Employment risk and living arrangements of the youth

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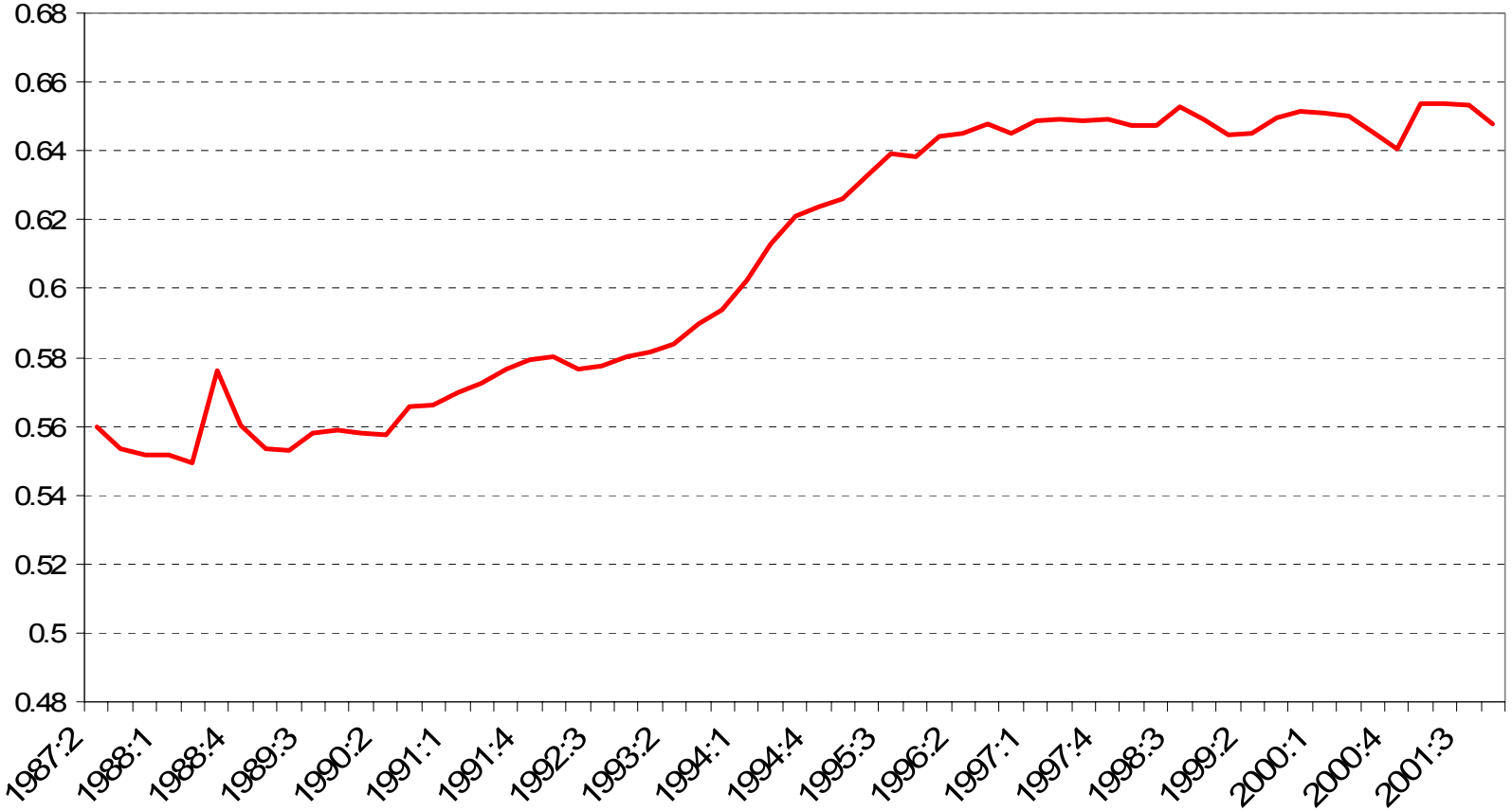
All opinions in this paper are ours, not necessarily those of our employers (NERA and Bank of Spain)

