Sickness and injury leave in France: moral hazard or strain ?
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Introduction: sickness leave and public compensation expenditure in France, 1997-2001

In France, wage losses due to sickness or workplace injury are partially compensated to the worker by two compulsory health insurance schemes[1]: sickness leave (not related to occupation) and occupation-related sickness or injuries. The former shares 75% of the total expenditure of the two funds, on average.

Civil servants are excluded from these funds since their employer (state or local authority) is self-insured. Civil servants don't lose wage when they are on leave (no waiting period nor co-insurance scheme). In the following, we present results and analysis on non civil servants only, and our empirical analysis is about employees (wage-earners) only.

Sickness leave insurance is funded through the general health insurance scheme, therefore covering medical care costs as well as wage losses, and contributions are proportional to wages. After a waiting period of 3 days, 50% of the wage loss is covered, under a ceiling (monthly wage ceiling of 2 241 € for 2000, e.g. the maximum compensation per month was 0.5*2 241 = 1 120.5 €)[2] ; almost 25% of French wage earners earned more than this ceiling of 2 241 € per month in 2001 (before contributions, according to INSEE). Employers are allowed to cover all these cost-sharing including the deductible, through self-insurance, or through contracts included in their long-term risk contract for employees (the French wording being "gros risque", which covers death, incapacity, spouse's death). Insurers for this "gros risque" are called "institutions de prévoyance".

Injuries and occupational illnesses are funded through a specific scheme ("accidents du travail"), contributions are also based on total wages, contribution is partly experience rated at the firm level, but contribution rates are capped for small businesses (Trontin and Béjean, 2001). There's no waiting period for workers' compensation for job-related injuries or illnesses. 60% of the wage loss is covered during the first month of leave and 80% after the thirtieth day, without any ceiling.

Expenditure on sickness leave not related to occupation increased by 32% between 1997 and 2001 (+ 7% per year), all funds considered (wage earners, farmers and self-employed).
To our knowledge, there doesn't exist any decomposition of these aggregate data concerning sickness leave aiming at explaining time-series. CNAMTS-DSE (2002) analyses leaves of 30 days and over among wage-earners, and relates its increase to the increase in the number of occupied individuals aged 55 and over. Part of the

[1] A third scheme covers maternity leave, but we excluded it from our analysis.
[2] Providing exemptions for families with numerous children.

increase in sickness leave expenditure since 1997 is therefore due to a coincidental event, namely the consequence of the baby-boom of the years 1943-65. Merlière (2000) also points that the number of leaves exceeding 15 days in a row started to increase from 1997 to 1999 (+7.5%) , after having decreased for the preceding 3 years (-9%).

The statutory Social Sickness Fund for waged workers (CNAMTS) spent 60% more in 2001 on occupation related sickness and injury leaves (related medical care not included) than in 1997 (CNAMTS-DSE, 2003)[3].

- 18% of the increase is due to increase in average wage during the time-period, yielding a pure volume effect of +49% (+10.7% per year).
- 41% of this increase in volume stemmed from an increase in total workload in France, due to economic growth.
- Therefore, the increase in volume per occupied worker is around (1 - 0.41)*.49 = +29% (+6.6% per year).
- This increase per worker is the product of a number of spells per worker, times an average duration per spell: the number of spells per worker decreased by 7% (from 45.5 per year and per 1 000 workers to 42.5), and the average duration increased by 35% (all these aggregate data are from CNAMTS-DSE, 2003).

Two phenomena are usually proposed to explain why sickness leave volume is pro-cyclical (it increases with economic growth)[4]:

- Labor force composition effect: increase in total workload means more weak or in ill health individuals are in the labor force, therefore raising the average risk of any illness (Askildsen, Bratberg and Nilsen, 2001). This effect would be consistent with an increase in the number of spells rather than with a drop, however
- Moral hazard: workers or employers change their behavior when economic situation changes. Two different types of moral hazard might explain why a better situation induces more sickness leaves.

  The first type of behavior change due to economic improvement is related to the bargaining power of the employed vis-à-vis the employer: a better economic situation, mostly a better situation on the labor market, as experienced in France between 1997 and 2001 (the unemployment rate fell from 13% to 9%), means an enhanced employee's capacity to claim sickness or injury leave and a reduced employer's capacity to deny these leaves or even control it. This explanation relies upon what Dionne and St-Michel (1991) call "*ex post* moral hazard in workers compensation" and Butler and Worrall (1991) call "claim reporting moral hazard".

