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Non-standard employment and mobility in the Netherlands

Dekker, Ronald

Delft University of Technology, Tilburg University

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Paper

Mobility in a labour market with non-standard jobs: a panel data analysis for the Netherlands

Author

Ronald Dekker
Dept. Economics of Innovation
Delft University of Technology
Jaffalaan 5, 2628 BX, Delft, The Netherlands

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Introduction

In the last 25 years the number of flexible jobs has been expanding in most European countries. For example, in the Netherlands in 1995, about 11 per cent of workers was working in a fixed-term temporary job and about 37 per cent of workers was working in a part-time job. Seven years later, in 2002 these percentages had increased to 14 per cent and 44 per cent.¹ It should be noted however, that the increase in temporary jobs already reached 13 per cent in 1998 and is fairly stable since, whereas the percentage of part-time jobs is still increasing in 2002. For the purpose of this paper, the focus will be on several forms of contractual flexibilisation: temporary contracts², small part-time contracts³, on-call and replacement contracts, casual and seasonal work and work with temporary work agencies. These jobs are all defined as non-standard employment.

Non-standard jobs have been given a lot of attention in the policy debate and not only in the Netherlands. They were often seen as a means to increase labour market flexibility and labour turnover as a means to foster economic growth and employment growth in particular. Subsequently, unemployment would be decreased. However, the success of such a policy depends heavily on the mobility from non-standard into standard employment. If this mobility is very low, contractual flexibilisation will not lead to reduced unemployment but rather to increased job insecurity for people at the lower end of the labour market. If flex-workers do not succeed in making a transition into a standard job they often face spells of (partial) unemployment and experience insecure income prospects.

¹ Source: Employment in Europe, 2003.

² Temporary contracts without the prospect for tenure.

³ Small part-time jobs are less than 12 hours per week. Bigger permanent part-time jobs are considered to be standard, since they are so prevalent in the Netherlands.

A related policy question concerns the extent to which other government policies such as minimum wages or social welfare programmes may complement or substitute the flexibilisation of working times and contracts by providing incentives for entry into the labour market. The level of the welfare benefits the household receives when out of work and the level of the minimum wage will affect the incentives/disincentives to accept a flexible job or to move into a standard job. Flexible jobs may not be attractive to unemployed individuals, especially if the net present value offered is at or even below the net present value of a job with the minimum wage or benefit level. Under this set up, flexible and small part-time jobs would be acceptable only to individuals not claiming social security benefits and possibly out of the labour force.

The primary goal in this paper is to investigate the role of a whole range of possible determinants of labour market transitions on a labour market that is characterized by a substantial ‘non-standard job segment’ (see Figure 1)

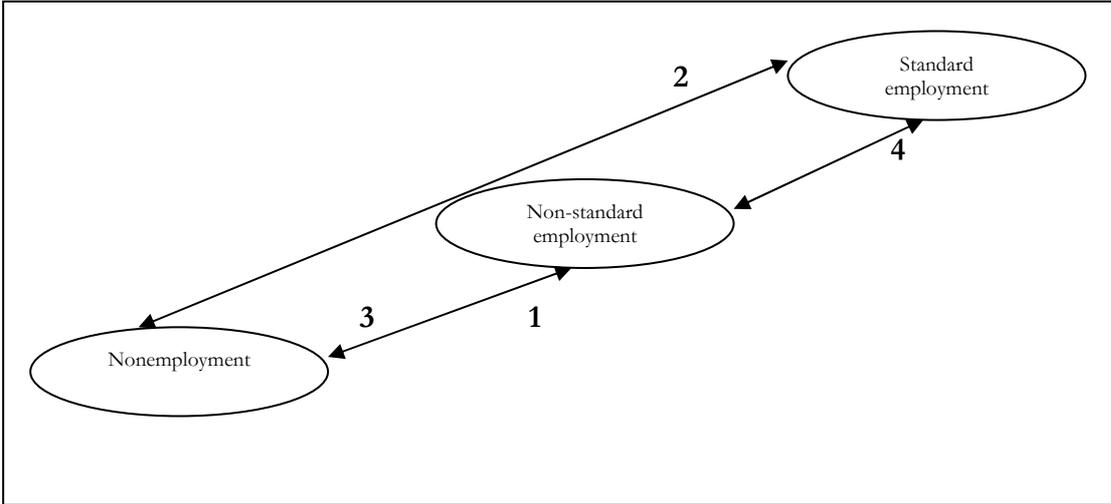


FIGURE 1 POSSIBLE TRANSITIONS

The question that will be answered first is what are the determinants of transitions on this labour market, especially those from non-standard jobs and from nonemployment. From

nonemployment people can make a transition to either a non-standard job (Transition 1) or a standard job (Transition 2). Workers in non-standard jobs can go to nonemployment (Transition 3) or to a standard job (Transition 4). What characteristics play a role in explaining these transitions? Both nonemployment and non-standard work will be used as a starting point. We take a labour supply perspective and base our empirical research on household panel data. The economic theoretical framework is job search theory. In order to estimate the coefficients of interest accurately we have to take into account that workers are (self-) selected into these states by the same characteristics that are used to explain the transitions. To correct for these selection issues, a panel multinomial logit model with individual unobserved heterogeneity will be estimated besides the standard multinomial logit model.

Earlier work and the contribution of this research

Earlier research on segmented labour markets has concentrated on the lack of mobility between the two (or more) segments. Dual labour market theory assumes the absence of mobility between segments, without empirically testing this assumption. There is very little evidence that labour markets can be subdivided into two or more well-defined and self-contained segments.

