin C. (eds) *Constructing Quality. The classification of Goods in Markets*, Oxford, Oxford University Press, pp.103-123.

Marchal, E., Mellet, K. and Rieucau, G. (2007) "Job Board Toolkits: Internet Matchmaking and Changes in Job Advertisements", *Human Relations*, 60, 1091-113.

Marsden, P. V. and Campbell, K. E. (1990) "Recruitment and Selection Processes: The Organizational Side of Job Searches". In Breiger RL (ed) *Social Mobility and Social Structure*, New York, Cambridge University Press, pp. 59-79.

Moss, P. and Tilly, C. (2001) "Hiring Procedures and The Role of Formality" in Moss, P. and Tilly, C. (eds) *Stories employers tell: Race, skill and hiring in America*, Russel Sage Foundation, pp. 209-240.

Pager, D. and Shepherd, H. (2008) "The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets", *Annual Review of Sociology*, 34, 181-209.

Pellizzari, M. (2011) "Employers' Search and the Efficiency of Matching", *British Journal of Industrial Relations*, 49, 25-53.

Petersen, T., Saporta, I. and Seidel, M.-D. L. (2000) "Offering a Job: Meritocracy and Social Networks", *American Journal of Sociology*, 106, 763-816

Rees, A. (1966) "Labor Economics: Effects of more Knowledge, Information Networks in Labor Markets", *American Economic Review*, 56, 559-566.

Rees, A. and Shultz, G. P. (1970) *Workers and Wages in an Urban Labor Market*, Chicago: University of Chicago Press.

Reskin, B. (2003) "Including Mechanisms in Our Models of Ascriptive Inequality", *American Sociological Review*, 68, 1-21.

Reskin, B. F. and McBrier, D. B. (2000) "Why Not Ascription? Organizations' Employment of Male and Female Managers", *American Sociological Review*, 65, 210-233.

Rieucau, G. (2015) "Getting a low-paid job in French and UK supermarkets: from walk-in to online application?" *Employee Relations*, 37, 141-156.

Russell, H. (1999) "Friends in Low Places: Gender, Unemployment and Sociability", *Work, Employment & Society*, 13, 205-224.

Russo, G., Gorter, C. and Schettkat R. (2001) "Searching, Hiring and Labour Market Conditions", *Labour Economics*, 8, 553-71.

Sabatier, M. (2010) "Filling Vacancies: Identifying the Most Efficient Recruitment Channel" *Economics Bulletin*, 30, 3355-68.

Salognon, M. (2007) "Reorienting Companies' Hiring Behaviour: an Innovative 'Back-to-Work' Method in France", *Work Employment Society*, 21, 713-730.

Solga, H. (2002) "Stigmatization by negative selection. Explaining less-educated people's decreasing employment opportunities", *European Sociological Review*, 182, 159-178.

Weber, A. and Mahringer, H. (2008) "Choice and Success of Job Search Methods", *Empirical Economics*, 35, 153-78.

Wood, G., Croucher, R., Brewster, C., Collings, D. and Brookes, M. (2009) "Varieties of

Firm: Complementarity and Bounded Diversity", *Journal of Economic Issues*, 43, 239-258.

Woodhams, C. and Lupton, B. (2006) "Gender-Based Equal Opportunities Policy and Practice in Small Firms: the Impact of HR Professionals", *Human Resource Management Journal*, 16, 74-97.

[Appendix 1 here]

[Appendix 2 here]

---

[1] DARES' homepage provides researchers with the dataset and the survey questionnaire in French. (http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/emploi,82/l-enquete-offre-d-emploi-et,600/fichier-de-l-enquete-offre-d,3929.html)

[2] The sample was stratified by industry and firm size. Two methods of rescaling are possible: one according to the weight of the establishments and another according to the weight of the hiring procedures. Finally, the 3,584 observations represent 3,192,617 hiring procedures within 549,775 establishments. In our data analysis, the observations are rescaled according to the weight of the hiring procedures.

[3] Temporary employment agencies as employers are excluded.

[4] Using the same OFER survey, Sabatier (2010) studies all the recruitment channels chosen by a firm and the impact of their combination on the probability of filling a vacancy.

[5] The analysis relies on the first five axes computed by the MCA, which correspond to approximately 50% of the initial inertia.

[6] Women are discriminated against in selection based on written applications, but they have equal chances with men to be hired once they get the opportunity to perform in a "blind" audition (a screen conceals the player's identity from the jury).