Jumping into traps
the scarring effect of being a temp

Francesco Trentini

with Fabio Berton and Bruno Contini

University of Turin

16.01.2019

The Italian context

## The divergent employment path of young cohorts
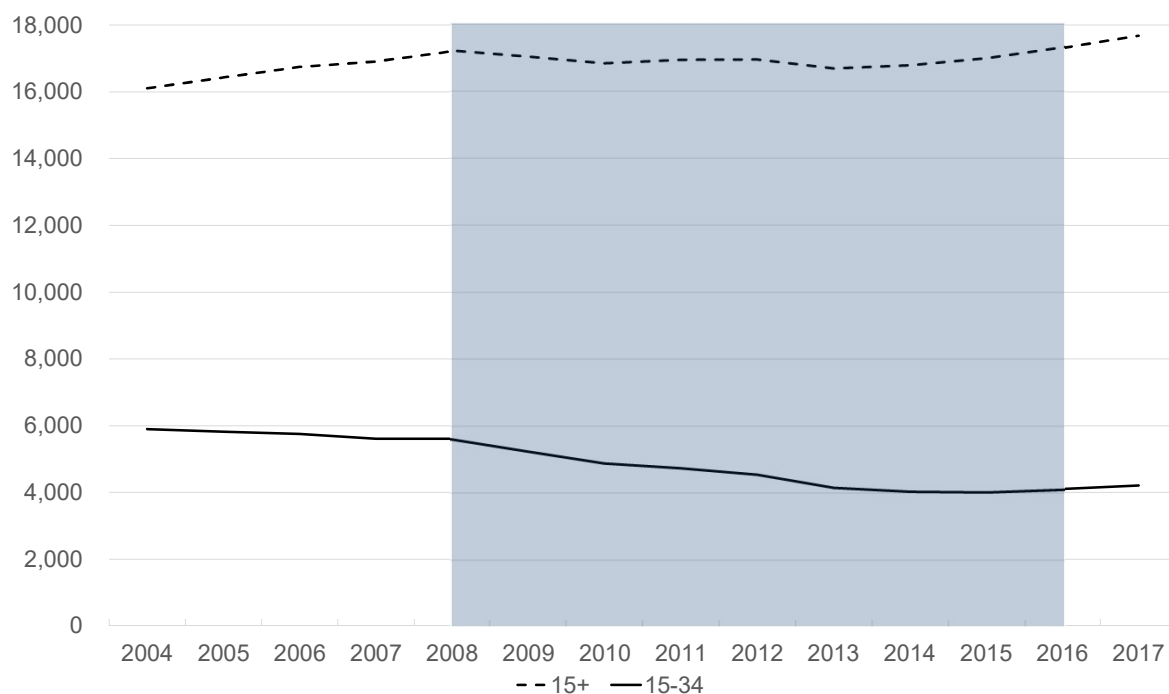
Data in thousand units.
Source: author's calculation on the Italian National Institute of Statistics (ISTAT) data

After a decrease during the initial stages of the crisis, employment levels in 2016 got higher than pre-crisis level.
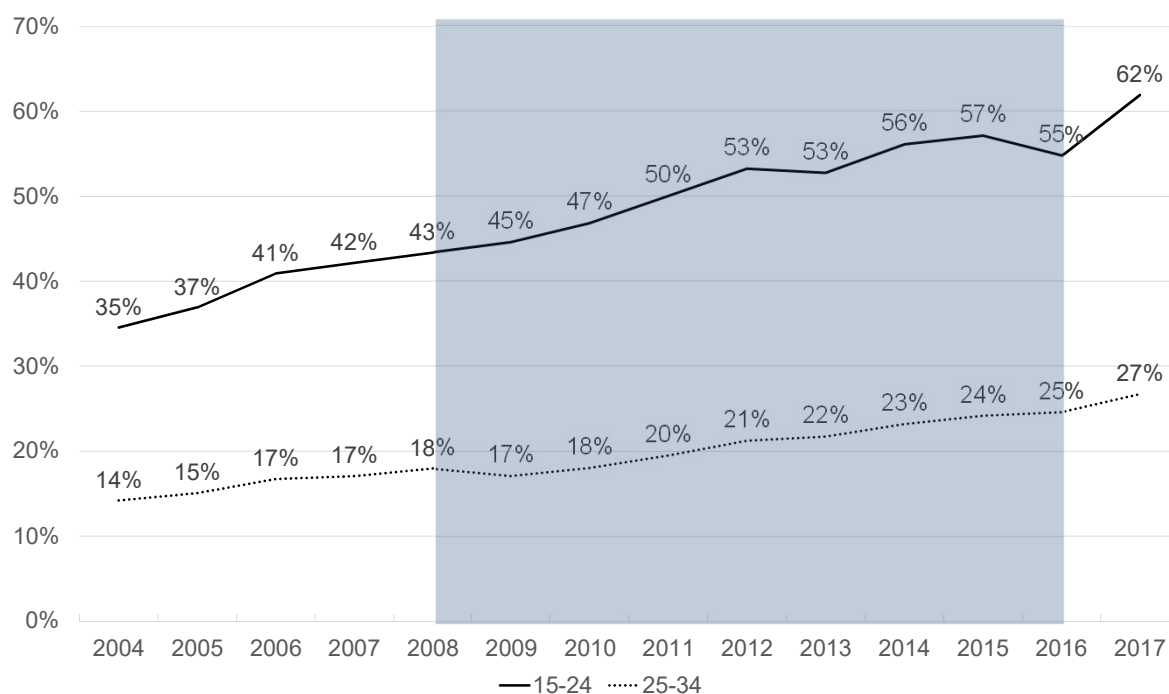
For the youngest cohorts, the decrease in employment levels has been constant over the same time-span, with a slight recovery in 2017.