It can be argued that wage formation is different in different parts of the labour market in the sense that the pay off to human capital variables is significantly different in the different segments. This is another characteristic of dual labour market theory and for this hypothesis extensive evidence has been found, especially on the return on education (McNabb, 1987; McNabb and Ryan, 1990) in the two segments. In the 1990s empirical work on non-standard, flexible or non-standard types of employment often took a static approach. Only descriptive statistics were presented or at best, occupying a certain labour market status was explained

rather than explaining transitions between different labour market states. (See Felstead & Jewson (1999), Murphy (1996), Casey et al. (1997) for international studies and several OSA labour market trends reports (2003, 2002, 2001, 2000) and Goudswaard (2003) for the Netherlands). Only after the introduction of longitudinal data with sufficient information on employment contracts it was possible to systematically investigate labour market transitions to and from non-standard jobs. (Muffels et al, 1998, Dekker et al, 1999, 2000, 2001). The results from this research indicated that indeed a lot of transitions took place every year between non-standard and standard employment, not only in the Netherlands but also in the United Kingdom (also see Booth et al (1999, 2002) and Germany. Similar findings were obtained for other European countries in a study about male workers (Muffels & Luijkx., 2004). Other recent contributions on job mobility in a segmented labour market involve studies about mobility out of subsidized employment in the Netherlands (Van Ours, 2004), labour market mobility and social exclusion in Great Britain (Bradley et al, 2003), labour market flexibility and macroeconomic consequences for 21 OECD countries (Di Tella & MacCulloch, 2003). Other recent contributions from economists have taken a firm perspective and look at the optimal use of flexible labour by firms (Pinker & Larson, 2002) and its consequences for labour productivity (Magnani, 2003) and work safety (Guadalupe, 2003). Furthermore, not exclusively economic contributions come from sociology and public health science and focus on flexible staffing arrangements in US firms (Kalleberg, 2000; Kalleberg et al, 2000, 2003), flexible labour and social exclusion in Great Britain (Bradley et al, 2003), flexible labour and the transition into adulthood (Golsch, 2003), and health inequalities that could follow from labour market segmentation (Virtanen et al, 2003).

The contribution of this paper lies in the fact that the analysis of dynamic labour market transitions is firmly based in economic job search theory. Furthermore panel data are used to be able to capture the true dynamics of the labour market. The relative transition probabilities

are modelled, rather than the relative probabilities of occupying a certain labour market state. An econometric model is used that formally tackles the selection bias issue that stems from state dependence in dynamic labour market models. The selection bias follows from the fact that workers are (self)selected into some labour market state. The factors that influence the transition rate out of that labour market state are likely to be similar to the ones of the initial selection. When estimating a transition model, this causes a biased estimation of the relevant parameters. This problem is addressed with the specification of a panel multinomial logit model with unobserved heterogeneity.

It is hypothesized that transition rate to standard employment for workers with higher endowments of human capital are higher and transition rates of workers with higher leisure preference (or family commitment) are lower. Family commitment still seems to play an important role for Dutch women. Furthermore it is investigated whether or not some non-standard jobs (small part-time jobs, on-call contracts, temporary contracts) will have higher or lower transition probabilities than others. Other covariates include firm size to capture the effect of job ladders often found in larger firms, labour market history of the worker and the hourly wage as additional measures of human capital and year dummies to correct for the business cycle.

1. Non-standard jobs and transitions: a job search approach

Standard neoclassical economic theory does not provide a straightforward answer to the questions posed in the introduction. The aim of the paper is to examine the flows out of non-standard employment and nonemployment into standard employment. The theoretical background model for our empirical specification is based on job search theory. The search for a non-standard job can be modelled in a similar manner as the search process for a standard job. Some suppliers of labour will prefer a standard job because of the offered wage

or job security whereas others prefer a temporary or part-time job because of caring obligations, working time flexibility and leisure time preferences. Differences do appear when we take into account that on-the-job-search from a flexible job can be different from search from a standard full-time job. It has been frequently and successfully applied for studying transitions from unemployment or non-participation into employment (cf. Lipmann & McCall, 1976, Mortensen, 1970, 1977, 1986, Kiefer & Neumann, 1989; Narendranatan & Nickell, 1985, 1986, Hujer & Schneider, 1989).

Since job search behaviour in the presence of flexible, non-standard employment contracts is obviously affected by institutional constraints like the rationing of standard jobs, replacement rate of unemployment benefit and the minimum social security benefit, we make an attempt to incorporate these institutional variables as covariates in the empirical model. Furthermore an institutional approach involves recognizing that labour supply decisions are often made in a household rather than as an individual. Finally we have to allow for on-the-job search for workers in non-standard jobs.

2. A job search model

Job search theory focuses on the job search process of suppliers of labour. In job search models the probability of leaving unemployment or of taking up a new job is equal to the product of the probabilities of receiving a job offer and of accepting it. In the standard job search model, jobs are fully characterised by the wage offered. The job seeker knows the distribution of wages in the relevant segment of the labour market. Every time a job offer occurs -in the standard search models, at standard time intervals- the individual takes the decision whether or not to accept the job. This decision is based on the comparison of the marginal costs of search (out of pocket costs plus opportunity costs) and the marginal benefits (alternative returns). The optimal strategy is to search until the point is reached where

marginal costs equal marginal benefits. The level of the corresponding wage is called the reservation wage below which people accept no job offers. The reservation wage is therefore a crucial variable in these models. It is assumed to be influenced by a number of variables such as personal characteristics, employment-unemployment history, institutional variables and, in particular, the level and the duration of unemployment benefits (or, in the case of on-the-job search, the current level of wages).

We have stated before that searching for a non-standard job is similar to a ‘normal’ search process. For some individuals job offers will consist of non-standard jobs only while for others standard jobs are offered also. These latter workers face “competing risks”. The decision space for the first group of workers is restricted (rationed) to non-standard jobs and therefore their transition probabilities to standard employment will be low. Some workers with higher capital endowments may be able to choose between non-standard and a standard jobs.

