

Interdisciplinary Conference

*“The role of flexible employment intermediaries in cushioning the business cycle:
what insights can research contribute?”*

**ON THE STEPPING STONE HYPOTHESIS:
TEMPORARY HELP AGENCIES AND
TEMP-TO-PERM TRANSITIONS IN SPAIN**

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Based of joint work with
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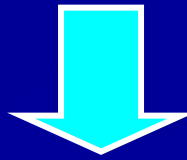
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OBJECTIVE

**What is the impact of agency work on temporary workers'
Likelihood of being hired on a permanent basis**



- Concern regarding ability of THAs to serve as a stepping stone or a springboard into stable employment**
- Comparison between direct hire temps and THA workers**

THA INDUSTRY

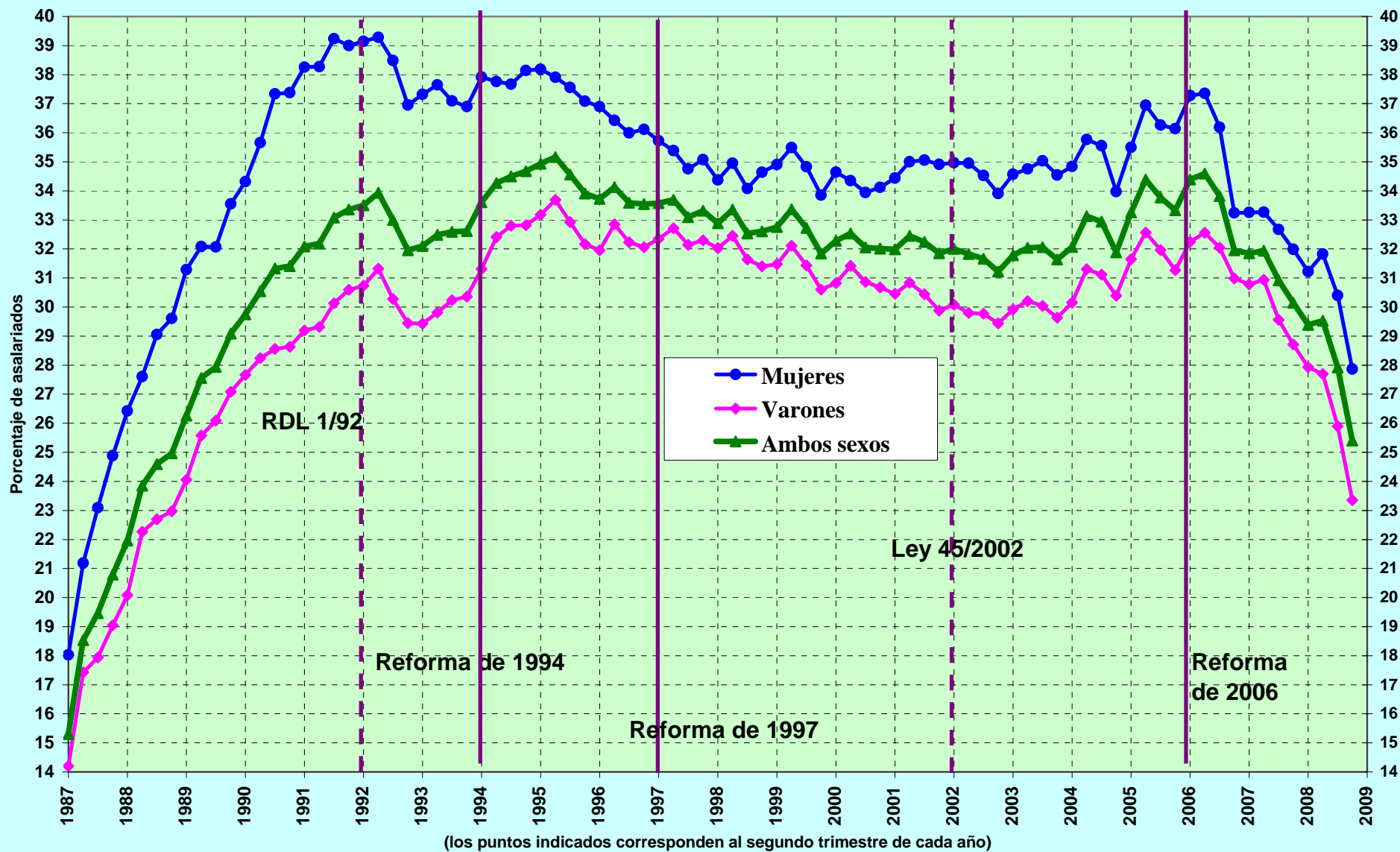
■ Upward career mobility:

- Gain expertise through variety of skills
- Enhance workers' networking possibilities
- Agencies as screening devices:
 - García-Pérez et. al. (2005)
 - Houseman (2001), Houseman & Polivka (2000)
 - Ichino et. al. (2004)