In the same age group, unemployment and involuntary inactivity topped 20% and voluntary inactivity almost 7% in 2017.
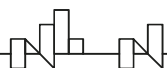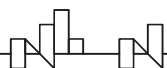
The Italian context

The high flexibility of employment for younger cohorts

The share of temporary contracts has been increasing in the last years for young individuals aged 15-34.

The largest increase has been experienced by individuals aged 15-25.

Source: author's calculation on the Italian National Institute of Statistics (ISTAT) data

The Italian context

The evolution of the legal framework for the use of temporary contracts

Recent labour market reforms

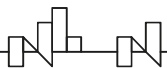Law 196/1997   LD 368/2001   Law 30/2003   Law 92/2012   Law 183/2014   Law 96/2018

Wider case law for atypical contracts
    (Barbieri *et al.*, 2012; Cappellari *et al.*, 2016).

Reduction of probationary period costs → employability of marginal worker
    (Alonso-Borrego et al., 2005; Blanchard and Landier, 2002).

Studies on temporary contracts

Temporary and permanent workers in comparison: contract scarring?

Main findings in the literature:
- **Wage penalties**
  (Barbieri and Cutuli, 2009; Barbieri *et al.* 2016).

- **Less training**
  (Berton and Garibaldi, 2012; Gash and McGinnity, 2007; Lange, 2007)

- **Bridges or traps?**
  (Addison and Surfield, 2009; Berton *et al.*, 2011; Güell and Petrongolo, 2007; Ichino *et al.*, 2008; Magnac, 2000)
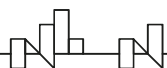
- **Average lower productivity**

Studies on temporary contracts

Temporary and permanent workers in comparison: contract scarring?

Main findings in the literature:
- **Wage penalties**
  (Barbieri and Cutuli, 2009; Barbieri *et al.* 2016).

- **Less training**
  (Berton and Garibaldi, 2012; Gash and McGinnity, 2007; Lange, 2007)

- **Bridges or traps?**
  (Addison and Surfield, 2009; Berton *et al.*, 2011; Güell and Petrongolo, 2007; Ichino *et al.*, 2008; Magnac, 2000)

- **Average lower productivity**

↓ !

Permanent vs temporary contracts

Persistence in temporary contracts

Studies on temporary contracts

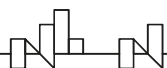**Temporary and permanent workers in comparison: contract scarring?**

Main findings in the literature:
- **Wage penalties**
  (Barbieri and Cutuli, 2009; Barbieri *et al.* 2016).

- **Less training**
  (Berton and Garibaldi, 2012; Gash and McGinnity, 2007; Lange, 2007)

- **Bridges or traps?**
  (Addison and Surfield, 2009; Berton *et al.*, 2011; Güell and Petrongolo, 2007; Ichino *et al.*, 2008; Magnac, 2000)
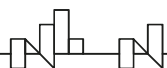
- **Average lower productivity**

!

?

| **Permanent vs temporary** contracts |
| **Persistence** in temporary contracts |

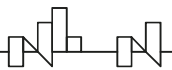Can we provide a general identification of contract scarring?

Identification

1. The hiring profile of workers depends on ability and on firms' financial condition.
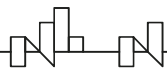
TEMPORARY WORKER

EMPLOYER

Identification

1. The hiring profile of workers depends on ability and on firms' financial condition.

		TEMPORARY WORKER	
		High Ability	Low Ability
EMPLOYER	Financially sound		
	Financially distressed		

Identification

1. The hiring profile of workers depends on ability and on firms' financial condition.

EMPLOYER	TEMPORARY WORKER	
	High Ability	Low Ability
Financially sound	Rehire	Leave
Financially distressed	Leave	Leave
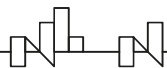
Identification

2. Market screening of the prospective employer

		High Ability	Low Ability
TEMPORARY WORKER			
FORMER EMPLOYER	Financially sound	Rehire	Leave
	Financially distressed	Leave	Leave