Job search theory will shape the empirical model through the inclusion of explanatory variables, in particular, those explaining the level of the reservation wage. Since job offers are no longer fully characterized by the wage only but also by the prespecified number of hours per week and duration of the contract, the term reservation value is used instead of reservation wage.

In the model considered here, the job seeker is faced with the following problem (Roy (1951), Heckman & Honore (1990), Magnac (1991)) and will choose:

$$\left\{ \begin{array}{l} \text{regular employment} \quad \text{if } V_{reg} > V_{nonreg}, V_{reg} > V^* \\ \text{nonregular employment} \quad \text{if } V_{nonreg} > V_{reg}, V_{nonreg} > V^* \\ \text{unemployment} \quad \text{if } V_{reg} > V^* \text{ or } V_{nonreg} > V^* \\ \text{nonparticipation} \quad \text{if } V^* > V_{reg}, V^* > V_{nonreg} \end{array} \right. \quad (1)$$

Where $V_{reg} = \sum_{t=1}^{\infty} \frac{hw}{(1+r)^t}$, $V_{nonreg} = \sum_{t=1}^d \frac{hw}{(1+r)^t}$, $V^* = f(p(V))$ the net present value of a

standard job, a non-standard job and the reservation value, respectively, with h the number of hours, w the hourly wage and $(1/(1+r))$ the discount rate. For a standard job the duration d is assumed to be indefinite. The reservation wage is dependent on the unknown distribution of values of job offers. Thus the job seeker has imperfect information about the value of jobs she can get on the market. This imperfect information and the rational behaviour of the job seeker lead to search behaviour with the so-called reservation wage (reservation value property).

That is, in a standard job search model a worker will accept offers above the reservation wage and will continue search if the wage offer is lower than the reservation wage. Subsequently, the higher the reservation wage, the longer the worker will search and the lower her exit probability out of unemployment.

In the circumstance that the worker is faced with two types of exit to employment (both standard and non-standard), this reservation wage (or reservation value) property still holds. Given a job value distribution, the reservation value of a job seeker will then depend on his leisure (home production) preferences and nonwage (for the nonemployed) or wage (for on-the-job-seekers) income. Furthermore, the job seeker will recognize the fact that temporary jobs are likely to result in a new spell of nonemployment in the future.

This theoretical model leads to the inclusion of several variables in the empirical model. The expectations of the (possibly nonemployed) jobseeker are based on her level of human capital, so we want to include variables like age, experience and schooling level. Additional determinants of human capital are (un)employment history and the hourly wage for on-the-job

seekers. Preferences for leisure (family commitment) are modelled through including information on gender, number of children, marital status. Furthermore the notion that labour supply decisions take place in a household context, a proxy for other household income (both labour income of other household members and non-labour income) is included.

3. The data

The data used in this paper are drawn from the Dutch Socio-Economic Panel (SEP). The survey sample is a random sample drawn from the Dutch postal addresses register file. The survey started in 1984 with 12,000 respondents in 5,000 households. The SEP provides information on various types of labour market transitions of individuals over a period of 18 years (1984-2001). It is a great pity that the 2001 wave is the last wave of data that is available.

The SEP did not contain much information on different types of flexible or non-standard labour in the earlier waves except for the waves of October 1988 and 1991. The last seven waves of data (1995-2001) will be used to examine transitions from non-standard jobs into standard jobs and nonparticipation the next year. For those years we have constructed a discrete dependent variable 'labour market status' based on the type of contract, which is either 'Nonemployment', 'Non-standard employment' or 'Standard employment'. The self-employed are excluded from the analysis. Furthermore a set of covariates is drawn from these data, including human capital variables (age, schooling, experience), household variables (marital status, number of children, household income), job characteristics (hourly wage, industry sector, firm size) and employment history variables.

The earlier waves of the SEP do contain sufficient information on employment history, which allows us to construct employment histories (3 years prior to the base year of the transition) of

all workers. For 1995, 1996 and 1997 we will use the available information from 1991 to 1994 for these employment history variables.

Both annual income (from tax records, income from the year before the survey year) and monthly income (direct survey question) are available. To determine a proxy for the hourly wage, we use the reported number of hours worked per week and the monthly take home wage. Human capital variables are included in the model.

The following labour market statuses will be distinguished:

<i>Labour market status</i>	<i>Qualifications</i>
Non employment (including unemployment)	All persons between 15 and 64 without a job, and not available for a job (nonparticipation) All persons between 15 and 64 without a job, willing to accept a >12 hour job within two weeks (unemployment)
Non-standard employment	All persons between 15 and 64 with any kind of paid work, on different types of flexible contracts or for less than 12 hours per week
Standard employment (including part-time)	All persons between 15 and 64, with a standard (permanent) contract, with 12 or more hours per week

Firstly, we look at the number of weekly hours actually worked to distinguish small part-time, part-time and full-time jobs. Secondly, we distinguish the self-employed (and their co-workers who are not employees) and exclude them from the analyses. The employees are subdivided into employees with a permanent or a temporary job, respectively.

Thirdly, we distinguish private employment agency jobs and specific flexible jobs (e.g. on-call contracts) from other jobs. The fourth dimension makes a distinction between non-standard (flexible) and standard (both part-time and full-time) jobs. Non-standard jobs include the following categories:

- Short hours part-time jobs (including permanent)
- Temporary jobs
- Specific flexible jobs (on-call contracts, etc.)
- Private employment agency job

4. Descriptive statistics

In Figure 2 the relative importance of non-standard employment in the Netherlands is shown, as a percentage of the working age population. In 1991 the percentage of non-standard workers was below 10 per cent, and a steady increase can be observed until the end of the century. The share of non-standard workers is then relatively stable around 14 per cent and decreasing a little in 1999, 2000 and 2001. This could well be the result of the tightening labour market in the Netherlands in the latter 1990s. Workers did not have to settle for a non-standard job, and more standard jobs were available. The further reduction of the percentage of people in nonemployment is a confirmation of that hypothesis⁴.

