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Happy Birthday! You are Insured
- Differences in Work Ethics Between Female and Male Workers

By

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Abstract

In this paper information on individual birth dates is used as a natural experiment when estimating potential cheating behavior within the Swedish sickness insurance program. In the psychological literature there are theories why men and women react differently to ethical situations. Results in this paper are in line with these theories. The results indicate that only younger male workers cheated which supports the idea that men have lower work ethics. But additional findings also suggest that younger male workers do have some shame since they reported sick to a significant less extent the week before they had their birthday. In fact the net change in reporting sick is zero.

Keywords: Reporting sick; Cheating; Work ethics; Natural experiment
JEL classification: J22, J29

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1 Introduction

Labour supply effects of social insurance programs is today a major economic issue in many industrialised countries and economists discuss whether the expanding welfare state has changed individual behavior towards less work incentives.[1] Moral hazard and cheating behaviour within social insurance programs might be a substantial problem but empirical evidence of such behavior are rare. "*These fragmented examples of moral hazard and endogenous work norms, at least, suggest that the issue is worth a more systematic empirical research.*", Lindbeck (2004, p. 14).

The Swedish sickness insurance has received great attention recently because in 2003, more than 25 sick days per insured worker were reported. Cheating behavior is likely to be a problem since the procedure for reporting sick is simple; it only requires a phone call to one's workplace—a doctor's certificate is required from the eight day.[2] Only one empirical study on cheating behavior exists; Skogman Thoursie (2004) found that younger male workers reported sick in order to watch great sport events broadcasted on television during regular working hours. Cheating behaviour might exist for other groups and reasons at other occasions. In the psychological literature, however, there are theories why men and women react differently to workplace pressures and ethical situations. For example, Gilligan (1977, 1982) argues that women are more prone to base their moral judgement on obligations to care for and avoiding hurting others. This could be translated to a situation where the worker decides to report sick or not and where hurting others is interpreted as hurting the employer's business planning or co-workers who have to do the job instead of the absent worker.[3]

The purpose with this paper is to investigate whether male workers are more prone to cheat and therefore have lower work ethics than female workers. Using information on birth dates as a natural experiment, sick reporting around birthdays is analysed and the hypothesis of gender differences in work ethics can be tested. The possibility that male workers have employment contracts with less opportunities to more freely allocate their working time is ruled

[1] See for example Lindbeck (2004).

[2] This insurance program is mandatory with a compensation rate of 80 percent up to a cap.

[3] Empirical studies in the psychological literature on gender differences in ethically sensitive decisions show mixed results. For an overview, see for example Radtke (2000).

out, since male workers to a larger extent have flexible working hours and no punch clock.[4] Work ethics might be related to seniority where higher seniority could be associated with stronger bonds with the employer and therefore less cheating. For this reason, separate analyses for younger and older workers are performed.

As a final hypothesis, I also test whether potential cheating behavior implies a net increase in sick reporting or if workers reallocate their sick reporting over time in order to use the insurance program when demand for leisure is relatively high.

The contribution of this paper is twofold. Gender differences in work ethics within social insurance programs have to my knowledge never been tested. This is also true as regards the potential time reallocation of cheating behavior. Results show that only younger male workers cheated within the sickness insurance but that they report sick to a less extent one week before birthday, implying that sick reporting are redistributed over time.

The remainder of the paper is organised as follows. The data and the empirical strategy are described in Section 2. The estimation results are reported in Section 3 and Section 4 concludes.

2 Data and empirical strategy

The data used are the 1987 Population Register of Cases Due to Illness collected by the Swedish National Social Insurance Board. The register includes information on start and end dates of all cases of illness as well as on sex and date of birth. The sample is restricted to one-day to seven-days cases of illness and to the autumn period (September to November) because this period does not include any holidays.[5]

An individual is defined as treated if he or she has birthday including two days before and two days after the birthday. Days around the birthday are included to capture the possibility that individuals might want to celebrate their birthday at a day close to it.[6] This criteria for being defined as treated

[4] These figures are available from the author upon request.

