Are flexible workers more insecure?
An integrated approach based on micro-data

Fabio Berton [ad]
Matteo Richiardi [bd]
Stefano Sacchi [cde]

[a]University of Eastern Piedmont
[b]University of Turin
[c]University of Milan
[d]LABORatorio R. Revelli
[e]Collegio Carlo Alberto

Increasing Labor Market Fkexibility: Boon or Bane?
IAB, Nuernberg, March 18 2011

Outline

Motivation
the great risk shift

- Big transformation of labor markets in many Oecd countries over the past 20 years

- Objective: boost competitiveness, in a more dynamic, globalized economic environment [Oecd 1994]

- Strategy: flexibilization (at the margin), i.e. by easing the conditions under which a worker can be hired with non-standard work arrangements

- Implications:
  - the share of temporary workers reached 13.5% in the EU27 in 2009 –it was almost 15% before the crisis— and topped 25% in Spain, 22% in Portugal and 26% in Poland.
  - The share of part-time workers reached 18.8% (21.6%) in the EU27 (EU15) in 2009, with a spike in the Netherlands (48.3%) and many countries well over 20% (Belgium, Denmark, Germany, Ireland, Austria, Sweden, the UK, Iceland and Norway; Switzerland is at 34.6%).

- This strategy puts forward a potential problem of (increasing) worker insecurity, in as much as
  - many temporary jobs merely substituted more protected positions [Kahn 2010];
  - involuntary part-time work is high and increasing (18.9% in the EU15 in 2009 up from 12.8% in 2000; 28.7% in France, 29.2% in Greece, 34.0% in Italy, 46.8% in Spain).

Who bears the adjustment cost?

- *The great risk shift* [Hacker 2006]: from firms to...
  ... individuals?
  ... the State?
- The answer depends crucially on the interaction between the functioning of the labor market and the social protection system.
- From this interaction descends worker security, defined as
  employment security + income (i.e.,wage and social) security.
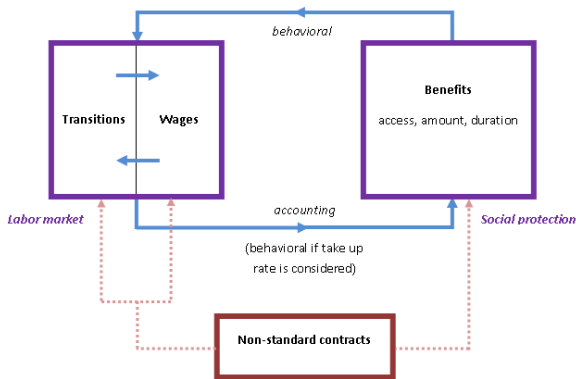
The literature

The interaction between labor market dynamics and social protection is under-investigated in the economic literature:

- effects of non-standard contracts on subsequent career ('stepping stone' or 'dead end'?) [Addison et al. 2009; Booth et al. 2002; De Graaf-Zijl et al. forthcoming; Gagliarducci 2005; Jahn and Rosholm 2010; Ichino et al. 2008]
- wage discrimination for non-standard workers [Addison and Surfield 2007; Oecd 2008; Comi and Grasseni 2010]
- effects of social protection (e.g. UB) on labor supply [Schmieder et al. 2010]
- 'narrow' questions, causality is explicitly modeled, but the broad picture is lost

The broad picture is taken into account in the political science literature, but:

- most studies focus on the macro level, e.g. Häusermann and Schwander [2010], Tangian [2010]
- heterogeneity is lost

Our contribution

What we do:

- separately investigate the relationship between non-standard work arrangements and the three main determinants of worker security, namely employment continuity, wages, and access to social protection

- propose a summary measure which evaluates in the medium run the three elements above through a single monetary metric, allowing for international comparisons;

- document an increasingly important form of labor market dualization.

What we do not do:

- provide an evaluation of labor market reforms (we do not estimate counterfactuals)

- estimate behavioral responses to labor market policies. However:
  - our summary measure of worker insecurity catches them up
  - it allows for worst case or best case scenario analysis of costs and benefits of poilcy reform proposals (what would happen if behaviors would not change)

Why Italy?