⁴ In the data for 1992, 1993 and 1994 information on some non-standard (temporary, on-call) contracts is missing. This also explains the strange pattern of transition probabilities for 1991-1994 in Figure 3

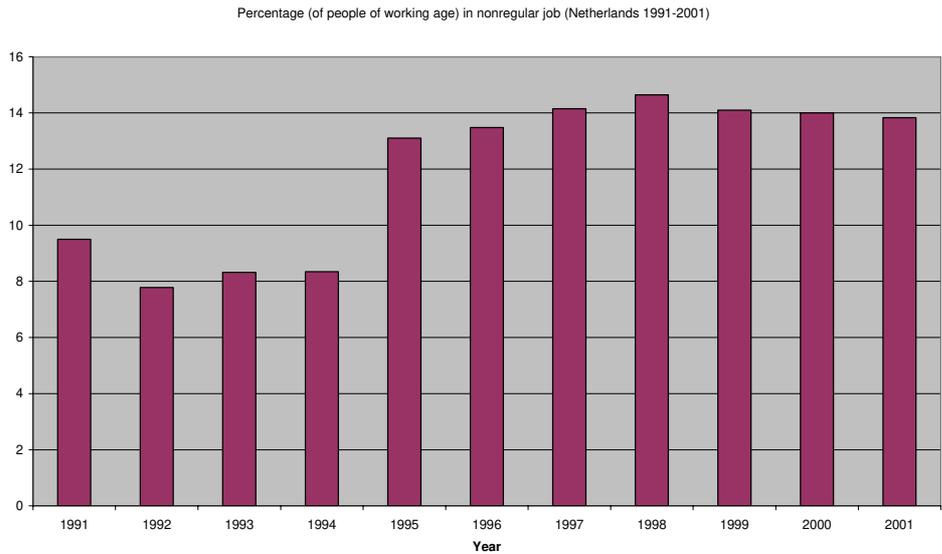


FIGURE 2 PERCENTAGE OF WORKERS IN NON-STANDARD EMPLOYMENT
(SOURCE: STATISTICS NETHERLANDS, OWN CALCULATIONS)

In Figure 3, the yearly transition probabilities out of non-standard employment are depicted.

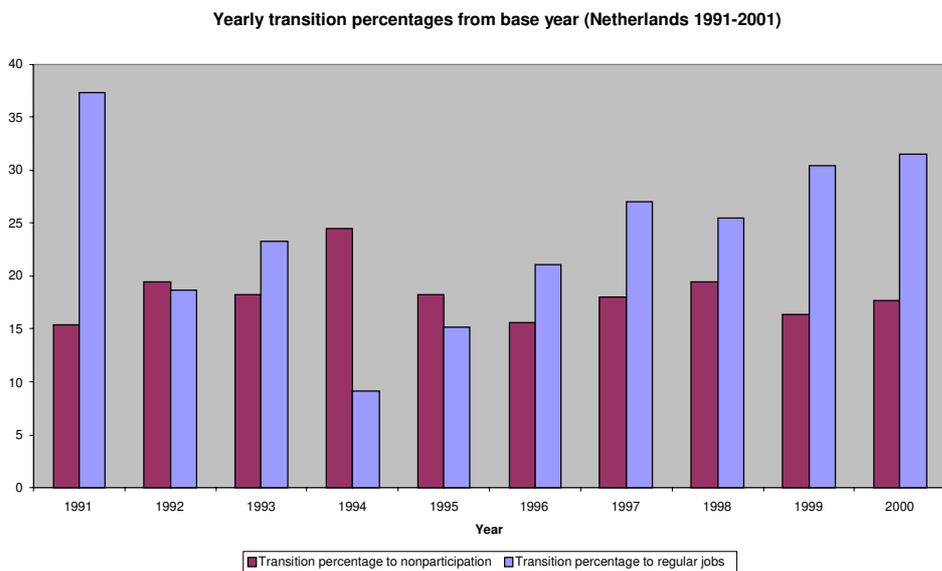


FIGURE 3 TRANSITION PROBABILITIES TO STANDARD EMPLOYMENT AND NONEMPLOYMENT
(SOURCE: STATISTICS NETHERLANDS, OWN CALCULATIONS)

It is obvious from the graph that the transition rate into standard employment is increasing from 1995 onwards. The yearly transition probability increases from around 20 per cent to around 30 per cent in 2001. In comparison, the transition rate into nonemployment does not

show a clear trend and seems relatively stable at around 15 per cent. This is again in line with the notion of a tightening labour market in the late 1990s in the Netherlands.

From this two graphs we would expect that the year dummies that will be incorporated in the empirical model will have positive effects on the transition rate(s) to standard employment, both from nonemployment and from non-standard employment.

5. A dynamic model of labour market transitions

The labour market transitions call for a dynamic analysis of discrete patterns. This involves analyses of Markov chains with three states: Nonemployment (NE), Non-standard employment (NR) and Standard employment (R) (see Figure 4). For each transition period (t, t+1) the probability P_{ij} of moving from state i to state j can be defined ($i, j \in \{NE, NR, R\}$)

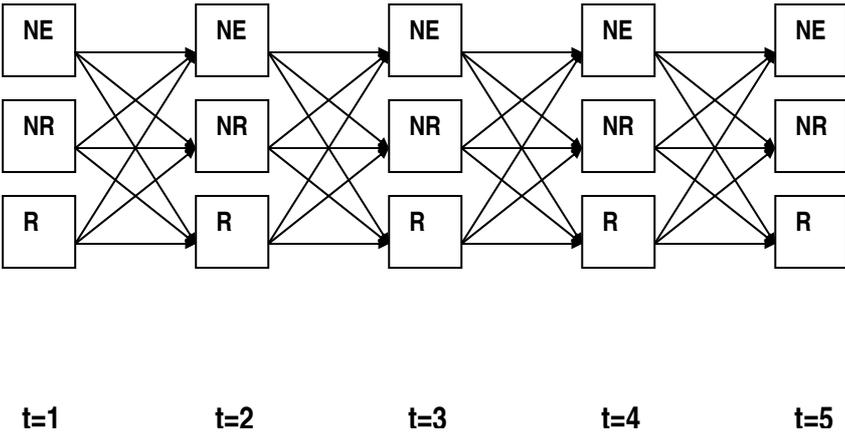


FIGURE 4 **TRANSITION PATTERNS**

The standard approach for a static limited dependent variables model is to use a multinomial logit model.