[5] Longer cases than seven days are excluded since a doctor's certificate is required from the eight sick day and is of less relevance for the question raised in this paper. In spring time the are several holidays in Sweden such as the winter sport holiday, the Eastern period, the Whit-sun, the Ascension Day etc. where sick reporting is at very low levels. Christmas time and the summer period are excluded for the same reason.

[6] The results obtained are not sensitive to whether 2 or 1 days before and after birthday

is then applied for each day in the defined autumn period, implying 91 treatment periods in total. For each such treatment period a comparison group is constructed by using the same criteria as for the treated except that they have their birthday one week before or one week after the treatment period, implying that other differences than just that one group have birthday are random.

The empirical strategy is the following. The development of the sick rate—defined as the ratio between individuals who reported sick at the actual birthday period and all individuals who reported sick in 1987—is graphed for male workers aged 20-36 (the age groups are divided based on the median age).[7] As an informal test of the key identifying assumption saying that the treated and untreated are similar in absence of birthday periods, the corresponding development of sick rates three weeks before and after the treatment period is also shown. To show whether workers redistribute their sick reporting around periods close to the birthday period, the development of sick rates for treated and untreated based on one week before the treatment is also depicted.

Next, regressions of the birthday effect is performed where all treatment periods are considered as one single treatment period. Some individuals reported sick several times during the investigation period implying that they appear several times in the comparison group.[8] To handle such dependent observations, clustered standard errors allowing for all forms of heteroskedasticity as well as arbitrary individual time dependence are used. To check the validity of the key identifying assumption, regressions of sick reporting behaviour is also performed for periods when neither of the groups have birthday.[9] Finally, sick reporting behavior the week before the treatment period is estimated.[10]

3 Results

The development of sick rates for men aged 20 to 36 is illustrated in Figure 1a. As shown here, those having birthdays have systematically higher sick rates.

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are included. When three days before and after are used the effects diminish. When only one day is used, for example the birthday, there are very few sick cases to analyse.

[7] To facilitate interpretations of these figures a moving average (MA) of the sick rates is used, based on the following formula:
$MA(y) = \frac{1}{4}(.25 \times y_{t-3} + .5 \times y_{t-2} + .75 \times y_{t-1} + y_t + .75 \times y_{t+1} + .5 \times y_{t+2} + .25 \times y_{t+3})$.

[8] This is not possible as regards the treatment group since if one report sick a second time within a five day period the the number of sick days will be counted as one spell.

[9] Period dummies as well as age are always included in the regressions even if they do not alter the estimated birthday effect depending on whether they are included or not.

[10] Estimated sick reporting behavior the week after did not show any significant effects.

The development of sick rates at periods where none of these two groups have birthday, given in Figure 1b, show that treated and untreated are very similar with respect to the sick reporting behaviour. This strongly supports the key identifying assumption, i.e. having birthday is exogenous. Thus, younger male workers used the insurance in order to consume leisure around birthdays.[11]

For women aged 20-36 and men aged 37-64, there are no such differences between treated and untreated. For female aged 37-64 there is a tendency of treated having lower sick rates than the untreated, implying that they tend to stay at work to a larger extent at birthdays.[12] One interpretation is that they did not want the employer to suspect that they cheated at birthdays and therefore showed up at work at birthdays even when they are ill.

Regression results are reported in Table 1. The upper panel show the results using all workers. No significant differences in sick rates between treated and untreated are found here. Consistent with the differences in sick rates between treated and untreated shown in Figure 1a, men aged 20-36 have a significant higher sick rate when they have birthday compared to when they have not (see second panel of Table 1, Column 3). The corresponding estimate but for the period 21 days before and after the treatment period is not significant which supports the key identifying assumption. Consistent with findings above, older female workers tend to report sick to a less extent at birthdays.

[11] Those having birthdays tend to have lower sick rates at the end of the period (Figure 1a). There is no obvious explanation for this tendency.

[12] All figures as well as regression results not reported are available from the author upon request.