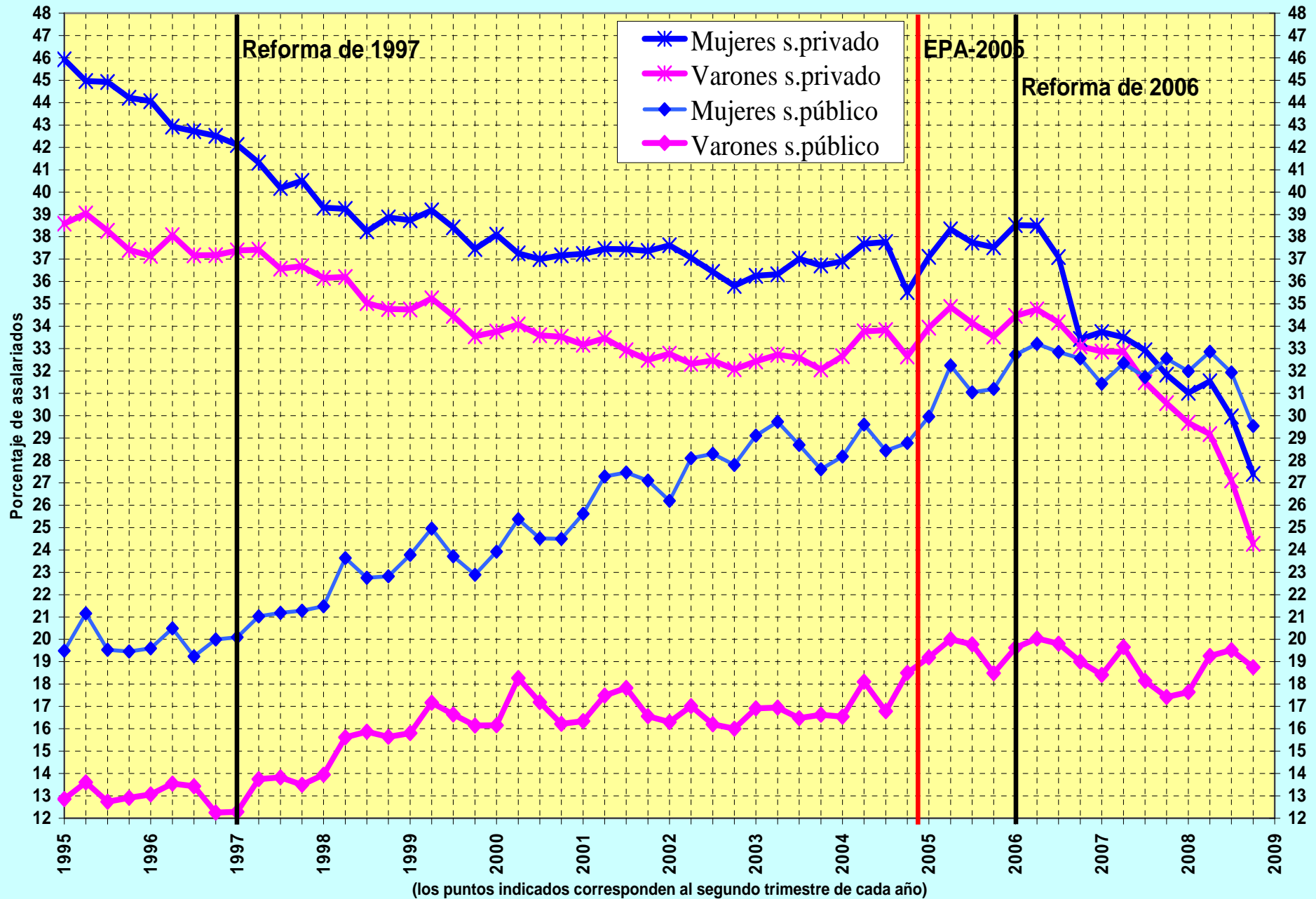
• However:

- Short lasting work arrangements
 - Limited knowledge of client companies (Cohany, 1988)
 - Few investment in specific human capital:
 - Joregenson et. al., 2000
 - Autor et. al., 2005