  The second type of behavior change due to economic improvement is related to the relative price of industrial risk taking: growth means more strain imposed on productivity, both from the employer and employee. Higher wages or higher expected profit for the employer might induce more risk-bearing, since the relative value of the damage incurred decrease relative to expected earnings, and neither employers nor employees bear the insurance cost of this

[3] When all funds are taken into account (including farmers and self-employed) the increase is +50% (+11% per year) only.

[4] It must be stressed, however, that recent development in France is apparently contra-cyclical, since, despite recession and stabilization in unemployment rate, sickness leave expenditure were still increasing in 2002.

increased risk (no experience rating). This explanation relies upon what is called "risk-bearing moral hazard" or "self-insurance behavior" (Dionne and St-Michel, 1991, Butler and Worrall 1991). It has been suggested first by Allen (1981), who also noted an ambiguous effect of the level of wage on absenteeism, depending on the preference for leisure. In France, and for injuries only, Bouvet and Yahou (2001) find a significant and positive link between quarterly economic growth and the injury ratio per hour worked. The specific pattern of employers' contributions for occupational injuries in France (the principle is experience rating at the firm's level mitigated by a noticeable level of pooling aimed at protecting small business) might induce moral hazard from the part of the employer vis-à-vis the insurer (the pool), by reducing preventive effort in the workplace (Trontin and Béjean, 2001).
Since this second type of moral hazard might be due to both employer and employee, we shall call it "strain effect" in the following of this paper, "moral hazard" being used for "claim reporting moral hazard".

In this paper, we propose to investigate the latter two strands of explanation: claim reporting moral hazard or strain and risk-bearing ?

Previous literature

Most of the empirical literature aims at estimating tests of moral hazard effect on sickness and injury leave, rather than at explaining time series of expenditure and correlation between economic growth and lost days of work.

Most of these tests conclude to significant claims reporting effect, using claims data or observations at the firm level:
Allen (1981) is the pioneering empirical work, based on the paper industry in the USA. He explains the firm-level absence rates in 1976 and finds a significant negative effect of wage level (contrary to a risk-bearing hypothesis), a significant positive effect of fringe benefit generosity (moral hazard hypothesis), and a significant negative effect of workplace safety.
Meyer, Viscusi and Durbin (1995) use a natural experiment to derive an elasticity of the probability of injury claims to benefit's level: in Kentucky and Michigan, a raise in maximum benefit increased the average benefit of higher wage workers of 50%, while letting unchanged the average benefit of low wage workers. The impact on the difference in difference in injury leaves yields an elasticity of +0.3-0.4. Campolieti (2001) finds a significant and positive elasticity of spell duration to benefit, controlling for employees' heterogeneity in Ontario.
Butler (1996) uses data from Texas, where 44% of employers opted out workers compensation scheme to show that tort legislation leads to more risk bearing (due to sub-optimal incentives for employers to enhance safety rules) and less claims reporting from employees (shorter spells) than insurance coverage. Ben-Ner and Park (2003), modeling spells through a accelerated time-failure Weibull, show that unionization at the firm level in Ontario is related with 10 more days out of work after a workplace injury, everything else being equal. Gardner, Kleinman and Butler (2000) disclose a "contagion effect" at the firm-level in claims for Family and Medical Leave under the FMLA act in the USA.

To isolate reporting from risk-bearing, some authors use tracers, low-back pain being the main focus of interest: this cause of absence from work is difficult to monitor, and can be the locus of more moral hazard on the part of the employee (and his doctor). Therefore, comparing trends or levels of leave-taking between low-back pain and other motives is a tool for isolating reporting effect (Butler, Durbin and Helvacian, 1996). Using this tracer, Biddle (2001) shows that controls and ex post denials on the part of the employer reduce significantly the probability of claims for back pain, but not for traumatisms. Butler (1996) also finds that tort litigation in Texas reduced claims probability for back pain, but increased it for traumatisms.

Most of these studies are based on administrative or firm-level data, therefore lacking controls of individual characteristics or variability in activity-related situations. They can't rule out labor force composition effects, rather selection biases, if benefits generosity in one firm or one activity is correlated with the distribution of health statuses of employees. Surprisingly these studies seldom control for job-strain characteristics such as the number of hours worked or direct occupational safety observations.