Figure 1a. Sick−rates for Treated and Untreated Males 20−36

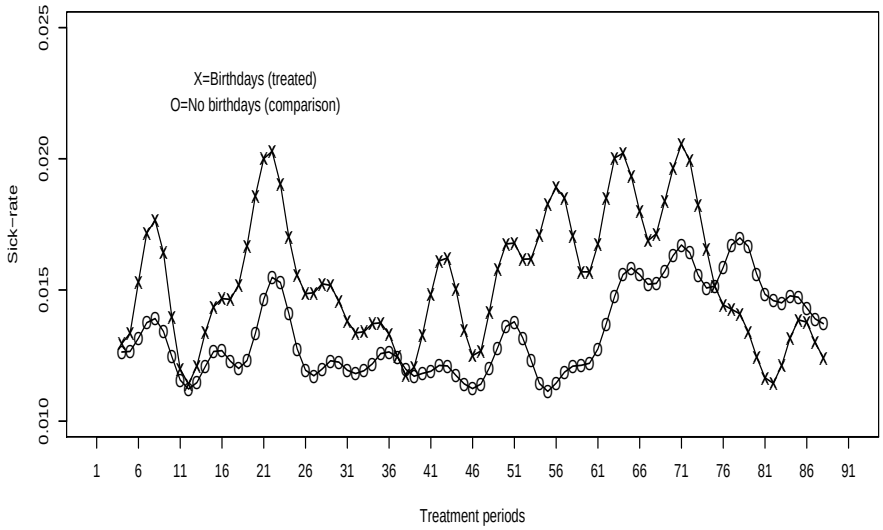

Figure 1b. Sick−rates for Placebo (21) Treated and Untreated Males 20−36

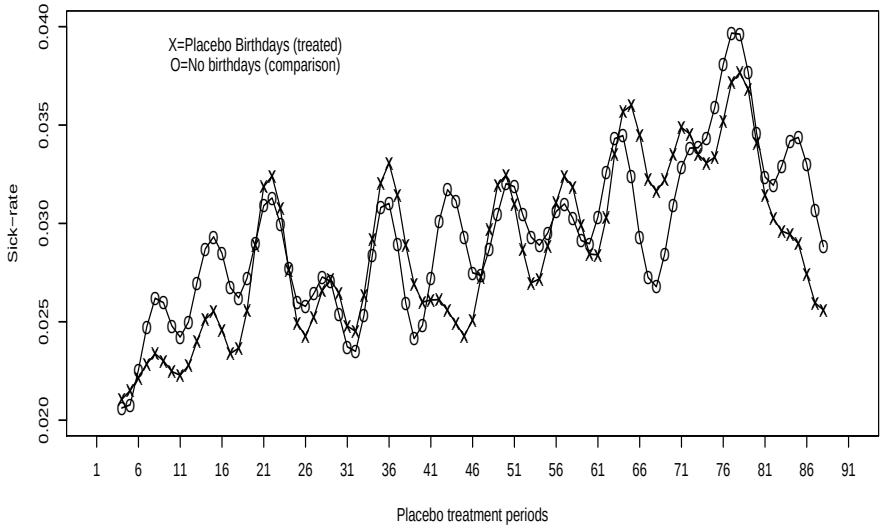

Figure 1c. Sick−rates for Placebo (7) Treated and Untreated Males 20−36

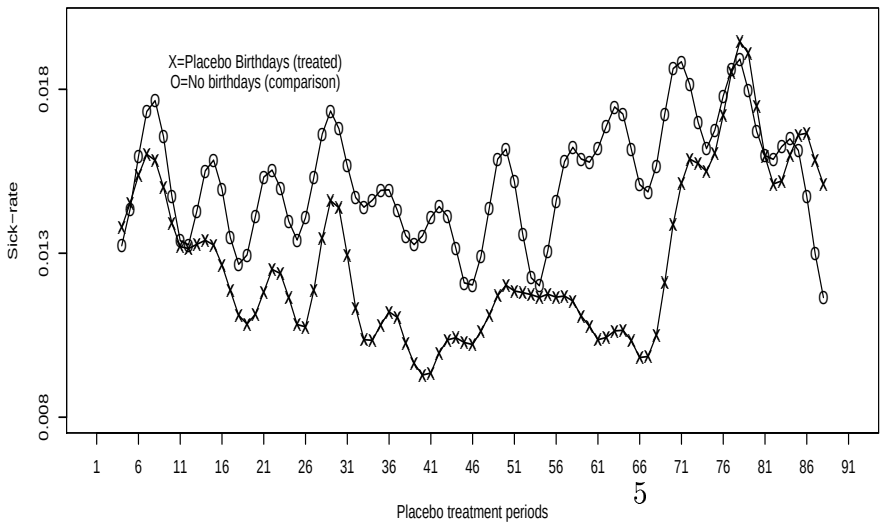

Table 1. Sick-rates at all birthday (treatment) periods, September to November 1987, separate for workers having birthday and those who have not (standard deviations in parentheses and clustered standard errors in brackets).

Sick rates:	Birthdays (Treated)	No birthdays (Untreated)	Difference OLS[a]
All workers			
Treatment period	0.0143	0.0144	-0.0001
	(0.119)	(0.119)	[0.0003]
Placebo period -7	0.0142	0.0144	-0.0001
	(0.118)	(0.119)	[0.0003]
Placebo period -21	0.0288	0.0290	-0.0005
	(0.167)	(0.168)	[0.0004]
Observations	805,828	1,612,635	2,418,463
Male workers aged 20-36			
Treatment period	0.0154	0.0134	0.002***
	(0.123)	(0.115)	[0.0006]
Placebo period -7	0.0128	0.0150	-0.002***
	(0.112)	(0.122)	[0.0006]
Placebo period -21	0.0283	0.0291	-0.0008
	(0.166)	(0.168)	[0.0008]
Observations	196,652	394,322	590,974

Notes:
a) Estimated coefficients reported in Column 3 are based on OLS including age and period dummies. Neither age and period dummies alter the average difference in sick-rates between treated and untreated implying that these coefficients also corresponds to the difference in average sick rates between Column 1 and Column2.

i) *** denotes significantly different from zero at the 1 percent level

ii) The placebo period 7 corresponds to sick reporting one week before treatment periods (i.e. no one having birthday) and the placebo period 21 corresponds to sick reporting three weeks before and after the treatment periods.

An additional finding is that younger male workers have a significantly lower level of sick reporting than untreated one week before the birthday period (see also Figure 2c). This effect is of the same magnitude as the increase in sick reporting at the birthday period. As such, younger male workers seem to redistribute their sick reporting over time in order to consume leisure when demand for leisure is high. Such effects are not found for other groups.[13]

[13]For the majority of workers, the first day of absence due to illness was not compensated during the period under study (the waiting day was negotiated away for the governmental sector). Thus, stronger birthday effects might be expected in in 1988 when no workers had a waiting day. Using data for 1988 the analogous analysis is performed. Results are basically the same as in 1987 but effects become slightly weaker.

4 Final remarks

This paper uses information on individual birth dates as a natural experiment when estimating cheating behavior within the Swedish sickness insurance program. In the psychological literature there are theories why women are more ethical than men in their business and work decisions. For this reason, separate analyses are performed for men and women. Separate analyses are performed for younger and older workers since cheating behavior might differ across age groups; one reason being that older workers due to longer seniority have stronger bonds with the employer and cheat less.

Results are in line with these theories. The results indicate that only younger male workers cheated which can be interpreted as younger male workers having lower work ethics compared to the other groups. Additional findings suggest that younger male workers do have some shame since they reported sick to a significant less extent the week before they had their birthday. Hence, younger male workers tend to redistribute their sick reporting over time in order to use the insurance when utility of leisure is high such as birthdays. It is important to emphasise, however, that even if the direct net effect of birthdays on sick reporting is zero, the obtained behaviour might still hamper productivity if employers have problems to handle unexpected changes in worker absenteeism.

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