Do monitoring and counselling boost the job finding rates of the long-term unemployed ?

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1. Introduction

1.1. A new program

- In July 2004, the Belgian government launched a new Monitoring and Counselling Program (MCP) targeted at the long-term unemployed.

- The MCP has been implemented gradually : people under 30 years in 2004, 30-40 years old in 2005, and 40-50 years old in 2006.

- Features of the MCP :

  – A new monitoring scheme : people over 13 months unemployment are warned (notification letter) that their job-search efforts will be monitored 8 months later (with possible sanctions).
  It replaces the "article 80" monitoring scheme.

  – An expanded supply of support programs (job search, training,...) provided by Regional Employment Agencies.

1.2. Aim of the paper

- To evaluate the effect, in terms of transition from unemployment to employment and/or training, of the new program for the 30-40 years old in Wallonia.

2. Methodology

- To evaluate the MCP, we have to compare :
  - the unemployment exit rates of the job seekers after the implementation of the MCP.
  - to the ones that would have prevailed in the absence of the MCP.

- Basic ideas :
  - if the labour market conditions and the characteristics of the job seekers were the same, the exit rates that would have prevailed in the absence of the MCP should be equal to the exit rates prevailing before the implementation of the MCP.
  - This ceteris paribus condition may be fullfil :
    * by resorting to individual data, and working conditionally to the labour market conditions and the characteristics of the job seekers,
    * and by evaluating the effect of the MCP by difference in differences (rather than a simple difference).

- In practice :
  - We evaluate the individual effect of the MCP by difference in differences, based on the estimation, through discrete duration models, of job seekers exit rates (to employment and/or training) according to the labour market conditions and their individual characteristics,
    * *before* and *after* the implementation of the MCP,
    * for the *target population* (30-40 years old) and for a *control population* (40-50 years old).
  - From the estimated individual effects, we deduce the aggregate effects of the MCP for different treated sub-populations and the entire treated population.

3. Data and model

3.1. Data

- Treated group :
  - All 31-40 year-old job seekers who actually received a notification letter between July and December 2005.
- Control groups :
  - All 31-40 year-old job seekers who would have received a notification letter between July and December 2004 if the MCP had been implemented for them at that period.
  - All 40-50 year-old job seekers who would have received a notification letter between, on one hand, July and December 2004, and on the other hand, July and December 2005, again if the MCP had been implemented for them at these periods.
- Further selection :
  - Job seekers who didn't work at all and didn't follow any training during the 6 months preceding the receipt of their notification letter.
- Outcome variable :
  - From the receipt of the notification letter, the duration until an exit to employment and/or training occurs. The durations are observed until June of the year following the receipt of the notification letter, and then censored ($\rightarrow$ 6 to 12 months of observations).

- Some descriptive statistics (treated and control groups) :

Variable		Group			
		31-40 years-old		40-50 years-old	
		2004	2005	2004	2005
Exit within	Counselling	5.2 %	76.9 %	3.7 %	7.0 %
9 months	Training	2.9 %	7.1 %	1.7 %	2.0 %
	Employment	13.1 %	22.6 %	8.2 %	9.4 %
Age	31 - 34	78.2 %	84.9 %	-	-
	34 - 37	17.8 %	12.3 %	-	-
	37 - 40	4.0 %	2.8 %	-	-
	40 - 43	-	-	65.9 %	69.6 %
	43 - 46	-	-	30.9 %	27.0 %
	46 - 50	-	-	3.2 %	3.4 %
Sex	Men	35.4 %	36.0 %	43.5 %	43.0 %
	Women	64.6 %	64.0 %	56.5 %	57.0 %
Education	Lower secondary	61.9 %	60.7 %	72.7 %	70.3 %
	Upper secondary	31.2 %	32.6 %	21.9 %	24.0 %
	Higher	6.9 %	6.7 %	5.4 %	5.7 %
Unemployment	6 - 12 months	5.5 %	5.3 %	3.6 %	3.6 %
duration	1 - 2 years	20.3 %	18.1 %	15.5 %	14.4 %
(Eurostat)	2 - 5 years	33.8 %	34.3 %	28.2 %	28.7 %
	5 - 10 years	24.5 %	26.1 %	24.1 %	24.4 %
	10 years and more	15.9 %	16.2 %	28.6 %	28.9 %
Number of observations		14 995	12 443	19 913	19 335

3.2. Model

- Discrete (in month) duration models, with one exit (employment) or two exits (training or employment).