When limited dependent variable models are used to model relative transition probabilities from one state to another rather than relative probabilities of occupying a certain state, problems of selection bias (caused by initial selection or state dependence) have to be faced.

One way to adapt the multinomial logit model to correct for selection is to model relative probabilities of occupying a certain labour market state and then add the lagged (labour market) state (that is, the discrete choice variable) as an explanatory variable (Gong et al., 2000, Heckman, 1981).

$$P_{ij}(t) = \frac{\exp(\beta'_j x + \gamma'_j z)}{1 + \sum_{k=1}^{m-1} \exp(\beta'_k x + \gamma'_k z)}, \quad i = 1, \dots, n; j = 1, \dots, m-1 \quad (2)$$

with z a vector of dummy variables indicating lagged labour market state and of interactions of this dummy with x . This is equivalent to adding the lagged discrete choice variable.

Furthermore an individual random effect α_{ij} is added to be able to control for unobserved individual heterogeneity. This heterogeneity is assumed to be time invariant for each individual and could be different for each destination state:

$$P_{ij}(t) = \frac{\exp(\beta'_j x + \gamma'_j z + \alpha_{ij})}{1 + \sum_{k=1}^{m-1} \exp(\beta'_k x + \gamma'_k z + \alpha_{ik})}, \quad i = 1, \dots, n; j = 1, \dots, m-1 \quad (3)$$

In an alternative but equivalent approach, Nguyen et al (2000) & Kaiser (2001) model the relative transition probabilities and estimate a random effects multinomial logit model with time invariant unobserved heterogeneity.

$$P_{ijj'}(t) = \frac{\exp(\beta'_j x + \sigma_{jj'} v_{ijj'})}{1 + \sum_{k=1}^{m-1} \exp(\beta'_k x + \sigma_{jk} v_{ijk})}, \quad i = 1, \dots, n; j, j' = 1, \dots, m-1 \quad (4)$$

This is equivalent if the selection bias is only transferred through the individual effect. The individual effect terms $\sigma_{jj'} v_{ijj'}$ are assumed to be mutually independent and independent of the covariates x , with mean 0 and variance $\sigma_{jj'}^2$. The random variable $v_{ijj'}$ is assumed to be standard normal distributed. The parameters $\sigma_{jj'}^2$ indicating the unobserved individual effect have to be estimated and then integrated out in order to compute the likelihood function for the observations and to obtain (see Nguyen et al, 2000):

$$\hat{E} P_{ijj'}(t) = \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \frac{\exp(\beta'_j x + \sigma_{jj'} v_{ijj'})}{1 + \sum_{k=1}^{m-1} \exp(\beta'_k x + \sigma_{jk} v_{ijk})} \varphi(v_{ij1}) \varphi(v_{ij2}) \varphi(v_{ij3}) d(v_{ij1}) d(v_{ij2}) d(v_{ij3}) \quad (5)$$

with $\varphi(\cdot)$ the density of the standard normal distribution. Following Stern (1997) it is possible to approximate this expression by the following simulators:

$$\hat{E} P_{ij1}(t) = \frac{1}{H} \sum_{h=1}^H \frac{1}{1 + \sum_{k=1}^{m-1} \exp(\beta'_k x + \sigma_{jk} v_{ijk}^h - \sigma_{j1} v_{ij1}^h)} \quad (6)$$

$$\hat{E} P_{ijj'}(t) = \frac{1}{H} \sum_{h=1}^H \frac{\exp(\beta'_j x + \sigma_{jj'} v_{ijj'}^h - \sigma_{j1} v_{ij1}^h)}{1 + \sum_{k=1}^{m-1} \exp(\beta'_k x + \sigma_{jk} v_{ijk}^h - \sigma_{j1} v_{ij1}^h)} \quad (7)$$

with v_{ijk}^h independent draws from the standard normal distribution. The log likelihood function is obtained by summing these simulated expected probabilities over all individuals and years. Then maximum likelihood methods can be used to estimate the parameters of interest. Finally, a simple likelihood ratio test can be performed to assess whether the extended model with unobserved heterogeneity is an improvement or not.

Estimation results

Two models are estimated for transitions from nonemployment and non-standard employment, respectively. The first model (Model I) is a standard multinomial logit model, but with robust estimation methods and clustering on the level of the individual. This means that we recognize that observations for the same person are, by definition, interrelated and can therefore not be regarded as independent. This model can be estimated by standard procedures.

The second model is the one that corrects for selection biases and is a panel multinomial logit model with random (individual) effects. It involves adding a time-invariant covariate for each individual that indicates something like ‘labour market ability’.