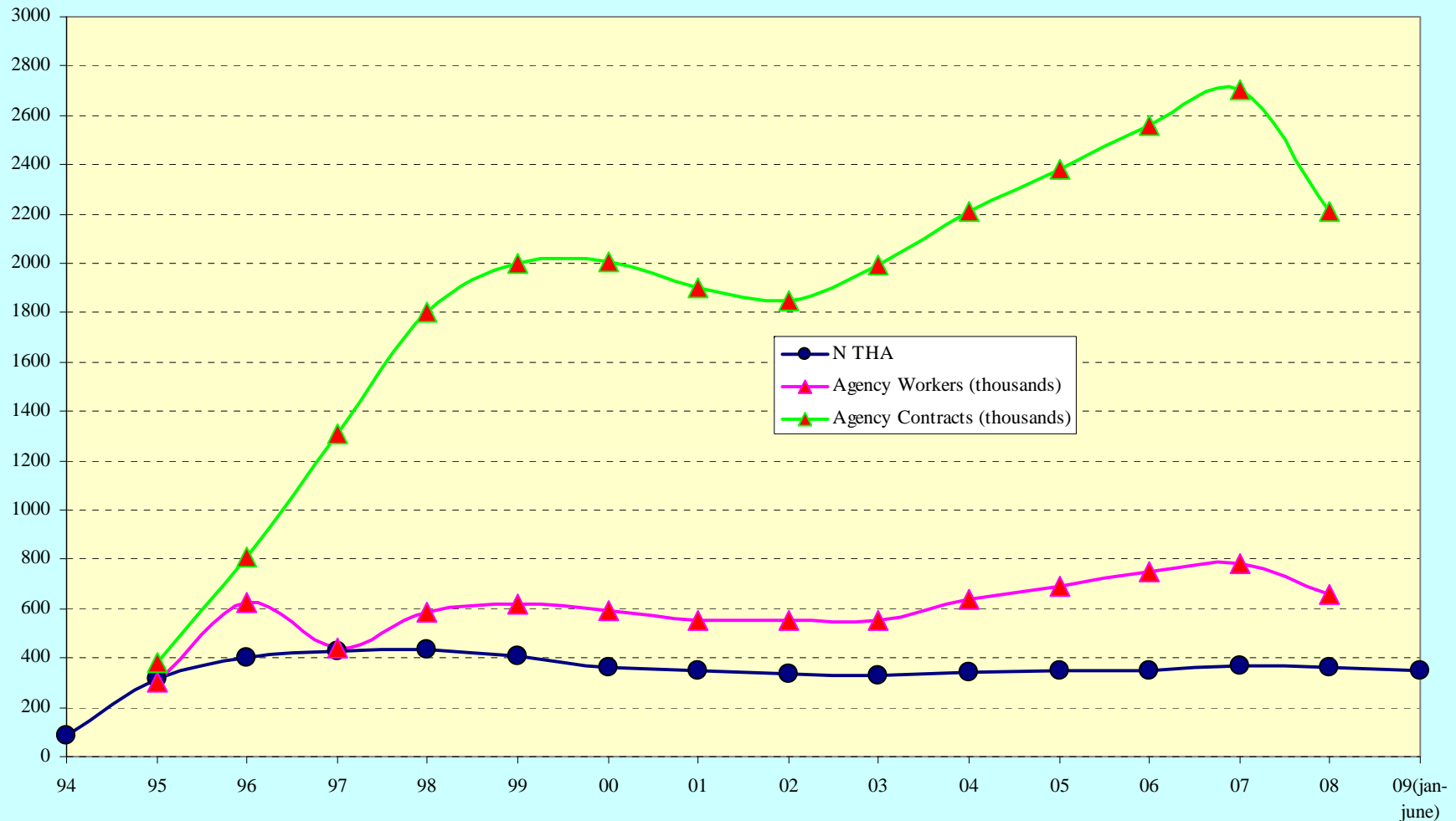
TEMPORARY CONTRACTS IN SPAIN (1)



TEMPORARY CONTRACTS IN SPAIN (2)



THA INDUSTRY IN SPAIN



Source: Anuario de Estadísticas Laborales y Asuntos Sociales (Ministerio de Trabajo y Asuntos Sociales).

Notes: Data as of the last day of each year.

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The number of THA rapidly increased until 1998, decreasing thereafter. The most probable cause behind such a decline may have been the changes introduced by the labour market reform of 1997. Up to that point, the Spanish law allowed for the possibility that agency workers earned lower wages than similar skilled counterparts at the client firms. In addition, the decline in the number of THAs coincided with a restructuring of the THA industry from which only the most efficient agencies survived. Overall, approximately 15 percent of all temporary work contracts in Spain are finalized via a THA.

Fernando; 10/10/2006

DATA

■ REGISTER OF CONTRACTS (Public Employm. Service, 1998-2004):

Work Contract Name	Description
Work-Experience (Practice) Contract	The purpose of this contract is to enable persons who have completed secondary, vocational training or university education to gain work experience according to their educational level.
Training Contract	This contract is related to the provision of theoretical and practical knowledge required to perform a skilled job. This contract replaced the old apprenticeship contract in 1997.
Interim Contract	This temporary contract is related to interim situations in the firm
Per-task Contract	This contract was introduced for temporary needs of the firms related to specific works or services of unknown duration (but presumably not permanent).
Casual Contract	This contract is related to unusual or seasonal circumstances of the goods markets and excess of work in the firm.

DATA

■ ADVANTAGES:

- Treatment and control groups are drawn from the same data set
- Control for local labour market conditions
- Match treatment and control groups using labour market histories

■ SHORTCOMINGS:

- Lack information on contract tenure
- Lack information on unemployment spells between contracts
- Civil servants

■ SAMPLE SELECTION:

- Erase individuals with indefinite-contracts when first observed in 1998
- Erase THA individuals when first observed in 1998
- Final sample: 29,398 individuals with temporary contracts when first observed in 1998

TREATMENT, CONTROL GROUPS & OUTCOME

- **Treatment group:** the first time the individual contracts with a THA
- **Treatment group:** individuals hired by a THA at any point in time between 1998 and 2004 (3,673 individuals)
- **Control group:** temporary workers never hired by a THA during the sample period (25,725 individuals)
- **Outcome:** Being hired on a permanent basis at any point after 1998

