Mapping the landscape of online job vacancies

Background report: France

Preface

Over the last decades, online job portals have become important features of the job market. The Internet offers a rich source of live and real-time labour market information for almost all of occupations. It can provide insight on job-specific skills required in particular occupations in different regions, combined with information on the characteristics of the job offered – i.e. much more than is available using conventional sources. However, consistent and comparative information on the use of the internet and online job market by job-seekers and employers in Europe is rather scarce.

To tap the potential of online labour market information, Cedefop started to investigate the possibility to develop a system for gathering and analysing data from online job portals in the EU to complement the centre's toolkit of skills intelligence instruments. While this is feasible, drawing meaningful conclusions from these data requires a good understanding of the features of national online job markets. Therefore, Cedefop has mapped the landscape of the online job market in all EU Member States. This publication presents one of the background country reports developed in the project - 'Real–time labour market information on skills requirements: Setting up the EU system for online vacancy analysis' (AO/DSL/VKVET-GRUSSO/Real–time LMI 2/009/16). Its findings will inform the cross country comparison published in the upcoming synthesis report.

The work was undertaken by a consortium of external contractors: CRISP (Milano/IT), Tabulaex (Milano/IT) and IWAK (Frankfurt/DE) and their network of country experts (see annex 1 for detailed list) and closely supervised by Cedefop. It presents authors' analysis of the landscape of the online job portal market in the country using a methodology developed for the purpose of the project.

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List of Abbreviations

Apec	The Association for the employment of executives (l'Association pour l'emploi des cadres)
BMO	Skill requirements (Besoins de Main d'Oeuvre)
Cedefop	European Centre for the Development of Vocational Training
CEET	Centre of Labour Studies (Centre d'études de l'emploi)
CEREQ	Centre for Studies and Research on Qualifications (Centre d'études et de recherches sur les qualifications)
COE	Council of Europe
DARES	Ministry of Labour (Direction de l'animation de la recherche, des études et des statistiques)
ESCO	European Standard Classification of Occupations
EURES	European Employment Services
HR	Human Resources
ICT	Information and Communication Technologies
Insee	The National Institute of Statistics and Economic Studies (L'Institut national de la statistique et des études économiques)
ISCO	International Standard Classification of Occupations
OFER	Jobs offers and recruitment (Offre d'Emploi et Recrutement)
OJVs	Online Job Vacancies
PES	Public Employment Services (Pôle Emploi)
ROME	Classification of Occupations (Répertoire opérationnel des métiers et emplois)

Introduction

With the project "Real-time Labour Market Information on Skill Requirements: Setting up the EU System for Online Vacancy Analysis", Cedefop explores online job-vacancies (OJVs) as a new source of real-time Labour Market Information. By crawling the most important online job-portals of the 28 EU Member States, Cedefop will further its understanding of the changing skills demand in different sectors and occupations. A systematic overview of the online job-portal landscape in each of the 28 EU Member States will identify the most relevant online job-portals and provide context for the data scraped from them. With the Landscaping Activity, Cedefop seeks to acquire insights into the structure of online job-portal markets and the extent to which online job-portals are used in recruitment and job-search. Furthermore, it aims to better understand which factors cause variation in the formats and content of OJVs in different countries.

This Country Report was compiled between April and October 2017 and constitutes a first overview of the online job-portal landscape in France. It is based on desk research of available data sources in France (e.g. public data, academic research and publications of interest groups) and expert opinions. Chapter 1 describes the methodology used for compiling the report in terms of the relevant search paths and data sources. Chapter 2 gives an overview of the main drivers for the use of online job-portals in recruitment and job-search, while Chapter 3 concentrates on the characteristics of the online job-portal market and lists the most important players. Moreover, it seeks to understand to what extent OJVs published on the online job-portals provide adequate information on the developments in the French labour market in terms of the number of vacancies and representation of sectors/occupations. Furthermore, it elaborates on the legal and regulatory framework guiding the activities of the job-portal owners and employers, highlights the differences between the public versus private online job-portals and delineates their relationships with one another. Chapter 4 covers the use of online job-portals in recruitment and job-search. It focuses on the differences in the behaviour of employers and job-seekers across sectors, occupations, qualification levels and regions. Chapter 5 presents the most important online job-portals in France for webcrawling and describes a step by step process of the OJV drafting and posting on select private and public online job portals. Chapter 6 concludes the Country Report by describing the main features of OJVs in France in terms of format and content. In particular, it explores to what extent OJVs contain information pertaining to hard and soft skills required for the job, how these skills are characterised and what they reveal about the nature of the job.

1.Methodology

Desk research was conducted from mid-July to mid-August 2017. The following key words and combinations thereof, were used to search the Internet and data bases: "online job vacancies", "job vacancies", "job-portals", "job search", "job adverts".

The platforms and data bases used for the search were the following:
- Google;
- Google Scholar for academic research;
- Cairn.info ([1]) for academic research;
- CEET ([2]) (Centre of Labour Studies);
- CEREQ ([3]) (Centre for Studies and Research on Qualifications);
- DARES ([4]) (Ministry of Labour);
- COE (Council of Europe) website ([5]);
- French Senate website ([6]).

Another interesting data source is the database of job offers hosted by the PES. This database is accessible to researchers and should be opened soon to other online job-portals ([7]). To access the database, subscribers are asked to sign an engagement contract, which allows subscribers to analyse the job contents (full wording and structured cases).

Pole-emploi.fr has also developed a service for companies in which they match job offers and CVs. The programme, called "Recruitment and skills" (Recrutement et compétences, http://www.pole-emploi.org/digitalinnovation/), uses the national classification of occupations to identify terms describing skills relevant to specific occupations. The same terms are then used within the job offer descriptions as well as the CVs hosted by pole-emploi.fr, so that individuals with CVs on the site can be appropriately matched to available positions. This service is already used by career guidance advisors to help them assist the job-seekers. The programme focuses exclusively on skills associated with recognised occupations, for which the expected skills and competences are standardised. It does not attempt to match individuals based on soft skills.

In order to have a comprehensive picture of OJVs in France and of how OJVs may address skills mismatch, four experts were interviewed. The first expert is a researcher, who is well-recognised for his numerous publications in the field. The second expert works for the Ministry of Labour on two European projects linked to the classification of information on job offers and the use of job offers to address skills mismatch and has recently published a paper on the use of the Internet for recruitment based on the Ministry of Labour's last survey on recruitment.

([1]) Cairn.info is a resource that manages electronic French-language humanities and social sciences publications.
([2]) In French "Centre d'études de l'emploi", www.cee-recherche.fr.
([3]) In French "Centre d'études et de recherches sur les qualifications", www.cereq.fr.
([4]) In French "Direction de l'animation de la recherche, des études et des statistiques", http://dares.travail-emploi.gouv.fr/dares-etudes-et-statistiques/.
([5]) www.coe.gouv.fr.
([6]) www.senat.fr.
([7]) The following link needs to be used: www.emploi-store-dev.fr/portail-developpeur/detailapicatalogue/59438edb243a5f952c5d9e8c;jsessionid=XLzoH9O7wnc4nUkaqTOgZLQteuxqmkr0e59HtbZx9ba1wIBc3eWU!-50775287.

Table 1: Overview of the different sources used in the Landscaping Activity

Type of source	Title/year	Provider	Information on			Quality
			Share of existing vacancies on online job-portals (PES/private)	Use of OJVs per sector/occupation/qualification level/ region	Skills requirements in OJVs	
Source 1: **Public data/academic research**	OFER 2005	DARES, Ministry of Labour		Yes (per sector)		Very good
	OFER 2016	DARES, Ministry of Labour		Yes (per sector)		Very good
	Annual survey on Sourcing	Apec				Good
	Labout Force Survey	Insee				Very good
	Yearly ICT survey	Insee		Yes (per sector)		Very good
Source 2: **Research/surveys of interest groups**	Annual survey	RegionsJob		Yes (per sector)		Good
Source 3: **Expert opinions**	Expert opinions 2017	Experts 1-4 (see the References for detailed information)			Yes	Good

Source: Recotillet (2017).

2. Labour Market Dynamics and Impact on the OJV Market

The French labour market has experienced transformations for fifteen years, particularly with the economic downturn at the end of the 2000s and the resulting high unemployment rate. It is highly segmented in terms of occupations as well as labour contracts: "France, as many other OECD countries, has experienced a process of job polarisation away from middle-skill jobs to low-and-high-skilled employment" (OECD 2017). This polarisation is evident in many sectors, but it is particularly related to the overall growth of employment in the service sector and the decline in the manufacturing sector (Ibid). Between 1993 and 2010, the share of employment of low and high paying occupations rose by about 4% in France, while the share of middling occupations dropped by about 8% (Skills Panorama 2015) .

