The healthy fright of losing a good one for a bad one

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Abstract

In this paper we study the effect of different degrees of employment protection on absenteeism, paying attention to differences between workers moving from protected jobs to insecure jobs, on the one hand, and workers moving from insecure to secure jobs, on the other hand. Using a large representative sample of Italian workers, we show that workers' reaction in terms of sickness leave is not symmetric: losing protection (bad news) is more effective than gaining it (good news). We claim that this asymmetry is consistent with the behavior of financial markets responding to good and bad news. In our case, workers react in a more prudential way to improvements in their employment status ("wait and see" strategy), while they do immediately adjust to worsening job security by showing off healthy behavior.

1. Introduction

Workers' health status is not perfectly observable by employers. The sickness insurance system, or the employer, may provide for restrictions and obligations in order to claim sick leave, but absence is ultimately a worker decision. Several factors affect this decision: the worker's actual health status, her value for leisure, job satisfaction, as opposed to work stress and dissatisfaction, and incentives.

Incentives may change. Along her active life, a worker may experience several jobs, characterized by different working conditions, complexity, co-workers and protection from firing. Ceteris paribus, workers covered by higher employment protection are less exposed to the threat of losing their job when caught shirking, therefore they have higher incentive to report as sick. Then, when the employment contract changes, worker behavior should also change.

We show that workers' reaction is not symmetric: losing protection is more effective than gaining it.

A bunch of papers already studied the relationship between employment protection and workers' effort, measured in terms of absence from work. Lindbeck et al. (2006) and Olsson (2009) exploit a natural experiment in Sweden to estimate the effect of lowering employment protection on sickness absence. Ichino and Riphahn (2004, 2005) find that absenteeism increases when the worker get entitled to higher protection. Scoppa (2010) experiments with several measures of job security and consistently find a negative correlation between security and absence due to sickness. Among these studies, only Ichino and Riphahn (2005) clearly rule out any composition effect by analyzing the same pool of workers before and after the probationary period. Their estimates show a significant increases in absence once employment protection is granted. Nevertheless, it is difficult to generalize those findings. First, they rely on a specific case study, employees in a large Italian bank. Second, these workers have all being hired under permanent contracts, subject to a short probationary period. The incentives faced by this selected sample are likely to be very different from those faced by a representative temporary workers, who may or may not be renewed as permanent.

We present empirical evidence based on a large representative sample of Italian workers employed in the private sector, WHIP[1], drawn from administrative data. Around 370,000 individuals are followed from 1985 to 2004 and, since 1998, the

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[1] Worker Histories Italian Panel (WHIP) is a database of individual work histories, based on Inps (Italian Social Insurance Institute) administrative data.

information about the contract type is provided.[2] Controlling for individual and firm characteristics, we can identify the effect of different degrees of employment protection on absenteeism. Furthermore, we depart from existing literature because, by exploiting the panel dimension of the data, we can assess the different magnitudes of the employment protection effect for workers moving from safe jobs – permanent contract – to insecure jobs – fixed-term and temporary agency employment arrangements – with respect to workers changing from insecurity to security.

Overall, the likelihood to experience a period of sickness is significantly lower for temporary workers but with remarkable differences. Individuals formerly employed under a temporary contract, do not change their absence rate when they get a permanent contract. Instead, permanent workers significantly reduce absence when they lose employment protection. This suggests that individuals react in a different way to improvement in their working conditions, with respect to worsening.

We then explore whether this asymmetric behavior is due to a slow adjustment to the new job. Regressions including lags in the contract type show that this is actually the case for workers gaining employment protection, while those loosing it adjust immediately. This is in line with the literature on bad and good news in the financial market. Good news are met with a prudential behavior and small, lagged movements in the outcome variable. Instead, bad news induce an immediate and large reaction.

The paper is organized as follow. In Section 2 we summarize the literature on workers absenteeism. Data are described in Section 3. In Section 4 we present our analysis of the effect of job security on absence. The asymmetric results are discussed in Section 5, where we propose and test the good news vs. bad news hypothesis. Section 6 concludes.

