INSTITUT NATIONAL DE LA STATISTIQUE ET DES ETUDES ECONOMIQUES
Série des Documents de Travail du CREST
(Centre de Recherche en Economie et Statistique)

n° 2009-15

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FIXED-TERM CONTRACTS, INCENTIVES AND EFFORT

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SUMMARY

This paper focuses on labor market transitions and especially on those involving fixed-term contracts. Our contribution is twofold: first, we provide an accurate measure of labor market transitions; second, we analyze the potential incentive effect of fixed-term contracts on "effort". To deal with unobserved heterogeneity, we use a dynamic multinomial logit with fixed effects. We construct an indicator of effort for fixed-term workers, which is basically "working more than siblings". Using French data, we find that a fixed-term contract provides significantly better perspectives than unemployment, but no evidence of any significant impact of exerting effort on the probability of getting an open-ended contract.

KEYWORDS: *Fixed-term contracts, incentives, effort, transitions.*

RÉSUMÉ

Cette étude s'intéresse aux transitions sur le marché du travail et en particulier celles concernant des CDD. Notre contribution est double : premièrement, nous proposons une mesure non biaisée des transitions sur le marché du travail ; deuxièmement, nous évaluons la nature potentiellement incitative de ces contrats. Pour traiter convenablement l'hétérogénéité inobservée, nous utilisons un modèle multinomial à effets fixes. Nous construisons un indicateur de l'effort pour les salariés en contrat court qui mesure le fait de "faire plus d'heures que les autres". Sur données françaises, nous montrons que les contrats courts offrent de meilleures perspectives que le chômage, mais ne trouvons pas d'effet significatif du fait de "travailler plus que les autres" sur la probabilité d'obtenir un CDI.

MOTS CLÉS: *CDD, incitations, effort, transitions.*

CODES JEL: *J60, J24, J41.*

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1. INTRODUCTION

Like many other European countries, France enhanced the labor market flexibility in the mid-1980s by allowing employers to hire workers on a fixed-term basis. These short-term contracts, e.g. fixed-term contracts but also temporary work (*interim* missions), have been widely used over the past two decades. Short-term contracts have progressively replaced usual open-ended contracts as common hiring device: in 2007, more than two French hiring contracts over three have a fixed duration. Short-term work accounts for more than 12% of the French labor workforce, whereas this proportion was almost zero twenty years before. The emergence of fixed-term contracts as a massive phenomenon is often considered to be one of the striking features of the current French labor market.

Yet labor market consequences of short spells on workers' career paths are still unknown. As stated by Booth *et al.* (2002) in a seminal paper, the question is to know whether these jobs are a *stepping stone* to permanent employment or a *dead end*. This is a difficult empirical question since individual heterogeneity is likely to matter a lot in transitions on the labor market. One must be able to correctly distinguish *state dependence* from *unobserved heterogeneity*, an old puzzle raised by Heckman (1981). To date, few papers dealing with short-term employment have tackled this issue, especially in the French case.

Reasons why temporary jobs turn into permanent jobs are not well-known either. On the one hand, these jobs are an obvious answer to demand shocks in the goods market. In that case, we should expect conversions of fixed-term into open-ended contracts to occur only when the transitory shock turns out to be permanent regardless of the employee's "quality". On the other hand, a fixed-term contract could be used as screening device, as Engellandt and Riphahn (2005) suggest, and thus provide incentives – like a probationary period: either the employee is making effort to send a good signal on his productivity and he should see his chances of getting a "promotion" increase, or he's not, sending some bad signal and his temporary contract should not be turned into open-ended.

Using the recent French Labor Force Survey, we estimate a model of labor market transitions. To carefully distinguish state dependence from unobserved heterogeneity, we estimate the dynamic multinomial logit with fixed effects proposed by Magnac (2000). The French LFS provides very detailed quarterly information on labor market spells; the large sample size allows us to examine different labor market situations. It is therefore well-suited to a transition analysis. Moreover, it conveys some useful information on actual weekly working time, which we use to construct our proxy for effort. To be more precise, we locate the weekly number of working hours of a given fixed-term worker in the distribution of working hours of other fixed-term workers belonging to the same industry. We are then able to estimate whether a fixed-term worker who exerts more effort is *ceteris paribus* more likely than the shirker to get his contract turned into permanent or not.

Our main conclusions are the following: (a) on the whole, a spell of fixed-term contract is likely to increase the probability of getting a permanent job and offers definitely better

perspectives than unemployment to this regard; (b) but we don't observe evidence of any significant effect of exerting effort on such transition rates once unobserved heterogeneity is taken into account.

The next section is devoted to a brief literature survey on short-term contracts. We describe our data in section 3. In section 4, we discuss the econometric method to identify state dependence, results of which are exposed in section 5. Last section is devoted to effort and incentives.

2. SHORT-TERM CONTRACTS, LABOR DEMAND AND EFFORT

2.1 Stepping-stone or dead-end?

Since the seminal contribution of Booth *et al.* (2002) that was comparing the situation of fixed-term workers with the one of permanent workers in the UK, several papers tried to characterize career paths of such workers. The question could be stated as: are these contracts truly a better opportunity than unemployment regarding future outcomes on the labor market? This is a nontrivial problem to tackle since individual characteristics are likely to matter a lot. On Swedish data, Zijl *et al.* (2000) conclude that fixed-term contracts reduce the unemployment duration and increase substantially the proportion of unemployed obtaining a permanent job within years following the first unemployment spell. Analyzing the labor market in Belgium, Cockx and Picchio (2009) find empirical evidence of a stepping-stone effect. Gagliarducci (2005) looks at the impact of having recurrent spells of temporary jobs on the probability of finding a permanent job; on Italian data, he shows that nonlinear phenomena occur over time: this propension is high at the beginning but decreases after some time. People knowing such recurrent phases, especially when they are followed by unemployment spells, have a lower probability of finding a permanent job. Autor and Houseman (2005) use a quasi-experiment and find that temporary work has a negative impact on future employment.

Very few papers paid attention to the French case. Most of them adressed the evaluation of specific training programs for the youth (Bonnal *et al.*, 1997; Magnac, 2000). Yet the impact of a fixed-term contract might depend a lot on labor market regulations. For instance, the use of temporary work in the context of "employment *at will*" in the US is potentially very different from the French use of fixed-term contracts where permanent workers are offered a strong protection.