The segmentation between permanent contracts and temporary jobs is particularly visible. Using administrative data, it appears that 75% of employees have a permanent contract (Insee 2016), a figure that has remained relatively stable over 20 years. But, three of four people have been hired on temporary, particularly on short duration contracts (lasting less than six months), since the beginning of the 2000s. This is problematic, as temporary jobs are not considered a stepping stone to permanent jobs in France, due to the strict labour laws which can make it challenging for companies to dismiss workers with permanent contracts. As a result, workers who accept temporary contracts in France are more likely to be working in temporary jobs several years later, when compared to peers in other countries. For example, only around 20% of French workers in jobs with temporary contracts as of 2008 had transitioned to permanent contracts as of 2011, whereas approximately 50% of British temporary workers has been given permanent contracts over the same time (Reuters 2015). The presence of so many temporary jobs without long-term prospects leads to high turnover, which in turn inflates the number of OJVs on the market without indicating actual labour market growth.

With the increasing digital economy and the expansion of collaborative platforms, flexible forms of jobs are developing. Economists talk about "Uberisation" ([8]) of part of the French labour market (Benhamou 2017). Some economists fear that paid employment could disappear for parts of the working population (Gazier 2003), due to new labour and social regulations (Supiot 2016). For this type of labour market, flexibility and self-empowerment are important and could change the employer-job seeker dynamic by changing the way that skills are perceived and assessed (Benhamou 2017) (fear of losing control, job market will lose career perspectives, empowerment, both sides of coin, relate it back to OJV market, relate back to polarisation of job market – high qualified, stable jobs versus low-skilled, behaviour, resource-driven jobs, disappearance of the track from short-term to long-term contract, which is already disappearing, but relegates these freelance, short-term projects to completely different websites and class of jobs).

For over thirty years, the level of qualification in the working population has increased. In 2013, the share of people without a diploma was 20%, while in 1982 where it was 56% (Benhamou 2017). The percent of young people who left school and training without any qualification (i.e., below the first level of the National Qualifications Framework ([9])) was stable from the early 1990s until 2010. However, it has been decreasing since then (Le Rhun et al. 2013). Nonetheless, 10% of 16-29

([8]) A reference to the ride-sharing company, Uber, this term refers to the spreading of the shared economy.
([9]) In French "Commission Nationale de la Certification Professionelle".

year olds are not mastering basic skills, which are crucial to integration into the labour market (Le Rhun et al. 2013). One of the main distinctive features is the high level of youth unemployment and many of the unemployed youth have low qualifications, meaning they struggle to adapt to the transformations of the labour market, particularly those related to the digital economy. The less qualified rarely resort to online job-portals and report that this recruitment channel is not very useful for them. They favour so-called "jobbing" ([10]) platforms, which offer low wage jobs, hard working conditions and poor social protection (Codagnone 2016).

The hiring behaviour of companies is fluctuating as a result of demographic trends, global competition and technological development:

- In metropolitan France, the population increase in 2017 was about 217,000 people (+0.4%) (Pison 2018: 4). Even though the number of births is decreasing (781,000 in 2014 compared to 728,000 in 2017 in metropolitan France), France still has one of the highest fertility rates in the EU (Pison 2018: 4). Furthermore, the population in France is ageing: in 2000, 16% of the people in France were 65 and over, while this age group constituted 19.8% in 2017 (Pison 2018: 5). However, the ageing does not take place as rapidly as in other European countries.
- Online job portals allow employers to get a better sense of the types of workers and the skillsets that are available on the labour market, thanks to job seeker profiles, CV databases and job-matching functions. However, with the increased quantity of information come issues related to quality. These issues could lead to a new form of segmentation between candidates (COE 2015), as the online job market creates a displacement effect ([11]).

([10]) Digital platforms providing direct peer-to-peer or peer-to-business transactions occurring in a regulatory vacuum. "Jobbing" platforms are often categorised as part of the "sharing economy", but they focus on the individuals who will contribute labour and/or resources to the "sharing economy" platforms.

([11]) Individuals who are employed have a higher level of human capital and are more likely to use OJV websites to better match their expectations on the labour market. So while the currently employed have better chances to get even better jobs, the less qualified, who are less likely to use online job-portals, have even fewer chances of finding employment.

3. Context and Characteristics of the Online Job-portal Market

3.1. PES Online Job-portal(s)

3.1.1. Legal/Regulatory Framework

Job advertisements are regulated by French labour laws. Job advertisements must not include any specific reference to individual characteristics listed in Article L.1132-1 of the French Labour Law such as ethnic origin, gender, habits, sexual orientation, age, familial situation, genetic characteristics, real or presumed membership or non-membership in a particular ethnic group, political group, race or religion, disability, physical appearance, name, or health status. Place of residence was added to this list based on a 2014 law on town planning and urban cohesion ([12]). Violating the legal framework is punishable by law, particularly if a candidate for a job is eliminated on the basis of one of these factors.

Five criteria are legally required to be included by employers in the content of their OJVs: occupation, place of work, description of the job, nature of the labour contract and required professional experience.

Following the Legislation on Social Cohesion Legislation in 2005, the PES no longer holds a monopoly on OJV and placements, and companies are therefore no longer obliged to post their job vacancies on pole-emploi.fr. This means that the PES is now a competitor with other online job-portals and must make itself an appealing recruitment resource for employers. The PES has also entered into a partnership with some private portals, whereby they share OJVs (COE 2015).

3.1.2. Organisational Structure of the PES Online Job-portal(s)

In 1997, the French PES launched its online job-portal. In parallel, local agencies continue to host and support job-seekers in person in addition to the available online services. The PES has opted for a multi-channel strategy, reinforced by the Legislation on Social Cohesion (see Section 3.1.1.) The local agencies may advertise jobs that are not posted on the national website, generally hard-to-fill positions.

The PES entered a new stage in 2013 with the Transparency for Labour Market Project (see Section 3.1.1.). The PES reorganised its internal human resources management so that some of the staff are in charge of building relationships with companies and offering services to improve recruitment processes, such as legal information, guidance for writing OJVs and assistance with the selection of candidates.

3.1.3. Focus of the PES Online Job-portal(s)

Drawing from available publications from the PES, three factors determine which types of employers are most likely to post job advertisements on the PES online job portal: occupation, labour contract and place of work.

In 2016, 7.4 million job advertisements were posted on the PES online job portal (Pôle Emploi).

([12]) In French "Loi de programmation pour la ville et la cohésion urbaine".

Figure 1: Number of job ads on the PES online job-portal between 2015 and 2017 (in thousands)
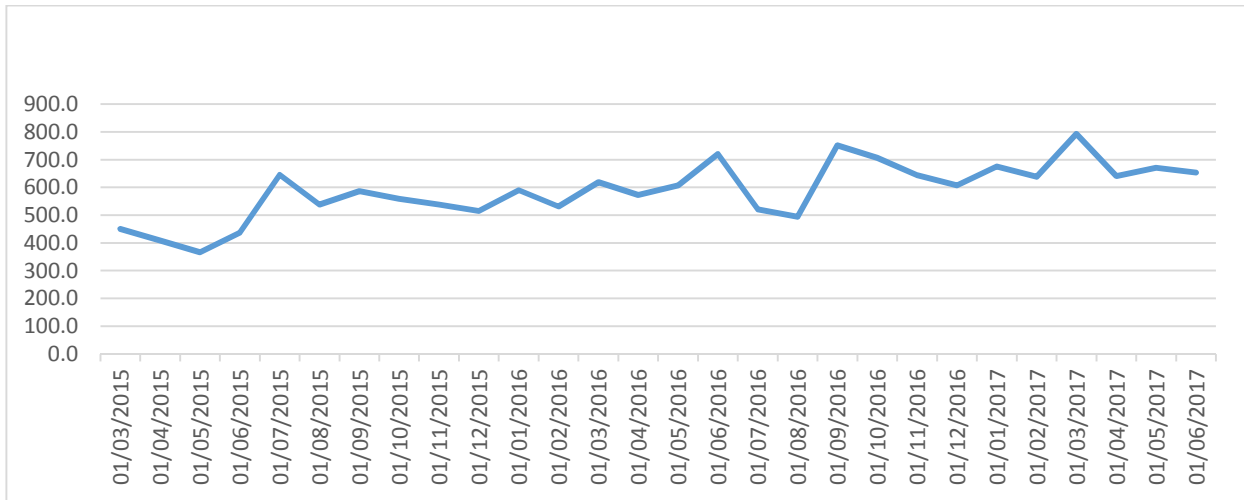
Source: Pôle Emploi (2017).