1. Introduction

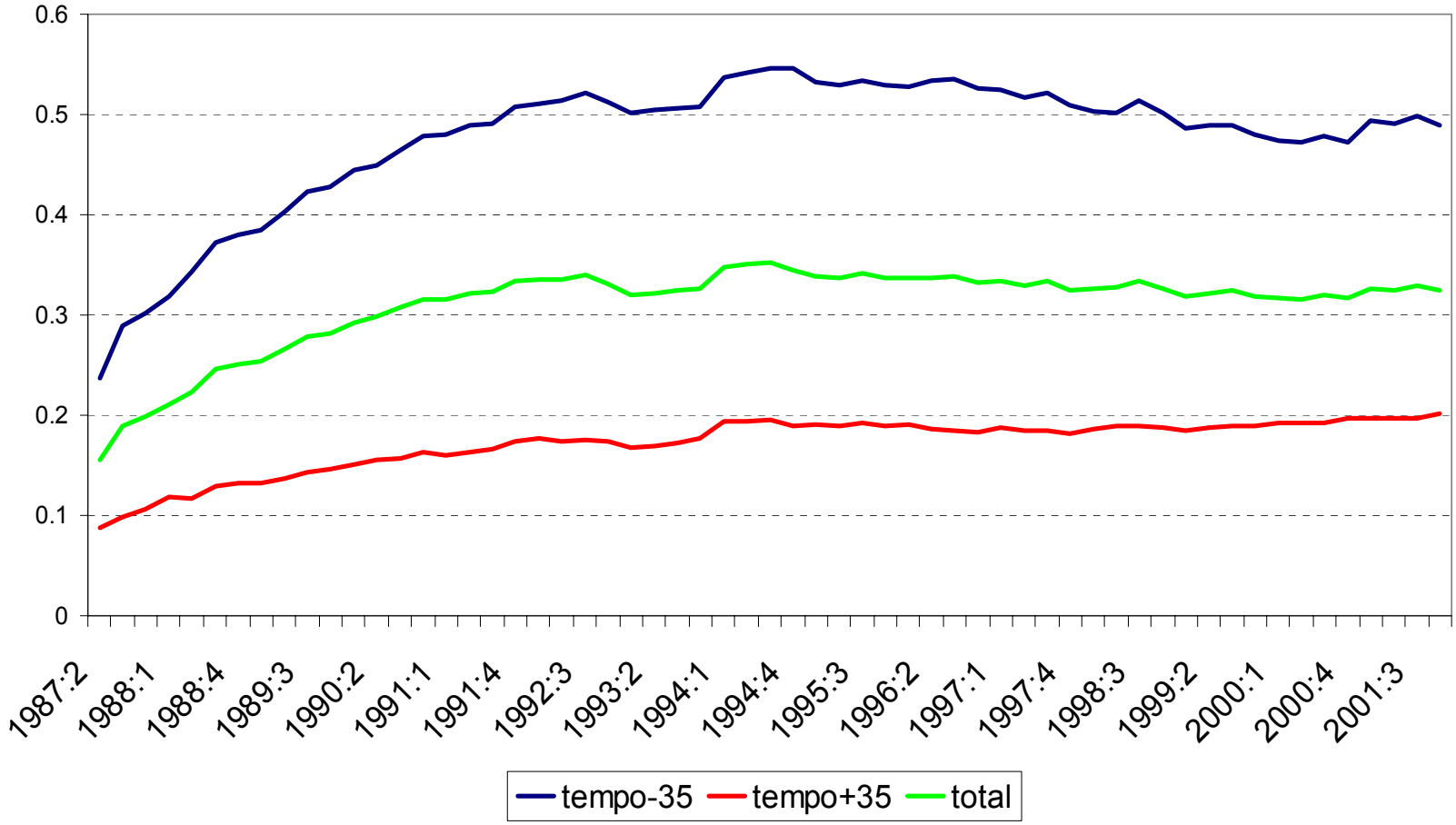
- Heterogeneity in living arrangements of 18-35 year-olds (Becker et al. 2004)
  - 73% Italy, 70% Greece, 67% Spain
  - 20% Netherlands, 21% United Kingdom, 22% Ireland
- Living arrangements of the youth matter
  - Fertility (Baizan et al., 2001)
  - Labor market mobility (Neal, 1999)
  - Insurance role of the family (Rosenzweig Wolpin 93)
- A candidate: increased job insecurity
  - Theory predicts that risk delays irreversible decisions.
  - Significant increase of unemployed among the youth (Becker et al., 2004)

Living arrangements in Spain (16-35 years of age)



- Source: Spanish Employment Survey (EPA)

Spanish workers with fixed-term contracts



- Source: Spanish Employment Survey (EPA)