2.2 The nature of fixed-term contracts

The use of such short-term contracts has been justified by the firm's need for being insured against risk. On the one hand, she faces uncertainty related to demand shocks. In an unstable economic environment, firms are likely to face purely unexpected and transitory demand shocks: indeed, legal severance pay could prevent employers from offering

open-ended contracts as it costs more in case of business slowdown. The adoption of new workplace practices like "just-in-time" and the diffusion of new technologies that make employees closer substitutes each other would then account for this increase in demand for fixed-term work (Givord and Maurin, 2004).

On the other hand, the firm faces another uncertainty when she hires a new employee due to the fact that she doesn't know *ex-ante* her real productivity. When open-ended contracts include a probationary period in France, this period is short: it cannot last longer than two months for manual workers and four months for executives. In this context, short-term contracts could be used by the firm as a substitute to probationary periods in order to screen the employee's quality. The legal duration of a fixed-term contract can't exceed 18 months. Note also that in France, motives for hiring someone under a short-term regime contracts are strictly limited to a replacement of temporarily absent worker or in case of an unexpected rise in business activity... Theoretically, firms must not use short-term contracts instead of probationary periods. However, the use of these contracts as a probationary period is frequently reported and criticized in the French public debate[1].

In this setting, fixed-term workers would have incentives to make effort in order to get a permanent job – at least during the initial duration of the contract – because as rational agents employees expect their outcome on the labor market to depend on the signal they send. This signal however is a mix of intrinsic productivity and effort[2]. On Swiss data, Engellandt and Riphahn (2005) show that employees with a fixed-term contract do significantly more overtime work than people belonging to the permanent workforce. Riphahn (2004) wonders whether the labor protection encourages shirking. She finds some evidence of this fact by measuring shirking with the absenteeism rate (see also Ichino and Riphahn, 2005).
It is worth noting that such analyses are usually performed on cross-sectional data. A dynamic analysis of transitions from fixed-term to permanent contracts should give a better insight on the existence of an incentive effect[3].

2.3 Distinguishing state dependence from unobserved heterogeneity

[1]French government tried to introduce a new labor contract in August 2005, the so-called "Contrat Nouvelles Embauches" (CNE). It allowed firms with less than 20 employees to benefit from a 2-year probationary period during which employment was almost *at will*, while standard job protection was granted after the end of the probationary period. This contract was however declared unfair by the IWO and eventually abrogated by the French government in 2008

[2]Notice that we assume that all workers actually want an open-ended contract. Indeed, according to a recent LFS, this is not the case for only one fifth of FTC workers – mostly students with summer jobs.

[3]Meyer and Wallette (2005) implement such an idea on Swedish data. They don't observe any impact of absenteeism on the transition rate from a fixed-term to an open-ended contract; besides, they don't see any cross-sectional evidence of differences in overtime work between temporary and permanent workers, which especially means that overtime work behavior is likely to differ across countries

Our empirical questions could be stated as: 1. how likely are FTC workers to get an open-ended contract in comparison with being unemployed? 2. does "effort" impact (significantly and positively) this chance of getting an open-ended contract?

From an econometric point of view, the issue here is to model state dependence in labor market transitions, that is, how past occupation affects the likelihood of occupying a given state on the labor market. As usual, this analysis is complicated by heterogeneity issues. Transitions in the labor market may be due to observed or unobserved individual characteristics. People with a fixed-term contract might have special characteristics that are likely to affect their career paths. The basic problem for us will then consist in determining the pure impact of contract and effort, which can be correlated to – observed or unobserved – characteristics impacting the position on the labor market. For instance, one can think of people with no family constraints, disposing therefore of more available time and more likely both to do overtime work and to get an open-ended contract.

To properly disentangle state dependence from unobserved heterogeneity, we follow the method suggested by Magnac (2000). He extends the conditional logit procedure proposed by Chamberlain (1984) to the multinomial case, allowing for transitions to several states. This model incorporates fixed effects in order to capture unobserved heterogeneity. One of the decisive advantage of this method is that it does not rely on some parametric assumption as random-effect models usually do. However, a *caveat* is that identification relies on "movers" only (see *infra*). In order to check the robustness of our results, we also perform a random-effect specification.

3. DATA

3.1 Source

We use the Labor Force Survey provided by the INSEE, the French National Statistical Institute. This survey consists in a rotating panel of a large sample (75,000 people). Quarterly data are available from 2002 to 2008. Each individual is interrogated six consecutive quarters and the sample is renewed by sixth every quarter. The survey provides detailed information on individual characteristics and on career paths as well. It includes a precise description of the working time, the type and duration of the contract, and is therefore suited to the kind of analysis we want to perform. To go into more details, we know exactly how many hours an employee worked the so-called "reference week" – a week that is assigned to every individual in the sample such that seasonal effects like holidays or public holidays are taken into account. In most of cases, this variable is equal to 35 or 39 hours – legal durations. We will rely on it to construct our measure of effort (see *infra*). To sum up, for us the main interest of this source is to give precise and relevant information at the quarterly level that does not come from retrospective surveys, the quality of which is known to be potentially problematic (Magnac and Visser, 1999).

3.2 Description of the sample

In our final sample, we keep people aged from 18 to 60 who are interviewed six consecutive quarters. To simplify, we use a balanced panel with six observations per individual. We are left with more than 125,000 individuals, which is a quite large sample: it enables us to divide it into several categories. At the first interrogation, 7% of individuals are unemployed and 22% are non-participant (Table 1). Half of employees have a full-time permanent contract in the private sector. A small part of the population only has a short-term contract: 1.8% has a fixed-term contract and 1.2% works on an interim mission. Remember that the boom of short-term contracts is rather recent and concerns a specific part of the population only.

Some general descriptive statistics can be found in Table 2. People with a fixed-term contract (FTC) are most of the time women, employees who work in services industry; on the contrary interim missions are mainly taken by men (e.g. factory workers). The younger you are, the shorter you get: one half of temporary workers are less than 30 while this proportion is only 15% among full-time permanent workers.

Distributions of short-term contracts' initial durations are displayed in Table 3 and exhibit large dispersion. The median of FTC's initial duration is six months while it is only one month for *interim* missions (the mode is one week).

The weekly working time is displayed by Table 4 for each sort of labor contract. One shall notice that people with an open-ended contract work apparently more: 37.3 hours a week on average *versus* 35.9 for temporary workers (medians are 35 and 37 hours respectively). These insignificant differences vanish as soon as we drop out executives. Note also that these distributions are skewed to the left: for FTC workers, the last quartile is 39 hours while the first quartile is equal to the median (35 hours).