In June 2017, most of the job advertisements posted on the PES online job-portal offered occupations in support service activities, wholesale and retail trade and personal service activities (see Figure 2).

Figure 2: Job advertisements on the PES online job-portal by occupation, in % (using NAF codes)
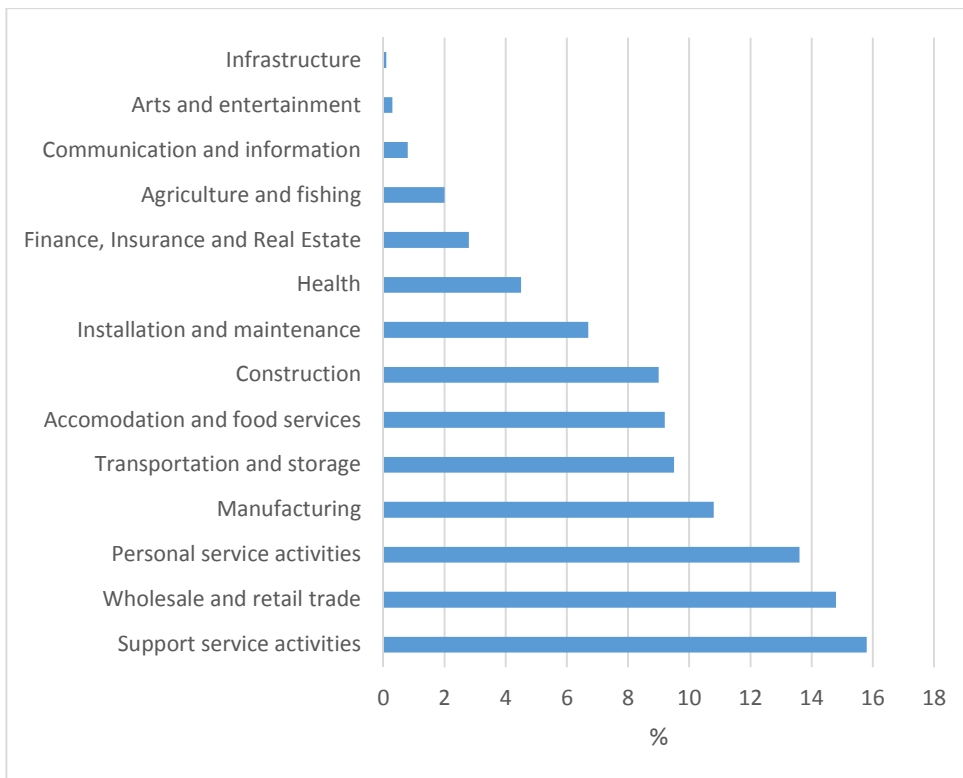
Source: Pôle Emploi (2017).

More than half of the job offers posted to the PES are characterised as stable jobs, meaning they offer a contract of six months or more. This includes jobs offering an unlimited contract (52%) as well as jobs offering contracts of at least six months (7%) (Pôle Emploi 2017). Short term contracts, which offer contracts of one to six months, represent 13% of OJVs on the PES.

Lastly, four regions account for more than half of the total advertisements with two regions standing out: the Île-de-France region and the Auvergne-Rhône-Alpes regions (Shown in Figure 3 in red). It makes sense that Ile-de-France has the largest number of advertisements, as it is also the most populated region with 19% of the population (11.9 million inhabitants). However, as the region attracts a large number of young people, the active population is 25% of the national population (over 6 million people), indicating that the percentage of advertisements (22% of the national total) is actually a bit lower than would be expected (EURES 2015). The region Auvergne-Rhône-Alpes makes up 12.3% of the total population of France (7.8 million). The active population is 3.59 million people, or approximately 12.2% of the total active French population. The proportionally higher percentage of job advertisements in the region compared to its active labour population may be related to the general strength of the Rhône-Alpes ([13]) economy, with 22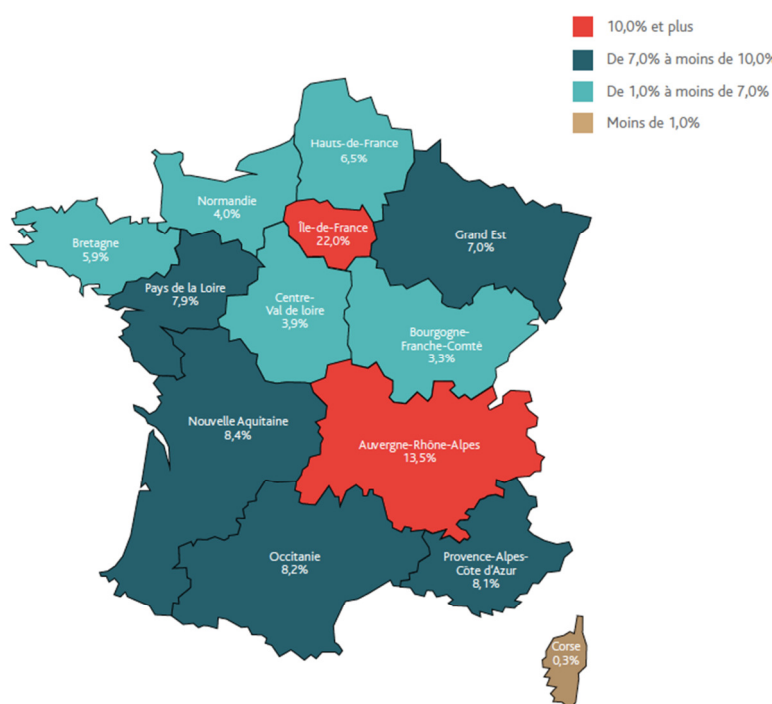.8% of the region's employment in the industrial sector and more employers with at least 10 employees than the general average across France (EURES 2017).

Figure 3: Percent of job advertisements by regions

Source: PES, 2017 (Pôle Emploi).

Drawing on an employer survey of employment opportunities (BMO survey 2016), employers report that they may use pole-emploi.fr to post jobs offering unlimited contracts or contracts over six months or to assist in recruiting for hard-to-fill roles (Pôle Emploi 2016). Employers turn to pole-emploi.fr, because it offers three advantages. It is free of charge, easy to use and it reaches many candidates. For hard-to-fill roles, employers want to reach as many job-seekers as possible in

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([13]) The Rhône-Alpes region and the much smaller and less economically strong Auvergne region merged during the territorial reform of French Regions in 2014 and came into effect on 1 January 2016.

hopes of finding a candidate who matches the role, and therefore the broad reach of the PES, as the largest portal, is appealing. In addition, the PES offers free intermediation services for companies that do not have the ability to do their own recruitment or who have challenging roles to fill, based on their motto, "Do more for those who need it the most" ([14]) (Pillon 2015).

There is no statistical data on the population of job-seekers that consult the PES online job-portal. However, there is statistical data on job-seekers registered with the PES. We can safely assume that most job-seekers who register with the PES will then use the online job-portal at some point.

Within the population of job-seekers registered there are two distinct categories: individuals who receive unemployment benefits (55% of job-seekers registered at the PES) and those who do not receive unemployment benefits. A recent publication of Pôle Emploi (Pôle Emploi 2016) identified other key characteristics of PES job-seekers:

- In 2015, half of job-seekers registered at Pôle Emploi were over 40 years old (whereas in 1996, around 66% of individuals registered to the PES were younger than 40 years old.
- 87% of job-seekers registered at Pôle Emploi were previously employed (share remained steady between 1996 and 2015).
- Half of individuals registered to the PES in 2015 hold a baccalaureate diploma.
- 53% of job-seekers registered at Pôle Emploi are women.
- A large percentage of the job-seekers are looking for a job in the personal service sector (21% in 2015).
- Most job-seekers are looking for a stable job with a contract of unlimited duration, even though a growing number of job-seekers are looking for part-time jobs or short-term jobs.

Unemployment benefits recipients are generally older individuals and less qualified individuals (Unedic 2016):

- Six out of ten job-seekers receiving unemployment do not hold a university degree.
- Although women and men are equally represented, women receiving unemployment benefits are more qualified, with half of them holding a university degree.
- 30% of job-seekers receiving an unemployment benefit are less than 30 years old and 22% are over 50 years old.