The models are estimated both for the nonemployed (transitions to non-standard employment and standard employment) and for non-standard workers (transitions to nonemployment and standard employment). In Table 1 the results for the transitions from nonemployment are presented, the results for the transitions from non-standard employment can be found in Table

2

Table 1

Transitions from nonemployment

Coefficients from multinomial logit regression, relative to staying in origin state (nonemployment)

Model I: Multinomial logit model with robust standard errors and clustering on individuals

Model II: Panel multinomial logit model with unobserved heterogeneity

	Model I To Non- standard employment	To Standard employment	Model II To Non- standard employment	To Standard employment
Woman	0.201 (0.131)	-0.153 (0.173)	0.208 (0.135)	-0.140 (0.170)
Married	0.414 (0.198)**	0.195 (0.196)	0.439 (0.207)**	0.205 (0.206)
Married woman	-0.437 (0.192)**	-1.174 (0.232)***	-0.479 (0.200)**	-1.218 (0.236)***
Divorced	0.206 (0.439)	0.630 (0.320)**	0.238 (0.410)	0.652 (0.325)**
Divorced woman	0.055 (0.473)	-0.989 (0.424)**	0.019 (0.442)	-1.036 (0.432)**
Age	-0.045 (0.024)*	0.189 (0.032)***	-0.044 (0.025)*	0.195 (0.033)***
Age squared	-0.040 (0.031)	-0.342 (0.042)***	-0.046 (0.032)	-0.355 (0.045)***
Number of children	-0.103 (0.055)*	-0.110 (0.069)	-0.110 (0.056)**	-0.120 (0.069)*
Woman with children	0.274 (0.136)**	0.035 (0.187)	0.287 (0.138)**	0.039 (0.192)
Child younger than 6 yrs	-0.446 (0.098)***	-0.372 (0.137)***	-0.463 (0.101)***	-0.395 (0.138)***
Educational level dummies (reference: primary education)				
Lower secondary education	0.823 (0.111)***	0.311 (0.151)**	0.856 (0.114)***	0.346 (0.152)**
Higher secondary education	0.94 (0.111)***	0.282 (0.142)**	0.990 (0.116)***	0.334 (0.145)**
Higher vocational education	1.403 (0.150)***	0.737 (0.197)***	1.455 (0.158)***	0.780 (0.200)***
University degree	1.176 (0.315)***	1.094 (0.308)***	1.258 (0.314)***	1.173 (0.326)***
Currently unemployed	1.114 (0.135)***	0.741 (0.175)***	1.155 (0.135)***	0.789 (0.174)***
Employment				

history dummies				
Non-standard job	0.512	0.498	0.514	0.501
in last three years	(0.064)***	(0.082)***	(0.061)***	(0.087)***
Unemployed in	0.15	0.064	0.176	0.092
last three years	(0.090)*	(0.122)	(0.093)*	(0.128)
Standard job in	0.252	0.778	0.265	0.794
last three years	(0.058)***	(0.061)***	(0.062)***	(0.060)***
Non labour	-0.002	0.007	-0.002	0.007
household income	(0.001)***	(0.002)***	(0.001)***	(0.003)***
Other labour	-0.002	0.007	-0.002	0.007
income in	(0.001)*	(0.002)***		
household			(0.001)*	(0.002)***
Year dummies				
1996	0.166	0.462	0.201	0.503
	(0.105)	(0.143)***	(0.109)*	(0.150)***
1997	0.256	0.551	0.317	0.619
	(0.107)**	(0.142)***	(0.116)***	(0.156)***
1998	0.068	0.274	0.128	0.332
	(0.113)	(0.153)*	(0.121)	(0.162)**
Constant	-1.059	-5.411	-1.130	-5.567
	(0.395)***	(0.560)***	(0.417)***	(0.595)***
Indiv. eff. for				0.500
trans. to non-				
standard work				(0.180)***
Indiv. eff. for				0.568
trans. to standard				(0.265)**
work				
No. of		9778		9778
Observations				
Pseudo R2		0.1851		
Log pseudo-		-3896.1464		
likelihood				
Log likelihood				-3894.2341
Robust standard errors in parentheses (Model I)				
Standard errors in parentheses (Model II)				
* significant at 10%; ** significant at 5%; ***				
significant at 1%				

First of all a simple likelihood ratio (LR) test is performed to check whether the model with unobserved heterogeneity has added value, in other words if the model without unobserved heterogeneity is rejected by the data.

The LR test statistic is calculated as $LR = -2(\ln L^* - \ln L)$, where $\ln L^*$ is the value of the log likelihood under the null hypothesis (no unobserved heterogeneity), and $\ln L$ is the log likelihood under the alternative. This statistic is distributed as χ^2 with degrees of freedom equal to the number of restrictions under the null hypothesis (3). Thus we compare both the value of the LR test statistic for transitions from nonemployment (3.82, derived from Table 1) and for transitions from non-standard employment (5.29, derived from Table 2) and compare it with the value $\chi_{0.95}^2(3)=7.81$. This means that we cannot reject the null hypothesis, both for the transitions from non-standard employment and those from nonemployment.

Transitions from nonemployment

In spite of not being able to reject the null hypothesis of no unobserved heterogeneity, results for both specifications for the transitions out of nonemployment are fairly similar. The coefficients have the same sign and are in the same order of magnitude for all covariates in both specifications. Women are more likely to go to non-standard jobs and less likely to go to standard jobs than men are, but not significantly. Marriage has a positive effect on the transition probability to both standard and non-standard employment, but only for men. For women, this effect is negative, especially for transitions to standard employment. Male divorcees are more likely to go to a standard job in contrast to their female counterparts. The “U-shaped” age effect on the relative transition probability to standard employment is significant. The effect of age is positive and declining for workers younger than (\approx)28 years of age for transitions to standard jobs. Beyond that age, the transition probability will decrease⁵. For transitions to non-standard employment the effect of age is linear and negative. The older a nonemployed worker, the lower the transition probability into non-standard employment.

⁵ These age thresholds are determined by inferring algebraically at what age the age function is maximized.

A higher number of children in the household decreases the transition probability to employment, both standard and non-standard. For women, the presence of children increases their transition probability to non-standard employment. Furthermore the presence of a young child (younger than six years) decreases the transition probabilities to both standard and non-standard employment. This is a clear indication of leisure (home production) preferences for the nonemployed with children, not necessarily only for women.

As expected, higher levels of educational attainment have the expected positive effect on the transition to work although the effects are much stronger (and more significant) for transitions to non-standard employment.