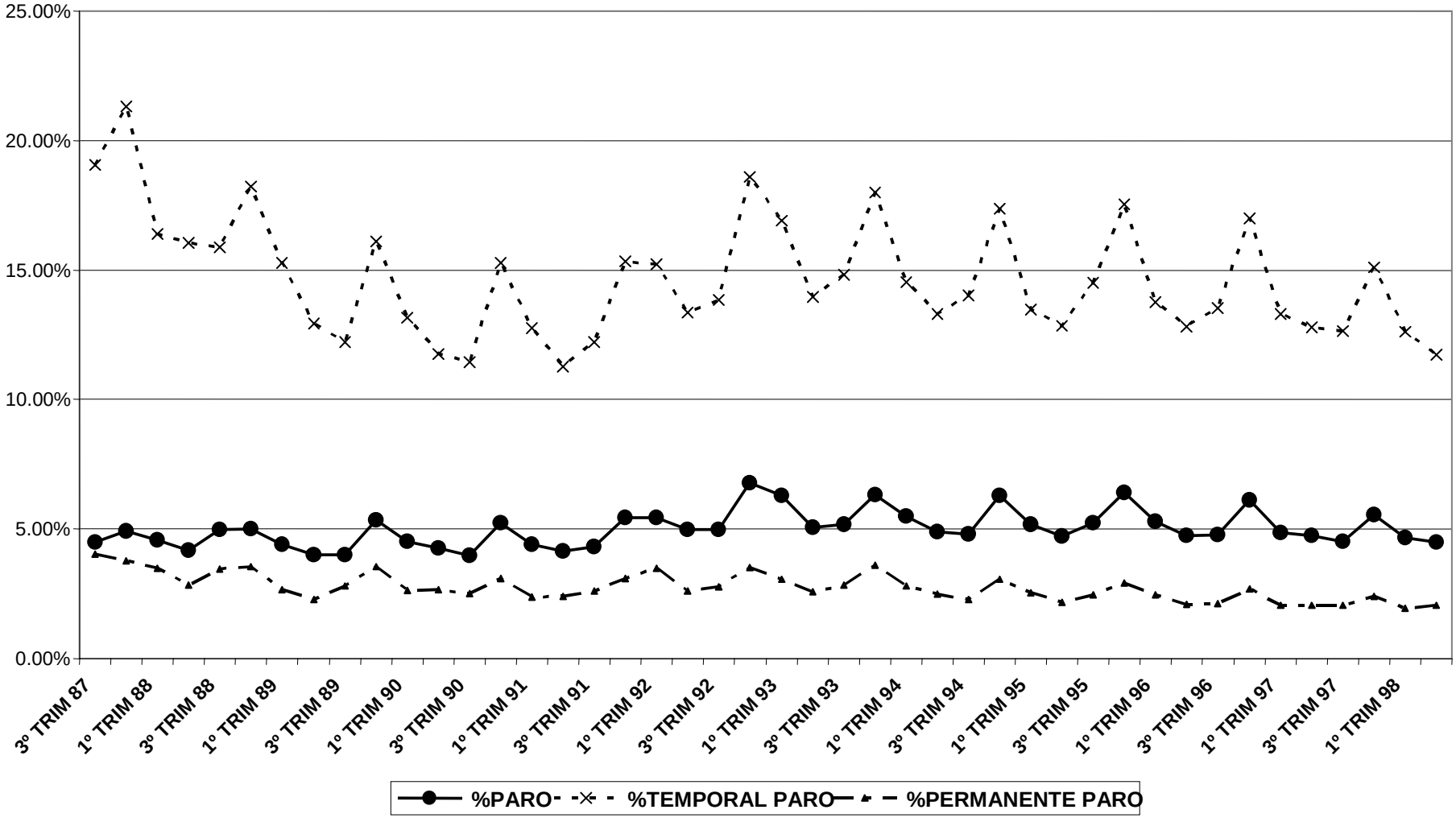
1. Some literature (Europe)

- Cohabitation as a good for parents (Manacorda and Moretti, 2005)
- Credit markets (Martins and Villanueva, 2006)
- Ruiz-Castillo and Martínez-Granado (2002)
- De la Rica and Iza, 2004: decision to get married. Use fixed-term contracts.
- Subjective measures of employment risk (Becker et al., 2004)

Our contribution

- Link employment risk with firing costs
  - Employment risk hard to measure (occupation, industry)
  - Contract w/ high firing costs are more secure.
- Examine the link between employment risk and living arrangements
  - OLS cohabitation on holding a permanent contract : -.18 (.04)
  - Causal impact?

Graph 3: Fraction of workers who transit into unemployment, by contract type.



- Source: own co`mputations using Spanish Employment Survey

2. Contribution

- Many unobservables may drive correlation
  - Local labor markets, “better children”.
- Exploit changes in firing costs.
  - First strategy: discontinuity in firing costs 3 years after signing temp. contract.
  - Second strategy: regional subsidies to conversion of fixed-term into permanent (1998-2001).

3. Data

- EPA: Spanish employment survey
- Rotating panel, workers followed up to 6 quarters.
- Working adults, between 20 and 35 years
- 1st. strategy:
  - 1987q1-1992q4: 245,147 observations from 82,174 individuals.
- 2nd. strategy:
  - 1997-2001: 186,448 observations from 50,034 individuals
- Attrition problem.

Table 5: Summary statistics of 1984-1993 sample (analysis of legal limits)

	Mean	St. deviation	Minimum	Maximum
Panel A: Young coresidents, working with fixed-term contract (244,253 cases)				
Contract becomes permanent	0.022	0.147	0	1
New household formed	0.049	0.217	0	1
Age	22.67	3.38	20	35
Potential tenure (in years)	1.51	1.61	0	21.25
Actual tenure (in years)	1	1.49	0	20
Male	0.63	0.48	0	1
Household size	4.33	1.29	2	13
Panel B: Young adults whom we observe working in some period (633,621 cases)				
Permanent contract	0.517	0.500	0	1
Adult lives with parents	0.603	0.489	0	1
Age	25.058	4.209	20	35
Potential tenure (in years)	3.39	4.312	0	22
Actual tenure (in years)	3.28	4.33	0	20
Male	0.62	0.485	0	1
Household size in parental hhold.	3.391	1.507	1	13

4. Regression Discontinuity Design

- Three years after signing a fixed-term contract, firms must either convert it into permanent or lay-off worker.
- Examine living arrangements and contract type three years after signing fixed-term contract.
- Angrist y Lavy (1999), Van der Klaauw(1997) and others.