PROSPECTIVE EMPLOYER

Identification

3. Market screening of the prospective employer with use of information on the former employer financial condition

FORMER EMPLOYER	TEMPORARY WORKER		PROSPECTIVE EMPLOYER
	High Ability	**Low Ability**	
Financially sound	Rehire	Leave	Group 1: Low ability
Financially distressed	Leave	Leave	Group 2: Average of low and high ability
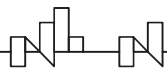
# Identification

3. **Market screening of the prospective employer with use of information on the former employer financial condition**

|		TEMPORARY WORKER		PROSPECTIVE EMPLOYER
		High Ability	Low Ability	
FORMER EMPLOYER	Financially sound	Rehire	Leave	Group 1: Low ability
	Financially distressed	Leave	Leave	Group 2: Average of low and high ability
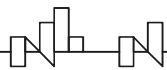
Statistical discrimination
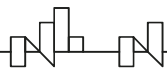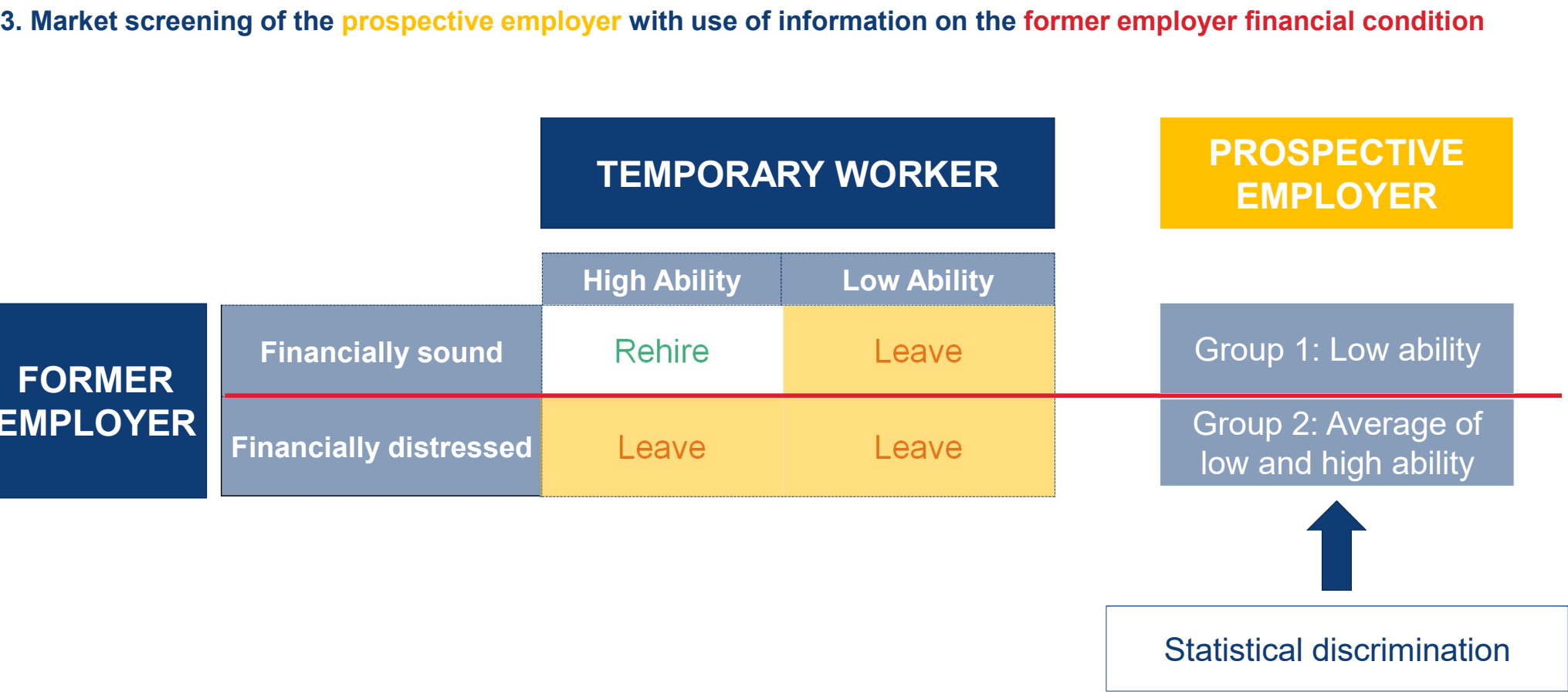
Hypothesis

Temporary workers who face contract expiry and are not rehired by the firm have a higher probability of being hired if they come from a financially distressed firm compared to similar workers that come from a financially-sound one.
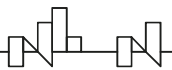
Data