Unemployed workers are more likely to find employment (both non-standard and standard), as we would expect, since they are available for work and have to look for jobs in order to be eligible for their benefit.

All job-history variables have a positive effect on to work transitions. Remarkably previous unemployment experience (at least once in the past three years) has a positive effect on the transition probability to non-standard employment. This is an indication that previous search behaviour (as required for receiving unemployment benefit) results in higher transition rates into non-standard employment in the following years. This is a confirmation of the earlier finding for currently unemployed jobseekers, who are also more likely to go find non-standard employment. Previous experience in a standard job makes the return rate into standard employment significantly higher.

Non-labour household income has a negative effect on the transition rate to non-standard employment and a positive effect on the transition rate into standard employment. This could be the result of higher reservation values or the relative unattractiveness of non-standard jobs in terms of increasing household income. The same effect can be found for the labour income of other household members. Furthermore it could indicate that labour market success of

other household members (resulting in higher levels of “Other labour income in household”) increases the chances of nonemployed household members in the sense that they are more likely to get a standard job. Year dummies all have significantly positive coefficients, indicating the increasing levels of (both standard and non-standard) employment in the Netherlands in the second half of the 1990s.

Transitions from non-standard employment

Again we can observe fairly similar results for both model specifications for the transitions out of non-standard employment. Marriage has a positive effect on the transition probability to standard employment for men, but for married women the effect is negative. Just as with transition from non-standard employment we see a significant effect of the quadratic age function on both relative transition probabilities. Older non-standard workers are more likely to go to standard employment and less likely to fall back into nonemployment and this effect is decreasing. After a certain age this effect is reversed. So, older (>40 yrs) non-standard workers are more likely to go into nonemployment and non-standard worker over 30 are less likely to get a standard job.

Higher levels of educational attainment do increase the transition probability to standard employment but only significantly for Educational level 4.

Two subcategories of non-standard employment, small part-time jobs and on-call work, have lower transition rates to standard employment than other non-standard jobs (temporary work contracts, temp agency work). Furthermore, non-standard work in the primary sector does less often lead to standard work and more often to nonemployment compared to other sectors.

An employment history with previous experience in standard employment increases the transition rate into standard employment and decreases the transition rate into nonemployment for non-standard workers. But experience in non-standard employment does

decrease the transition probability to standard employment, as does previous unemployment.

However, previous non-standard work experience does reduce the transition probability to nonemployment.

Non-labour household income and the labour income of other household member do not significantly influence either transition probability for non-standard workers.

The significance of the coefficients with the year dummies for the transition probability to standard employment is again a clear indication of the employment growth in the Netherlands in the late 1990s. A bit surprisingly the transition rate into nonemployment is also increased.

A plausible explanation would be the high volatility involved with working in a non-standard job. Finally in model II we can observe a significant individual effect for the transition to nonemployment, as we expected after the result of the LR test.

Table 2

Transitions from non-standard employment

Coefficients from multinomial logit regression, relative to staying in origin state (non-standard employment)

Model I: Multinomial logit model with robust standard errors and clustering on individuals

Model II: Panel multinomial logit model with unobserved heterogeneity

	Model I		Model II	
	To Nonemployment	To Standard employment	To Nonemployment	To Standard employment
Woman	-0.005 (0.159)	0.094 (0.145)	-0.016 (0.163)	0.085 (0.149)
Married	-0.168 (0.268)	0.368 (0.221)*	-0.152 (0.272)	0.371 (0.208)*
Married woman	0.213 (0.258)	-0.630 (0.228)***	0.207 (0.267)	-0.633 (0.223)***
Divorced	-0.136 (0.630)	0.682 (0.450)	-0.099 (0.633)	0.703 (0.434)
Divorced woman	-0.133 (0.683)	-0.093 (0.508)	-0.163 (0.690)	-0.111 (0.485)
Age	-0.097 (0.034)***	0.087 (0.036)**	-0.098 (0.035)***	0.088 (0.035)**
Age squared	0.122 (0.044)***	-0.147 (0.048)***	0.122 (0.045)***	-0.149 (0.047)***
Number of	-0.008	0.015	-0.016	0.011

children	(0.073)	(0.070)	(0.075)	(0.072)
Woman with children	-0.027 (0.175)	-0.249 (0.169)	-0.007 (0.177)	-0.243 (0.173)
Child younger than 6 yrs	0.061 (0.134)	-0.073 (0.129)	0.064 (0.137)	-0.072 (0.133)
Educational level dummies (reference: primary education)				
Lower secondary education	-0.224 (0.150)	-0.030 (0.187)	-0.234 (0.158)	-0.035 (0.182)
Higher secondary education	-0.222 (0.152)	0.232 (0.178)	-0.254 (0.159)	0.213 (0.172)
Higher vocational education	-0.289 (0.209)	0.502 (0.207)**	-0.308 (0.217)	0.486 (0.204)**
University degree	-0.534 (0.348)	0.223 (0.299)	-0.530 (0.363)	0.216 (0.277)
Small job	-0.099 (0.120)	-1.131 (0.131)***	-0.117 (0.124)	-1.145 (0.128)***
On-call job	-0.021 (0.111)	-0.441 (0.128)***	-0.026 (0.117)	-0.441 (0.126)***
Hourly wage	-0.002 (0.005)	0.005 (0.003)*	-0.002 (0.005)	0.005 (0.004)
Large firm	-0.215 (0.145)	0.227 (0.115)**	-0.227 (0.146)	0.226 (0.113)**
Primary sector	0.371 (0.240)	-0.762 (0.367)**	0.402 (0.245)	-0.748 (0.369)**
Government sector	-0.091 (0.120)	-0.126 (0.112)	-0.099 (0.122)	-0.132 (0.113)
Employment history dummies				
Non-standard job in last three years	-0.340 (0.053)***	-0.119 (0.054)**	-0.327 (0.054)***	-0.110 (0.055)**
Unemployed in last three years	-0.060 (0.121)	-0.204 (0.114)*	-0.070 (0.126)	-0.213 (0.113)*
Standard job in last three years	-0.125 (0.070)*	0.301 (0.057)***	-0.124 (0.071)*	0.301 (0.056)***
Non labour household income	-0.003 (0.003)	-0.002 (0.002)	-0.003 (0.003)	-0.002 (0.003)
Other labour income in household	-0.003 (0.003)	-0.002 (0.002)	-0.003 (0.003)	-0.002 (0.003)
Year dummies				
1996	0.125 (0.135)	0.697 (0.145)***	0.161 (0.141)	0.718 (0.145)***
1997	0.263 (0.131)**	0.874 (0.143)***	0.317 (0.143)**	0.903 (0.145)***
1998	0.277 (0.138)**	0.543 (0.144)***	0.334 (0.148)**	0.573 (0.148)***