4.RDD: METHODOLOGY

- 1st stage: change to PC

$$1(\Delta perm_{it} = 1) = a_1 + a_2 1(3 < tenure_{it} < 4) + a_3 f(tenure_{it} - 3) + a_4 X_{it} + \varepsilon_{it}$$

- 2nd stage: new household.

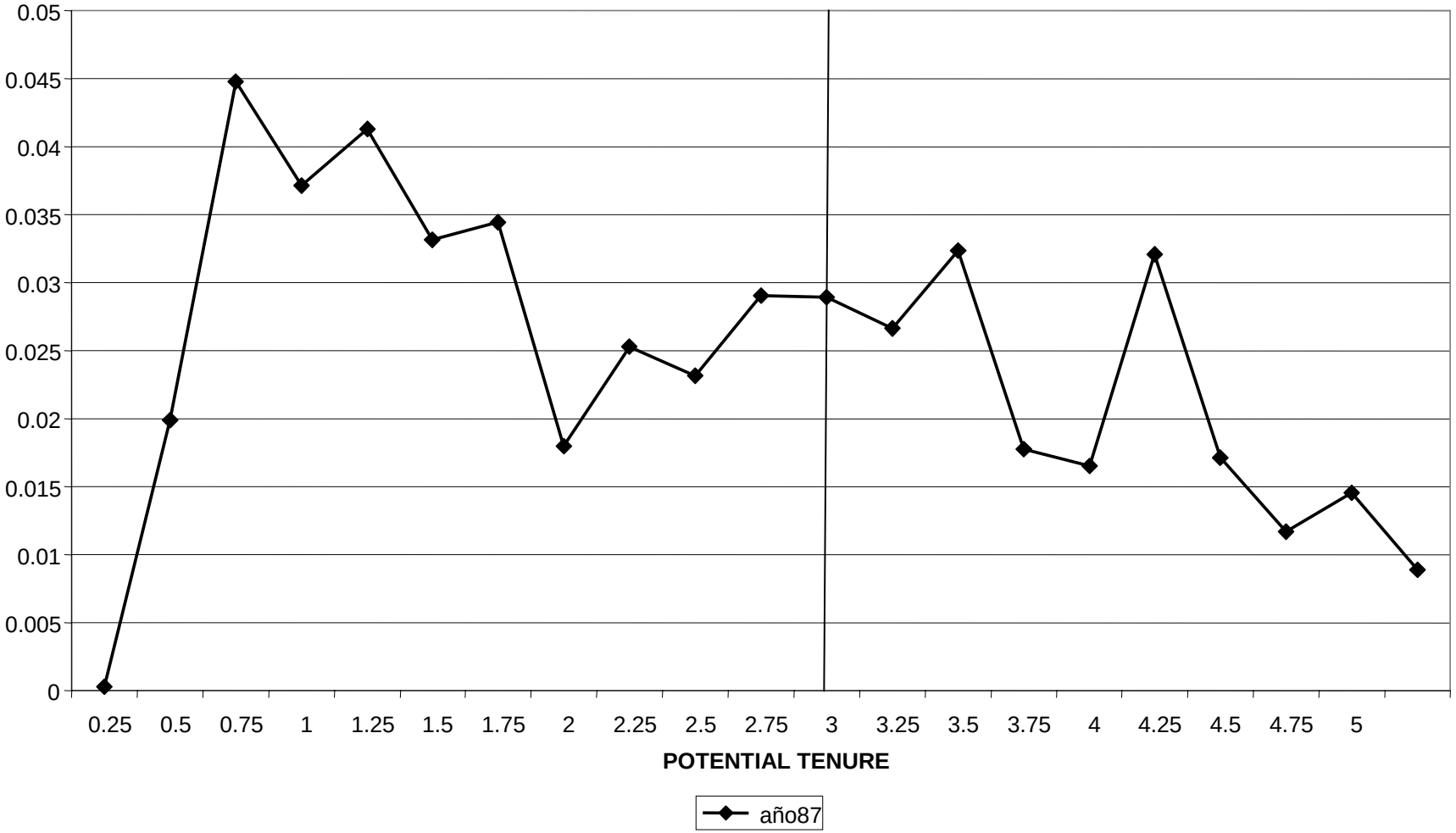
$$1(new\_h_{it}) = b_1 + b_2 1(\Delta perm_{it} = 1) + b_3 g(tenure_{it} - 3) + b_4 X_{it} + u_{it}$$

- Tenure: time elapsed since TC first signed
- f() two cubic, one below 3 years, another after 3
- Same for g()