3.3 Parameters of interest

Our empirical question is to estimate the state dependence on the labor market. We will therefore display transition matrices from an origin to a destination state. More precisely, these matrices measure the intensity of transition; they are not gross frequencies, which would carry only limited information: there is no absolute threshold above (resp. below) which a conversion rate is high (resp. low) enough to consider that FTC are a stepping-stone (trap) to stable employment... Instead, we consider an indicator based on relative transition probabilities. To be more explicit, let fix some reference state 0. Then a measure for the intensity of transition from state j to k is given by

$$\delta_{kj} = log \frac{\mathbb{P}(y_{it} = j | y_{i,t-1} = k) / \mathbb{P}(y_{it} = 0 | y_{i,t-1} = k)}{\mathbb{P}(y_{it} = j | y_{i,t-1} = 0) / \mathbb{P}(y_{it} = 0 | y_{i,t-1} = 0)} \tag{1}$$

which is the coefficient of a descriptive multinomial logit model of y_{it} on $y_{i,t-1}$ (see next section). δ_{kj} measures odds of being in state j rather than in the reference state 0, given

that one comes from k rather than from 0. These coefficients can be compared within a row (odds of being in state j rather than in state j', given that one comes from k rather than from the reference state) or a column (odds of being in state j rather than in the reference state, given that one comes from k rather than from k').

3.4 States in the labor market

Concerning the definition of these states, one faces the well-known dilemma: either we aggregate different states in one large category but we miss specificities due to composition effects, or we stay at a rather detailed level and the interpretation is more tricky since the identification relies on few observations only, which is also bad for the accuracy of the estimator.

It is worth emphasizing that several different short-term contracts coexist in the French labor market. The main one is the fixed-term contract ("CDD") which is a direct contract between the firm and the employee; a temporary work (*interim*) includes a third agent: the temporary agency; finally, public policies developed a lot of partially subsidized jobs to foster employment of some groups (e.g. low-qualified or young). The public sector can use fixed-term contracts to a larger extent than the private sector since the term could be up to six years instead of eighteen months... Thanks to our large sample, we are able to distinguish among these kinds of short-term contracts. Finally, we are left with seven possible different states: non-participation, unemployment, open-ended contract, fixed-term contract in private sector, temporary work in private sector, part-time job, and... other positions on the labor market (mostly civil servants, self-employed and subsidized jobs). The reason of putting part-time workers aside is twofold: first, our definition of effort will rely on the weekly working time; second, the part-time work could be used by specific workers and/or firms as it is partly subsidized. Mixing part-time and full-time could introduce further spurious heterogeneity.

Table 5 shows the matrix of intensity of transitions from one quarter to another. It exhibits a strong inertia measured by high diagonal terms and this is especially true for permanent workers. But on the whole it is not a *ceteris paribus* analysis and this is the reason why we try to distinguish more carefully state dependence from unobserved heterogeneity in the following model.

4. ECONOMETRICS

4.1 A model of transitions on the labor market

We follow a standard approach in the job occupational choice literature inspired by McFadden (1974) class of models that postulate the existence of latent individual propensions for every different state on the labor market. The actual state is related to these

unobserved variables thanks to the following relationship:

$$y_{it} = j \iff y^*_{ijt} = Max_k \;\; y^*_{ikt} \tag{2}$$

if y^*_{ijt} denotes the latent utility of individual i for state j at time t and y_{it} the observed state taking its values in $\{0, 1, ..., J-1\}$.

As previously mentioned, a dynamic model is required for such an analysis: labor market histories are strongly time dependent. To simplify, we assume that this state dependence follows a Markov process of order 1, that is, current state depends on history through the last period only. In other words, y^*_{ijt} depends on $y_{i,t-1}$ like

$$y^*_{ijt} = \sum_{k=0}^{J-1} \delta_{kj} \mathbb{1}_{y_{i,t-1}=k} + \epsilon_{ijt} \tag{3}$$

For now, ϵ_{ijt} can be everything that is related to the individual: observed heterogeneity, idiosyncratic shock or permanent individual effect.

Parameters of interest measuring the state dependence include the vector δ. Indeed, the information on the frequency of the transitions from a given state to another is given by δ_{kj}, a mobility index. δ_{jj} can be seen like an inertia parameter since it measures the persistence of the state j in the labor market.

To estimate the model easily with a parametric logit form, we assume moreover that idiosyncratic shocks are extreme-value distributed. Without any explaining variable X_{jt} accounting for observed heterogeneity, one can write for instance:

$$\mathbb{P}(y_{it} = j | y_{i,t-1} = k; \delta) = \frac{e^{\delta_{kj} - \delta_{k0}}}{1 + \sum_{l \neq 0} e^{\delta_{kl} - \delta_{k0}}} \tag{4}$$

One can then interpret δ_{kj} as the logarithm of *odds ratios* described by equation (1). Not all coefficients are identified; we shall normalize $\delta_{j0} = \delta_{0j} = 0 \;\; \forall j = 0, ..., J-1$. In practice, we choose unemployment to be the reference state, which we denote by 0. This normalization is innocuous but not meaningless since our future interpretations of δ_{kj} will all be related to this reference state. Transition coefficients have thus the following "relative" meaning: δ_{kj} measures the risk of being in state j a quarter later rather than being unemployed, given that one comes from state k rather than unemployment. The difference with before is that unobserved heterogeneity has now been taken into account. The choice of unemployment as the reference state is justified by the fact that we want to compare a spell of short-term contract with respect to unemployment.

A first naive estimator of mobility in the labor market consists in using empirical counterparts of probabilities to form ratios of observed frequencies, as presented in previous section (Table 5).

But of course, one wants the model to take individual heterogeneity into account by allowing people to differ in personal characteristics. It is well-known that such characteristics are very likely to influence the transition rate on the labor market: observed and unobserved heterogeneity matter. Then there should be some permanent component accounting for all omitted variables and entering latent propensions to occupy different states in the labor market. Formally, one decomposes the error term ϵ_{ijt} into a permanent component that is individual- and state- specific α_{ij} and a pure idiosyncratic shock u_{ijt}:

$$\epsilon_{ijt} = \alpha_{ij} + u_{ijt} \tag{5}$$

The state-specific fixed-effect α_{ij} corresponds to individual heterogeneity in propensions to occupy the state j. As usual, α_{i0} shall be normalized to 0 for identification issues.