2. Literature

Both the theoretical and the empirical literature on workers' absenteeism have mainly focused on labor supply aspects. The analysis has been based on the standard labour supply model in which the worker, given her health status and preferences for leisure, chooses either to work or to claim sick leave. The resulting (absence) behavior is explained by (i) worker's characteristics -- such as age, gender, marital status, etc. --

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[2] Before 1998, most of the contracts were permanent in Italy and seasonal and fixed-term arrangements were allowed only in restrictive circumstances.

that determines the health status and the marginal utility of leisure of the worker; (ii) contractual arrangements – like working hours, wage -- and (iii) economic incentives -- sickness insurance system -- that affect the cost of absence.

A common finding in the empirical studies is that females and older workers exhibit higher sickness rates than males and young workers. Higher wages provide an effective incentive to work, while longer working hours are associated with higher absenteeism (Barmby et al. 2004) On the other side, flexible working-time and part-time arrangements decrease sickness absence (Lusinyan and Bonato, 2007).

Several papers show that absenteeism is very sensitive to the generosity and duration of sickness benefits. (Johansson and Palme, 1996; Barmby et al. 2002; Bergendorff et al. 2004; Lusinyan and Bonato 2007).

The threat of being fired can act as a worker discipline device. As a matter of fact, the empirical evidence suggests a negative correlation between the unemployment rate and absenteeism rate (Leigh, 1985; Arai and Skogman Thoursie, 2005). Furthermore, higher employment protection is associated with higher absenteeism, since it decreases the expected cost of absence for the worker.

A theoretical model of workers' absence and employment protection has been proposed by Ichino and Muehlheusser (2008) and empirically tested in Ichino and Riphahn (2004, 2005). Further evidence in support of the discipline device of low protection is provided by Lindbeck et al. (2006) and Olsson (2009), for Sweden, and Scoppa (2010), for Italy.

3. Data description

The Worker Histories Italian Panel (WHIP) is a database of individual work histories, based on INPS (Italian Social Insurance Institute) administrative archives. INPS cover all the workers employed in the private sector and self-employed. WHIP consists of a large representative sample of around 370,000 individuals, who are followed from 1985 to 2004. For each of these people the main episodes of their working careers are observed. Furthermore, workers data are linked with firm characteristics taken from the INPS Firm Archive.

Each worker may be associated with more than one employment relationship within the same year. In every record we observe worker's age, gender and region of

birth, contract type (from 1998 onwards), the beginning and end of the employment spell, the number of paid working days, the yearly gross wage, whether the worker has been on sick leave, maternity leave or temporary lay-off (*Cassa Integrazione Guadagni*, CIG, which is a sort of Wage Guarantee Fund). Firm information includes size, industry, location of the head office and of the workplace.

Since we are interested in the effect of employment protection on absence due to illness, we exclude self-employed from the analysis and concentrate on employees. We also exclude those who have been absent during the year due to CIG or maternity, top executives,[3] and workers older than 54.[4] Firms information is available only until 2002, therefore the sample used in the analysis cover the period 1998-2002. In the end, we are left with more than 390,000 individual-year observations.

For each observation we can construct two absence indicators:

- `sick`: whether the individual had any absence due to illness during the year
- `absence_rate`: number of lost working days divided by the number of working days during the year

The number of lost working days is constructed using the information about the length of the employment spell and the number of paid working days. When the sickness benefit is paid by the national insurance system, those days are not included among paid working days.[5]

Sickness absence varies greatly in the sample. Most of the workers are never sick, but some of them display a large number of absent days. The overall standard deviations is over 4% (10 days over a full working year), while the average is lower than 1% (2 days over a full working year). The average absenteeism rate is increasing with age and decreasing with wage, but due to the large variability, unconditional differences are not

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[3] Top executives receive sickness benefits not from the national insurance system, but from the employer. Therefore the sickness spells are not necessarily recorded in administrative data.