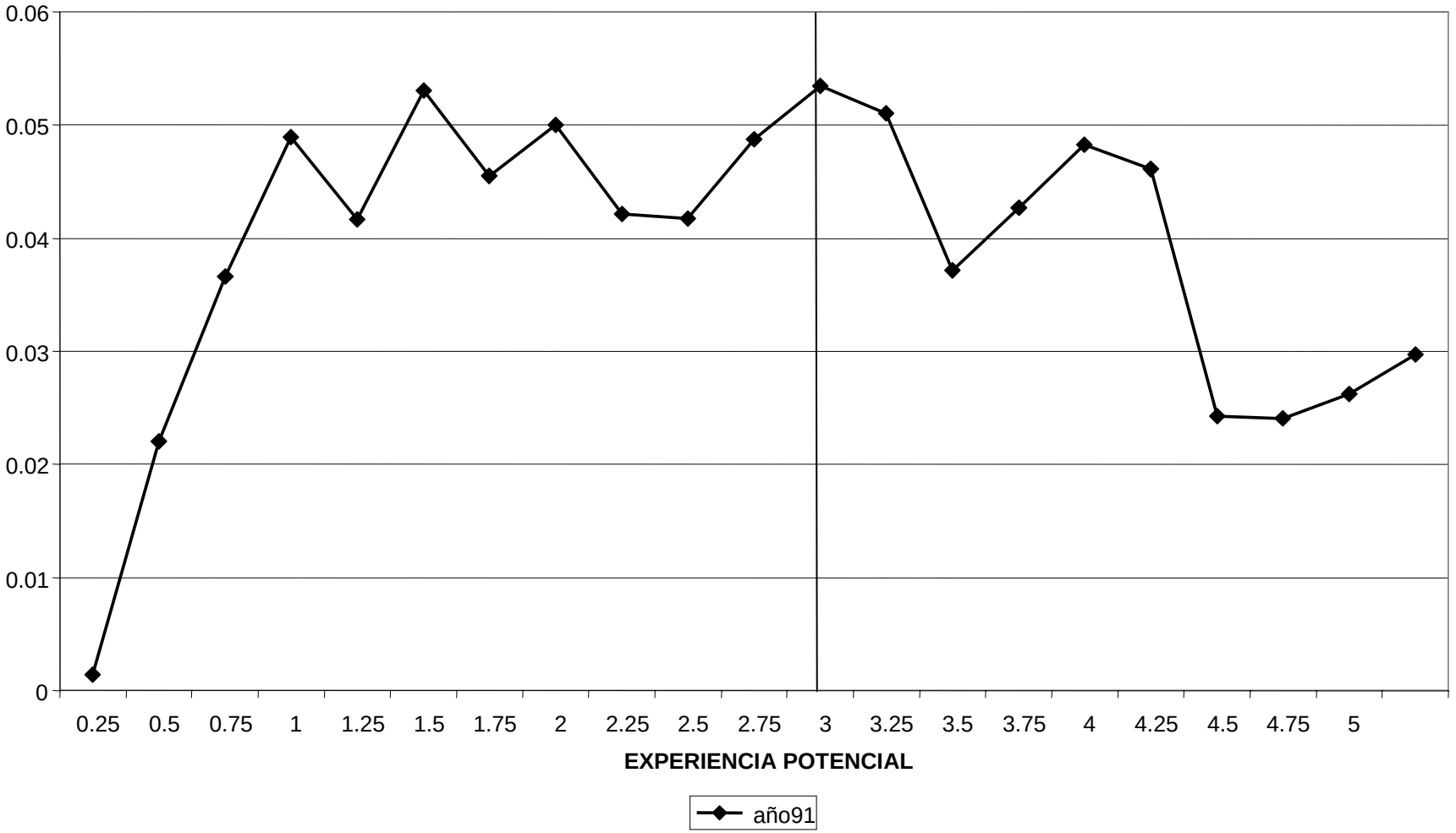
4.RDD: METHODOLOGY

- Working young adults with FT contract, 20 - 35 years living with parents.
- Potential tenure: constructed from yearly reports of tenure (randomization).
- New household: decreases in household size, conditioned on parents staying.
- Controls: age, gender, industry, occupation, region, year.