Italy as a particularly apt case:

- it has followed a clearcut strategy of labor market flexibilization through non-standard contracts entailing lower costs of labor factor as compared to standard (open ended, full time) contracts;
    - lower termination costs (fixed term contracts) AND lower unitary costs –wages and social contributions (apprentices, W&S independent contractors);
    - 17% of employees (13% of total employment) are employed with a non-standard contract;
    - more than 80% of new contracts are non-standard;
- it is characterized by a Bismarckian (i.e. based on social insurance) social protection system, without a social assistance safety net.
    - Conditions for eligibility to social protection have remained almost unchanged (same requirements for UB since 1919)
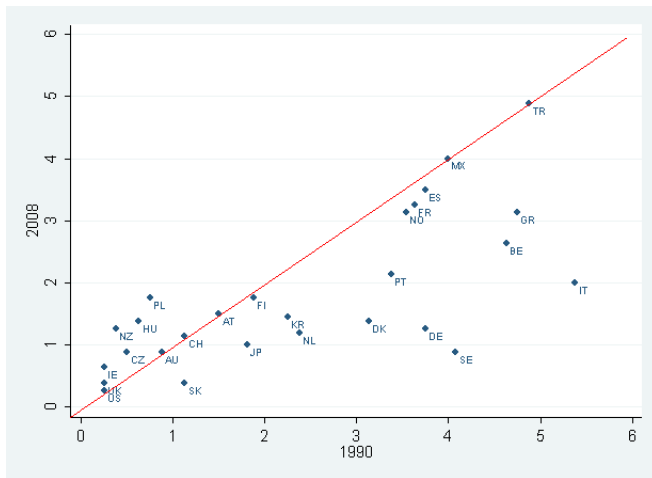
EPL index, open-ended contracts
variation 1990-2008, selected countries
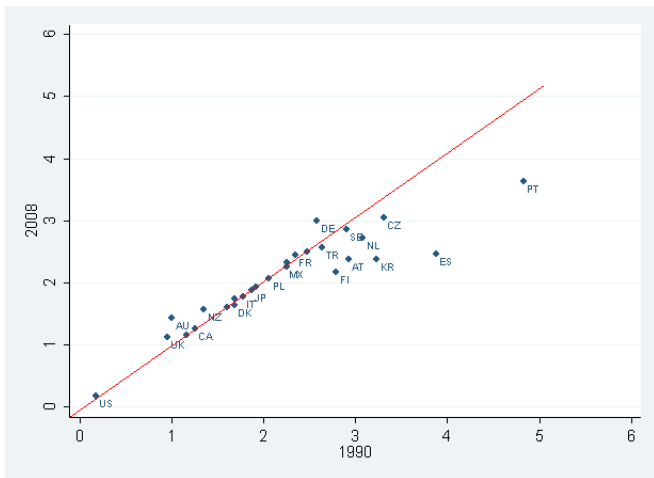
EPL index, temporary contracts
variation 1990-2008, selected countries

The data

- Empirical analysis mostly done on WHIP, based on social security administration data.

- Reference population: all employees of the private sector, temporary workers from the public administration, craftsmen, traders, collaborators, professionals without an autonomous security fund and benefit recipients (unemployment, collective dismissals, short-time, maternity and sickness allowances).

- Sampling rate: 1/90

- Time coverage: 1985-2003 (now 2004). From 1998 detailed information on contracts.

- *Pros*: administrative data $\Rightarrow$ universal coverage, compulsory, no measurement error, no recall biases

- *Cons*:
    - open-ended contracts in the public sector not observed
    - not possible to distinguish between unemployment and non-employment
    - limited number of variables/controls

- *Filtering*:
    - In: Individuals aged 25-55 in 1998
    - Out: labor market entrants (individuals must be observed in 1985-1997)
    - Out: long-term non-employed (individuals must be observed for at least 36 out of 72 months in 1998-2003)

Employment continuity

1. Temporary contracts have shorter durations than open-ended ones (but open-ended contracts are far from being 'permanent')

2. Temps are roughly as likely as standard workers to enter non-employment when the job spell ends

3. Temps experience on average non-employment spells of shorter duration

4. (2) and (3) are not sufficient to compensate for (1)

5. Moreover, temps are more likely to get other temporary contracts

⇒ temporary jobs are associated to lower employment security.

Wages

- Non-standard workers -in particular apprentices and W&S independent contractors- have on average lower gross pay as compared to standard workers, even controlling for worker and job characteristics.
- In addition, the pay packets of independent contractors -an important category of non-standard workers- are worth less than those of standard workers, due to non-wage components (mainly end-of-service allowance).
- Combining the legal and economic features of their contracts, the discrimination against W&S independent contractors, which is due to their limited bargaining power and lack of an explicit benchmark (collective agreement) when wage levels are set, is in the order of 30% for those independent contractors who can be regarded as 'disguised employees', i.e. having continuous employment relationships with the same firm and receiving monthly wages, and can be as high as 50% for the whole group.