[4] There are several reasons to exclude older workers. First, they are less likely to be employed under a temporary arrangement and to change job; therefore they provide less information about the effect of the contract type. Second, the pattern of sickness absence changes across age groups and is peculiar for the old. Older workers are more likely to be sick due to health problem, but, on the other side, absence may be lower since they are a selected sample of individuals who are particularly attached to their job, since they are still at work eventhough they could benefit from pension (The retirement age is currently set at 66 and 61 years for males and females, respectively, but it used to be lower and it was not unusual to get retired around 50).

[5] In practice, the national insurance system pays 50% of the base salary for every days on sick leave exceeding the third day, and collective agreements often provide for the employer to compensate the worker up to 100% the base wage, including the waiting period. Therefore the absence_rate underestimate the true incidence of absenteeism.

statistically significant. Nor a clear correlation with the employment contract is evident in the data (Table A.1).

4. Empirical analysis

As a preliminary analysis, we estimate the probability of being absent due to illness in a given year using the dummy `sick`. This indicator is less informative than `absence_rate`, since it does not discriminate between workers with low and high absenteeism. Nevertheless, probit estimates clearly show that workers under temporary employment arrangements– seasonal jobs, fixed-term and temporary agency employees – are less likely to be on sick leave.

The marginal effects of the contract type, with respect to the permanent contract, are reported in Table 1 for different samples: (i) all workers, (ii) workers who changed employment contract from a temporary one to a permanent one in two consecutive years, (iii) workers who changed employment contract from a permanent one to a temporary one.[6] We control for workers' characteristics (gender, age, age squared, region of birth), qualification, log monthly wage, length of the employment spell and length squared, firm size, industry, workplace location, and year dummies.

In the upper panel of Table 1, the full sample is considered. The likelihood to be absent with respect to permanent workers, is 6.1 percentage points lower for seasonal workers; 3.3 percentage points lower for employees on fixed-term contracts; and 5.4 percentage points lower for temporary agency workers. Columns (2) and (3) replicate the estimates after restricting the sample to employment spells of at least 1 and 2 months, respectively. Columns (4) and (5) refer to the sample of males and females. The estimated effects of the contracts are basically unchanged.

The negative effect of temporary employment is confirmed in the lower panels. Comparing the second panel – from insecure jobs to secure jobs – with the third panel – from secure jobs to unsecure jobs – we find no clear cut evidence of asymmetry.

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[6] See the transition matrix in Table A.3.

Table 1. Probit estimates for the probability of being absent due to illness – marginal effects

	(1)	(2) >1month	(3) >2month	(4) M	(5) F
Seasonal	-0.061***	-0.065***	-0.070***	-0.064***	-0.052***
	[0.003]	[0.003]	[0.004]	[0.005]	[0.004]
Fixed-term	-0.033***	-0.033***	-0.035***	-0.026***	-0.041***
	[0.002]	[0.003]	[0.003]	[0.003]	[0.003]
Temporary agency	-0.054***	-0.057***	-0.060***	-0.058***	-0.044***
	[0.005]	[0.005]	[0.005]	[0.006]	[0.007]
Observations	258,476	251,515	242,305	177,144	80,884

Sample: temporary to permanent

	(1)	(2) >1month	(3) >2month	(4) M	(5) F
Seasonal	-0.048***	-0.052***	-0.054* **	-0.052***	-0.060***
	[0.010]	[0.010]	[0.011]	[0.010]	[0.013]
Fixed-term	-0.030***	-0.032***	-0.034***	-0.032***	-0.021***
	[0.005]	[0.005]	[0.006]	[0.005]	[0.007]
Temporary agency	-0.036***	-0.042***	-0.046***	-0.043***	-0.031
	[0.014]	[0.014]	[0.015]	[0.014]	[0.020]
Observations	25,130	24,303	23,117	24,179	16,396

Sample: permanent to temporary

	(1)	(2) >1month	(3) >2month	(4) M	(5) F
Seasonal	-0.055***	-0.060***	-0.063***	-0.061***	-0.070***
	[0.009]	[0.009]	[0.010]	[0.009]	[0.012]
Fixed-term	-0.020***	-0.022***	-0.024***	-0.022***	-0.023***
	[0.005]	[0.006]	[0.006]	[0.006]	[0.007]
Temporary agency	-0.041***	-0.045***	-0.051***	-0.046***	-0.048***
	[0.012]	[0.013]	[0.014]	[0.013]	[0.017]
Observations	19,757	18,926	17,764	18,772	13,226