GRAPH5 TRANSITION FROM TEMPORARY INTO PERMANENT CONTRACT BY TENURE, 1987



GRAPH5 TRANSITION FROM TEMPORARY INTO PERMANENT CONTRACT BY TENURE, 1991



GRAPH 6: HOUSEHOLD FORMATION AND CONTRACT CONVERSION BY POTENTIAL TENURE

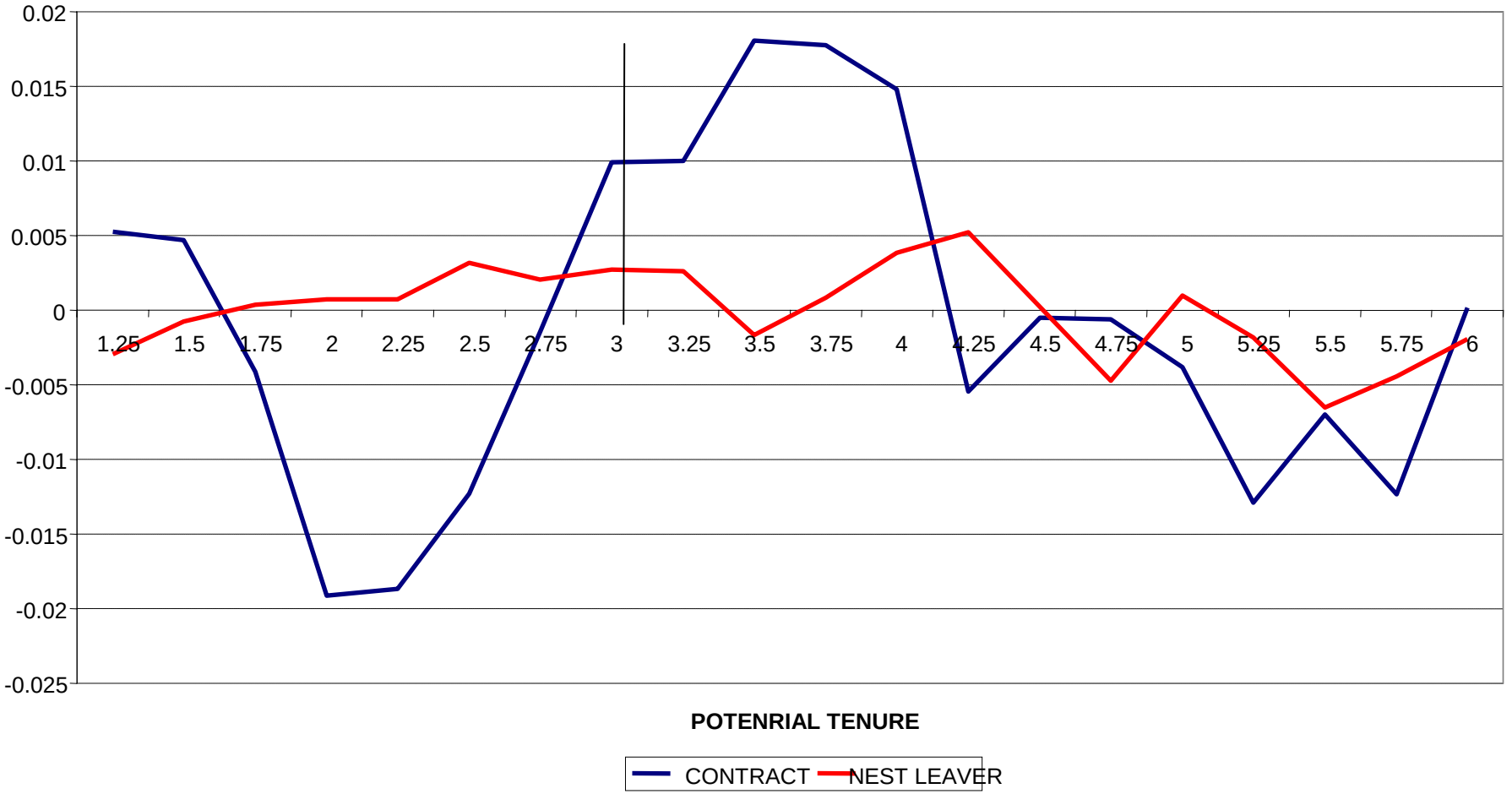


Table 11. The impact of legal limits on contract conversion

	OLS			
	20-35	25-35	25-35 females	25-35 males
d(3≥exp≤4)	**.053**	**.066**	**.0604**	**.07**
	(.007)**	**(.011)****	**(.0175)****	**(.014)****
Age	.005	.008	0.0088	.007
	(.0007)**	(.0017)**	(0.0029)**	(.002)**
Male	0.017	.0232		
	(.0056)**	(.0082)**		
exp	.019	.015	.018	.011
	(.0045)**	(.0067)*	(.0114)	(.008)
expc	.0201	.0301	.024	.035
	(.0087)*	(.0126)*	(.021)	(.0157)*
Household size	.0018	.003	.0032	.0031
	(.0018)	(.0026)	(.0044)	(.0032)
Constant	-.061	-0.135	-.241	-.069
	(.0296)*	(.057)*	(.0970)*	(.069)
# Individuals	29351	13800	4832	8968
Observations	69655	32145	11318	20827
test F d=0	51.93	37.75	11.85	27.09

Table 12. Flows. The impact of contract change on household formation.