Constant	1.191 (0.586)**	-2.199 (0.614)***	1.200 (0.597)**	-2.192 (0.601)***
Indiv. eff. for trans. to nonemployment			-0.490 (0.185)***	
Indiv. eff. for trans. to standard employment				-0.267 (0.203)
No. of Observations		3409		3409
Pseudo R2		0.1155		
Log pseudo- likelihood		-2914.7086		
Log likelihood				-2912.0615

Robust standard errors in parentheses (Model I)
Standard errors in parentheses (Model II)
* significant at 10%; ** significant at 5%; ***
significant at 1%

Summary and conclusions

The labour market in the Netherlands is characterised by quite some mobility between the various labour market states. The high mobility rates between non-standard and standard jobs, except for the small jobs and on-call contracts as part of non-standard employment, provide arguments for defending the hypothesis that the Dutch labour market is not characterised by a clear-cut segmentation of non-standard and standard jobs.

In this paper, we have investigated transitions out of nonemployment and non-standard jobs in the Netherlands. Non-standard jobs have been defined broadly as including small part-time jobs (including permanent jobs and the self-employed); temporary jobs; specific flexible jobs (on-call contracts, etc.); jobs via temporary employment agencies.

The opposite concept is that of ‘standard’ jobs which have been defined to include any job with a permanent contract, either part-time or full-time. We define also a residual state, nonemployment, which includes all individuals out of work. We carry out descriptive analysis of transitions into and out of non-standard jobs.

The use of a longitudinal dataset, the Dutch Socio Economic panel, allows us to observe transitions in and out of non-standard jobs into standard jobs or non-participation and unemployment. We restrict the analysis to the last seven waves of the panel for which sufficient information is available on the type of labour contract, 1995 to 2001.

It is interesting to look at this issue for the Netherlands given the recent increase in the size of the flexible workforce. The topic is especially important given the rising interest in ‘flexible’ jobs as a mean to bring back the long-term unemployed and more generally non-participants into the labour market.

The analysis carried out in this paper focuses on the determinants of labour market transitions involving non-standard jobs. The results indicate that older workers are more likely to move from non-standard jobs into standard jobs up to a certain age. The same effect can be found for the nonemployed but only for transitions to standard employment. Married women in non-standard jobs or in nonemployment are less likely to get a standard job than men. Nonemployed divorcees are more likely to find a standard job, but divorced women in nonemployment are less likely to find standard employment. Marital status seems to play a more important role for women than it does for men.

Older non-standard workers are more likely to go to standard employment and less likely to fall back into nonemployment. After a certain age this effect is reversed. This is an indication that non-standard jobs are not only used as a ‘stepping stone’ to standard employment but also as an exit route into retirement. The older someone gets in nonemployment the higher the chance that he/she will find standard employment. Again this effect is decreasing with age and will eventually be negative. At the same time this effect cannot be found for transitions to non-standard employment. There the effect of age is negative and the chances of finding a non-standard job are reduced with getting older.

A puzzling finding is that the level of educational attainment does not seem to influence the transition rates from non-standard jobs, especially since they do influence the relative probability of making a transition into work from nonemployment. Only a higher vocational degree has a positive effect on getting standard employment from non-standard employment. Other household income has a negative effect on the transition rate to non-standard employment and a positive effect on the transition rate into standard employment for the nonemployed. This holds for both non-labour income as for labour income of other household members. Once employed (in a non-standard job) the effect of other household income (labour or non-labour) is insignificant. A tentative conclusion could be that nonemployed jobseekers 'wait' for a standard job offer, rather than accepting a non-standard job.

An important finding is that there is a high degree of path dependence in labour market transitions. Earlier experience in standard employment increases the transition probabilities into standard employment, both for the nonemployed and for non-standard workers. Earlier experience in either non-standard or non-standard employment also reduces the probability of 'falling back' into nonemployment. Previous unemployment does not reduce the chances of finding a job for the nonemployed but does reduce the chances of finding a standard job for non-standard workers. This is often called a 'scarring' effect in wage regression analyses (e.g. Arulampalam, 2001).

Furthermore it is very clear that employment growth in the latter half of the 1990s the Netherlands has increased the transition probabilities into both non-standard and standard work. This was already noted with the descriptive statistics in Figures 2 and 3 and is confirmed by the significant effects for the year dummies in the multivariate analyses.

A limit of the present analysis is that we had to aggregate over rather different categories of flexible jobs (small part-time jobs, temporary jobs, jobs with a private employment agency,

on-call contracts). The dummy variables for different non-standard job types in the multinomial logit analyses are not an entirely satisfactory solution. With a larger number of observations and/or more waves of data it would be possible to perform separate analyses for different job types.

The results in this paper raise more questions than they answer. Some issues, which are not addressed in this paper, deserve thorough research in the future. Furthermore we should investigate the impact of institutional factors and especially the role of the welfare state institutions on these labour market transitions in an international comparative context.

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