Notes: ***, **, * indicates, respectively, statistical significance at 1, 6, 10 percent level.
Estimates are obtained using Probit model. All regressions control for: workers' characteristics (gender, age, age squared, region of birth), qualification, log monthly wage, length of the employment spell and length squared, firm size, industry, workplace location, and year dummies. The marginal effects are computed at average values of the covariates.
In column (2), all employment relationships shorter than 1 month are excluded from the sample. In column (3), all employment relationships shorter than 2 month are excluded. Column (4) and (5) consider only males and females, respectively.

Instead, asymmetry is evident in the effect of the employment contract on `absence_rate`.

Estimates are reported in Table 2 for the same samples employed in the probit regressions. The first column shows the results of pooled OLS regression. Columns (2) to (9) apply a fixed effect estimator.

Table 2. Regressions on absence ratem (percentage points) – the effect of the contract type.

	(1) OLS	(2) FE	(3) FE >1m	(4) FE >2m	(8) FE M	(9) FE F
Seasonal	-0.557***	-0.471***	-0.495***	-0.488***	-0.569***	-0.352*
	[0.076]	[0.126]	[0.131]	[0.142]	[0.164]	[0.197]
Fixed-term	-0.353***	-0.307***	-0.276***	-0.206***	-0.284***	-0.342***
	[0.041]	[0.059]	[0.061]	[0.064]	[0.073]	[0.101]
Temporary agency	-0.591***	-0.377**	-0.265	-0.118	-0.481**	-0.164
	[0.097]	[0.160]	[0.173]	[0.188]	[0.198]	[0.275]
Observations	254,482	254,834	247,893	238,816	174,518	80,316
Number of ind.		76,814	74,737	71,987	50,347	26,467
Sample: temporary to permanent						
Seasonal	-0.315*	-0.336	-0.358	-0.227	-0.343	-0.323
	[0.177]	[0.217]	[0.227]	[0.240]	[0.296]	[0.307]
Fixed-term	-0.153*	-0.126	-0.129	-0.068	-0.121	-0.148
	[0.082]	[0.088]	[0.091]	[0.094]	[0.116]	[0.134]
Temporary agency	-0.293	-0.159	-0.002	-0.262	-0.325	0.206
	[0.231]	[0.314]	[0.336]	[0.357]	[0.423]	[0.457]
Observations	24,586	24,596	23,775	22,619	16,000	8,596
Number of ind.		6,179	6,161	6,101	3,972	2,207
Sample: permanent to temporary						
Seasonal	-0.394**	-0.284	-0.326	-0.292	-0.549*	0.134
	[0.204]	[0.255]	[0.267]	[0.290]	[0.340]	[0.377]
Fixed-term	-0.030	-0.205**	-0.221**	-0.191*	-0.217	-0.206
	[0.099]	[0.109]	[0.113]	[0.118]	[0.137]	[0.179]
Temporary agency	-0.002	0.038	0.076	-0.128	-0.291	0.757
	[0.275]	[0.347]	[0.372]	[0.403]	[0.443]	[0.560]
Observations	19,241	19,250	18,422	17,282	12,854	6,396
Number of ind.		4,849	4,830	4,760	3,191	1,658

Notes: ***, **, * indicates, respectively, statistical significance at 1, 6, 10 percent level.
All regressions control for: workers' characteristics (gender, age, age squared, region of birth), qualification, log monthly wage, length of the employment spell and length squared, firm size, industry, workplace location, and year dummies. The marginal effects are computed at average values of the covariates.
Estimates in column (1) are obtained using pooled OLS, all the other columns use FE methods. In column (3), all employment relationships shorter than 1 month are excluded from the sample. In column (4), all employment relationships shorter than 2 month are excluded. Column (5) and (6) consider only males and females, respectively.