	TSLS			
	20-35	25-35	25-35 females	25-35 males
Contract change	**-.012**	**-.030**	**-.026**	**-.025**
	(.0385)	**(.05)**	**(.095)**	**(.056)**
Age	0.0012	-0.0008	-0.0012	-0.0007
	(0.0002)**	(0.0005)	(0.0011)	(0.0006)
Male	-0.0035	-0.0017		
	(0.0015)*	(0.0025)		
exp	0.0055	0.0074	0.0105	0.0054
	(0.0018)**	(0.0026)**	(0.0049)*	(0.003)
expc	-0.0075	-0.0102	-0.016	-0.0068
	(0.0020)**	(0.0031)**	(0.0051)**	(0.0039)
Household size	0.0011	0.0014	0.001	0.0018
	(0.0004)*	(0.0007)*	(0.0011)	(0.0008)*
Constant	-0.0165	0.0314	0.0242	0.0327
	(0.0081)*	(0.016)	(0.0356)	(0.0174)
# Individuals	29351	13800	4832	8968
Sample size	69655	32145	11318	20827

4.RDD: METHODOLOGY (2)

- STOCKS: 1st stage

$$1(perm_{it} = 1) = c_1 + c_2 1(3 < tenure_{it}) + f(tenure_{it}) + c_4 X_{it} + \varepsilon_{it}$$

- 2nd stage

$$1(live\_par_{it}) = d_1 + d_2 1(perm_{it} = 1) + g(tenure_{it}) + d_4 X_{it} + u_{it}$$

- The stock regression allows to capture longer-term effects (short panel for transition, 5 quarters at most).
- But, other time effects may occur.

Table 14. Contract type and living with parents

Dependent variable takes value 1 if young lives with parents.

			TSLS		
	20-35	25-35	25-35	25-35 males	25-35 males
Perm. contract	**-.179**	**-.104**	**-.476**	**-.012**	**-0.025**
	(.074)*	**(.085)**	**(.379)**	**(.08)**	**(.08)**
Age	-0.029	-0.025	-0.017	-0.029	-0.029
	(0.0008)**	(0.0009)**	(0.0031)**	(0.0010)**	(0.0010)**
Male	0.026	0.020	--	--	--
	(0.0046)**	(0.0058)**			
exp	0.019	-0.004	0.061	-0.031	-0.016
	(0.0104)	(0.0113)	(0.0393)	(0.0128)*	(0.0127)
exp2	0.006	0.006	0.003	0.020	0.009
	(0.0127)	(0.0184)	(0.0509)	(0.0212)	(0.0215)
exp3	-0.002	0.001	0.004	-0.005	-0.002
	(0.0045)	(0.0062)	(0.017)	(0.0071)	(0.0071)
Household size	0.189	0.238	0.236	0.237	0.238
	(0.0014)**	(0.0019)**	(0.0054)**	(0.0023)**	(0.0023)**
Constant	0.742	0.451	0.362	0.536	0.522
	(0.0232)**	(0.0349)**	(0.0988)**	(0.0432)**	(0.0442)**
Sample size	257345	169442	60531	108911	105768

2nd strategy: Regional subsidies.

- 1997: regions develop subsidies conversion FT into PC.
- Major reform in 1997 lowering firing costs
  - We only use post-reform data, controlling for pre-reform regional U-rate.
- (Garcia and Rebollo, 2006) use Social Security records and find no impact of these regions (noisy data).

Table 3: Means of selected variables, by region

	Sample (1), flows			Sample (2), stocks	
	Subsidy	FT to PC	New household	Permanent contract	Coresides
1. Andalucia	1057.22	0.020	0.028	0.355	0.558
2. Aragon	389.25	0.038	0.022	0.499	0.519
3. Asturias	768.38	0.018	0.022	0.474	0.603
4. Baleares	0	0.041	0.028	0.527	0.470
5. Canarias	477.8	0.035	0.023	0.442	0.558
6. Cantabria	732.05	0.017	0.014	0.474	0.659
7. Castilla-Leon	1216.01	0.031	0.025	0.470	0.555
8. Castilla-La Mancha	0	0.031	0.024	0.419	0.542
9. Catalonia	0	0.042	0.024	0.512	0.534
10. Valencia	1289.64	0.034	0.022	0.443	0.519
11. Extremadura	2222.25	0.028	0.027	0.431	0.509
12. Galicia	477.47	0.023	0.022	0.425	0.622
13. Madrid	0	0.04	0.015	0.618	0.601
14. Murcia	1633.22	0.035	0.026	0.409	0.554
15. Navarra	831.51	0.045	0.023	0.506	0.585
16. Basque country	1661.96	0.033	0.022	0.440	0.605
17. Rioja	2681	0.037	0.017	0.506	0.55

5. SUBSIDIES. Methodology

$$new\_h^*_{ict} = \beta_0 + \beta_1 \Delta perm_{ict} + \beta_2 X_{ict} + \omega_{ict}$$

$$\Delta perm^*_{ict} = \gamma_0 + \gamma_1 subsidy_{ct} + \gamma_2 X_{ict} + \nu_{ict}]$$

$$\begin{pmatrix} \omega_{ict} \\ \nu_{ict} \end{pmatrix} \approx N \begin{pmatrix} 1 & \rho \\ \rho & \nu \end{pmatrix} \qquad \rho = corr(\nu_{ict}, \omega_{ict})$$