- Estimation of discrete (exit-specific) hazard functions conditionally to :
  - sex,
  - education (3 levels),
  - age,
  - unemployment duration (Eurostat),
  - region,
  - calendar time,
  - 'local' unemployment rate (monthly, by region, sex and education).

- Identification of the MCP effect by difference in differences.

- Separated ML estimation for 6 sub-populations :
  - unskilled men,
  - unskilled women,
  - mid-skilled men,
  - mid-skilled women,
  - skilled man,
  - and skilled women.

- Discrete (exit-specific) hazard functions estimated by sub-population :

$$\begin{aligned}\lambda_l(t, X^{it}) &= I\!P\left[T_i = t, E_i = l | T_i \geq t, X^{it}\right] \\ &= e^{X_{it}^{*\prime}\beta_l}, \ \forall\, t = 0, 1, 2, ..., \ l = 1, 2\end{aligned}$$

where β_l is a vector of parameters and $X_{it}^{*\prime}\beta_l$ is specified as

$$\begin{aligned}X_{it}^{*\prime}\beta_l &= \beta_l^1 + \beta_l^2 Djan_{it} + \beta_l^3 Dfeb_{it} + \beta_l^4 Dmar_{it} + ... + \beta_l^{12} Dnov_{it} \\ &+\beta_l^{13} Dlieg_i + \beta_l^{14} Dhain_i + \beta_l^{15} Dnam_i \\ &+\beta_l^{16} t + \beta_l^{17} t^2 \\ &+\beta_l^{18} Age_i + \beta_l^{19} Age_i^2 + \beta_l^{20} Udur_i + \beta_l^{21} Udur_i^2 + \beta_l^{22} UdurAge_i \\ &+\beta_l^{23} Urate_{it} + \beta_l^{24} Urate_{it}^2 + \beta_l^{25} UrateAge_{it} \\ &+\beta_l^{26} D2005_i + \beta_l^{27} D2005L40_i + \beta_l^{28} D2005L40T4_{it}\end{aligned}$$

where :

- $Djan_{it}, ..., Dnov_{it}$ are calendar dummy variables,
- $Dlieg_i$, $Dhain_i$, $Dnam_i$ are regional dummy variables,
- Age_i et $Udur_i$ are age and unemployment duration at the receipt of the letter, $UdurAge_i = Udur_i \times Age_i$,
- $Urate_{it}$ is the 'local' unemployment rate (monthly, by region, sex and education), $UrateAge_{it} = Urate_{it} \times Age_i$,
- $D2005_i$ is a dummy variable equal to 1 if individual i is observed when the MCP is active (2005-2006), 0 otherwise,
- $D2005L40_i$ is a dummy variable equal to 1 if individual i is observed when the MCP is active (2005-2006) and is targeted by the MCP (30-40 years old), 0 otherwise,
- $D2005L40T4_{it}$ is a dummy variable equal to 1 if individual i is observed when the MCP is active (2005-2006), is targeted by the MCP (30-40 years old) and the period t is superior or equal to à 4, 0 otherwise.

The individual effect of the MCP is identified by the parameter β_l^{27} for months 0 to 3, and the sum of the parameters $\beta_l^{27} + \beta_l^{28}$ for the following months.

4. Results

4.1. Estimated Individual effects

- Unskilled men :

  Nb. of obs. : 20 426
  Nb. of treated ind. : 3 158

Model	Exit	Mean hazard without MCP	Effect of the MCP $0 \leq t \leq 3$	Effect of the MCP $t \geq 4$
Two exits	Training	0.24 %	**0.7696** (0.2097)	**1.1711** (0.2094)
	Employment	1.73 %	**0.4812** (0.0911)	**0.4338** (0.0923)
One exit	Employment	1.74 %	**0.4963** (0.0900)	**0.4489** (0.0899)

Standard errors in parentheses

- Unskilled women :

  Nb. of obs. : 24 476
  Nb. of treated ind. : 4 392

Model	Exit	Mean hazard without MCP	Effect of the MCP $0 \leq t \leq 3$	Effect of the MCP $t \geq 4$
Two exits	Training	0.17 %	**1.3097** (0.2089)	**1.4453** (0.2191)
	Employment	1.08 %	**0.6934** (0.0911)	**0.5728** (0.0969)
One exit	Employment	1.12 %	**0.7021** (0.0901)	**0.5985** (0.0941)

Standard errors in parentheses

- Mid-skilled men :