Again, less protected workers are associated with lower absenteeism. In the full sample, using FE (Col. 2) seasonal workers' absence rate is 0.47 p.p. lower than

permanent workers, the reduction is 0.31 p.p. for fixed-term contracts and 0.38 p.p. for temporary agency employee.

Results change dramatically in the lower panels. The absence rate does not significantly change for workers moving from unprotected contracts to protected contracts (panel 2). Instead, formerly permanent workers significantly reduce absence when they lose employment protection (panel 3).

5. Discussion

Our main results only partly confirm the discipline device effect of low employment protection found in the literature. Although workers employed under temporary contracts display lower absence, the same worker does not respond in the same way to a decrease or to an increase in job security. A permanent worker who loses her job for an unprotected one, adjusts her behavior by significantly reducing absence. Instead, gaining a protected job does not imply higher absences.

The former result is in line with Lindbeck et al. (2006) and Olsson (2009). The lowering of employment protection makes the threat of dismissal more credible and, therefore, absence cost increases.

The latter result apparently contradicts Ichino and Riphahn (2005). They show that employees increase absenteeism as soon as the probationary period ends and they get entitled to full employment protection. On the contrary, we find that temporary workers do not change their behavior once they get a permanent contract.

A possible explanation is that temporary workers face different incentives than workers hired under a permanent contract, with a probationary period. The formers have a relatively lower probability to get renewed as permanent, hence the expected benefit from low shirking is limited. In our sample, among the temporary workers who have been employed in two consecutive years, only 15% got a permanent job.[7] Instead, in Ichino and Riphahn sample, out of 895 employees, only 37 are fired or quit during the probationary period, i.e. 96% of them are continued, hence refraining from shirking is more valuable.

The small continuation probability can account for the irrelevance of the employment contract for the subgroup of workers moving from unsecure to secure jobs,

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[7] The percentage of conversion to permanent contract would be even smaller if we were considering also those temporary workers who moved into unemployment.

but it cannot explain the high reaction of permanent workers losing their job for a temporary one. They should also face low incentives to reduce shirking and keep their former behavior. But we consistently estimate a large adjustment. Why?

Let's rephrase the question. Getting a permanent job when it is not very likely is a good news; losing a protected job is also not very likely and can be considered a bad news. Do individuals react more to bad news than to good news? Yes, they do.

This puzzle has been well documented in the finance literature (e.g. McQueen et al., 1996). Stocks react slowly to good news, while they immediately discount bad news. If this is true for workers as well, then we would observed a lagged effect of the good news – getting a permanent contract after a temporary employment – but no lags in bad news – losing a permanent contract for a temporary one.

To test this hypothesis, we replicate regressions in Table 2 adding lags in the contract type. The sample sizes get smaller, since we require the worker to be employed in a temporary (permanent) job followed by two consecutive years under a permanent (temporary) contract. This is particularly restrictive for those changing from permanent to temporary jobs. Results are depicted in Table 3.

Table 3. Regression on absence rate – contemporaneous and lagged effect of good and bad news

	(1) OLS	(2) FE	(3) FE >1m	(4) FE >2m	(5) FE M	(6) FE F
Sample: temporary to permanent (good news)						
Seasonal	-0.853**	-0.715*	-0.510	-0.425	-0.866*	-0.445
	[0.360]	[0.393]	[0.408]	[0.415]	[0.514]	[0.594]
Fixed-term	-0.201	-0.107	-0.135	-0.093	-0.113	-0.128
	[0.135]	[0.147]	[0.149]	[0.149]	[0.185]	[0.239]
Temporary agency	-1.061**	-0.854*	-0.687	-0.706	-0.471	-1.715**
	[0.412]	[0.513]	[0.543]	[0.549]	[0.667]	[0.789]
L.Seasonal	-0.340	-0.300	-0.188	-0.406	-0.715*	0.463
	[0.252]	[0.283]	[0.290]	[0.296]	[0.373]	[0.420]
L.Fixed-term	-0.223**	-0.211*	-0.238**	-0.228**	-0.253*	-0.138
	[0.102]	[0.110]	[0.111]	[0.111]	[0.140]	[0.175]
L.Temporary agency	-0.580**	-0.627*	-0.683**	-0.803**	-1.018**	0.087
	[0.292]	[0.333]	[0.339]	[0.336]	[0.437]	[0.494]
Observations	18,388	18,391	18,196	17,934	12,656	5,735
Number of ind.		5,322	5,319	5,309	3,615	1,707