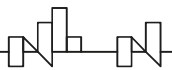Workers' characteristics
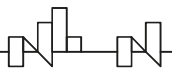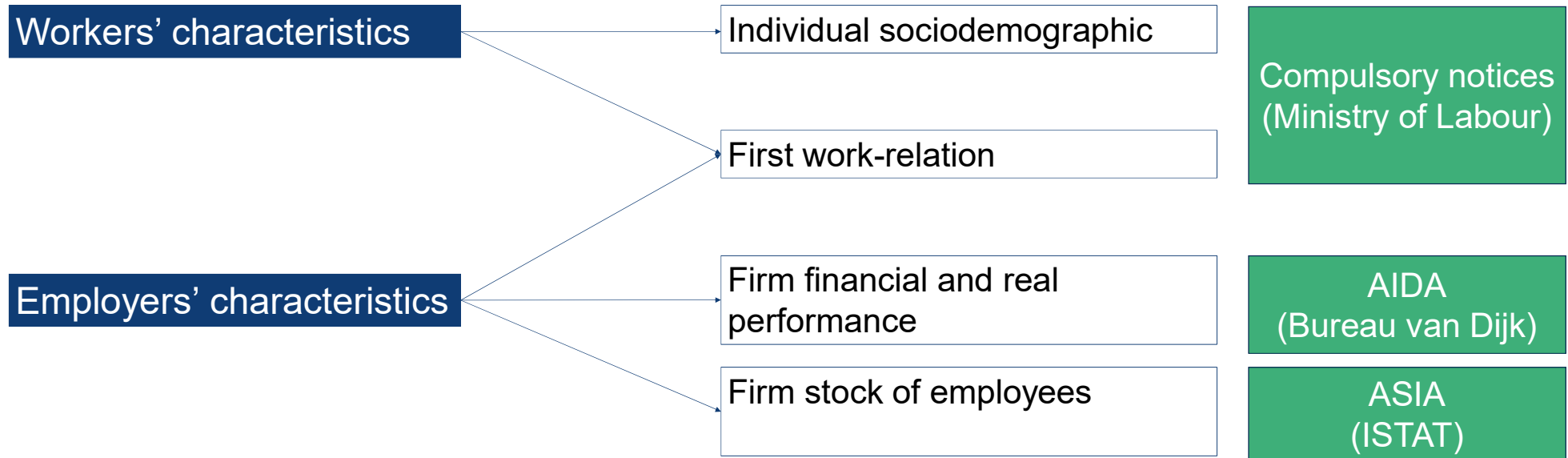
Individual sociodemographic

First work-relation

Compulsory notices
(Ministry of Labour)

Data

Workers' characteristics	Individual sociodemographic	Compulsory notices (Ministry of Labour)
	First work-relation	
Employers' characteristics	Firm financial and real performance	AIDA (Bureau van Dijk)
	Firm stock of employees	ASIA (ISTAT)

Data

Workers' characteristics	Individual sociodemographic	Compulsory notices (Ministry of Labour)
	First work-relation	

Employers' characteristics	Firm financial and real performance	AIDA (Bureau van Dijk)
	Firm stock of employees	ASIA (ISTAT)

| Financial shock Intensity of credit constraint	Index of banks' supply of loans	RBLS (Bank of Italy)
	Firm laverage to banks	AIDA

Sample selection

Workers

- Direct hire fixed-term contracts
- Individuals aged 16-29
- Individuals at their first formal employment experience
- In the time-window 1st September 2010 – 31st December 2015
- Exclude re-employment in the same firm and job-to-job transition
- Censoring at 18 months of unemployment

Employers

- Service and Industry
- Firms with at least €100,000 in revenues
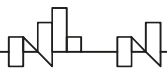
Sample selection