Now that the PES aggregates OJVs from private portals and has shifted its focus from primarily serving the unemployed population (see Section 3.1.4.), there are more high-skilled, long-term contract OJVs that attract an audience that is not receiving unemployment benefits.

3.1.4. Outreach of the PES Online Job-portal(s)

The largest French public intermediaries are the PES (pole-emploi.fr) and The Association for the Employment of Executives (Apec) ([15]). Both developed a website at the end of the 1990s, but they had opposite strategies in terms of online job activities (Fondeur 2016). These strategies stem from the different functions that the two public intermediaries served at the time at which they created online job-portals. Apec was developed to improve the functioning of the executive employment market and supports the recruitment and employment of highly skilled, highly educated employees and executives, with a particular focus on recent graduates of higher education. It is a public-private partnership, which receives corporate contributions and which is managed by regional committees which include equal representation of employers and trade union representation. The portal was launched in 1998, and it established partnerships with aggregators very early, including LinkedIn in 2008 and Viadeo in 2010. These partnerships combine job search across the portals and give access to networking functionalities that are already available on the private portals. By


([14]) In French: Faire plus pour ceux qui en ont le plus besoin.
([15]) In French "L'Association pour l'emploi des cadres".

contrast, the PES, which was created in 2009 through the merging of two predecessor agencies, was designed to reduce unemployment. It launched a digital strategy in 2013, after joining the Transparency in the Labour Market (TMT) ([16]) initiative in 2013. The TMT initiative aimed to reduce frictional unemployment by broadening the PES' reach across the labour market and by creating greater visibility and circulation of job offers. In developing partnerships with private portals, the PES recognised its own limitation in capturing enough OJVs directly from employers as well as a more "market-based conception of work exchange" (Pillon 2015). The new partnerships allow for the automatic transfer of OJVs from partner portals to pole emploi as well as the sharing of job-seeker profiles registered with the PES to a broader audience of employers, yet the PES workers do not have to intervene as often in the selection and evaluation process, relying more heavily on automated matching algorithms (Pillon 2015).

Currently, the PES website, pole-emploi.fr, generates 45 million visits monthly of which 5.2 million are unique visitors (December 2014: COE 2015). There are 600,000 job offers available on the portal each day. Pole-emploi.fr works with around 120 partners, which include other labour market intermediaries and portals as well as local, regional and national government agencies ([17]). In France, pole-emploi.fr is the number one online job-portal in terms of visits.

Figure 4: Main ranking of the online job-portal traffic
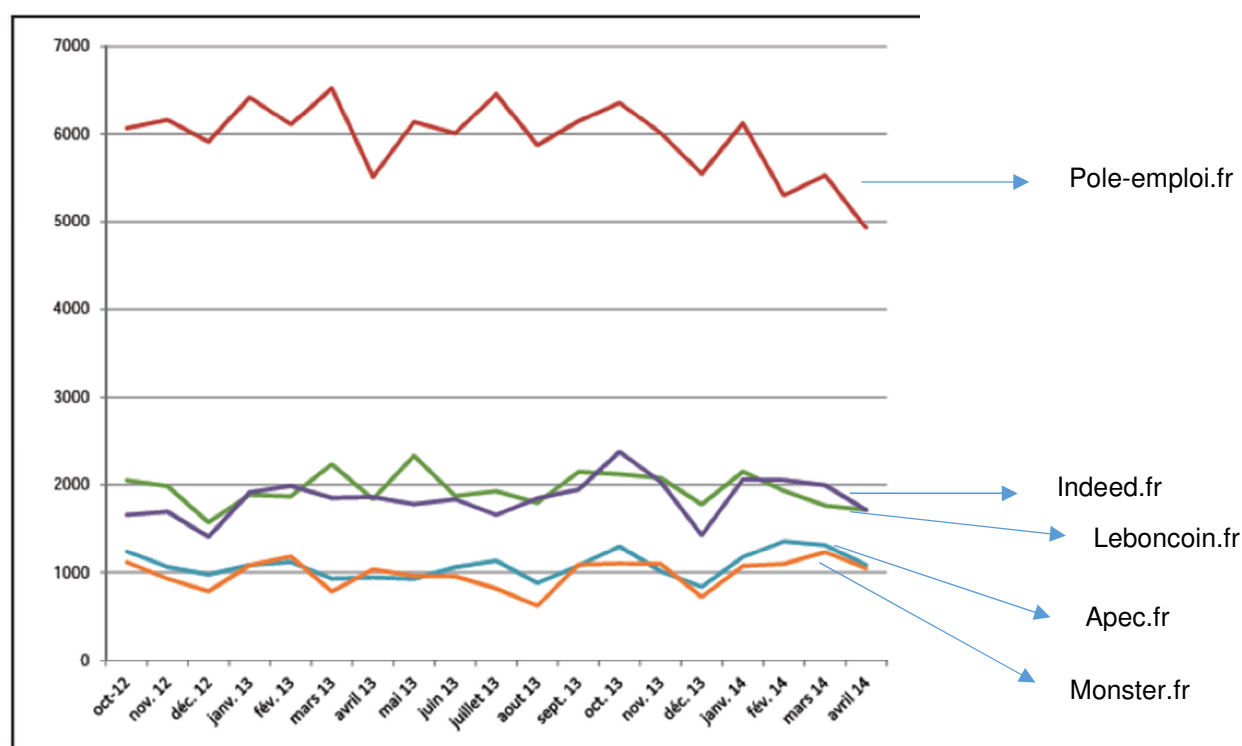
Source: COE 2015.

At present, almost half of the job offers on the PES portal are automatically transferred into the portal by its partners (i.e. job boards and aggregators). While significant effort has been made to automate the flow of job offers between the PES and the private portals, less effort has been made to harmonise coding between different sites While it is unclear how the partnerships between the PES and private portals developed and how they manage the transferral of OJVs, it is worth noting

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([16]) In French "Transparence sur le marché du travail".
([17]) www.rapport-annuel.pole-emploi.org/rapport-annuel-2016/sadapter-aux-nouveaux-enjeux-de-lemploi/la-revolution-digitale).

that two major job portals are not partners with the PES: the aggregator Indeed.fr and Leboncoin.fr, which is a classified website with a job segment. One might consider that the small private-portals can gain significant traffic by increasing their stock of OJVs through partnerships, and the PES can appear more competitive by incorporating more private-sector OJVs onto its site, whereas Indeed has a large, competitive market share without partnerships and Leboncoin, as a classified ads site, caters to a different part of the labour market than the PES.

The PES has developed a new strategy of acting as an aggregator on the online job market. Its strategy regarding multi-posting is still at an early stage. One of the initial objectives of the PES was to reduce inequalities between unemployed and employed job-seekers by offering specific job offers for the unemployed job-seekers who were registered at the PES. Thus, the development of multi-posting is a revision of its initial objective. The PES is now more interested in sharing OJVs and competing with private portals to offer a greater number of OJVs and generate more job-seeker traffic, including job-seekers who are not receiving unemployment benefits. The main difference between the types of OJVs is that only OJVs posted directly to the PES are eligible for recruitment and matching services. Pôle Emploi currently collaborates with eight online job-portals (among its 120 partners), which contribute job offers for which the PES does not look for candidates.

3.1.5. Posting of PES Vacancies on EURES

Pole Emploi.fr posts job offers on the European portal EURES. In most cases, job offers from PES or Apec can be found on the EURES portal, since aggregators also report their job offers to EURES regardless of whether they have a partnership with the PES or Apec. While specific information about the PES/Apec relationship to EURES could not be collected, new regulations from the European Commission requiring automatic and complete transfer between national PES systems and EURES via synchronised web services, will become active in 2018.

3.2. Private Online Job-portals

3.2.1. Legal/Regulatory Framework

The legal and regulatory framework is the same as for Pole Emploi.fr in terms of job ads.

3.2.2. Dominant Online Job-Portals and Their Business Models

As previously mentioned, pole-emploi.fr is the most visited job portal in France, followed by Indeed.fr, a generalist portal, and Leboncoin, a classified ads portal. According to the Jobfeed data source, the top five portals as of early 2017 were: pole-emploi.fr, vivastreet.com (classified website), jobintree.com (job-portal), mete-ojob.com (job-portal) and recrut.com (job-portal). This ranking may differ depending on the source, especially as sponsorship sometimes impacts the ranking order in less academic studies. The ranking established by Mediametrie is more relevant, because it is independent. Figure 5 reports the last available Mediametrie ranking from December 2014.