Gross pay differentials on standard contracts

Data:	WHIP		PLUS	
Period:	1998-2003		2005	
	[a]		[b]	
Sample:	extended	restricted	extended	restricted
No. of observations:	278,844	107,492	13,247	13,054
Open-ended part-time	14.3%	[c]	6.7%	6.7%
Direct hires	n.s.	-1.1%	n.s.	n.s.
Agency	3.3%	n.s.	n.s.	n.s.
Apprentices	-31.0%	-14.2%		
W&S Independent contractors	-27.9%	-9.7%	-27.0% [d]	-23.3% [d]

(a) Fixed-effects estimation with logarithm of equivalent annual full-time gross pay as dependent variable. Control variables: age, gender, geographical area, occupation.
Extended sample: all workers. Restricted sample: only workers who worked continuously for an entire year.
(b) OLS with logarithm of equivalent annual full-time gross pay as dependent variable. Control variables: gender, level of education, age, seniority in the firm, geographical area, marital status and characteristics of the family, job and sector. The R2 in the two specifications is 27%-28%. Extended sample: all workers. Restricted sample: only workers with contracts lasting one year or more.
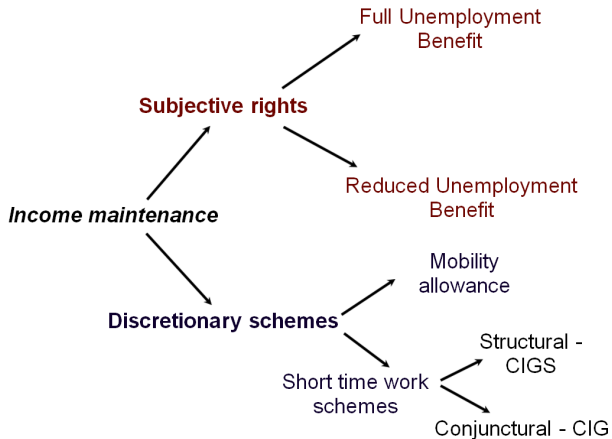(c) There are no part-time employees in the restricted sample.
(d) Includes other minor contracts.
n.s. – significance level below 95%
Source: own elaborations on WHIP and PLUS data

Social protection programs

Social protection coverage

- Discretionary schemes are generally available for standard workers only.
- Some non-standard contracts (W&S IC, apprentices) are not covered by unemployment insurance.
- Other non-standard contracts have formal access, but eligibility conditions are difficult to be met.
- Same thing for other programs (maternity and sickness allowances).

access to UB in case of job loss

	Column percentage	No benefit	Access to FUB	Access to RUB	Row total
			%		
Open-ended full-time (standard)	73.8	9.1	86.8	4.1	100.0
Open-ended part-time	11.5	19.3	69.7	11.0	100.0
Apprentices	5.5	78.9	1.3*	19.8	100.0
Direct hires (total)	6.3	38.1	42.8	19.1	100.0
Part-time direct hires	*1.3*	*47.1*	*29.5*	*23.4*	*100.0*
Agency (total)	1.4	47.8	33.9	18.3	100.0
Part-time agency	*0.2*	*63.4*	*17.3*	*19.3*	*100.0*
Total	100.0	17.1	75.9	7.0	100.0

*: thanks to a preceding job

Source: own elaborations on WHIP data

A monetary measure of worker insecurity (precariousness)

- We devise a comprehensive monetary measure of what one gets from participation to the labor market and work-related social protection in the medium run (1998-2003).

- It includes:
  - the wage earned, net of the contributions paid to the social security administration and of taxes;
  - the social protection benefits received, excluding pensions

- Consistently with the definition of relative poverty in the EU, we define as precarious those workers whose total net income is less than 60% of the median of its distribution on the whole population.