MAIN DESCRIPTIVE STATISTICS

Group	Treatment	Control	Bias (%)	t-statistic
Male	0.653	0.654	-0.3	-0.15
<i>Age</i>				
Age 16-20	0.338	0.161	42	26.38
Age 21-25	0.312	0.225	19.7	11.6
Age 26-30	0.163	0.184	-5.5	-3.08
Age 31-35	0.082	0.139	-18.3	-9.59
Age 36-40	0.053	0.102	-18.3	-9.4
Age 41-50	0.044	0.129	-30.6	-14.97
Age > 51	0.008	0.061	-29.1	-13.21
<i>Education</i>				
Without studies	0.277	0.386	-23.4	-12.85
Primary education	0.445	0.354	18.7	10.77
Vocational training	0.127	0.094	10.6	6.36
Secondary education	0.105	0.085	6.8	4
College degree	0.047	0.082	-14.4	-7.48
<i>Initial Temporary Contract</i>				
Work-experience contract	0.038	0.044	-3	-1.65
Training contract	0.121	0.067	18.3	11.57
Interim contract	0.106	0.108	-0.6	-0.37
Casual contract	0.449	0.399	10	5.68
Per-task contract	0.287	0.382	-20.1	-11.13
<i>Initial Occupation</i>				
Professional/Manager	0.019	0.055	-18.9	-9.23
Technician	0.030	0.042	-6.4	-3.43
Administrative worker	0.117	0.088	9.7	5.78
Service worker	0.179	0.145	9.1	5.34
Agriculture worker	0.032	0.090	-24.6	-12.05
Qualified industry worker	0.179	0.223	-11	-6.05
Semi-qualified industry worker	0.057	0.064	-2.7	-1.53
Non-qualified service worker	0.097	0.106	-2.9	-1.63
Non-qualified mining worker	0.289	0.187	24.2	14.56

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F3

Both sets of temporary workers have similar percentages of men (approximately 65 percent), yet there are some noticeable differences between the two groups. For instance, agency temps are younger. Specifically, sixty-five percent of THA workers are 25 years old or younger relative to 38.6 percent in the control group. Education-wise, temporary workers without any studies as well as those with a primary education constitute the vast majority in both groups of temporary workers. Yet, vocational training and secondary schooling are most common among agency temps than among direct-hire temporary workers. Similarly, while the casual contract is the most frequent contract category among both agency and direct-hire temporary workers, the training contract is more widespread among agency temps while the per-task contracts is less than among direct-hire temps. Non-qualified workers in the mining and service industries are the most prominent occupational category within the THA group, whereas qualified industry employees constitute the largest group among direct-hire temps.

Fernando; 10/10/2006

MAIN DESCRIPTIVE STATISTICS

Group	Treatment	Control	Bias (%)	t-statistic
<i>Region</i>				
Andalusia	0.106	0.259	-40.6	-20.56
Aragón	0.037	0.024	7.7	4.78
Asturias	0.015	0.021	-4.3	-2.31
Balearic Islands	0.022	0.031	-5.7	-3.04
Canary Islands	0.044	0.053	-4.4	-2.4
Cantabria	0.011	0.011	0.2	0.09
Castilla- la – Mancha	0.025	0.039	-8.2	-4.29
Castilla y León	0.060	0.044	7.1	4.29
Catalonia	0.261	0.130	33.4	21.12
Valencia	0.101	0.103	-0.6	-0.36
Extremadura	0.013	0.032	-13	-6.44
Galicia	0.050	0.056	-2.6	-1.45
Murcia	0.022	0.031	-5.3	-2.84
Navarra	0.023	0.011	8.7	5.71
Basque Country	0.053	0.038	7.3	4.38
La Rioja	0.008	0.005	3.3	2.02
Madrid	0.151	0.112	11.6	6.91
<i>Sector</i>				
Agriculture & Mining	0.051	0.121	-24.8	-12.46
Manufacturing	0.084	0.065	7.5	4.47
Chemical Industry	0.134	0.081	17.2	10.7
Commerce	0.161	0.131	8.5	4.98
Tourism	0.093	0.071	8	4.78
Transportation and Communications	0.031	0.042	-5.8	-3.11
Financial Services	0.196	0.092	29.9	19.31
Public/Personal Services	0.114	0.172	-16.8	-8.97
Construction	0.136	0.226	-23.6	-12.47
Observations	3,673	25,725	-	-

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F2

Some differences are also noticeable regarding the concentration of agency temps by region. Catalonia has the highest incidence of THA employment (with 26.1 percent of temporary workers being agency temps), whereas Andalusia has the highest concentration of direct-hire temps (25.9 percent of temporary workers are direct-hires). As such, lower rates of temporary employment seem to go along with higher incidence rates of agency work and vice versa. Finally, direct-hire temporary workers display a higher concentration in the construction industry, whereas agency temporary workers seem to cluster to a greater extent in financial services.

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Causal impact of THA work on likelihood of hired on permanent basis

- Y_1 : outcome if the individual was an agency worker
- Y_0 : outcome if the individual was not an agency worker
- D : dummy equals 1 for agency workers

- Impact measures:
 - *Average effect of the Treatment on the Treated (ATT):*
$$E(\Delta|D=1) = E(Y_1 - Y_0|D=1) = E(Y_1|D=1) - E(Y_0|D=1)$$
 - *Average Treatment Effect (ATE):* $E(\Delta) = Y_1 - Y_0$

- Relying on CIA, ATT and ATE can be estimated. [Here, CIA means that we match treatment and control observations using a rich set of variables]

- **Common support:** for each THA worker, there is another non-THA worker who can be used as a matched comparison observation.

F4

Ideally, we would like to observe the same individual both as an agency worker and as a non-agency worker; however, this is not feasible.

Moreover, the decision to go through a THA (i.e. receive treatment) is likely to be correlated with the likelihood of being employed on a permanent basis (i.e. outcome) as agency work is voluntary. Those individuals most likely to benefit from agency work will be the ones most likely to address these labour market intermediaries. Thus, a simple comparison of labour market outcomes for agency and non-agency temporary workers would confound the impact of agency work with that of workers' unobservable characteristics, such as motivation or success in finding employment on their own.