Sample: permanent to temporary (bad news)

Seasonal	-0.539**	-0.471	-0.581	-0.645	-0.716	-0.036
	[0.266]	[0.378]	[0.398]	[0.419]	[0.480]	[0.622]
Fixed-term	-0.010	-0.244	-0.277	-0.206	-0.227	-0.358
	[0.140]	[0.170]	[0.176]	[0.182]	[0.207]	[0.301]
Temporary agency	-0.259	-0.040	0.025	-0.229	-0.530	0.996
	[0.363]	[0.514]	[0.549]	[0.588]	[0.631]	[0.894]
L.Seasonal	0.352	0.423	0.344	0.310	0.200	0.642
	[0.298]	[0.350]	[0.365]	[0.381]	[0.459]	[0.540]
L.Fixed-term	0.034	-0.016	-0.010	0.024	0.159	-0.354
	[0.150]	[0.179]	[0.187]	[0.195]	[0.227]	[0.294]
L.Temporary agency	0.236	0.202	0.166	0.301	-0.050	0.805
	[0.359]	[0.431]	[0.452]	[0.472]	[0.524]	[0.768]
Observations	10,150	10,154	9,743	9,168	6,696	3,458
Number of ind.		3,613	3,525	3,406	2,319	1,294

Notes: See notes to Table 2.

Consistently with the previous results, the immediate reaction of workers receiving good news is not significant, and only marginally significant in Col (2). Also the lagged effect of seasonal contract is not significant, but having been employed as a fixed-term worker or temporary agency employee has a large negative impact, significant at 5% level, in the year following the contract conversion, the effect being larger for males. This is coherent with our prediction of slow adjustment to good news.

The second panel of Table 3 shows that bad news do not show any lagged effect. Compared to Table 2, the on impact effect is not significant either, probably due to the sample limitation.[8]

Workers do adjust their behavior to changes in employment protection, but at a different pace depending on the sign of the change. Individuals respond to good shocks in a prudential way ("wait and see"). Instead, bad shocks induce an immediate and large reaction. Unlucky workers cope with the worst scenario by showing off healthy behavior, they make the best of a bad bargain.

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[8] We cannot exclude that also the lack of significance on the lagged terms may be due to small sample size.

6. Conclusions

This paper was aimed at studying the effect of different degrees of employment protection on absenteeism, paying attention to differences between workers moving from safe jobs – permanent contract – to insecure jobs – fixed-term and temporary agency employment arrangements – with respect to workers changing from insecurity to security.

Using a large representative sample of Italian workers, we show that the deterring effect of holding a temporary contract is mainly ascribable to individuals losing job protection, while those gaining permanent protected jobs do not seem to modify their absence behavior. We explain this asymmetry by arguing that workers may react in a more prudential way to improvements in their working conditions ("wait and see" strategy), while they adjust immediately as they get worse. Our estimates support the hyphotesis of slow adjustment to improvements and fast adjustment to worsening.

The asymmetric behavior of individuals facing good news versus bad news is not a novelty in economics. This puzzle has been well documented in the finance literature. Good news are met with a prudential behavior and small, lagged movements in the outcome variable; bad news induce an immediate and large reaction.

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Appendix

Table A.1 Descriptive statistics: absence rate (percentage points).