Studies based on general population surveys (the Labor Force Surveys available at Luxembourg Employment Studies being a main source), usually dealing with several European countries, may overcome these drawbacks and provide information on correlations between activity, individual characteristics on one hand, and sickness leave on the other hand. The price paid for using these data sets is that leaves are known through recollection only, usually for the past week only, and cannot estimate any duration of spell; another limitation stems from the usual non response bias of general population surveys (individuals in long-term or severe injury leave might be less prone to answering surveys).
Bliksvaer and Helliesen (1997) test for the impact of unemployment on sickness leave, as a way to discriminate between moral hazard and strain effects: their idea is that a negative correlation between unemployment and the number of leaves would support a moral hazard hypothesis (unemployment being a tool to disciplining the worker). On the contrary, a positive relationship would indicate that stress in the workplace lower health status or induces doctors to be more lenient in considering the need for a period of sickness absence (note that this interpretation runs contrary to our pro-cyclical effect). They find no clear relation (at the national level and for one point in time only) between the general unemployment rate and the sickness absence rate; more interesting is the relation at the individual level (past experience of unemployment): two countries (out of 8) show a significant negative relationship (Slovenia and Spain), and two show a significant positive relationship (Luxembourg and the USA). One interpretation could be that the relative importance of moral hazard and strain effects are conditional on contextual factors. Note that France is not part of their country set.
Barmby, Ercolani and Treble (2000) find that, everything being equal, blue collars are more often on sickness or injury leave, as well as workers from specific branches (construction, mining, education and health services), indicating a possible strain or risk-bearing effect; however, the same estimation shows a significant and positive tenure effect, that the authors interpret as a moral hazard (claim reporting) effect: longer tenure means more bargaining power on the part of the employee; an alternative interpretation would be however that long-term relationship between employer and employee leads to lower transaction costs (Danzon and Harrington,

1991). Rather than welfare loss and over-consumption of leaves due to moral hazard, the tenure effect would indicate sub-optimality in risk-sharing inside the firm, detrimental to younger workers. Last, this international comparison shows a significant and positive effect of living in France: everything being equal (after controlling for interaction between individual characteristics and country of residence), there is still a specific effect of living in France. Ercolani (2000), on British data from 1993 to 1998, shows a selection bias effect: individual health status (long term illnesses) is highly correlated with the propensity to be on leave and explains much of it.
A first analysis of another French general population survey (survey on health and health care, SSM 1990-91, Grignon, 1999) tested indirectly for a moral hazard effect by allowing differences in probability to be on leave during the past 90 days according to the type of employment contract (permanent or temporary basis, training period, interim etc.) and the type of employer (civil service, local authorities, quasi-public enterprises, private firms, self-employment). A multivariate analysis shows that the type of contract has no impact on the probability to be on leave, but that the type of employer is a powerful factor explaining it: all other things (age, gender, health status, but not tenure nor experience) controlled, employees of local authorities on one hand, and quasi-public enterprises on the other hand are much more often on leave than employees of other types of firms (probability ratios are between 1.2 and 1.6, significantly different from 0 at the 5% threshold).

Three studies closer to this paper's topic are Butler (1994), Conway and Svenson (1998), and Askildsen, Bratberg and Nilsen, (2001).
Butler (1994) explains the upward trend in workplace injury leave expenditure (probability and severity) during the 1980s in the USA by pure moral hazard effect (decrease in waiting period) rather than by labor force composition or risk-bearing. Comparing expenditure data with direct observation from the Occupational Safety and Health Administration (OSHA) he finds that "the increased benefit utilization comes from an increased propensity to report claims rather than a change in workers' or firms' risky behavior". However, Danzon and Harrington (1991) cast doubt on the feasibility to distinguishing injury rates from claim rates from direct observation only.
Conway and Svenson (1998) use data at the State and enterprise level to explain a decrease in both sickness and injury leaves in USA during the 1990s, through changes of legislation and increasing focus on workplace safety rules. Here, the focus is on the endogenous legislation that stemmed from a general recognition in the society (by unions, employers and insurers altogether) of the welfare loss due to moral hazard, rather than on an independent effect of economic growth.
Askildsen, Bratberg and Nilsen, (2001) use a Norwegian longitudinal data set (composed only of individuals constantly occupied in the labor force on a 6 year span) to test for the labor force composition hypothesis: including local unemployment rate (county level) as a covariate, they find a significant and negative link between unemployment and probability of sickness leave, controlled by individual heterogeneity, and for the same individuals across time. Therefore, the link estimated on this population cannot be due to labor force composition, and moral hazard and/or strain effect might explain part of the pro-cyclical correlation.