We use non-parametric evaluation methods that exploit the information on treatment and control groups, as is the case with matching methods.

When is the CIA likely to hold? In two circumstances: (a) when there is randomness in the assignment of treatment (a non-valid argument in our case), or (b) when treatment and control group observations can be matched using a relatively rich set of covariates. In our view, the dataset used in this analysis contains sufficient information to ensure that the CIA holds. In particular, the dataset allows us to match individuals in the treatment and control groups on the basis of local labour market characteristics and initial employment conditions. These two sets of variables have been identified as particularly important in evaluations of matching estimators (for example, Card and Sullivan, 1988, Heckman et al., 1999, and Kluve et al., 2001). If the CIA holds, the equality: $E(Y_0|D=1, X) = E(Y_0|D=0, X)$ holds. Therefore, $E(Y_0|D=1)$ and the average causal effect of agency work can be consistently estimated using a group of non-agency workers with a distribution of exogenous variables similar to the distribution of agency workers.

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IMPLEMENTATION

- Probability of being hired as an agency *temp*: **propensity score**
- Ensure that there is enough **common support**: treated individuals lacking a pair wise control group observation are erased
- Carry out matching for all pair wise combinations:
 - ***nearest-neighbour***: each treated observation to a control observation with the closest propensity score
 - ***radius matching***: each treated observation is matched only to one control group observation with a propensity score in a predefined neighbourhood of the treated observation's propensity score
 - ***kernel-based matching***: the contribution of each control group observation is weighted so as to attach greater weight to “good” matches
- Establish the quality of the matching (**diagnostic tests**)

RESULTS: ATT and ATE

Average Treatment Effects on the Treated (ATT) and Average Treatment Effects (ATE)

Matching Method	Treated	Matched Control	ATT	ATE
Nearest-neighbour with Replacement	.3019	.5747	-.2728 (.0154)	-.2059 (.0116)
Kernel Matching:				
<i>Gaussian kernel</i>	.3019	.5434	-.2415 (.0072)	-.1841 (.0102)
<i>Epanechnikov kernel</i>	.3019	.5643	-.2624 (.0081)	-.1959 (.0085)
Radius Matching	.3019	.4476	-.1456 (.0085)	-.1456 (.0086)
Observations	3,673	25,565		

Note: Treatment refers to having been employed by a THA after 1998. Matching is always carried out with common support. The entries in brackets refer to bootstrapped standard errors (500 replications).

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In all instances, agency work has a significant and negative effect that fluctuates between 15 and 27 percentage points on the probability of being hired on a permanent basis anytime after treatment and until the end of 2004. And both ATT and ATE estimates remain fairly robust to the choice of matching method.

Interpretation:

- First, Spanish THAs are unauthorized to act as labour market intermediaries in the hiring of workers for permanent positions. As such, THAs are more likely to be relegated to the management of short-lived jobs less likely to lead to permanent work assignments within the client firms, which could help explain the negative sign on the ATT estimates.
- Secondly, Spanish policymakers have been debating whether labour market intermediaries should be made mandatory in the hiring for temporary positions –a proposal envisioned to serve as a safeguard against an excessive use of temporary work contracts by firms. The ATE estimates seem to suggest that this requirement would have a negative impact on temporary workers' posterior transition to a permanent position.

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RESULTS: HETEROGENEITY

- **Estimate the ATT and ATE of agency work for separate sub-samples:**
 - Individuals without studies or with primary studies (more likely to be employed on a temporary basis, but less likely to be agency *temps*)
 - individuals with a ‘practice’ or ‘training’ contract (special contract categories more likely to lead to a subsequent contract with client firm)
 - Andalusia and Catalonia (regions with opposing incidences of THA work)
- **Overall, initial findings remain robust.**
- **Some differences:**
 - ATT and ATE are larger in absolute terms for workers with ‘practice’ or ‘training’ contracts, who may enjoy a greater likelihood of being offered a permanent position by the client firm if they are direct-hires.
 - ATT and ATE are larger in absolute terms for workers in Catalonia –the region with the lowest rate of temporality in Spain and where THAs are quite prevalent.
 - ATT and ATE are closer to zero in Andalusia (ATT is not significant), where THAs do not have a strong presence. Thus, in Andalusia, all temporary workers (independently of whether they are direct-hire or agency *temps*) have a similar probability of obtaining a permanent job.

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if the treatment effect is highly heterogeneous with respect to specific individual or work related characteristics, the causal effect will not be estimated accurately. To account for any potential variability in the magnitude of the THA work effect, we estimate the ATT and ATE of agency work for separate sub-samples of individuals.

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CONCLUSIONS

- **Agency workers endure a 15 to 27 percentage point lower likelihood of reaching an open-ended contract in the near future**
- **No support for the hypothesis that THAs serve as an effective stepping-stone into permanent employment.**
- **HOWEVER, in Spain THAs are beneficial for transitions from unemployment to employment (García-Pérez and Muñoz-Bullón, 2005; Malo and Muñoz-Bullón, 2008)**
- **Using a relevant comparison group as a control –as is the case with other direct-hire temporary workers– becomes crucial.**
[Comparing results with those obtained by Ichino et al. (2005)]

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F10

The ATE estimates suggest that the imposition of mandatory labour market intermediation in the hiring for temporary work positions would not necessarily favour workers' transition to more stable jobs. However, the ATT estimates hint on the possibility that temp-to-perm transitions could be facilitated by the usage of THAs if these agencies could help as labour market intermediaries in the hiring of workers for permanent positions.