Workers	3201 individuals

- Direct hire fixed-term contracts
- Individuals aged 16-29
- Individuals at their first formal employment experience
- In the time-window 1st September 2010 – 31st December 2015
- Exclude re-employment in the same firm and job-to-job transition
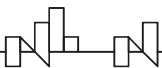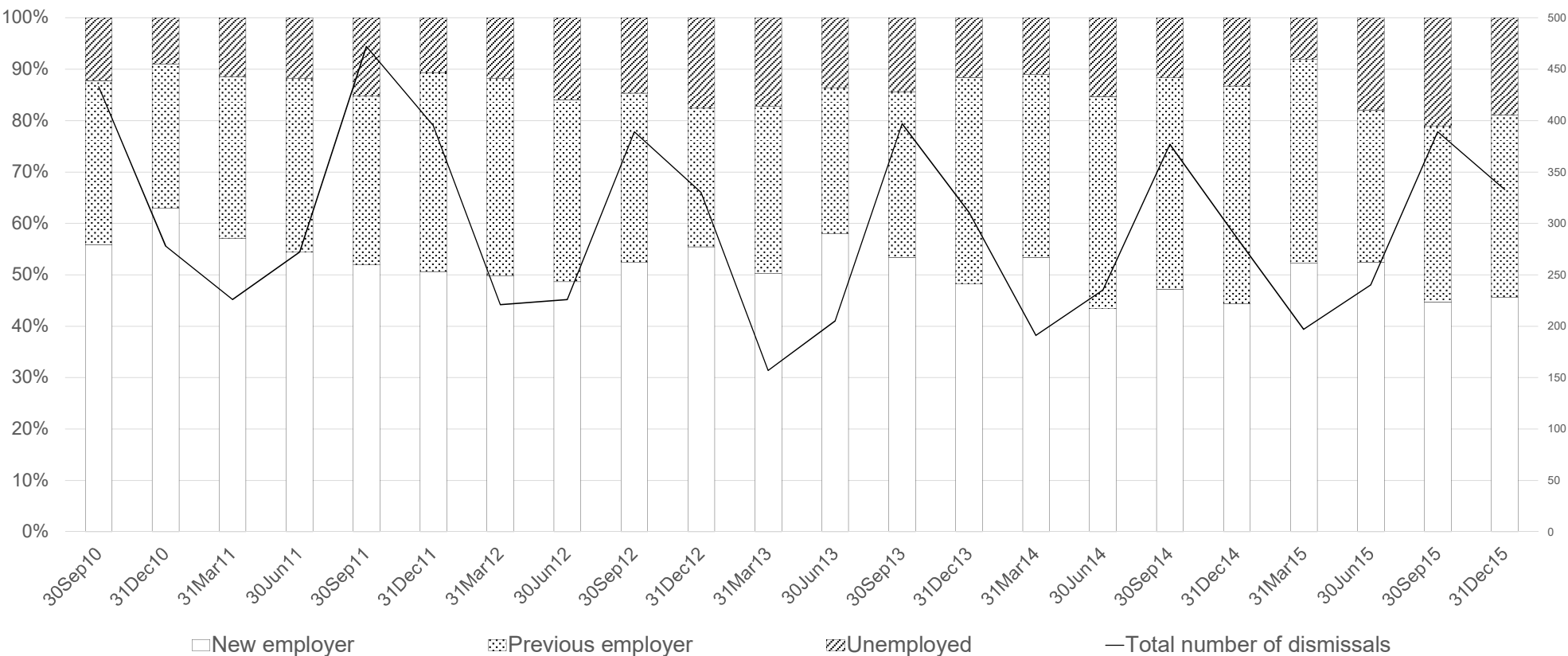- Censoring at 18 months of unemployment

Employers	1448 firms

- Service and Industry
- Firms with at least €100,000 in revenues
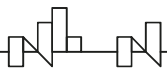
Descriptive evidence

The employment profile is independent of the cycle

Legend: New employer — Previous employer — Unemployed — Total number of dismissals

Descriptive evidence

Correlation between credit restriction and duration of unemployment
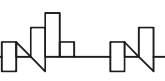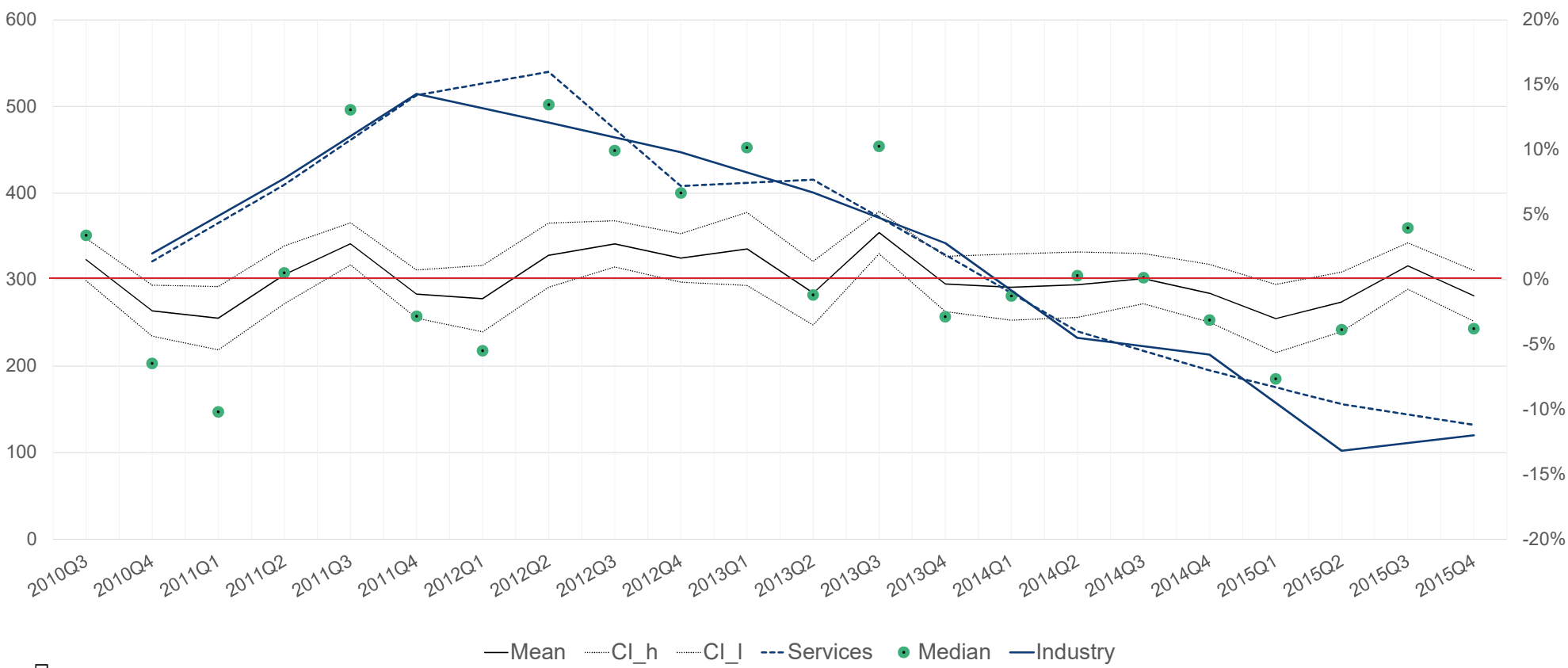
Econometric strategy