Figure 5: Ranking of online job-portals by number of visitors (France, 2014)

	Site	Nb de visteurs uniques
1	Pole emploi	5 265 000
2	Indeed	1 601 000
3	Leboncoin.fr Emploi	1 454 000
4	APEC	1 022 000
5	Meteojob	985 000
6	Cadremploi	893 000
7	Keljob	680 000
8	Monster	559 000
9	Jobrapido	499 000
10	Qapa	427 000
11	JobiJoba	394 000
12	Vivastreet Emploi	361 000
13	Beep Job	340 000
14	Jobintree	305 000
15	Emploi-territorial.fr	286 000

Source : *Mediametrie/NetRatings, Panel Mediametrie/NetRatings.*

Source: Mediametrie/NetRatings, Panel Mediametrie/NetRatings (2014).

Apart from the PES and Apec, the dominant job portals are all generalist portals, aggregators and classified websites. Specialised websites are not presented in this list, as they focus on specific sectors or regions, and therefore usually have less traffic. There are numerous job-portals, and each of them uses specific language based on their own classification of jobs (Fondeur 2016).

There are three categories of online job search channels in France:
- Online job-portals includes three sub-categories:
    - Job portals post job vacancies supplied by companies and upload CVs supplied by job seekers;
    - Aggregators pull OJVs from other job boards (with their agreement) and advertise jobs within their website;
    - Multi-posting actors post job vacancies supplied by companies on partners' website (job boards, alumni, schools etc.);
- Digital professional networks;
- "Jobbing" websites (see Footnote 10).

The business model of private job portals is a two-sided market, consisting in this case of candidates and employers. The platform plays the role of intermediary between the two sides, but it is generally free to one group (candidates) and offers paid services to the other group (employers).

The job portal business model: job boards were the first to enter the online job market (e.g. Monster in 1994). In this model employers pay to post jobs (the most common revenue source for job portals), for highlighting their job offers, enhancing their company profiles and other services that a job board may offer such as access to a CV database. Generally, the price of posting a job depends on the number of OJVs posted, but also on the packages the company may add. Following the 2005 Social Cohesion Legislation, it is forbidden to charge candidates to view the offers or to upload their CVs. This is typically a B-to-B business model. For France, Fondeur and Tuchzirer (2005) report that an average of 80% of job board turnover comes from job postings and 20% from access to CV databases. Among job boards, the classified websites have a slightly different business model. On these sites posting is free for companies, but there is an option to pay for premium features. For example, companies can pay to be featured as one of the top results on the website. Jobbing websites, which advertise short-term and often unregulated jobs, currently use the same business model. As this is a new and developing recruitment channel, it is difficult to speculate as to whether Jobbing websites will deviate from the job portal business model in the future.

The aggregator business model: the platform collects or aggregates job offers from several competing sources such as job boards and acts like a search engine for jobs. Aggregators cannot post job offers on their website without the agreement of the original job board. Their business model is similar to that of job boards (Fondeur 2016). There are two primary fee-based options which companies can select. They can either pay based on the number of times job seekers click on an OJV or they can pay a flat fee to post an OJV. Most of the dominant job boards do not partner with Indeed, the dominant aggregator on the online job market (Fondeur 2016).

Multi-posting business model: these platforms cross-post job offers on several job boards with whom they have partnerships. Moreover, they can advertise OJVs to a network of schools or in a network of alumni. Multi-posting.fr is the leader on the multi-posting online job market. This platform established partnerships with more than 600 job portals and more than 2,500 schools and alumni groups (Fondeur 2016). The price is fixed upon the number of OJVs included on the platform. Consequently, cross-posting is mostly used by large companies.

3.2.3. Focus of the Private Online Job-portals

There is no statistical data about the characteristics of employers on certain portals. However, the 2016 Employment and Recruitment Survey from the Ministry of Labour provides data on the use of private job portals by employers. In 2015, companies used the internet in general for 45% of recruitment needs (including private portals, social media and both public portals). Forty-one percent of employers used their own websites as one channel, and often the first channel to advertise jobs (this practice is especially common for large companies); these larger company sites are often crawled by private portals. Private portals are more commonly used for recruiting jobs with permanent or long-term contracts (more than three months), as companies are willing to invest more money into finding the right candidates for these roles. Jobs in sales, especially technical sales roles, are more likely to be advertised on private portals, whereas clerical jobs are more likely to be advertised on the PES portal. Private portals focus their attention on recruiting individuals who are currently in training and higher education programmes, whereas the PES is more likely to focus on recruiting the unemployed, and currently employed individuals are more likely to find new opportunities through personal networks. Companies that have an HR department are more likely to use private portals – again these tend to be larger, private sector companies that have the means to pay for professionalised recruitment strategies.).

A recent survey carried out in 2016 by the Superior Council of Audiovisual Media ([18]) and the Council of Labour Orientation ([19]), focused on the job search techniques of individuals hired within the last two years, as well as currently unemployed people. It shows that the most popular private job search channel is generalist portals, such as Indeed, Jobijoba, Monster and Keljob. General social networks, such as Facebook and Twitter, are the least used private channels, while the professional social networks, such as LinkedIn and Viadeo, have somewhat comparable use as specialised job-search portals (see Figure 6).

Figure 6: Use of Private Job Search Channels by the Recently Employed and Currently Unemployed
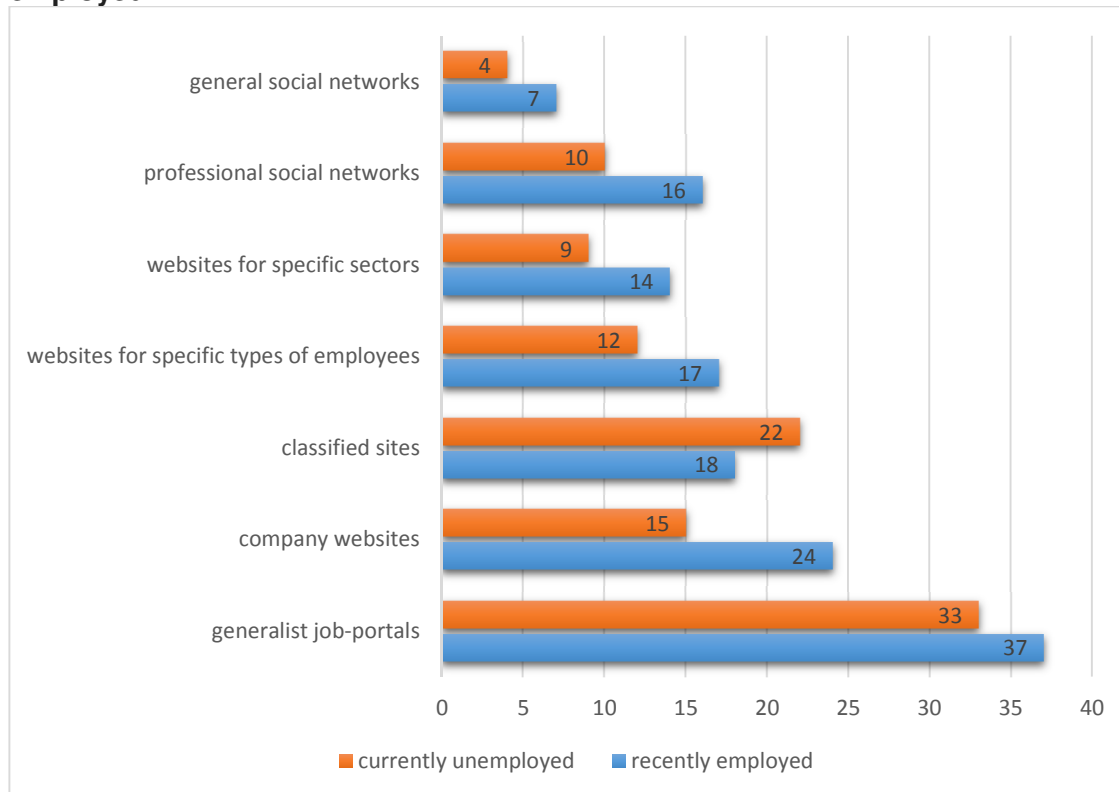
Source: CSA Research (2016).

Overall, 40% of people surveyed found jobs through online job-channels, while 60% found jobs through other means. Of the 40% that were successful with online platforms, 13% use Pôle Emploi, while the remaining 27% is divided between the seven private channels shown in Figure 6 as well as the APEC public site (CSA Research).