Table 7: Regional subsidies and contract conversion (temporary into permanent)

	20-25		25-35		25-35 hombres	
	OLS	PROBIT	OLS	PROBIT	OLS	PROBIT
	Dependent variable: contract change					
Subsidy amount	**.006**	**.005**	**.006**	**.005**	**.008**	**.0066**
	(.0015)**	**(.0015)****	**(.0016)****	**(.0016)****	**(.002)****	**(.0019)****
Male	.0033	.004	.003	.004		
	(.003)	(.003)	(.005)	(.005)		
Unempl. rate	-.005	-.006	-.006	-.007	-.006	-.007
	(.001)**	(.0009)**	(.0011)**	(.0010)**	(.0014)**	(.0012)**
1997 Un. rate	.008	.007	.009	.008	.0135	.013
	(.0027)**	(.0024)**	(.0038)*	(.0034)*	(.0027)**	(.0025)**
Age	.0029	.0028	-.0006	-.0007	-.001	-.001
	(.0005)**	(.0005)**	(.0008)	(.0008)	(.001)	(.001)
Household size	.0014	.0014	.0007	.0007	-.0003	-.0003
	(.0007)	(.0008)	(.0013)	(.0014)	(.0016)	(.0018)
Constant	.051		.176		.19	
	(.018)**		(.031)**		(.032)**	
Sample size	186448		83567		50794	
test subsidy=0	16.22	11.15	11.91	8.51	13.23	11.48

Table 8: The impact of contract conversion on

	Estimation method: TSLS		
	20-25	25-35	25-35 males
Transition FT-PC	**.024**	**-.044**	**-.032**
	(.051)	**(.084)**	**(.063)**
Male	-.002	-.002	--
	(.001)*	(.001)	--
Regional U-rate	.0006	.0003	.0004
	(.0003)*	(.0006)	(.0004)
1997 unempl. rate	-.001	0	.001
	(.0004)	(.001)	(.001)
Age	.0008	-.0002	-.0003
	(.0002)**	(.0002)	(.0002)
Household size	.0002	.0001	.0004
	(.0002)	(.0003)	(.0003)
Housing cost	-.0016	-.001	.0002
	(.0006)**	(.0012)	(.001)
Constant	-.013	.024	.025
	(.0042)**	(.017)	(.013)
Sample size	186448	83567	50794
F-test contract change=0	0.23	0.28	0.26

Table 9: the impact of contract change on household formation

Estimation method: bivariate probit

	20-25		25-35		25-35 males	
Dep. var.	FT to PC	New hhold	FT to PC	New hhold	FT to PC	New hhold
Subsidy	**.027**		**.023**		**.034**	
	(.008)**		**(.008)****		**(.011)****	
FT to PC		**-.113**		**-.87**		**-1.0040**
		(.254)		**(0.288)****		**(.55)**
Male	.021	-.045	.022	-.033		
	(.018)	(.023)*	(.024)	(.023)		
Unempl. rate	-.032	.016	-.035	.005	-.037	.004
	(.005)**	(.004)**	(.005)**	(.006)	(.006)**	(.013)
1997 Unempl.	.0404	-.01	.04	.002	.068	.043
	(.013)**	(.008)	(.017)*	(.024)	(.013)**	(.017)*
Age	.015	.02	-.004	-.005	-.007	-.008
	(.003)**	(.003)**	(.004)	(.004)	(.006)	(.004)
Household size	.008	.007	.004	.003	-.002	.007
	(.004)	(.004)	(.007)	(.005)	(.009)	(.006)
Constant	-1.600	-2.875	-.956	-1.882	-.873	-1.67
	(.093)**	(.08)**	(.149)**	(.203)**	(.16)**	(.428)**

Table 15. Summary: fixed-term contracts and household formation

Regional subsidies. Dependent variable: new household formation.				
	Estimation method: Bivariate Probit			
	20-25	25-35	25-35 females	25-35 males
FT to PC	.049	-.403	-.532	-.664
	(.233)	(.40)	(.415)	(.953)
ATE	.002	-.02	-.026	-.027
RDD. Flows. Dependent variable: new household formation				
	Estimation method: TSLS			
	20-35	25-35	25-35 females	25-35 males
FT to PC	-.012	-.03	-.026	-.025
now permanent	(.039)	(.05)	(.095)	(.056)
RDD. Stocks. Dependent variable takes value 1 if young lives with parents.				
	TSLS			
	20-35	25-35		25-35 males
Permanent contract	-.18	-.104	-.476	-.013
	(.074)*	(.09)	(.379)	(.080)

6. CONCLUSIONS

- Examined link between employment risk and household formation.
  - Contribution: examine evidence from arguably exogenous transitions.
- TENTATIVE: fail to detect a causal link between those variables.
- Strong correlation possibly due to omitted factors
  - local labor markets, “child quality”.