Assuming now an extreme-value distribution for u_{ijt}, this model is a dynamic multinomial logit with fixed effects. The conditional probability that agent i is observed in state j at time t is now given by

$$\mathbb{P}(y_{it} = j | y_{i,t-1} = k; \alpha, \delta) = \frac{e^{\delta_{kj} + \alpha_{ij}}}{1 + \sum_{l \neq 0} e^{\delta_{kl} + \alpha_{il}}} \tag{6}$$

4.2 Identification and estimation

Magnac (2000) proposes an elegant method that provides identification and gives a natural estimator for these models. He shows that conditional on an appropriate statistics, state-specific fixed effects disappear from the (therefore, conditional) likelihood: we don't need to estimate these numerous fixed effects, which avoids the problem of incidental parameters in panel data.

Formally,

$$y^*_{ijt} = \sum_{k=0}^{J-1} \delta_{kj} \mathbb{1}_{y_{i,t-1}=k} + \alpha_{ij} + u_{ijt} \tag{7}$$

where state dependence coefficients δ are still logarithms of odds ratios:

$$\delta_{kj} = log \frac{\mathbb{P}(y_{it} = j | y_{i,t-1} = k; \alpha) / \mathbb{P}(y_{it} = 0 | y_{i,t-1} = k; \alpha)}{\mathbb{P}(y_{it} = j | y_{i,t-1} = 0; \alpha) / \mathbb{P}(y_{it} = 0 | y_{i,t-1} = 0; \alpha)} \tag{8}$$

Magnac (2000) proves that a sufficient statistics is given by the initial state y_{i1}, the final state y_{iT} and numbers of occurrences $(n_{ij} = \sum_{t=2}^{T-1} \mathbb{1}_{y_{it}=j})_{j=1,...,J}$ for each state that is observed between $t = 2$ and $t = T - 1$:

$$L(y_{i2}, ..., y_{i,T-1} | y_{i1}, y_{iT}, n_{i1}, ..., n_{iJ}) = \frac{exp(\sum_{k,j,t=2,...,T-1} \delta_{kj} \mathbb{1}_{y_{i,t-1}=k} \mathbb{1}_{y_{it}=j})}{\sum_B exp(\sum_{k,j,t=2,...,T-1} \delta_{kj} \mathbb{1}_{b_{i,t-1}=k} \mathbb{1}_{b_{it}=j})} \tag{9}$$

with $B = \{(b_{i2}...b_{i,T-1})/\forall k \quad \sum_{t=2}^{T-1} \mathbb{1}_{b_{it}=k} = n_{ik}\}\}$ being the set of labor market histories that are compatible with numbers of occurrences n_{ik}.

The maximization of this conditional likelihood (CLE) provides a consistent and asymptotically normal estimator of the vector δ.

The identification of the model and especially state dependence coefficients comes from the comparison between the observed path and nontrivial permutations of it, that is, "equivalent" paths with same initial, final states and numbers of occurrences between 2 and $T-1$ as well. In practice, at least four periods are required to identify the model, since variation is needed conditional on the first, last period and a given number of occurrences. The "first" nontrivial case occurs with four periods and exactly one transition between the second and the third period. We dispose of six quarters. As a result, the identification relies on people whose state on the labor market varies between the second and the fifth quarter: constant paths do not contribute to the likelihood. Therefore, excluding "stayers" from the estimation might bias inertia downwards.

Note that the model doesn't include any observable characteristic. Fixed-effects account for all permanent characteristics and it is not clear that one shall introduce time-varying covariates in this setting. Honoré and Kyriazidou (2000) provide necessary conditions to identify such variables' effects in this class of models and they require essentially the time-varying variable W_{it} to be such that $W_{i,T-1} = W_{iT}$. This rules out age or experience variables which are the main relevant observable characteristics in our case.

Note that an alternative specification would be a random-effect model that specifies a parametric distribution for unobserved terms α_{ij} conditional on the initial state and observable characteristics (Wooldridge, 2005). We investigate further in this direction and consider a normal distribution of individual heterogeneity as a robustness check (see *infra*).

5.1 Transitions between fixed-term and open-ended contracts

Table 6 displays the logarithm of odds ratios for different transitions, controlling for unobserved heterogeneity thanks to the fixed-effect model presented in last section. The box (k, j) is the logarithm of the transition rate between state k, rather than state 0 (unemployment), to state j, rather than state 0. The estimated matrix has a diagonal with high coefficients, which indicates persistence of states. Of course, this persistence depends on the time interval and these high figures correspond to a short time period. One can see that temporary workers are significantly more mobile than other active workers. As expected, open-ended contracts are the most protected as they exhibit a strong inertia and lowest transition rates. This persistence however is lower than the naive estimation of Table 5 that did not control for unobserved heterogeneity.

Restricting our attention to some transitions only, especially from a fixed-term contract or an interim mission to unemployment or to a permanent job, it seems that people with a fixed-term contract are $e^{1.16} = 3.2$ more likely than someone unemployed to have an open-ended contract rather than to be unemployed next quarter. To some extent, the same is also true for temporary workers (*interim*) but the magnitude of the effect is lower (the odds ratio is equal to 2.1). These results suggest that the fixed term contract could be a significant stepping-stone to stable employment.

5.2 Restriction to movers' sample

At this point, one should discuss the econometric method. Remember that the estimation of the model taking unobserved heterogeneity into account relies on "movers" only. It leads us to drop out almost 83% of the sample and may limit our ability to extrapolate results to the whole population, especially if the state dependence is heterogeneous among individuals and the population is very heterogeneous itself – let say if "movers" differ much from "stayers".

In order to have an idea of the extent of the composition effect introduced by the restriction to "movers", we estimate the state dependence following the naive way on the "movers" sample only (Table 7). It exhibits *de facto* strong differences with the naive estimates on the whole sample (Table 5). Surprisingly, differences between the two tables are more striking not on but off the diagonal: the persistence is naturally lower but estimates of intensity of transitions are close to those obtained from the model. It is therefore difficult to disentangle what comes from the restriction to the "movers" sample, to unobserved heterogeneity biases.

5.3 Random-effect approach

In order to address the selection issue, i.e. the restriction to some specific population, we use an alternative specification for unobserved heterogeneity, namely random effects. It adds another parametric assumption and requires also to take the initial condition explicitly into account. Following Wooldridge (2005), and noting $\alpha_i = (\alpha_{i1}, ..., \alpha_{i6})'$ we specify

$$\alpha_i | y_{i1} \sim N(\alpha_0 + \sum_{k=1}^{6} \beta_k \mathbb{1}_{y_{i1}=k}, \Omega) \tag{10}$$

The estimation is performed by simulated maximum likelihood as the dimension of this multivariate distribution is six – the number of different states minus one, which corresponds to the normalization of the reference state. Indeed, the integral corresponding to the full likelihood – the integration of the conditional likelihood over the density of α_{ij} – has dimension six and can't be computed easily by quadrature techniques. We use $H = 800$ draws.