Fernando; 10/10/2006

Thank you very much!

- **References:**

- C. Amuedo-Dorantes, M.A. Malo and F. Muñoz-Bullón (2008), “The Role of Temporary Help Agency Employment on *Temp-to-Perm* Transitions”, *Journal of Labor Research*, 29: 138-161.
- M.A. Malo and F. Muñoz-Bullón (2008), “Temporary Help Agencies and Participation Histories in the Labour Market: A Sequence-Oriented Approach”, *Estadística Española*, 50(167): 25-65.
- García-Pérez J I, Muñoz-Bullón F (2005) Temporary help agencies and occupational mobility. *Oxford Bulletin of Economics and Statistics* 67: 163-180
- García-Pérez J I, Muñoz-Bullón F (2005) Are temporary help agencies changing mobility patterns in the Spanish labour market?. *Spanish Economic Review* 7 (1): 43-65
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RESULTS: LIKELIHOOD OF BECOMING A THA WORKER

Variables	Coeff.	z-stat	Variables	Coeff.	z-stat
Constant	-1.367	17.910	<i>Region</i>		
Male	0.058	2.390	Andalusia	-0.452	-9.150
<i>Age</i>			Aragón	0.102	1.590
Age 16-20	0.620	15.380	Asturias	-0.262	-3.270
Age 21-25	0.373	10.150	Balearic Islands	-0.362	-5.260
Age 26-30	0.190	4.850	Canary Islands	-0.233	-4.350
Age 31-35	-	-	Cantabria	-0.067	-0.690
Age 36-40	-0.043	-0.880	Castilla- la – Mancha	-0.373	-5.770
Age 41-50	-0.242	-4.870	Castilla y León	0.089	1.730
Age > 51	-0.596	-7.120	Catalonia	0.203	5.580
<i>Education</i>			Valencia	-0.168	-4.010
Without studies	-	-	Extremadura	-0.412	-4.740
Primary education	0.021	0.840	Galicia	-0.153	-2.990
Vocational training	0.086	2.210	Murcia	-0.293	-4.300
Secondary education	0.012	0.310	Navarra	0.182	2.190
College degree	-0.121	-2.110	Basque Country	0.048	0.900
<i>Initial Temporary Contract</i>			La Rioja	0.094	0.750
Work-experience contract	-0.145	-2.350	Madrid	-	-
Training contract	0.012	0.270	<i>Sector</i>		
Interim contract	0.071	1.810	Agriculture & Mining	0.103	1.710
Casual contract	0.064	2.460	Manufacturing	0.249	5.310
Per-task contract	-	-	Chemical Industry	0.323	7.850
<i>Initial Occupation</i>			Commerce	0.232	5.640
Professional/Manager	-0.634	-8.420	Tourism	0.368	7.040
Technician	-0.478	-7.920	Transportation and Communications	0.111	1.740
Administrative Worker	-0.200	-4.740	Financial Services	0.628	15.130
Service Worker	-0.230	-5.870	Public/Personal Services	0.129	2.960
Agriculture Worker	-0.278	-4.250	Construction	-	-
Qualified industry worker	-0.198	-6.020	<i>Unemployment rate</i>	-0.002	-0.560
Semi-qualified industry worker	-0.233	-4.890	Observations	29398	
Non-qualified service worker	-0.157	-3.510	LR chi2	2614.27	
Non-qualified mining worker	-	-	Log likelihood	-9765.7461	
			Prob>chi2	0.0000	