Discrete-time piecewise constant duration model. We follow individuals for 6 quarters after contract expiry.

$$Y_{iq} = F(X'\beta)$$

$$X'\beta = B'\boldsymbol{\beta_0} + \beta_1 CR_f + W'_{iq}\boldsymbol{\beta_2} + F'_{fs}\boldsymbol{\beta_3} + \epsilon_{iq}$$

i: worker   f: firm

s: semester   q: quarter

Econometric strategy

Discrete-time piecewise constant duration model. We follow individuals for 6 quarters after contract expiry.

$$Y_{iq} = F(X'\beta)$$

Baseline

Credit Restriction

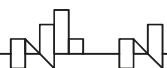$$X'\beta = B'\boldsymbol{\beta_0} + \beta_1 CR_f + W'_{iq}\boldsymbol{\beta_2} + F'_{fs}\boldsymbol{\beta_3} + \epsilon_{iq}$$

i: worker   f: firm

s: semester   q: quarter
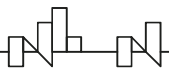
Baseline results

Odds-ratio of finding a job is 12.4% higher on average per 1% increase in intensity of credit restriction.

	Odds-ratio | Linear coeff.
Credit restriction	1.124*** | 0.117***
	(0.0224) | (0.0199)
Baseline indicators	Yes
Time indicators	Yes
Sector indicators	Yes
Province indicators	Yes
Firm indicators	Yes
Person-period observations	19206
Person-event observations	3201

NB: *** p<0.01, ** p<0.05, * p<0.1 ; standard errors in parenthesis.

Robustness 1: standard errors structures

The results are robust to clustered and robust standard errors structures

	Odds-ratio | Linear coeff.	Robust St. err.	St. err. cluster(province)
Credit restriction	1.124*** | 0.117***	1.124***	1.124***
	(0.0224) | (0.0199)	(0.0255)	(0.0410)
Baseline indicators	Yes		
Time indicators	Yes		
Sector indicators	Yes		
Province indicators	Yes		
Firm indicators	Yes		
Person-period observations	19206		
Person-event observations	3201		

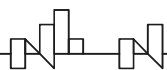NB: *** p<0.01, ** p<0.05, * p<0.1 ; standard errors in parenthesis.

Robustness 1: standard errors structures

The results are robust to clustered and robust standard errors structures

	Odds-ratio | Linear coeff.	Robust St. err.	St. err. cluster(province)
Credit restriction	1.124*** | 0.117***	1.124***	1.124***
	(0.0224) | (0.0199)	(0.0255)	(0.0410)

Baseline indicators	Yes
Time indicators	Yes
Sector indicators	Yes
Province indicators	Yes
Firm indicators	Yes
Person-period observations	19206
Person-event observations	3201

NB: *** p<0.01, ** p<0.05, * p<0.1 ; standard errors in parenthesis.

We use robust st. errors in the rest of the analysis to control for:
- auto-correlation
- heteroskedasticity

Robustness 2: baseline specification

The results are robust to different baseline specifications

	Odds-ratio	Linear coeff.	8-quarters baseline	4-quarters baseline
Credit restriction	1.124*** | 0.117*** (0.0224) | (0.0199)	1.121*** (0.0214)	1.124*** (0.0322)
Baseline indicators	Yes		
Time indicators	Yes		
Sector indicators	Yes		
Province indicators	Yes		
Firm indicators	Yes		
Person-period observations	19206	25088	12832
Person-event observations	3201	4181	2139

NB: *** p<0.01, ** p<0.05, * p<0.1 ; standard errors in parenthesis.

Robustness 3: firms' reputation

Removing firms' indicator variables

	Odds-ratio | Linear coeff.	Without firm indicator
Credit restriction	1.124*** | 0.117***	1.015
	(0.0224) | (0.0199)	(0.00944)

Baseline indicators	Yes
Time indicators	Yes
Sector indicators	Yes
Province indicators	Yes
Firm indicators	Yes
Person-period observations	19206
Person-event observations	3201

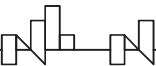NB: *** p<0.01, ** p<0.05, * p<0.1 ; standard errors in parenthesis.