Results are given in Table 8. Now estimates are performed on the whole population. Quite surprisingly, and reassuringly, the estimates of relative transitions from temporary to permanent employment are close to estimates obtained with the fixed-effect model. According to this specification, FTC workers would have $e^{1.23} = 3.4$ more chances than unemployed to get an open-ended contract rather than being unemployed three months later (compared to $e^{1.16} = 3.2$ from the fixed-effect model). On the contrary, estimates of state dependence are lower than naive ones but higher than those obtained with the fixed-effect model, which makes us rather confident on the fact that the fixed-effect model distinguishes best state dependence from unobserved heterogeneity.

Fixed- and random- effect specification have both advantages and drawbacks: random effects rely on a parametric thus questionable assumption but a fixed effects model though more flexible is estimated on a specific population. We value the fact that both models give similar results for our main parameters of interest. A step further would be to tackle the issue of heterogeneous state dependence, that is, to allow for the causal effect of having a FTC spell on the future position on the labor market to be individual specific. One should estimate a random-coefficient model to allow δ to depend on i. There seems to be an interesting *caveat* here and we leave this for further research[1].

Note that if the state dependence is individual-specific, our estimated coefficient will be a weighted mean of individual coefficients. We briefly investigated how this estimated coefficient might vary by age and gender (see Tables 12 to 16). Surprisingly, we don't observe large differences across subsamples. Note however that young or old workers in interim have significantly less chances of getting an open-ended contract than people aged between 30 and 49 under the same regime.

[1] note that Beffy *et al.* (2008) deal explicitly with heterogeneity of state dependence, but not with unobserved heterogeneity

6.1 A measure of effort

The empirical literature devoted to labor contracts considers two proxies of effort, absenteeism and overtime work. One could also think of indicators like working during nights or week-ends, but this might concern specific industries or occupations only.

The absenteeism rate is not that relevant at least in France since leave rights depend directly on how much employees have already been working. As a result, temporary workers have a low probability of being entitled to take such leave. Concerning sick leave, compensations might depend on the type of labor contract. The French public social insurance provides a daily indemnity that is less than the equivalent wage; there is a deductible for the first three days. But employees can get additional compensation depending on collective agreements. The actual compensation rate could depend on industry, but also on experience and status. Employees with an open-ended contract are thus more likely to have a better coverage against health risks than temporary workers. Without any further information on the actual level of compensation rate for each individual, we decide not to investigate further in this direction.

We focus then on working time. Several indicators could be used. A commonly used one in related literature is overtime work. Unfortunately, overtime work has been measured at all waves in the LFS since 2007 only, which makes the sample size shrink dramatically. Even with this distinction, raw quarterly transitions rate to an open-ended contract is significantly higher (14%) for FTC workers who do overtime work than it is for their colleagues doing no overtime work (7%). Surprisingly, the gap becomes non-significant when we look at unpaid overtime work. In order to avoid sample reduction because of lack of data on overtime work before 2007, we could choose to compare the actual working time to a common legal duration, let say 35 or 39 hours a week.

Yet, according to the occupation or the industry, usual working times might differ and we must take it into account; in other words, this indicator would not measure the fact of "working more than siblings". That's why our favorite proxies of effort are relative indicators based on distributions of working times by industry and labor contract. Each quarter we locate some FTC worker's working time in the distribution of working times of other FTC workers in the same industry. Doing this gives an idea of how much the FTC worker is working compared with others.

For instance, we define the fact of exerting an effort as belonging to the last quartile of the distribution. Similarly, "shirking" characterizes the fact of being in the first decile of the distribution[1]. *A priori* this definition also accounts for absenteeism. Having a look at gross transitions shows that working significantly more increases slightly the probability of getting an open-ended contract the following quarter (10% – although the gap is not

[1] the first quartile is equal to the median, 35 hours (see *supra*)

significant with previous 7%). Compared with overtime work, this indicator has more information since it is defined conditionally on the industry and on job characteristics. Doing some overtime work might indicate a peak of the firm's activity. Our measure reduces some of the endogeneity since it controls for conjunctural and sectoral effects. Of course an individual heterogeneity remains: people working more may have some characteristics, e.g. motivation, that may also (positively) affect their probability of getting a permanent job.

6.2 Impact of effort *per se*

Our first question was to determine the potential impact on his future outcome, for a given temporary worker, to do extra effort. We have already explained that effort could be "working more than others". We now compare transition rates of fixed-term contract owners according to the fact that they exert some effort or not. That is, we split the FTC category in two: FTC effort and FTC non-effort. Interim is merged with the "other activity" state for obvious practical reasons. Once unobserved heterogeneity has been properly taken into account, one does not observe significant differences of getting an open-ended contract between FTC workers who exert an effort and those who do not.

Our measure is yet an imperfect proxy for effort but one has reasons to think that it is positively correlated with effort. One could worry of estimations depending too much on the effort definition; we show that this is not the case by considering alternative thresholds of the conditional distribution of weekly working times. For instance, we use the top median and the last decile of the distribution instead of the last quartile. Results continue to hold in each of these alternatives. We also pay attention to the bottom of the distribution – "shirkers" – e.g. the first decile and we want to see whether these people are less likely to get an open-ended contract: this tends to be true. Table 10 displays ratios of probabilities of being "promoted" according to several indicators: working more than 35 hours, 39 hours, doing overtime work or "working less than others" (a non-effort indicator). It seems that no matter which indicator is considered exerting extra effort has no significant impact on that outcome. However, this does not mean that "shirking" has no impact since we find a significant negative effect.

It is worth saying a few words about the estimate related to overtime work: performing the estimation of the fixed-effect model on samples after 2007 only – remember that before 2007 overtime work is not trustable in the survey – we obtain that the ratio is 0.78 for a FTC worker doing some overtime work *versus* a FTC worker doing no overtime work, that is, a negative effect. However this effect is not significantly different from one and probably due the fact that estimation is performed on a very small sample.

As a robustness check, one looks at the subpopulation of people under 30, the population that is most concerned by short-term contracts, which tends to become a mandatory step in labor market trajectories. One may think that for this reason the incentive effect is

much stronger for them: many short-term jobs turn into permanent ones at the beginning of the career. Yet one does still not find any evidence of such an effect.