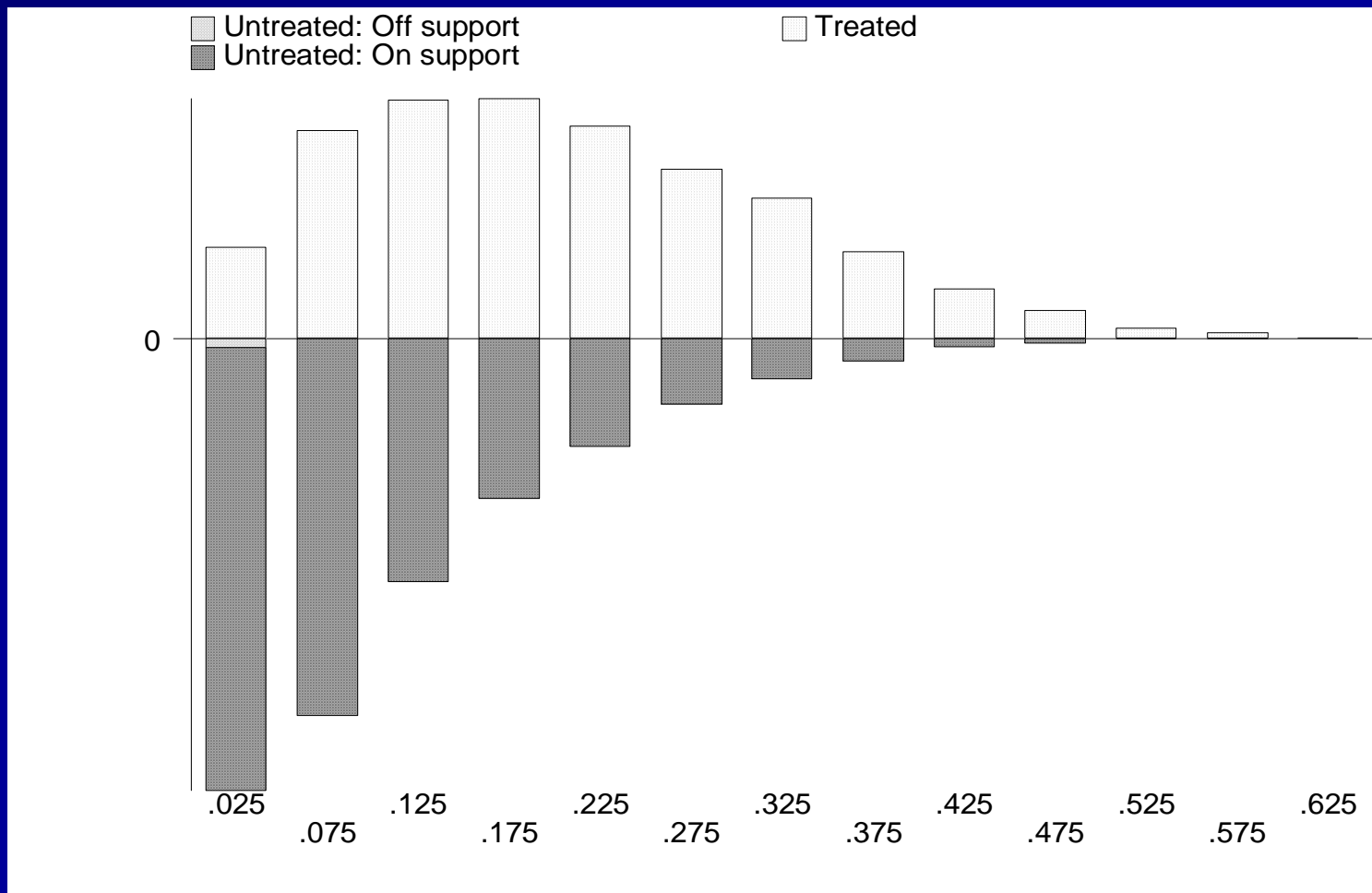
F13

These results generally confirm the t-statistics in Table 2. Men and younger workers are more likely to resort to a THA when looking for employment relative to women and older workers. Additionally, temporary workers with vocational training are more likely to contract with a THA than non-educated workers. Yet, workers with a university degree are less likely to search for work via a THA than non-educated workers. The figures in Table 4 also suggest that temporary workers with 'casual' contracts intended to accommodate fluctuations in demand are more commonly employed by THAs. This is not surprising considering that THAs seem to primarily serve the service sector –one of the sectors experiencing greater fluctuations in demand, i.e. tourism. We also find that non-qualified temporary workers –often employed in the service sector– are more likely to use THAs to find employment relative to qualified workers. Finally, THAs appear more popular in Catalonia and Madrid relative to Andalusia, Extremadura, Balearic or Canary Islands, among other Spanish regions.

Fernando; 10/10/2006

COMMON SUPPORT

Figure 1: Propensity Score Histogram by Treatment Status



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The common support assumption must hold for the matching method to provide valid estimates of the impact of agency work (Rubin, 1979). The common support assumption requires that, for each THA worker, there is another non-THA worker who can be used as a matched comparison observation. While there is no formal test for the CIA, the validity of the common support assumption can be tested. Figure 1 presents the propensity score histogram by treatment status. While treatment observations are more concentrated at higher predicted scores, it is apparent that the common support assumption is satisfied given the high degree of overlap between the two distributions.

Fernando; 10/10/2006

RESULTS: MATCHING QUALITY (1)