Robustness 4: education

Education from PES registry

	Odds-ratio | Linear coeff.	With education
Credit restriction	1.124*** | 0.117***	1.303***
	(0.0224) | (0.0199)	(0.0445)
Baseline indicators	Yes	
Time indicators	Yes	
Sector indicators	Yes	
Province indicators	Yes	
Firm indicators	Yes	
Person-period observations	19206	12318
Person-event observations	3201	2053

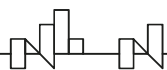NB: *** p<0.01, ** p<0.05, * p<0.1 ; standard errors in parenthesis.
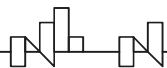
Discussion: main results

**1** | **Identification strategy** for contract scarring, based on statistical discrimination

2 | Temporary contracts induce **a negative effect on employability**. The chances are the 88% (1:1.124) of those of the reference category (a lower bound).

3 | Formal **contract history** is an important proxy of individual ability. **Temporary contracts** induce **scarring effects on new entrants**.
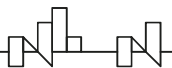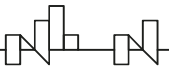
Discussion: policy implications

- Correct statistical discrimination by better information:

1 Registry of skills**: in-work certificates**?

2 A **single type of contract** to solve dualisation

Thank you!

www.eeagrants.org
Facebook, Twitter, LinkedIn, Instagram
YouTube: EEANorwayGrants
Mail: info-fmo@efta.int

Francesco Trentini
francesco.trentini@unito.it

A1. Regressors table

CREDIT CONDITIONS

RBLS
Diffusion index

FIRM CHARACTERISTICS

ASIA
Stock of employment

AIDA
Debt toward banks on revenues
ROE
Value added
NACE (1dgt)

INDIVIDUAL CHARACTERISTICS

COMPULSORY NOTICES
Gender
Age at end of contract
Province of residence
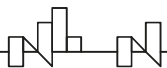Registered at PES -> Education
Contract duration
Part-time/Full-time
Cause of exit
Qualification (1dgt)
Province of workplace

A2. Descriptive statistics

|	N	N%	Mean	St.Dev	Min	Max
Workers characteristics						
Male	3201		.5245		0	1
Age at contract	3201		22.34	3.08	16	29
Education			1.89	0.65	1	3
Low	557	17.40%				
Medium	1158	36.18%				
High	346	10.81%				
Missing	1140	35.61%				
Work-relation characteristics						
Duration of unemployment	3201		319.89	215.93	0	540
Contract duration	3201		130.44	148.93	1	1122
Full-time	3201		.5601	.4964	0	1
Qualification			5.42	1.82	1	8
Manager	1	0.03%				
Intellectual worker	138	4.31%				
Technical workers	437	13.65%				
Clerks	372	11.62%				
Skilled workers (services)	920	28.74%				
Skilled worker	339	10.59%				
Drivers and semi-skilled workers	290	9.06%				
Unskilled workers	704	21.99%				

	N	N%	Mean	St.Dev	Min	Max
Firms characteristics						
Number of employees	1448		134.95	951,73	0	31651
Revenues (thousand €)	1448		35,317.23	527,434.5	7	1.92e+0
Debts towards banks on revenues	1448		15.40	19.63	0	99.66
ROE	1448		10.38	31.89	-149.15	111.44
Value added (thousand €)	1448		6001.552	31399.29	3	779283
Large Enterprises	139	9.57%				
Small and Medium Enterprises (SME)	1309	90.43%				
Small Enterprises	850	64.55%				
Micro Enterprises	459	28.69%				
Sector						
Industry	528	36,53%				
Services	920	63,47%				
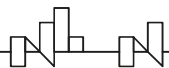
A3. Profile of employment

Profile of employment by quarter of exit and type of contract.