7. DISCUSSION AND CONCLUDING REMARKS

This paper revisits the analysis of labor market transitions in France. We use a large sample data set from the new French LFS that enables us for instance to distinguish fixed-term contracts from *interim* missions. Moreover, such panel data allow us to take correctly unobserved heterogeneity into account. Doing so enables us to analyze perspectives that short-term contracts offer to their jobholders in terms of future positions on the labor market. Our estimations show that fixed-term contracts lead on average to a better outcome than unemployment, even though the access to a permanent job is far from being systematic. (Intensity of) transition matrices still exhibit strong inertia even after correcting from unobserved heterogeneity. An interesting extension would consist in strengthening the dynamic aspect of the model. But our results suggest that the heterogeneous state dependence should be carefully investigated, as we find that "movers" sample used for fixed-effect estimates is specific.

Moreover, we discuss the question of incentives that is closely related to the nature of the contract. Our assumption is that if these contracts are used to provide employees incentives to exert extra effort, then people responding to these incentives should see their contracts converted more frequently *ceteris paribus*. Empirically this is true in a cross-sectional descriptive analysis but once unobserved heterogeneity has been properly taken into account it is no longer the case. However, it does not imply that FTC are not used like a probationary period. First, our indicator is an imperfect measure of "working more". Second, "working more" itself is only one dimension of effort. To go further, it would be interesting to look at the timing of conversions into open-ended contracts (Gagliarducci, 2005; Boockman and Hagen, 2008), but our data are not well-designed to this kind of analysis.

Finally, it is worth emphasizing that these results come from reduced-form estimations and describe the current French labor market; they wouldn't necessarily hold in case of a structural change in the market.

Table 1: Composition of the sample

Position	Number of individuals	Frequency (%)
Non-participants	27,736	22.0
Unemployed	8,553	6.8
Permanents *full time*	44,390	35.3
Civil servants *full time*	14,499	11.5
Fixed-term *full time*	2,237	1.8
Interim mission *full time*	1,548	1.2
Other temporary workers *full time*	2,510	2.0
Others *full time*	9,156	7.3
Part time	15,220	12.1
Total	125,849	100

Source: EEC 2002-2008.

Sample of N=125,849 individuals interviewed 6 times aged from 18 to 60, first wave

Table 2: Descriptive statistics

	$Permanent$	$Fixed-term$	$Interim$
Women	0.35	0.52	0.28
	(0.002)	(0.01)	(0.01)
High-school degree	0.38	0.44	0.31
	(0.002)	(0.01)	(0.01)
15-29	0.15	0.49	0.47
	(0.002)	(0.01)	(0.01)
30-49	0.62	0.43	0.45
	(0.002)	(0.01)	(0.01)
50-60	0.23	0.08	0.08
	(0.002)	(0.01)	(0.01)
Workers	0.36	0.42	0.80
	(0.002)	(0.01)	(0.01)
Clerks	0.23	0.34	0.11
	(0.002)	(0.01)	(0.01)
Intermediates	0.26	0.17	0.08
	(0.002)	(0.01)	(0.01)
Executives	0.15	0.08	0.01
	(0.002)	(0.01)	(0.01)
Agriculture	0.02	0.06	0.00
	(0.001)	(0.005)	(0.00)
Manufacturing	0.30	0.19	0.46
	(0.002)	(0.01)	(0.01)
Construction	0.08	0.06	0.16
	(0.002)	(0.004)	(0.01)
Services	0.59	0.67	0.35
	(0.002)	(0.01)	(0.01)
Number of observations	44,390	2,237	1,548

Source: EEC 2002-2008, Sample of permanent, fixed-term and interim contracts, full time, first wave

Table 3: Initial duration (months) of fixed-term contracts – full time only

Contract	Mean	Std. dev.	Median	Mode	Number of observations
Fixed-term	6	6	5	6	2,237
Interim	3	7	1	0.25	1,548

Source: EEC 2002-2008

Sample of N=125,849 individuals interviewed 6 times aged from 18 to 60, first wave

Table 4: Weekly working time – full time only

Contract	Mean	Std. dev.	p10	p25	p50	p75	p90	Nb. obs.
Permanent	37.3	9.6	28	35	37	40	48	37,979
Fixed-term (FTC)	35.9	9.3	27.5	35	35	39	45	1,699
Interim	34.5	7.8	24	35	35	39	40	1,408
Permanent without executives	36.5	9.1	28	35	36	40	45	32,119
FTC without executives	35.8	9	28	35	35	39	44	1,583
Interim without executives	34.4	7.8	24	35	35	39	40	1,392

Source: EEC 2002-2008, Sample of N=125,849 individuals interviewed 6 times aged from 18 to 60 indicating the weekly working time, first wave

Table 5: Intensity of transitions across states – Naive estimation

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	7.98	1.16	0.77	1.77	1.83	1.74
	(0.49)	(0.14)	(0.18)	(0.10)	(0.15)	(0.08)
FTC	2.54	3.86	0.87	0.83	0.69	1.03
	(0.12)	(0.09)	(0.18)	(0.14)	(0.24)	(0.10)
Interim	2.00	1.34	4.31	-0.01	0.36	0.40
	(0.14)	(0.15)	(0.09)	(0.22)	(0.31)	(0.14)
Part time	2.65	0.84	0.22	5.97	2.48	1.76
	(0.11)	(0.15)	(0.21)	(0.07)	(0.12)	(0.08)
Other	2.77	1.11	1.01	2.18	8.48	2.34
	(0.09)	(0.20)	(0.23)	(0.13)	(0.11)	(0.10)
Non-participation	1.31	0.81	0.17	1.22	2.79	4.52
	(0.10)	(0.09)	(0.13)	(0.07)	(0.09)	(0.04)

Source: EEC 2002-2008, Full sample of N=125,849 individuals interviewed 6 times aged from 18 to 60, from first to second wave

Note: A FTC worker is $e^{2.54} = 12.7$ more likely than an unemployed to hold a permanent job three months later rather than to be unemployed

Table 6: Intensity of transitions across states – fixed-effect model

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	4.02	0.13	0.09	0.67	0.27	0.87
	(0.09)	(0.11)	(0.14)	(0.12)	(0.18)	(0.08)
FTC	1.16	1.77	-0.41	0.34	-0.10	0.48
	(0.09)	(0.06)	(0.12)	(0.10)	(0.14)	(0.07)
Interim	0.76	0.23	1.51	0.54	-0.12	0.11
	(0.12)	(0.10)	(0.07)	(0.14)	(0.21)	(0.10)
Part time	0.86	0.56	0.30	2.84	0.97	0.66
	(0.11)	(0.10)	(0.15)	(0.06)	(0.11)	(0.06)
Other	0.77	0.14	-0.06	0.49	3.28	0.73
	(0.15)	(0.14)	(0.20)	(0.11)	(0.10)	(0.08)
Non-participation	0.27	0.11	-0.06	0.27	0.77	1.60
	(0.09)	(0.07)	(0.09)	(0.06)	(0.08)	(0.04)