Matching Method	Variables	Treated	Nearest-neighbour with Replacement			Gaussian Kernel			Epanechnikov Kernel			Radius		
			Matched Control	% bias	t-test	Matched Control	% bias	t-test	Matched Control	% bias	t-test	Matched Control	% bias	t-test
	<i>Male</i>	0.653	0.653	0.1	0.05	0.653	0	-0.01	0.654	-0.2	-0.21	0.654	-0.3	-0.15
	<i>Age</i>													
	Age 16-20	0.338	0.346	-1.9	-0.66	0.292	11.1	8.64	0.327	2.6	2.01	0.162	41.8	26.23
	Age 21-25	0.312	0.322	-2.2	-0.84	0.296	3.5	2.88	0.309	0.7	0.56	0.226	19.3	11.41
	Age 26-30	0.163	0.151	3.2	1.34	0.168	-1.5	-1.26	0.161	0.4	0.35	0.185	-5.8	-3.25
	Age 41-50	0.044	0.045	-0.6	-0.32	0.065	-7.7	-8.06	0.051	-2.7	-3.04	0.129	-30.6	-15.02
	Age > 51	0.008	0.010	-0.8	-0.57	0.020	-6.2	-8.14	0.013	-2.3	-3.46	0.056	-26.3	-12.45
	<i>Education</i>													
	Vocational training	0.127	0.123	1.2	0.46	0.120	2.2	1.75	0.126	0.4	0.30	0.094	10.5	6.26
	College degree	0.047	0.048	-0.8	-0.36	0.055	-3.5	-3.31	0.049	-0.9	-0.87	0.081	-14.2	-7.41
	<i>Initial Temporary Contract</i>													
	Work-experience contract	0.038	0.041	-1.5	-0.61	0.040	-1.2	3.02	0.039	-0.5	0.82	0.044	-3.1	-1.71
	Casual contract	0.449	0.446	0.6	0.24	0.435	2.7	2.33	0.444	1	0.81	0.401	9.7	5.53
	<i>Initial Occupation</i>													
	Professional/Manager	0.019	0.022	-1.5	-0.77	0.028	-4.7	-5.00	0.022	-1.7	-1.91	0.054	-18.5	-9.12
	Technician	0.030	0.022	4.4	2.03	0.033	-1.4	-1.31	0.031	0	-0.03	0.043	-6.5	-3.46
	Administrative Worker	0.117	0.116	0.5	0.20	0.114	1.1	0.90	0.119	-0.6	-0.52	0.088	9.5	5.68
	Service Worker	0.179	0.198	-5.2	-1.95	0.174	1.3	1.10	0.177	0.3	0.28	0.146	8.9	5.20
	Agriculture Worker	0.032	0.030	0.5	0.25	0.045	-5.5	-5.86	0.035	-1.6	-1.78	0.089	-24.2	-11.91
	Qualified industry worker	0.179	0.185	-1.4	-0.56	0.192	-3.1	-2.77	0.184	-1	-0.92	0.222	-10.6	-5.86
	Semi-qualified industry worker	0.057	0.050	3.2	1.35	0.057	0.2	0.17	0.054	1.3	1.12	0.064	-2.8	-1.54
	Non-qualified service worker	0.097	0.080	5.9	2.49	0.100	-0.8	-0.67	0.098	-0.2	-0.17	0.107	-3.1	-1.75
	<i>Region</i>													
	Andalusia	0.106	0.107	-0.4	-0.21	0.141	-9.3	-9.21	0.115	-2.6	-2.68	0.256	-39.6	-20.19
	Asturias	0.015	0.020	-3.5	-1.41	0.017	-1.2	-1.07	0.016	-0.3	-0.28	0.021	-4.3	-2.33

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This table displays the mean values of the variables used in the analysis for the treatment and control groups in each of the matching methods employed.

Overall, the figures confirm that the bias is small and often not significantly different from zero when using the nearest-neighbour and kernel matching methods –in the latter case, the Epanechnikov kernel provides an even better matching. The bias is, however, larger when we use the radius matching. As such, the estimates derived from this last method may be less reliable –a reassuring finding since the ATT and ATE estimates in Table 5 are significantly closer to each other when using the other three matching methods.

Fernando; 10/10/2006

RESULTS: MATCHING QUALITY (2)

Matching Method		Nearest-neighbour with Replacement			Gaussian Kernel			Epanechnikov Kernel			Radius		
Variables	Treated	Matched Control	% bias	t-test	Matched Control	% bias	t-test	Matched Control	% bias	t-test	Matched Control	% bias	t-test
Balearic Islands	0.022	0.023	-0.8	-0.36	0.025	-2.1	-1.86	0.024	-1	-0.89	0.031	-5.8	-3.09
Canary Islands	0.044	0.045	-0.5	-0.21	0.047	-1.5	-1.35	0.045	-0.4	-0.39	0.054	-4.5	-2.49
Castilla- la – Mancha	0.025	0.020	2.3	1.10	0.028	-1.7	-1.63	0.025	-0.1	-0.09	0.039	-8.2	-4.33
Catalonia	0.261	0.269	-2.1	-0.74	0.223	9.5	7.43	0.250	2.8	2.12	0.131	33.2	20.98
Valencia	0.101	0.106	-1.4	-0.57	0.103	-0.6	-0.52	0.101	0	0.02	0.104	-0.8	-0.47
Extremadura	0.013	0.011	1.5	0.81	0.017	-3.2	-3.27	0.014	-1	-1.10	0.032	-12.8	-6.38
Galicia	0.050	0.044	2.4	1.03	0.054	-1.8	-1.53	0.052	-1.1	-0.96	0.056	-2.8	-1.54
Murcia	0.022	0.025	-1.4	-0.57	0.025	-1.8	-1.62	0.024	-0.7	-0.68	0.031	-5.4	-2.90
Navarra	0.023	0.019	3.2	1.15	0.020	2.3	1.77	0.022	0.7	0.55	0.011	8.7	5.67
<i>Sector</i>													
Manufacturing	0.084	0.085	-0.2	-0.08	0.079	1.9	1.54	0.082	0.9	0.75	0.065	7.4	4.37
Chemical Industry	0.134	0.144	-3.3	-1.16	0.122	4	3.17	0.131	1.1	0.87	0.081	17.1	10.59
Commerce	0.161	0.160	0.3	0.12	0.158	0.9	0.73	0.161	0	-0.01	0.132	8.3	4.84
Tourism	0.093	0.097	-1.6	-0.59	0.090	1.1	0.86	0.093	-0.1	-0.05	0.071	7.9	4.69
Financial Services	0.196	0.181	4.2	1.50	0.167	8.3	6.37	0.192	1.2	0.87	0.093	29.7	19.20
Public/Personal Services	0.114	0.114	-0.2	-0.07	0.126	-3.6	-3.33	0.115	-0.3	-0.26	0.172	-16.8	-19.56