Legend: Unemployed · Fixed-term contrat · Other temporary contracts · Open-ended contract
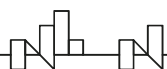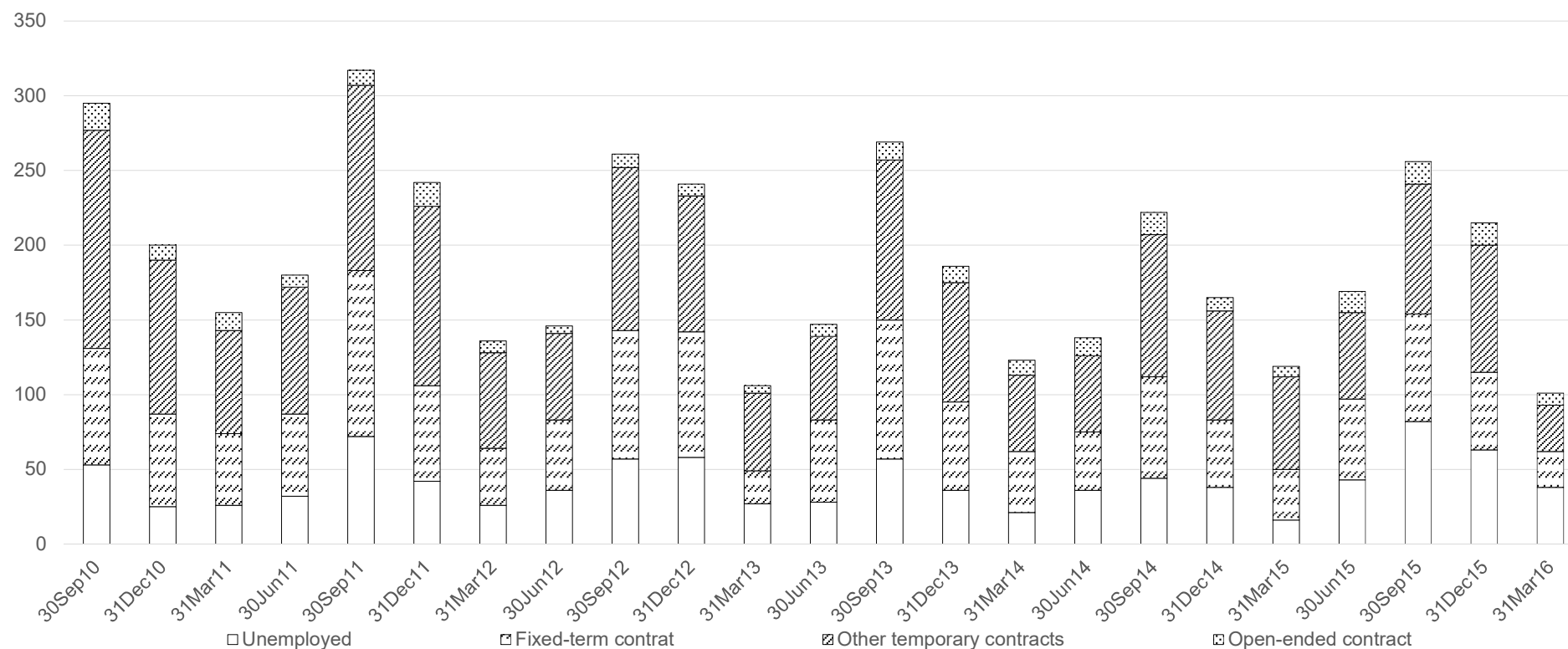
References

Addison, J.T. and Surfield, C.J. (2009), "Does atypical help the jobless? Evidence from a CAEAS/CPS cohort analysis", Applied Economics, 41(9): 1077-1087.

Barbieri, P. and Cutuli, G. (2009). Equal job, unequal pay. Fixed term contracts and wage differentials in the Italian labor market. Quaderno No. 45, Dipartimento di Sociologia e Ricerca Sociale, Università di Trento.

Barbieri P., Cutuli G., Luijkx R., Mari G., Scherer S. (2016), "Substitution, entrapment, and inefficiency? Cohort inequalities in a two-tier labor market", Socio-Economic Review, doi: 10.1093/ser/mww035

Berton, F., Devicienti, F., & Pacelli, L. (2011). Are temporary jobs a port of entry into permanent employment? Evidence from matched employer-employee. International Journal of Manpower, 32(8), 879-899

Boeri, T. (2010), "Institutional reforms and dualism in European labor markets", in O. Ashenfelter and D. Card (eds.) "Handbook of Labor Economics", Amsterdam: Elsevier

Cappellari L., Leonardi M., Dell'Aringa C. (2012), "Temporary Employment, Job Flows and Productivity: A Tale of Two Reforms", The Economic Journal, 122 (562), F188-F215.
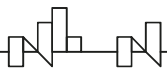
References

D'Addio, A.C. and Rosholm, M. (2005), "Exits from temporary jobs in Europe: a competing risk analysis", Labor Economics, 12(4): 449-468

Gash, V. and McGinnity, F. (2007), "Fixed-term contracts – the new European inequality? Comparing men and women in West Germany and France", Socio-Economic Review, 5(3): 467-496

Güell, M. and Petrongolo, B. (2007), "How binding are legal limits? Transitions from temporary to permanent work in Spain", Labor Economics, 14(2): 153-183.

Ichino, A., Mealli, F. and Nannicini, T. (2008), "From temporary help jobs to permanent employment: what can we learn from matching estimators and their sensitivity?", Journal of Applied Econometrics, 23(3): 305-327.

Magnac, T. (2000), "Subsidised training and youth unemployment: distinguishing unobserved heterogeneity from state dependence in labor market histories", The Economic Journal, 110(466): 805-837.

Mooi-Reci, I. and Dekker, R. (2015), "Fixed-term contracts: short-term blessings or long-term scars? Empirical findings from the Netherlands 1980-2000", British Journal of Industrial Relations, 53(1): 112-135

Stiglitz, J.E. (1973), "Approaches to the economics of discrimination", The American Economic Review, 63(2): 287-295