Source: EEC 2002-2008, Sample of N=20,996 "movers"

Note: A FTC worker is $e^{1.16} = 3.2$ *more likely than an unemployed to hold a permanent job three months later rather than to be unemployed*

Table 7: Intensity of transitions across states – Naive estimation on *"movers"* only

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	6.19	0.92	0.45	1.05	0.90	1.16
	(0.13)	(0.16)	(0.21)	(0.16)	(0.27)	(0.11)
FTC	1.38	3.26	0.46	0.53	0.17	0.73
	(0.25)	(0.10)	(0.21)	(0.19)	(0.36)	(0.12)
Interim	1.27	0.94	3.74	-0.02	-0.14	0.19
	(0.29)	(0.17)	(0.11)	(0.27)	(0.46)	(0.16)
Part time	2.07	0.66	0.12	4.63	1.79	1.35
	(0.19)	(0.16)	(0.23)	(0.09)	(0.19)	(0.10)
Other	2.03	0.78	0.82	1.33	6.09	1.70
	(0.26)	(0.22)	(0.25)	(0.19)	(0.14)	(0.13)
Non-participation	1.31	0.67	-0.01	1.00	1.93	2.84
	(0.16)	(0.10)	(0.14)	(0.10)	(0.13)	(0.05)

Source: EEC 2002-2008, Sample of N=20,996 "movers"

Note: A FTC worker is $e^{1.38} = 4$ *more likely than an unemployed to hold a permanent job three months later rather than to be unemployed*

Table 8: Intensity of transitions across states – random-effect model

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	5.40	0.06	-0.02	0.93	0.52	1.09
	(0.07)	(0.09)	(0.11)	(0.08)	(0.12)	(0.06)
FTC	1.23	2.22	-0.45	0.34	-0.21	0.59
	(0.08)	(0.06)	(0.11)	(0.09)	(0.13)	(0.07)
Interim	0.95	0.24	1.90	0.57	-0.08	0.18
	(0.10)	(0.09)	(0.07)	(0.13)	(0.18)	(0.09)
Part time	1.31	0.55	0.37	3.63	0.89	0.77
	(0.08)	(0.08)	(0.13)	(0.06)	(0.09)	(0.06)
Other	0.99	0.12	-0.23	0.56	4.30	0.95
	(0.11)	(0.11)	(0.16)	(0.09)	(0.09)	(0.07)
Non-participation	0.30	0.16	-0.05	0.28	0.99	1.84
	(0.07)	(0.06)	(0.05)	(0.07)	(0.07)	(0.04)

Source: EEC 2002-2008, Full sample of N=125,849 individuals

Note: A FTC worker is $e^{1.23} = 3.4$ more likely than an unemployed to hold a permanent job three months later rather than to be unemployed

Table 9: Intensity of transitions across states – fixed-effect model. Impact of "effort"

	Permanent	FTC effort=0	FTC effort=1	Part time	Other	Non-participation
Permanent	4.08	0.06	-0.01	0.68	0.09	0.88
	(0.09)	(0.13)	(0.22)	(0.12)	(0.12)	(0.08)
FTC effort=0	1.20	1.76	1.57	0.29	-0.35	0.48
	(0.11)	(0.08)	(0.12)	(0.11)	(0.11)	(0.09)
FTC effort=1	1.29	1.47	1.77	0.32	-0.14	0.35
	(0.17)	(0.13)	(0.16)	(0.21)	(0.20)	(0.17)
Part time	0.90	0.55	0.39	2.85	0.47	0.65
	(0.11)	(0.11)	(0.20)	(0.06)	(0.09)	(0.06)
Other	0.74	0.19	0.30	0.28	2.13	0.32
	(0.10)	(0.10)	(0.18)	(0.09)	(0.06)	(0.06)
Non-participation	0.33	0.09	0.37	0.26	0.24	1.60
	(0.09)	(0.08)	(0.15)	(0.06)	(0.06)	(0.04)

Source: EEC 2002-2008, Sample of N=21,088 "movers"

Note: A FTC worker "working more" is $e^{1.29} = 3.6$ more likely than an unemployed to hold a permanent job three months later rather than to be unemployed

Table 10: From fixed-term to permanent contracts: impact of effort according to different indicators

Weekly working time in 4^{th} quartile	1.09
	(0.20)
Weekly working time $>$ 39 hours	0.95
	(0.17)
Weekly working time $>$ 35 hours	1.07
	(0.15)
Weekly working time in 1^{st} decile	0.74
	(0.13)
Overtime work	0.78
	(0.30)

Source: EEC 2002-2008

Note: For a FTC worker, working more than 39 hours a week shifts by 0.95 the probability of getting an open-ended contract rather than to be unemployed three months later

Table 11: Intensity of transitions across states – fixed-effect model, 18-29 only

	Permanent	FTC effort=0	FTC effort=1	Part time	Other	Non-participation
Permanent	4.04	0.04	-0.29	0.73	0.15	0.85
	(0.17)	(0.21)	(0.39)	(0.20)	(0.20)	(0.16)
FTC effort=0	1.09	1.66	1.54	0.25	-0.30	0.72
	(0.15)	(0.12)	(0.19)	(0.17)	(0.15)	(0.11)
FTC effort=1	1.30	1.37	1.36	0.02	-0.30	0.29
	(0.27)	(0.19)	(0.26)	(0.30)	(0.28)	(0.23)
Part time	0.84	0.51	0.31	2.50	0.51	0.94
	(0.18)	(0.16)	(0.29)	(0.11)	(0.13)	(0.10)
Other	0.55	0.08	-0.06	0.24	2.00	0.51
	(0.15)	(0.13)	(0.27)	(0.13)	(0.09)	(0.09)
Non-participation	0.28	0.19	0.28	0.37	0.50	1.81
	(0.14)	(0.11)	(0.21)	(0.09)	(0.08)	(0.06)

Source: EEC 2002-2008, Sample of N=7,705 "movers" aged from 18 to 29

Note: A FTC worker is $e^{1.30} = 3.6$ more likely than an unemployed to hold a permanent job three months later rather than to be unemployed

Table 12: Intensity of transitions across states – fixed-effect model, 18-29 only