3.3.   Co-operation between Public and Private Online Job-portals

As Section 3.1.1. notes, there is significant cooperation between the PES and private portals. Currently more than three-quarters of job advertisements on the PES online job-portal are provided by partners (Fondeur 2016). The main difficulty pole-emploi.fr faces is the coding of occupations within the job advertisements of their partners. Pole-emploi.fr uses a national classification of occupations (ROME ([20]) classification) to categorise its job advertisements. When OJVs are automatically

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([18]) In French "Conseil Supérieur de l'Audiovisuel".
([19]) In French "Conseil d'Orientation pour l'Emploi".
([20]) In French "Répertoire opérationnel des métiers et emplois".

transferred from private portals to the PES, they undergo semantic analysis of the job content in order to sort them into the appropriate coding categories to comply with the ROME classification.

3.4. Role of other Recruitment and Job-search Channels

With the expansion of the Internet, the matching process between labour demand and supply is shifting. The development of private actors such as job boards, aggregators, multi-posting websites, the PES and temporary jobs agencies influence and shape the hiring behaviour of employers.

For each recruitment, employers activate an average of 3.1 recruitment channels (Dares analyses 2017). The most frequently used channel is direct applications (68%), followed by professional or personal contacts (53%), and then online strategies (45%). Recruitment channels are not necessarily selected for their efficiency. In one out of two recruitments, a job offer is published online, but the online publication only leads to a successful recruitment in 15% of cases (Borgeat and Rémy 2017). The efficiency of a channel is measured by the ratio between the number of completed recruitments and the number of times this channel is used. The most efficient channel are professional and personal contacts (52%). Online job offers are the third most efficient channel.

The Internet provides a large source of information and offers new job services that can improve the hiring process. These new digital tools are a complement rather than a substitute to the traditional tools. Employers rely heavily on other instruments in addition to OJVs, such as professional networks and employee referral.

Within the hiring process, the search for candidates must be understood separately from the analysis of CVs and candidates' selection. In each of these three steps, employers make different use of online job services. The behaviour of employers during the sourcing step has been profoundly shaped by digital tools. We identified three data sources analysing how different channels are used to fill job vacancies:

- The OFER survey (French Ministry of Labour) was carried out in 2005 and again in 2016; the 2016 survey provides relevant information highlighting the impact of OJVs on hiring behaviours. First results were published in October 2017, and in-depth results are expected at the beginning of 2018.
- The annual survey on sourcing, carried out by Apec (most recent edition in 2017 ([21])) exclusively targets employers who recruit at least one executive per period.
- The Regionsjob annual survey evaluates how employers recruit based on the level of the role in question.

Generally, these sources reported that private portals are used the most (87%), followed by the PES (77%) and then by direct applications. Apart from these three main channels, employers use employee referral or digital social networks.

OJVs play a major role in the sourcing process. The nature and number of channels used depends on general economic conditions as well as the budget allocated for the hiring process. When the economic climate is poor, employers prefer free tools such as those developed by the PES (pole-emploi.fr) or by Apec. The use of digital social networks has not increased over the last years and outsourcing via recruitment agencies as well as traditional print media have both declined.

([21]) 1,400 companies with at least 50 employees who had recruited at least one executive from January 2016 to February 2017 and participated in the survey.

The Sourcing Apec Survey (2017) stresses the same results for executives. To identify potential candidates, employers mainly post job openings on online job portals (87%), browse direct applications (64%) or consult their own network (57%). Large companies use job online services more frequently than small companies, which resort more often to their professional networks.

Figure 7: Sources for identifying potential candidates for jobs, in %
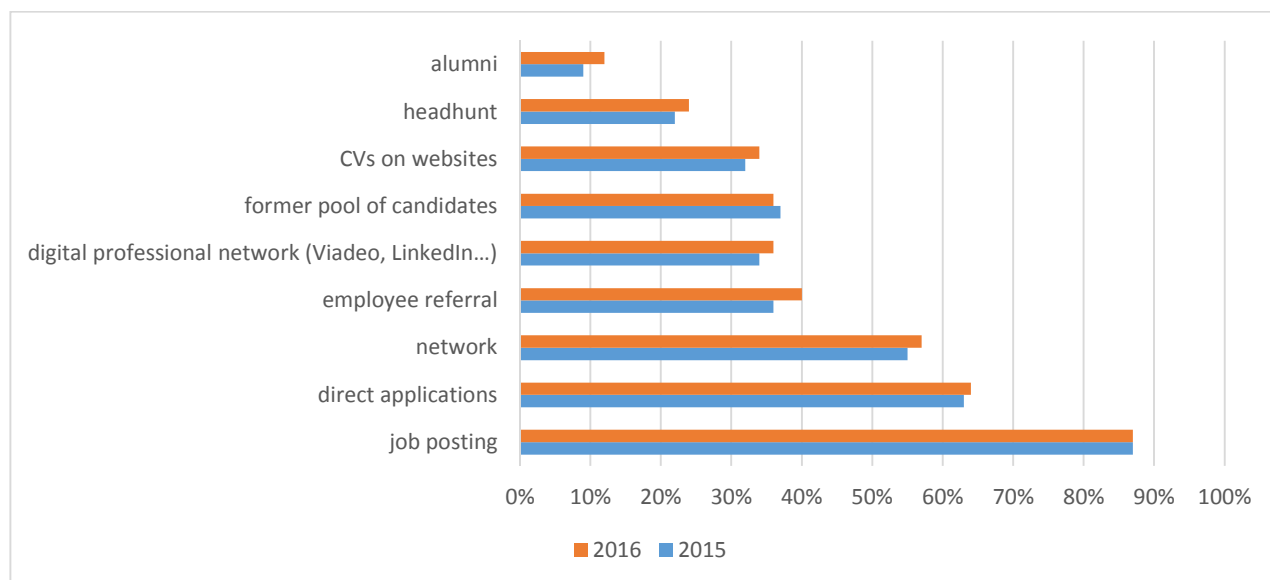
Source: APEC Survey 2017.

According to the last Regionsjob survey, 95% of employers use online job-portals to post their job openings and 40% use online job-portals to browse CV databases. The survey responses indicated that the most difficult occupations to recruit are salespeople, engineers and computer scientists. Online job portals are also used to advertise the company or to communicate for human resources purposes.

For some occupations, employers report that sourcing candidates is difficult [22]. In this case, in addition to OJVs, they post advertisements on their company career website, request employee referrals, analyse their own CV database or use social networks. The last survey on the use of technological numerical tools underlines that 20% of companies with 10 or more employees are active on a digital social network and 38% of them use the networks for hiring purposes (Insee 2015). The number of channels used is positively correlated with the size of firms (Bessy and Marchal 2007) and with their web presence. The ICT survey of Insee [23] mentions that in 2015 two out of three firms with 10 and more employees, own a website; while 58% of companies with 10-19 employees and 94% of companies with 250 and more employees own a website. Some differences appear depending on the sectors. The digital sector or the communication sector are frequently present on the Internet. In other sectors, such as the hospitality sector or the trade sector, presence on the Internet is linked to online sales.

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[22] According to the RegionsJob study in 2016, the three most difficult job profiles to match are engineers, sales persons and computer scientists.
[23] Employer survey regulated the European decree 1006/2009. It is carried out yearly by Insee and measures ICT use among companies.

3.5.   Expected Trends in the Online Job-portal Market

The expected trends in online job-portals are correlated with the business models of private online job-portals. As it is a competitive market, in which over 13,000 portals have arisen, actors have no interest in developing homogeneous job advertisement formats including or in cooperating on the online labour job market. This is a factor working against improved transparency of the labour market.

The recent initiatives of pole-emploi.fr could mark a turning point, since it aims to centralise jobs advertisements of different partners. Even though the number of partners is steadily growing since the start of the project, it is too early to observe any rearrangement on the online labour market.

Very recently, owing to the Lemaire Law on numeric data, the PES is expected to open its data base of job offers not only to researchers, as was the case until now, but to any online job-portal that wishes to circulate these job offers (even if it is not partner of the PES in the framework of the Transparency of the Labour Market programme (see Section 3.1.4.). This departs from the assumption according to which a free circulation of job ads may increase the transparency (and perhaps the efficiency) of the labour market. The main issue addressed here is that the PES opens a database of job offers that contains the job offers from its partners (also private online job-portals).

4. Use OJVs in Recruitment and Job Search

4.1. Use of OJVs in the Recruitment of Labour

Available data does not directly answer the question of which factors influence the posting of vacancies on online job-portals. However, companies' recruiting behaviour seems to depend on their size, sector, and the availability of a human resource department as well as the time available for the recruitment, the duration of the contract and the required qualification.