  Nb. of obs. : 4 969
  Nb. of treated ind. : 1 069

Model	Exit	Mean hazard without MCP	Effect of the MCP $0 \leq t \leq 3$	Effect of the MCP $t \geq 4$
Two exits	Training	0.44 %	0.3302	**1.0983**
			(0.3356)	(0.3318)
	Employment	2.47 %	0.1479	0.1670
			(0.1581)	(0.1694)
One exit	Employment	2.34 %	0.2525	*0.2689*
			(0.1554)	(0.1636)

Standard errors in parentheses

- Mid-skilled women :

  Nb. of obs. : 12 764
  Nb. of treated ind. : 2 993

Model	Exit	Mean hazard without MCP	Effect of the MCP $0 \leq t \leq 3$	Effect of the MCP $t \geq 4$
Two exits	Training	0.39 %	**0.7379**	**0.7890**
			(0.2273)	(0.2354)
	Employment	1.21 %	**0.7089**	**0.7943**
			(0.1076)	(0.1089)
One exit	Employment	1.29 %	**0.6906**	**0.7370**
			(0.1061)	(0.1064)

Standard errors in parentheses

- Skilled men :

  Nb. of obs. : 1 367
  Nb. of treated ind. : 255

Model	Exit	Mean hazard without MCP	Effect of the MCP $0 \leq t \leq 3$	Effect of the MCP $t \geq 4$
Two exits	Training	1.28 %	-0.4761	0.2938
			(0.4962)	(0.4727)
	Employment	3.37 %	0.0798	-0.1588
			(0.2610)	(0.2988)
One exit	Employment	3.01 %	0.1897	0.0811
			(0.2567)	(0.2801)

Standard errors in parentheses

- Skilled women :

  Nb. of obs. : 2 684
  Nb. of treated ind. : 576

Model	Exit	Mean hazard without MCP	Effect of the MCP $0 \leq t \leq 3$	Effect of the MCP $t \geq 4$
Two exits	Training	0.68 %	0.4753	**0.9662**
			(0.3776)	(0.3840)
	Employment	2.89 %	0.1429	0.2930
			(0.2039)	(0.2094)
One exit	Employment	3.00 %	0.1064	0.2423
			(0.2001)	(0.2047)

Standard errors in parentheses

- Summary: statistically significant individual effects (in $\Delta\%$)

	Effect of the MCP			
	Training		Employment	
	$0 \leq t \leq 3$	$t \geq 4$	$0 \leq t \leq 3$	$t \geq 4$
Unskilled men	**+116 %**	**+223 %**	**+64 %**	**+57 %**
Unskilled women	**+271 %**	**+324 %**	**+102 %**	**+82 %**
Mid-skilled men	–	**+200 %**	–	*+31 %*
Mid-skilled women	**+109 %**	**+120 %**	**+99 %**	**+109 %**
Skilled men	–	–	–	–
Skilled women	–	**+163 %**	–	–

4.2. Implied aggregate effects

- Aggregate effects for the treated population in terms of exit to training within 9 months :

Sub-population	Nb. of ind.	Exit within 9 months without MCP	with MCP	Δ%
Unskilled men	3 158	**2.22 %**	**5.60 %**	**+152 %**
Unskilled women	4 392	**1.44 %**	**5.35 %**	**+272 %**
Mid-skilled men	1 069	**3.54 %**	**7.26 %**	**+105 %**
Mid-skilled women	2 293	**3.10 %**	**5.58 %**	**+80 %**
Skilled men	255	9.89 %	9.25 %	-6 %
Skilled women	576	**4.18 %**	**8.06 %**	**+93 %**
Entire treated pop.	12 443	**2.52 %**	**5.84 %**	**+132 %**

- Aggregate effects for the treated population in terms of exit to employment within 9 months :

Sub-population	Nb. of ind.	Exit within 9 months without MCP	with MCP	Δ%
Unskilled men	3 158	**14.82 %**	**22.64 %**	**+53 %**
Unskilled women	4 392	**9.98 %**	**18.26 %**	**+83 %**
Mid-skilled men	1 069	*21.29 %*	*26.74 %*	*+26 %*
Mid-skilled women	2 293	**11.60 %**	**22.33 %**	**+92 %**
Skilled men	255	25.76 %	28.96 %	+12 %
Skilled women	576	25.01 %	29.07 %	+16 %
Entire treated pop.	12 443	**13.59 %**	**21.80 %**	**+60 %**