- We apply 2008 fiscal and social protection rules in order to compute total net income (assuming no behavioral changes: we also use the historical rules, with very small differences)

Distribution of total net income

- 9.3% of workers, excluding part-time, are precarious (13.9% with part-time)
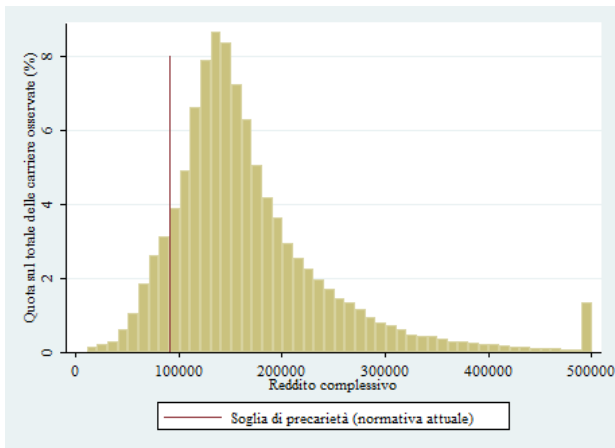
Values in Euros (2008 prices). Right truncation at 500,000 E. The vertical line is the insecurity threshold.
Source: Own computation on WHIP data.

Precariousness: distribution
by type of contract, december 2003

	Part-time excluded (%)	Part-time included (%)
Standard workers	5.7	5,5
Part-time open-ended workers	-	49,8
Direct hires / agency	23.1	32,1
Apprentices	9.9	13,8
W&S independent contractors	40.3	45,5

Source: Own computation on WHIP data

Precariousness: persistence

Variation of precariousness status from 1998-2000 to 2000-2003. Precariousness computed on a 3-year basis.

1998-2000 / 2001-2003	Not precarious %	Precarious
Overall		
Not precarious	93.57	6.43
Precarious	**55.68**	44.32
Men		
Not precarious	95.82	4.18
Precarious	71.71	28.29
Women		
Not precarious	91.22	8.78
Precarious	**28.30**	71.7
Age: 25-30		
Not precarious	90.68	9.31
Precarious	56.54	43.46
Age: 31-40		
Not precarious	93.73	6.27
Precarious	54.41	45.59
Age: >40		
Not precarious	95.8	4.2
Precarious	56.54	43.46
More frequent status:		
Standard		
Not precarious	95.34	4.66
Precarious	74.77	25.23
Non-standard		
Not precarious	79.89	20.11
Precarious	**29.94**	70.06
Unemployed		
Not precarious	93.54	6.46
Precarious	51.54	48.46

Precariousness: memory

Share of precariousness workers, conditional on 1998 status. Precariousness computed on a yearly basis.

| Conditioning on 1998 status	T+1	T+2	T+3 %	T+4	T+5	T+5 unconditional
Overall						
Not precarious	6.5	8.32	9.72	11.09	12.21	15.92
Precarious	66.63	42.54	35.2	30.15	29.54	
Males						
Not precarious	5.39	6.16	7.20	8.23	8.82	11.26
Precarious	65.63	34.57	27.19	22.18	21.15	
Females						
Not precarious	8.86	12.9	15.07	17.16	19.39	25.18
Precarious	38.23	55.28	48.03	42.91	42.97	
Age: 25-30						
Not precarious	8.06	11.10	12.84	14.77	16.24	19.64
Precarious	60.55	44.42	34.71	30.39	29.98	
Age: 31-40						
Not precarious	6.66	8.33	9.73	10.80	11.56	15.38
Precarious	66.97	44.15	36.87	31.00	29.91	
Age: >41						
Not precarious	5.02	5.98	7.12	8.38	9.64	13.24
Precarious	73.24	38.16	33.51	28.71	28.53	
More frequent status:						
Standard						
Not precarious	2.89	2.36	2.40	2.37	2.05	8.13
Precarious	25.64	14.42	12.57	10.45	7.30	
Non-Standard						
Not precarious	10.01	16.74	18.75	20.32	20.74	35.13
Precarious	59.85	54.93	52.25	46.58	44.65	
Unemployed						
Not precarious	73.75	81.34	83.59	84.92	83.70	56.95
Precarious	98.02	95.77	92.97	90.55	90.29	

Total net income: volatility

Average annual total income and coefficient of variation of annual total income, 1998-2003