We propose here an indirect evaluation of risk bearing versus claim reporting hypothesis, based on French data. The interest is two-pronged:

- we use the unique opportunity of a data set combining some (even few) information on work and occupation, information on health status and information on leaves
- the French case is seldom studied, however international comparisons show a context specificity at the national level.

Data and methods

We use a household survey (ESPS, French acronym for Survey on Health and Social Benefits) on the general French population, enriched with data from compulsory health insurance funds on sickness leaves and health care expenditure (claims data, known as EPAS, French acronym for Permanent Sample of Social Security Beneficiaries).

ESPS was run in 1995, the sample size is approximately 10 000 individuals. It was possible to merge information from claims data for 4 450 of them. We focused on occupied wage workers, the only individuals eligible to sickness and injury leave in our data set (1 607). Keeping only those individuals for whom health status is correctly answered we end up with a 1 313 individuals file.
As every general population survey, this one is tainted by selection biases. First, not every selected household accepted to answer it, second, among those who accepted to answer, about 25% were not able to fill correctly the health status questionnaire. As a first approximation, we hypothesize that these selection biases do not affect the coefficients we estimate on the link between independent variables and the propensity or duration of periods off from work.

For each of these 1 313 individuals, we merged information about their claims to sickness or injury leave compensation during three years (from 1995 to 1997). For each individual there might be more than one spell: 614 individuals experienced at least one spell, and, among them, the average number of spells is 2.31 (see baseline below).
It is important to note, however, that claims are filed by the sickness fund to the extent only that they exceed the waiting period. Hence, we never observe any spell shorter than 4 days.

Independent variables in our model are known at the individual level (rather than at firm or even aggregate level), but the dependant variables (occurrence and duration of leaves) are known through administrative files: there is no recollection error, and the observation time span is enough to observe complete spells, and even repeated spells for one individual.

Remind however that individual's characteristics are known only at one point in time (namely 1995) while we observe spells from 1995 to 1997. Obviously, health status as well as occupation characteristics might change from one year to the other, and we are not able to take it into account.

[Baseline about here, see Annex]

The model : we use a cross-section individual survey to explore the structural factors explaining sickness leave, and then use these structural factors to derive a dynamic interpretation of the stylized facts. If our cross-section estimate indicates that the type of employment (short term, part time etc.) explains more of the probability or the duration of sickness leave than the number of hours usually worked per week by the individual, one can assume that economic growth affected compensation payments through moral hazard rather than through strain effect.

We treat the number of spells and their duration as two independent decisions, even if a link could be tested. In so doing, we are able to test the impact of the independent variables on the decision to stop working on one hand, and the duration of absence, conditional on having decided to stop on the other hand. The alternative would be the so-called Heckit estimator: a first step would model the decision to take a leave (probit), followed by an model of the total (or average) number of days lost during all spells of the same individual. Therefore, this alternative would lead us to aggregate all spells for one individual, rather than analyzing the nested effect of various spells for the same individual (analysis of individual heterogeneity).

We preferred to concentrate on the heterogeneity issue, since neglecting it would be much more damageable (as shown below) than being content of estimating conditional duration of spell. We treat nested observations (dependence of spells observed for the same individual) through a random effect included in a linear model (of the Log of duration). Here, the alternative would have been to treat duration through a Cox model, in order to take censoring into account. We chose to concentrate on a simpler and more easily interpretable model, since censoring is not quantitatively important in our data (2.5% of spells only are censored). We run the estimation on non censored spells only. We add a year dummy to capture trends effects.

To model the number of spells, we use a cumulative logit approach: the dependant variable is simply a categorical distinguishing ‘0 spell’, ‘1 or 2 spells’, and ‘3 spells and over’ during the three-year period. We test successfully for the proportional odds assumption (see Table 1 in Annex).