The larger the enterprise, the higher the use of several channels to post a job offer, particularly when it comes to fee-based channels. Conversely, the smaller an enterprise, the higher the use of direct applications and personal contacts. In sectors such as accommodation and food service activities, De Larquier and Rieucau (2015) point out that employers mostly use informal sources, because they are inexpensive. A huge number of applicants requires a sufficient HR to review them, which is probably only possible for large companies. As a result of the OJV market and its ability to broaden the visibility of a vacancy, the number of applicants is growing and companies report that a lot of applicants are not realistic or relevant candidates (COE 2015). Lastly, high turnover within a company had been noted to increase the use of the PES and diminish the use of other intermediary services regardless of the size of the company or the sector to which it belongs (Bessy and Marchal 2007). This conclusion must be re-examined in light of the changes to the PES since the adoption of TMT, which has decreased the extent to which the PES intervene in matching and selection and automated much of the recruitment process, on par with the processes of private portals (Pillon 2015). However, as a result of the economic crisis, companies have reduced their recruitment budgets and increasingly turned to free recruitment services, such as the PES and Apec across sectors. It is likely that employers with high turnover continue to rely on the PES for frequently advertised roles, which might otherwise become too costly to recruit (Regionsjob).

Posting a vacancy (online or using traditional channels) also increases the time the employer will require to make a hire (Bessy and Marchal 2007). As a result, direct applications are preferred for positions that need to be filled within a week. Job posting and employment intermediaries are activated when the company has a month or more time to fill the vacancy (Borgeat and Rémy 2017).

Job postings are generally used for long-term contracts more frequently than for short-term contracts. For very short-term duration contracts (one to three months), direct applications, professional and personal relations are preferred since they are faster and less costly (Borgeat and Rémy 2017).

According to the last OFER survey results (Borgeat and Rémy 2017), it appears that the preferred channel for the recruitment of executives is professional or personal contacts or employment intermediaries such as private agencies or APEC, but generally not the PES. Direct relations and professional or personal relations are the methods mostly used by companies, since they are inexpensive and provide security. To recruit technicians and associate professionals, companies select OJVs.

4.2. Use of OJVs in Job-search

Before the Internet, job-seekers could use press announcements, personal and professional relations and agencies like the PES or temporary agencies. Digital tools are a transposition of existing

tools, since press announcements are now posted on online job-portals and personal and professional relations can be activated on social networks etc.

In general OJVs represent jobs that are very selective. Less qualified candidates most frequently find a job using their personal contacts (De Larquier and Rieucau 2012). This is linked to the characteristics of the job offers as they often require a diploma and experience. Paradoxically, job advertisements are the first channel for finding information but not a guarantee to actually getting a job.

Therefore, when analysing the online job market, it is fundamental to distinguish between job-search methods and job-finding methods. It is also interesting to pay attention to the number of successful hires that are accompanied by a job advertisement. Data still remains scarce on this topic. However, drawing from the Apec Survey (APEC 2017), we can state that for companies of 50 or more employees, 87% of the recruitments were accompanied by a job advertisement.

4.3. Expected Trends in the Use of OJVs in Recruitment and Job-search

With the development of the Internet, information on the labour market circulates more rapidly. This could have an impact on the transparency of the labour market and ultimately improve the matching of labour supply with demand. Nonetheless, the growing quantity of information will be accompanied by a greater need for actors (employers as well as job seekers) to interpret and correctly use this new information. Since their capacity depends on several criteria such as age, education and (for employers) size of companies, a renewed segmentation will appear on the online labour market.

The ultimate objective of aggregators is to create a unique digitalised labour exchange. However, currently there is a decentralised diffusion of job offers, which are scattered on a number of competitive platforms (Fondeur 2017). More effective exchange of labour offers may require new regulations, such as better standardisation across portals, increased sharing of OJVs and re-posting, and adoption of harmonised coding systems, some of which could potentially be established through the public programme TMT (transparency of the labour market), which is being carried out by the PES. The effects of this public programme are not yet known. One of the challenges that is being taken on by the PES is the need to determine common vocabulary to describe the information contained in job offers across platforms. Job boards or aggregators have no overriding economic interest to develop a common vocabulary, given their business models.

5. Identifying Online Job-portals for Web-crawling

5.1.   Documentation of the Job-portal Research Process

5.1.1. Identifying the Online Job-portals Through Google Search

As shown in Table 2, during desk research we recorded the number of results returned for selected keywords during a Google search.

Table 2: Grid for documenting the Google search for job-portals

Search 1	Search term "offres d'emploi"	Job vacancies
	Number of results per search term	101,000,000
Search 2	Search term "annonces d'emploi"	Job adverts
	Number of results per search term	29,300,000
Search 3	Search term "recherche d'emploi"	Job search
	Number of results per search term	251,000,000
Search 4	Search term "emplois en ligne"	On-line jobs
	Number of results per search term	36,800,000

Source: Recotillet (2017).

For each keyword, we recorded the first ten online job-portals to be returned in the results. They are listed according to the search term under which they appeared in Table 3.

Table 3: List of the first ten job portals identified using each search term

	Search term							
	Job vacancies	Type of job portal	Job adverts	Type of job portal	Job search	Type of job portal	On-line jobs	Type of job portal
1.	Pole-emploi.fr	PES	Leboncoin.fr	Classified web site	Pole-emploi.fr	PES	Monster.fr	Job board
2.	Le-boncoin.fr	Classified web site	Indeed.fr	Meta job portal	Mete-ojob.fr	Job board	Indeed.fr	Meta job portal
3.	Indeed.fr	Meta job portal	Monster.fr	Job board	Monster.fr	Job board	Emploi-en-ligne.com	
4.	Meteojob.fr	Job board	Pole-emploi.fr	PES	Adecco.fr	Temporary work agency website	Manpower.fr	
5.	Monster.fr	Job board	Pacajobs.fr	Job board	Le-boncoin.fr	Classified web site	Pole-emploi.fr	PES
6.	Pacajobs.fr	Job board	Vivastreet.fr	Classified web site	Pacajob.fr	Job board	Meteojobs.fr	Job board
7.	Trovit.fr	Classified web site	Trovit.fr	Classified web site	Vi-vastreet.fr	Classified web site	Carriere-online.com	Job board
8.	Ca-dremploi.fr	Job board	Meteojobs.fr	Job board	Manpow-er.fr	Temporary work agency website	Hypred.com	Job board
9.	Manpow-er.fr	Temporary work agency website	Jobijoba.fr	Meta job portal	Trovit.fr	Classified web site	Stepstone.fr	Job board
10.	Adecco.fr	Temporary work agency website	Directem-ploi.com	Job board	Cadres-apec.fr	Civil society organisation website	Agefiph.fr	Civil society organisation website

Source: Recotillet (2017).

We also consulted other sources that generated rankings of online job-portals in France. Table 4 shows one example of a ranking done in 2014 based on the number of visitors (in thousands) to various OJV portals.

Table 4: Ranking of online job-portals in by number of visitors (France, 2014)

Le classement des sites d'emploi en janvier 2015

Rang	Site	Audience (en milliers de VU)
1	Pole-emploi.fr	5 417
2	Indeed.fr	2 280
3	Leboncoin.fr/emploi	1 674
4	Apec.fr	1 597
5	Meteojob.com	1 328

Source : Médiamétrie//Netratings

Source: Deleneuville (2016).

5.1.2. Identifying the Online Job-portals Through Expert Interviews

Experts recommend diversifying the online job-portals by including both job boards and aggregators and to include the two public agencies (Pôle Emploi and Apec).

5.1.3. Validating the Selection of Online Job-portals

Based on 5.1.2 and 5.1.2, we suggest scraping the following ten online job-portals:
- The PES job portal (pole-emploi.fr);
- The civil society organisation web site for executives: Apec;
- The two main meta job portals: Indeed and Jobijoba;
- The primary job boards: Monster, meteojob.com, regionsjob.com, cadreonline.fr;
- Two classified websites: Leboncoin and Trovit.

5.2. Conditions for Drafting and Posting OJVs in the Selected Job-portals

5.2.1. Drafting and Posting an OJV on the PES Online Job-portal

Pole-emploi.fr, the PES, requires a unique employer identification number from employers who want to post to the portal. Then, the employer fills out a simplified template including the job title, a description of the tasks, the level of the job, the necessary skills and the name/address of the employer. The template must be completed for each OJV.

5.2.2. Drafting and Posting an OJV on a Private Online Job-portal

Indeed.fr is easier to navigate than the PES. A valid e-mail address is required to create an account. After creating an account, the employer must fill in a form providing the following information: title of the job (mandatory), wage, contract, location of the job, tasks, skills and level of the job, educational requirement, experience, distance to the workplace and language. This service is free of charge.