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	4.01	-0.02	0.15	0.73	0.32	0.85
	(0.17)	(0.19)	(0.24)	(0.20)	(0.32)	(0.16)
FTC	1.10	1.58	-0.37	0.21	-0.12	0.66
	(0.15)	(0.10)	(0.17)	(0.15)	(0.20)	(0.11)
Interim	0.57	0.16	1.47	0.32	-0.24	0.13
	(0.19)	(0.15)	(0.11)	(0.21)	(0.28)	(0.14)
Part time	0.83	0.45	0.25	2.51	1.02	0.96
	(0.18)	(0.15)	(0.20)	(0.11)	(0.16)	(0.10)
Other	0.64	-0.07	0.05	0.49	3.17	0.94
	(0.22)	(0.19)	(0.25)	(0.16)	(0.15)	(0.12)
Non-participation	0.26	0.19	0.07	0.38	1.06	1.84
	(0.14)	(0.10)	(0.12)	(0.09)	(0.11)	(0.06)

Source: EEC 2002-2008, Sample of N=7,676 "movers" aged from 18 to 29

Note: A FTC worker is $e^{1.10} = 2.7$ more likely than an unemployed to hold a permanent job three months later rather than to be unemployed

Table 13: Intensity of transitions across states – fixed-effect model, 30-49 only

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	4.06	0.24	0.18	0.64	0.23	1.02
	(0.13)	(0.17)	(0.20)	(0.18)	(0.28)	(0.12)
FTC	1.34	1.82	-0.50	0.43	-0.18	0.27
	(0.16)	(0.11)	(0.20)	(0.16)	(0.28)	(0.15)
Interim	1.04	0.24	1.57	0.63	0.14	0.20
	(0.19)	(0.17)	(0.11)	(0.23)	(0.37)	(0.18)
Part time	0.91	0.52	0.23	3.05	1.15	0.43
	(0.17)	(0.17)	(0.24)	(0.09)	(0.18)	(0.11)
Other	1.02	0.34	-0.12	0.48	3.38	0.68
	(0.25)	(0.28)	(0.36)	(0.18)	(0.16)	(0.16)
Non-participation	0.42	0.04	-0.22	0.22	0.50	1.50
	(0.13)	(0.14)	(0.17)	(0.10)	(0.14)	(0.06)

Source: EEC 2002-2008, Sample of N=8,466 "movers" aged from 30 to 49

Note: A FTC worker is $e^{1.34} = 3.8$ more likely than an unemployed to hold a permanent job three months later rather than to be unemployed

Table 14: Intensity of transitions across states – fixed-effect model, 50-60 only

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	4.30	-0.64	-0.17	0.82	0.31	0.67
	(0.28)	(0.52)	(0.58)	(0.32)	(0.44)	(0.19)
FTC	1.13	1.81	-0.02	0.13	1.47	0.78
	(0.39)	(0.24)	(0.49)	(0.43)	(0.82)	(0.31)
Interim	0.47	-0.18	1.40	1.41	-1.30	-0.63
	(0.55)	(0.48)	(0.32)	(0.64)	(1.20)	(0.58)
Part time	1.04	0.00	-0.17	2.96	0.55	0.22
	(0.34)	(0.42)	(0.78)	(0.17)	(0.35)	(0.18)
Other	1.08	0.30	-0.38	0.46	3.15	0.43
	(0.42)	(1.15)	(0.95)	(0.35)	(0.31)	(0.26)
Non-participation	0.37	0.20	0.08	0.06	0.37	1.47
	(0.26)	(0.30)	(0.49)	(0.19)	(0.25)	(0.09)

Source: EEC 2002-2008, Sample of N=3,805 "movers" aged from 50 to 60

Note: A FTC worker is $e^{1.13} = 3.1$ *more likely than an unemployed to hold a permanent job three months later rather than to be unemployed*

Table 15: Intensity of transitions across states – fixed-effect model, women only

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	4.14	-0.04	0.34	0.67	0.26	0.88
	(0.15)	(0.20)	(0.27)	(0.15)	(0.25)	(0.13)
FTC	1.19	1.68	-0.30	0.48	-0.35	0.45
	(0.16)	(0.10)	(0.20)	(0.13)	(0.22)	(0.11)
Interim	0.92	0.48	1.57	0.81	0.35	0.17
	(0.23)	(0.18)	(0.13)	(0.20)	(0.33)	(0.17)
Part time	1.05	0.47	0.50	2.84	0.88	0.62
	(0.14)	(0.13)	(0.20)	(0.(07)	(0.14)	(0.08)
Other	0.95	0.17	-0.08	0.49	3.14	0.72
	(0.22)	(0.21)	(0.36)	(0.14)	(0.14)	(0.12)
Non-participation	0.35	0.07	0.07	0.21	0.50	1.55
	(0.13)	(0.10)	(0.16)	(0.07)	(0.11)	(0.05)

Source: EEC 2002-2008, Sample of N=12,066 "movers"

Note: A FTC worker is $e^{1.19} = 3.3$ *more likely than an unemployed to hold a permanent job three months later rather than to be unemployed*

Table 16: Intensity of transitions across states – fixed-effect model, men only

	Permanent	FTC	Interim	Part time	Other	Non-participation
Permanent	3.99	0.08	0.02	0.65	0.25	0.89
	(0.12)	(0.15)	(0.17)	(0.21)	(0.26)	(0.11)
FTC	1.23	1.74	-0.50	-0.16	-0.05	0.50
	(0.13)	(0.10)	(0.16)	(0.20)	(0.22)	(0.12)
Interim	0.68	0.07	1.47	0.30	-0.35	0.09
	(0.15)	(0.14)	(0.09)	(0.21)	(0.29)	(0.13)
Part time	0.58	0.59	0.14	2.88	1.05	0.78
	(0.20)	(0.18)	(0.22)	(0.12)	(0.19)	(0.13)
Other	0.67	0.02	-0.05	0.52	3.46	0.75
	(0.20)	(0.21)	(0.24)	(0.19)	(0.15)	(0.13)
Non-participation	0.30	0.18	-0.12	0.39	1.06	1.70
	(0.12)	(0.11)	(0.12)	(0.12)	(0.12)	(0.06)

Source: EEC 2002-2008, Sample of N=8,930 "movers"

Note: A FTC worker is $e^{1.23} = 3.4$ *more likely than an unemployed to hold a permanent job three months later rather than to be unemployed*

ACKNOWLEDGEMENTS

We are grateful to Bruno Crépon, Laurent Davezies, Pierre Fleckinger, Bernard Salanié and especially Thierry Magnac for very helpful suggestions. We thank participants at EALE, EEA, JMA conferences and at CREST-LMI, INSEE-DEEE seminars (especially Dominique Goux and Antoine Terracol for their discussions). All remaining errors are ours.

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