Independent variables are aimed at capturing the competing explanations above mentioned, through proxies:

- moral hazard is captured through variables describing the type of employment of the individual:
    - long term contract (CDI, standing for undefined duration employment contract) versus short term (CDD, standing for fixed duration employment contract)
    - prospect to lose job in near future
    - supplementary health insurance, as a proxy for general fringe benefit provided by the employer
- strain is captured through variables describing the occupation of the individual:
    - number of hours worked per week,
    - blue collar versus white collar
- we add controls on individual health status, age, education, total health care expenditure and income. We also add a covariate measuring drugs

consumption, in order to test for possible substitution between medical care and sickness leave.
- For duration, we add a season dummy to distinguish by type of illnesses

Results

Number of spells:

[Table 1 about here, see Annex]

Being on long-term contract is correlated with more spells, all other things being equal, but prospect to lose job and supplementary insurance are not significant.
Blue collars as well as individuals working longer hours than 41 per week take more sickness and injury leaves than others.
Our results confirm also Ercolani's (2000) and the possibility of a labor force composition effect: the number of self-reported chronic illnesses is highly and positively correlated with the propensity to be on leave. The volume of drugs consumed is significant, but runs contrary to a substitution effect: the more the individual uses drugs, the more his propensity to be on leave. The only interpretation available for such a result is that our health status variables do not capture all health variations.
Low educated people (less than 10 years education) as well as male are more prone to sickness or injury leave, all other things being equal. We find a standard quadratic effect of age: propensity increases with age until 30, then decreases rapidly. Since we don't use tenure and expertise (they are not measured in the SPS survey), this effect of age is certainly a mix of pure age and experience.
Contrary to what could be expected, we don't find any impact of marital status nor of the number of children under 6.

Pseudo-R^2 is at 15.6%, the null hypothesis that odds are not proportional is rejected at the 40% threshold.

These results seem to fit well in the economic situation in France between 1997 and 2001: the percentage of short term contracts in total employment increased (from 8.4% of the waged workers in 1997 to 10.0% in 2000) (INSEE, 1997-2000), e.g. in 2001, seven created jobs out of ten are on short term basis (Richet-Mastain, 2002), the average working week duration fell, due to the 35 hours week bill (from 38.9 hours in 1997 to 36.1 in 2001), and the proportion of blue collars in the employed population decreased. As a consequence, as seen on aggregate data, the propensity to be on leave decreased during those years.

Duration of spells:

Dependence of spells (nested effect)

[Table 2 about here, see Annex]

Being on long-term contract has no impact on spell duration, all other things being equal, nor the prospect to lose job, but "fringe benefit" proxied by collective

supplementary insurance dummy has a significant negative impact. This last result runs contrary to moral hazard hypothesis.
Individuals working short weeks (less than 32 hours) as well as those working longer hours than 41 per week spend longer time off work when sick or injured than people on “average” work week. The first effect is congruent with Ercolani’s (2000) and our previous observation about propensity to take leave according to number of chronic illnesses, that there is a labor force composition effect. The second is related to strain effect hypothesis.
Health status in 1995 is not related to conditional duration of spells from 1995 to 1997. The volume of drugs consumed is significant, and still positively related to duration of spell. Once again the incomplete nature of our health status variable seems to be the main cause for this result.
Age is positively related to duration of spell.
The year of the leave is also significantly correlated with the duration (1995 versus 1997); that reflects a period effect independent of each individual with might be congruent with a “labor force composition” effect.
Finally, we can compute a proportion of “between-individual” variance: by comparing the mixed model fitted with a simple anova model including the intercept, the residual and an individual random term, we find out that 18.7% of the variance across individuals is explained by introducing the covariates in the model (see Table 2 in Annex).

Based on these results, it is not straightforward to give account of the stylized facts (longer duration spell on average between 1997 and 2001): the only clear link is between usual weekly duration of work and duration of spell when ill or injured. If the decrease in average duration of work was accompanied by a increase in its variance, then, we could observe both a decrease in the propensity to take leave (due to decrease in average) and an increase in the conditional duration of spells (due to more people in extreme categories).

Conclusion

In France, according to our findings, the individual propensity to take leave is influenced by moral hazard as well as strain in the workplace, and labor force composition effect.
(to develop: partial effects of each factor).
However, conditional duration of spells is not well explained at the individual level. The only significant factor is usual weekly work duration: extreme durations are correlated with longer absences. Apparently, moral hazard has no impact on duration, and strain and labor force composition would be the main components of evolution of duration of spells between 1997 and 2001.