LeBonCoin.fr requires a valid e-mail address and a phone number to create an account. Three categories of information are mandatory: job title, job description and location (city and city code). This is free of charge.

Meteojob.com, similarly to pole-emploi.fr, meteojob.com, asks for a unique employer identification number to register and post. After registering, the employer can select from various pricing structures.

Monster.fr requires selecting a price offer and paying in order to access a template for posting an OJV. Three basic offers are displayed, ranging from EUR 390 to EUR590 to post an OJV and gain access to the CV database. Other offers are possible by request.

Apec.fr requires signing an agreement between the employer and Apec (to be returned by post) before accessing services.

Jobijoba.fr requires a valid e-mail address to create an account. The template requests the following information: job title (mandatory), occupation (voluntary, plain text), location (voluntary, plain text), contract type (mandatory, tick box), name of the company (mandatory), date of employment, wage (voluntary), e-mail address, name of the contact, phone number and a large text box (for job description and skills).

Regionsjob.com, similarly to monster.fr, requires the employer to indicate the size of the company or a recruitment agency and then pay for the service before accessing the rest of the portal.

Cadreonline.com, similarly to regionsjob.com and monster.fr, requires the employer to select a payment plan before accessing the rest of the portal.

Trovit.fr does not allow employers to post a job vacancy as the platform is only for job-seekers. Job offers are aggregated from several job portals.

6. Format and Content of OJVs

6.1.   Legal/Regulatory Framework

The legal framework is described in Sections 3.1.1 and 3.1.2.

6.2.   Format of OJVs

France has a highly selective labour market. The selection operates on the basis of qualification, field of study or occupation and experience. For young people in particular, the French system values accreditation and credentials. Moreover, qualification is an essential component of employability, even if it is not a formal condition for getting a job. Employers tend to rely on quantifiable indicators (test results, certificates, degrees) as proof of competence. These factors have a direct consequence on the format and content of job advertisements. Since early on in the introduction of online job-portals, the format online has underscored the significance of including the level of education and the amount of professional experience (Marchal and Torny 2003, Marchal et al. 2003). In 2000, 29% of job advertisements mentioned a specific type of education level or diploma and two-thirds of advertisements included a desired level of experience (Marchal and Torny 2003). Transition to the Internet has continued to reinforce the importance of including these two categories of information.

In general, the headings of job advertisements mirror the labour market in terms of selectivity and segmentation. The most important criteria in recruitment, according to an employer survey in 2016 by Borgeat and Rémy (2017), are knowledge, experience and skills. The category indicating the type of contract and its duration is a relevant indicator of segmentation on the labour market. This is an important characteristic of job quality in France. However, this category is rarely described.

The level of detail and headings fluctuate. Information on the job contract, working time and wage are frequently missing, presumably because they are not mandatory on most platforms. The OFER Survey (2005) reports that 32% of the job advertisements contain information on wage level (COE 2015) and that details on job vacancies tend to be more complete since the transition to the Internet than before.

Job-portals often use different classifications for occupations and activities according to their business model. The heterogeneity of formats and content between the different job-portals makes it impossible to compare job websites (Seguela 2012). For employers, choosing one job-portal or another depends on the capability of the online job-portal to satisfy their needs.

Online job-portals play a non-neutral role in classifying information. By choosing certain formats, they optimise the matching between job offers and CVs. For a job-seeker, there is a strategic dimension to job searching using online job-portals (Marchal et al. 2005), as they have to select terms that prevent bad matches and improve good matches. The challenge for online job-portals is to offer a better match between the keywords the job-seeker enters and the OJVs published by employers. The use of standardised classification could improve the matching process and reduce the use of programming tools. However, in order to maintain their economic power, this is not the way the online job-portals work. Most of the online job-portals adopt their own classification and require search using keywords. Additional input fields may serve as filters, since observable features such as the level of education play a significant role in the matching process.

6.3.   Content of OJVs

Research studies on the content of OJVs are limited and outdated. The existing articles and re-ports have been mentioned in the section 6.2. They point out the increasing amount of information supplied due to the use of online job-portals and the need to improve the structure of the content (Mellet 2006). While the development of online job-portals structures may reduce the cost of infor-mation, the current large quantity of information requires significant cognitive skills to analyse it.

The open access to job offers hosted at the PES (see Chapter 1) may enhance the scope of new studies on content of OJVs. The Employment observatory of the PES issued an internal (un-published) report in 2016 consisting of a textual analysis of generic skills (see http://www.pole-emploi.org/statistiques-analyses/). It is based on unstructured data (on job offers), from which the words that seemed interesting were extracted. The report states employers look mostly for general skills. The analysis also addresses the issue of the choice of skills that employers use in their job ads. It appears that few offers declare skills, and a significant percentage of these few enumerate the competencies. The econometric analysis concludes that the enumeration in itself has a real sense for each occupation and not solely whether a skill is mentioned or not. Several categories of skills emerged from the textual analysis: work organisation, communication skills, engagement in the work place, know-how, sense of initiative, attitude and foreign languages. When crossing these with the categories "qualification" and "occupation", we learn that skills requested by employers are closely related to the occupation (e.g. for art and entertainment professionals, sense of initiative is frequently mentioned). In contrast, the analysis of structured data using the same data-set points out that wage and diplomas are unfrequently declared.

6.4.   Main Differences between the Public and Private Online Job-portals

Beyond the general considerations developed in section 6.2, we emphasise that OJVs are very heterogeneous depending on the nature of the job portals: primary or secondary. OJVs seem to be more structured on primary job portals than on secondary portals. Classified websites frequently target low qualified jobs for which the description is somewhat concise and less useful. Moreover, it seems that the dominant job portals (i.e. those on the first page of google search) provide OJVs with more information (excluding classified websites such as Leboncoin.fr, Vivastreet.fr or Trovit.fr).

The PES website should be treated separately as the quality of OJVs on the PES is measured by the number of categories of information filled in. For instance, the use of a national classification for occupations (ROME classification) and sector information are key factors that structures PES OJVs and provide greater transparency of the labour market. From the employers' point of view, the format of OJVs of the online PES could be considered as disadvantage. Drawing on qualitative interviews carried out in the wholesale and retail trade, Rieucau and Salognon (2013) report that the occupation classification is seen as too rigid, while the format of the OJVs is perceived as too strict.

6.5.   Expected Trends in the Format and Content of OJVs

As noted in Section 3.5., public job-portals are expected to continue to become more similar in format and content to their private-sector competitors. Due to the partnerships between the PES and smaller private-portals, we can speculate that there will be more similarities between the PES and its partners in order to facilitate easier and smoother transfer of content and data. The job-

portal market may become consolidated as Indeed, Leboncoin and the PES, with its partners, dominate and divide the market according to their sector strengths.

Against this background, the main challenge regarding the expected trends in the format and content of OJVs is the development of intelligent systems to foster matching between OJVs and CVs.

The PES intends to innovate the digital segment, following a new policy strategy called PE 2020 ([24]), which is aimed at improving the transparency on the labour market. The PES has launched several initiatives such as Emploi Store ([25]) on which users can download apps or Bob-emploi.fr, a platform containing personalised advice on job searches relying on big data tools. Moreover, the PES is working on a project aiming to offer the national occupation classification (ROME) in open data. This could represent a significant step in encouraging private online job-portals to adopt this classification system on their platforms. However, as pointed out by Fondeur (2017), such a tool has to be jointly elaborated and revised by all the actors in order to get true buy-in. This is a challenge to be addressed in the coming years.

The Apec agency has also launched an innovative digital tool relying on an intelligent system to match CVs and OJVs. The basic principle is to process data using an automated semantic analysis of unstructured content to connect the content of OJVs and that of CVs. Apec has also developed a label to indicate whether an OJV is complying. The use of a label could reduce the heterogeneity of OJVs (Fondeur 2017) and significantly improve the usability of online job-portals for job-seekers.

([24]) www.pole-emploi.org/poleemploi/priorites-strategiques-@/29867/view-category-21291.html?).
([25]) www.emploi-store.fr/portail/accueil.

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Expert Interviews

Name of organisation	Type of organisation	Expert's position	Interview date
CEET	Lab	Senior researcher	July and November 2017
DARES	Ministry of Labour	Senior Analyst	29 September 2017
Employment Observatory of PES	PES	Senior Analyst	21 November 2017
Online job-portal	Private online job-portal	Director and co-founder	24 November 2017