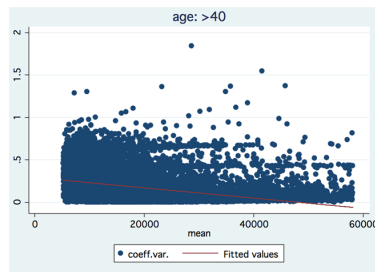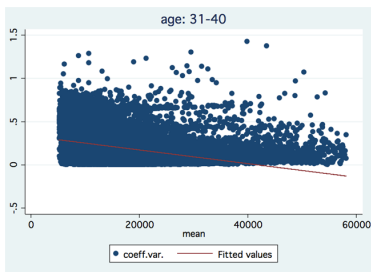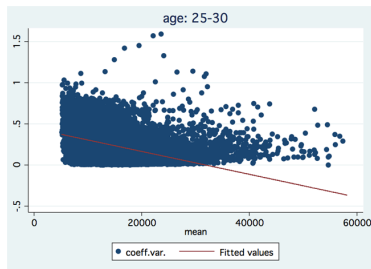| Yearly total income	Mean	Coefficient of variation
Men	19,987	0.18
Women	15,746	0.21
Age 25-30	16,233	0.22
Age 31-40	18,560	0.18
Age >41	20,660	0.16
More frequent status:		
Standard	19,713	0.17
Non-standard	13,280	0.26
Unemployed	9,757	0.56
Total	18,569	0.15

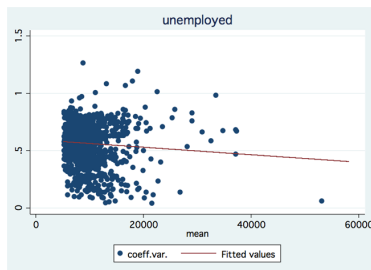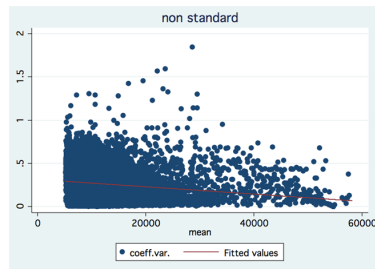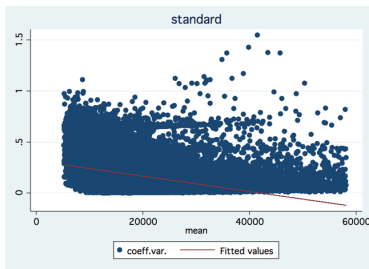Source: Own elaborations on WHIP data

Volatility graphs
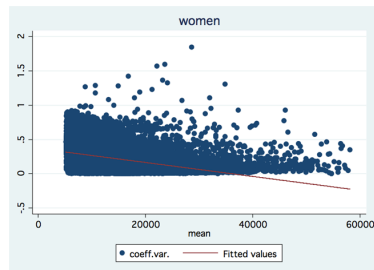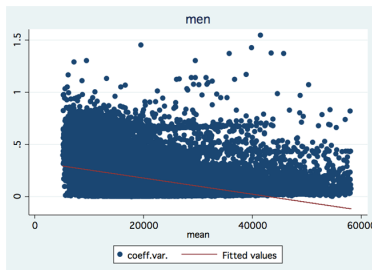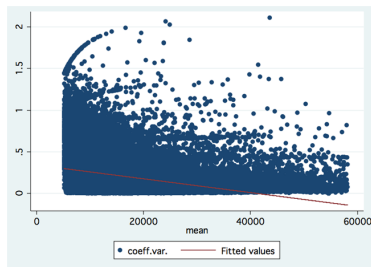
Volatility graphs

Volatility graphs

Impact of non-standard contracts
Relative risk of being precarious

With unemployment and mobility benefits

	(1)	(2)	(3)
Gender (female)	2.10 ***	1.86 ***	
Age (yrs., in 1998)	0.98 ***	0.99 ***	0.99 ***
Most frequent status: Non-standard	8.60 ***	7.76 ***	3.70 ***
Most frequent status: Unemployed	33.5 ***	204.8 ***	180.9 ***
Fixed effects	No	No	Yes
Precariousness defined over	6 years	1 year	1 year
No. of observations	54,703	426,402	154,452

*** significant at a 99% confidence level
Source: Own elaborations on WHIP data

Main results

- The risk is basically shifted to weaker (non-standard) workers.
- Non-standard workers are worse off with respect to all the relevant dimensions: they have lower employment security, earn lower wages, have less access to social protection, experience higher income volatility.
- This remains true even after controlling for individual unobserved characteristics (sorting).
- The strategy of increasing flexibility at the margin, offering firms a menu of non-standard contracts as an alternative to open-ended ones is inconsistent with pure insurance-based social protection systems, no matter how generous the entitlements are, because a large fraction of those in need is denied access to the benefits.

Thank you for your attention.

`matteo.richiardi@unito.it`