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Annex – Baseline

Descriptive statistics of individual covariates

Sample of occupied waged workers in 1995 (n = 1313 individuals)

	Mean	**Standard deviation**
Age	38.6	10.2
Number of chronic illness self-reported in 1995	2.9	1.8
Drugs consumption (volume) from 1995 to 1997	9.9	10.8

	Frequency	**Percentage**
Women	572	43.6%
Supplementary health insurance	1 165	88.7%
employer based insurance	793	60.4%
individual insurance	372	28.3%
Short-term employment contract	182	13.9%
Number of hours worked per week		
less than 32 hours	195	14.9%
from 32 to 40 hours	718	54.7%
more than 40 hours	400	30.4%
SES		
blue collar	428	32.6%
white collar	190	14.5%
clerk	695	52.9%
Studied more than 10 years	529	40.3%

Occurrences and durations of sickness and injury leaves

	Frequency	**Percentage**
Number of leaves		
0 leave	699	53.2%
1 leave	285	21.7%
2 leaves	129	9.8%
3 leaves	81	6.2%
more than 3 leaves	119	9.1%
Censored durations of leaves (n = 1253)	32	2.5%
Benefit (without censored durations, n = 1221)		
illness	1081	88.5%
workplace injury or illness	140	11.5%

	Mean	**Standard deviation**
Duration of leaves (without censored durations, n = 1221)	20.5	44.4

Annex – Table 1

Cumulative logit model of the number of spells (sickness or injury leave) 1995-1997

Sample of occupied waged workers in 1995 (n = 1313 individuals)

The dependant variable discrete is a following discrete choice variable:

0 leave (reference in the model)

1 or 2 leaves

3 leaves or more

Variable	Estimate	Standard Error	p-value
Intercept [1 or 2 leaves]	-1.29	0.77	*8%*
Intercept 3 [3 leaves or more]	-3.09	0.78	< 0,1%
Supplementary health insurance: individual market	-0.26	0.13	< 5%
Long-term employment contract	0.45	0.17	< 1%
Women	-0.49	0.13	< 1%
More than 40 hours worked per week	0.32	0.13	< 5%
White collar (vs blue collar)	-1.31	0.22	< 0,1%
Clerk (vs blue collar)	-0.52	0.13	< 1%
Age	0.07	0.04	*7%*
Age ^{2}	-0.001	0.0005	< 5%
Studied more than 10 years	-0.48	0.13	< 1%
Number of chronic illness self-reported in 1995	0.14	0.04	< 0,1%
Drugs consumption (volume) from 1995 to 1997	0.05	0.0006	< 0,1%

Score test for the proportional odds assumption	
Chi^2 = 11.2 (11 d.f.)	Pr > Chi^2 = 0.43

Pseudo R^2 = 15.6%

Percentage of concordant associations of predicted probabilities and observed responses = 70.1%

Annex – Test for heterogeneity

OLS model of the duration of the second leave by the duration of the first leave

Sample of leaves for occupied waged workers in 1995 who experienced 2 leaves uncensored or more (n = 284 individuals)

Variable	Estimate	Standard Error	p-value
Duration of the first leave	0.246	0.062	< 0.1%
Adjusted for the type of benefit and the year of the second leave			
Sum of squares = 22.63	F-value = 15.7	Pr > F = 0.1%	

Annex – Table 2

Mixed model of durations of leaves

Sample of uncensored sickness and injury leaves for occupied waged workers in 1995 (n = 1221)

Variable	Estimate	Standard Error	p-value
Intercept	1,78	0,24	< 0,1%
More than 40 hours worked per week (vs from 32 to 40 hours)	0,18	0,09	< 5%
Less than 32 hours worked per week (vs from 32 to 40 hours)	0,25	0,13	*6%*
Age at leave	0,016	0,004	< 1%
Employer based supplementary health insurance (vs no insurance)	-0,25	0,14	< 0.1
Individual supplementary health insurance (vs no insurance)	-0,27	0,15	x
Winter (vs Autumn)	0,15	0,09	x
Summer (vs Autumn)	0,48	0,11	< 0,1%
Spring (vs Autumn)	0,32	0,10	< 1%
Year 1995 (vs Year 1997)	0,12	0,09	x
Year 1996 (vs Year 1997)	0,36	0,09	< 0,1%
Sickness leave (vs injury leave)	-0,90	0,11	< 0,1%
Drugs consumption (volume) from 1995 to 1997	0,016	0,004	< 0,1%

Covariance parameters estimates	
Residual	variance = 1.18
Individual effect	variance = 0.35

x in the table means that the variable is no significantly correlated with the duration of the leave at a 5% threshold.

Covariates explain 18.7% of the between-individual variance. This 18.7% is computed by comparing this mixed model with an empty anova model (including the intercept, the residual and a random between-individual effect).