	MALES			FEMALES		
	mean	sd	N	mean	sd	N
Gender	0.80	4.763	271,934	0.73	4.951	120,211
Age						
16-18	0.74	4.888	5,784	0.52	4.100	2,252
19-24	0.84	4.946	31,839	0.63	4.670	19,912
25-29	0.84	4.647	41,497	0.72	4.892	24,380
30-39	0.76	4.534	88,276	0.71	4.887	38,679
40-54	0.74	4.697	88,501	0.79	5.007	30,660
55-64	1.11	6.090	15,409	1.27	6.933	4,158
Region of birth						
North-West	0.46	3.244	63,686	0.48	3.731	34,964
North-East	0.53	3.736	50,856	0.58	4.129	28,148
Centre	0.57	3.898	41,873	0.71	4.962	20,363
South	1.23	6.149	61,020	1.28	6.941	20,564
Island	1.12	5.851	26,975	0.82	5.292	8,319
Abroad	1.15	5.677	27,116	0.96	5.621	7,604
Contract						
Permanent	0.81	4.790	226,810	0.81	5.200	88,301
Seasonal	0.71	5.085	3,067	0.98	6.052	3,253
Fixed-term	0.82	5.001	17,070	0.47	3.946	14,001
Training	0.93	4.793	5,927	0.85	5.272	2,731
Temporary agency	0.72	4.498	3,513	0.65	4.823	1,946
Apprenticeship	0.61	4.035	15,547	0.35	3.181	9,979
Employment status						
Apprentice	0.61	4.035	15,547	0.35	3.181	9,979
Blue collar	1.16	5.732	174,390	1.43	6.940	50,577
Clerk	0.11	1.591	69,295	0.23	2.617	57,522
Middle management	0.02	0.403	8,755	0.04	0.461	1,717
Top management	0.01	0.306	3,947	0.00	0.022	416
Monthly wage						
150-800	2.25	10.140	24,492	2.26	10.272	17,085
801-1,500	1.18	5.209	109,519	0.70	3.749	62,035
1,5-2,000	0.37	2.186	62,549	0.14	1.257	22,334
2-3,000	0.14	1.450	46,854	0.06	1.229	12,504
3-4,000	0.03	0.549	14,213	0.03	0.649	2,955
4,001+	0.01	0.254	12,225	0.03	0.650	1,440

Workplace

North-West	0.57	3.727	89,717	0.55	4.056	43,379
North-East	0.65	4.225	65,312	0.64	4.322	33,676
Centre	0.67	4.247	51,829	0.73	5.030	23,773
South	1.43	6.750	44,779	1.51	7.732	13,821
Island	1.14	6.033	20,297	0.78	5.344	5,562

Firm size

0-9	1.10	5.793	49,155	0.57	4.444	24,854
10-19	1.09	5.575	24,968	0.86	5.378	11,974
20-199	0.81	4.690	59,146	1.01	5.855	26,025
200-999	0.51	3.327	25,572	0.69	4.578	10,651
>=1000	0.35	2.784	31,603	0.45	3.155	11,086
Total	0.81	4.733	190,444	0.74	4.941	84,590

Sector

Agricolture	0.64	4.856	512	0.31	3.945	177
Fishing	0.01	0.100	516	0.00	0.000	35
Mining	1.48	6.546	925	0.24	2.161	84
Manufacturing	0.73	4.232	120,501	1.00	5.818	46,544
Electricity, gas and water	0.04	0.804	4,271	0.00	0.000	625
Construction	2.03	8.217	32,696	0.24	3.169	1,861
Wholesale and retail trade	0.47	3.380	35,681	0.50	3.835	21,382
Hotels and restaurants	0.98	5.761	11,647	1.10	6.099	9,608
Transportation and warehousing	0.76	4.406	21,774	0.41	3.502	3,156
Credit intermediation and financial transactions	0.40	3.438	29,216	0.48	4.116	18,886
Real estate and rental; professional, scientific and management services	0.21	2.187	2,857	0.25	2.503	1,725

Table A.2 Descriptive statistics: yearly working days by contract type.

	mean	sd	N
Permanent	273.1	79.64	315,111
Seasonal	117.8	92.88	6,320
Fixed-term	146.28	108.1	31,071
Training	226.86	97.22	8,658
Temporary agency	121.37	99.63	5,459
Apprenticeship	202.27	111.21	25,526
Total	252.8	96.22	392,145

Table A.3 Transition matrix: changes in employment contract.

From \ To	Temporary	Permanent	Tot
Temporary	5,920	9,546	15,466
Permanent	7,422	53,808	61,230
Tot	13,342	63,354	76,696