Work Absence and Social Security

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TBD

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2.1. The National Sickness Insurance

Private insurances for wage replacement during sickness absence have been available in Sweden since the mid 18th century. In the late 19th century, the government started to regulate the sick-leave insurance market and subsidized parts of the administrate costs. Approximately one million workers in 1930 were covered by private sick-leave insurance, which constituted 21 percent of the adult population (Edebalk, 2005).

The public provided sickness insurance were introduced in 1955, which in average covered 65 percent of income loss due to sickness absence after three waiting days. The exact replacement rate varied between workers as the sickness compensation was untaxed and the income loss affected the average tax rate (due to a progressive tax scheme). In 1966, the waiting days were removed (with exception of the first day of illness)[1] and the average replacement rate was increased to 80 percent of the income loss. During the first years of the public provided sickness insurance, the maximum duration of a benefited sickness spell were two years. This restriction was removed in 1966, and a benefited sickness spell has been unrestricted in length since then.

A highly progressive tax system together with increased nominal incomes during the late 1960s gave that the tax effect became more apparent. For individuals with

[1] The worker could avoid a waiting day by calling in sick at least by midnight the day before. This applies to all days of the week.

high marginal taxes, the actual replacement rate in terms of disposable income became more than 100 percent. To avoid this, a major reform in the sickness insurance took place at the 1st of January 1974. The major difference in institutions was that sickness benefits became taxable, which in turn lead to less inequity in the actual replacement rate. One side effect of this reform was that sickness benefits became a pensionable income. The reform also increased the replacement rate to 90 percent of ordinary income.

Before and during the main part of the 1980s, the daily sickness absence benefit was calculated as the calendar day fraction of full attendance yearly income. This gave that a one day sickness absence period had an actual replacement rate of 5/7 of the yearly income replacement rate.[2] Whereas a 7 day sickness period had an actual replacement rate equal to the yearly income replacement rate. The reform in December 1987 gave that the first 14 days of a sickness absence spell were benefited based on the actual income loss.[3] Thus, the actual replacement rate became equal over spell length.

The Swedish sick-leave compensation scheme has been changed numerous times since 1987, where both the compensation level and the employer's responsibility for the sick-leave compensation have been affected. An overview of the sick-leave compensation schemes during the end of 1987 to 2005 is presented in table 1. The compensation schemes before 1987 are not presented in the table due to replacement rate comparability problems caused by sickness benefit taxability and the daily sickness benefit calculation.

From December 1987 to February 1991, the sickness benefit was 90 percent of the normal wage up to a given ceiling[4] and the ceiling has capped the sickness benefit since then. On March 1st, 1991, the compensation rate during the first three days of a sick leave was reduced to 65 percent. A fourteen day sick-pay period was introduced in January 1992, where sick pay is the salary paid by the employer

[2] This is under the assumption of equal working hours per day and week.

[3] The sickness absence benefit for the first two weeks was calculated based on hours.

[4] The ceiling in the sick benefit system is 7.5 Swedish base amounts. About 25 percent of the workers in 2003 had wages above the ceiling.

during a sick leave. In April 1993, a waiting day in the sick leave benefit system was introduced and the first day in a sick spell constitutes unpaid absence throughout the presented period. From July 1993 to December 1995, the sickness benefit was reduced to 70 percent after the 365th day in a sickness-absence spell. In 1996 and 1997, the government-provided sick-leave replacement rate was 75 percent of the normal wage. The sick-pay period was extended to 28 days during the period January 1997 to March 1998, and at April 1st 1998, it became once more 14 days. The replacement rate was raised to 80 percent of the wage in January 1998. In July 2003, the replacement rate was change once more to 77.6 percent and the sick-pay period was extended to 3 weeks. In January 2005 a major reform took place, where employers became responsible for not only paying the full amount of the sick- pay during the first two weeks but also for paying 15 percent of the sickness compensation cost paid by the national insurance after the first two weeks in a sickness absence spell. As the replacement rate was increased to 80 percent, the cost after the first two weeks of sickness absence for the employer became 12 percent of the normal wage (up to the cap). All changes in replacement rates and the level of mandatory employer sickness absence compensation were accompanied by changes in the national insurance contribution rate in the pay roll tax.

Since the introduction the mandatory employer provided sick pay period, self-employed can choose between qualifying periods of 1, 3 or 30 days. Choosing a higher number of qualifying days will reduce the national insurance contribution rate in the pay roll tax. Firms with a small number of employees (with yearly wage costs less than 90 Swedish base amounts) can insure them self against exceptional high costs of sickness absence.

2.2. Collective Agreements

Since the late 19th century, some level of compensated sickness absence has been regulated by collective agreements…*(More to come…)*

The changes during 1987 to 2005 in the extra sickness absence benefits paid due to collective agreements are summarized in table 1. In December 1987, due to collective agreements the employer paid 10 percent of the wage during the first 365

days of sickness absence that added up the total sick-leave compensation rate to 100 percent. From day 366 and onwards the national insurance replacement rate of 90 percent were added to by an insurance regulated by collective agreements and was paid for by the employer. As the same time as the replacement rates were lowered in March 1991, the sickness absence insurance policy was changed and no extra compensation was allowed after the 90th days in a sickness absence.[5] When the sick-pay period was introduced in 1992, no extra compensation were paid during the sick-pay period as the collective agreements only regulated the topping-up when the National Insurance was paying the benefits. In 1998 the law was changed, allowing extra compensation of a maximum of 10 percent of the normal age during all days of sickness absence. Collective agreements covering blue collar workers and municipal/county employees gave an extra ten percent of the normal wage between day 91 and day 360 in a sickness absence spell. This compensation was paid by a private insurance paid by the employers.

The extra compensation during a sick-leave, given by collective agreements, reduces the cost of being absence by as much as 50 percent. As the 'true' replacement rate is by large 10 percentage points higher than the national insurance replacement rate, it is important to take the collective agreements into account when measuring effects of replacement rate changes and also when performing international comparisons of insurance policies.

3. Disability Insurance in Sweden

3.1. The National Disability Insurance

A historical overview…TBD…

At the January 1st, 2003, disability retirement benefits changed name to sickness compensation (sjukersättning). The compensation rate has been 65 percent of inflation corrected previous wage since 19XX… TBD…

[5] All extra sickness absence compensation paid after the 90th days in a sickness absence lowered the benefit paid by the National Insurance Office by the same amount.

3.2. Collective Agreements

Insurance policies paid by the employer regulated by collective agreements add compensation to the benefits paid by the national disability insurance. TBD…

4. Work Absence in Sweden

4.1. Sickness Absence

Sickness absence arrangements in Sweden have varied greatly during the last two decades. A spell of sickness absence is compensated either by the employer or by government provided sickness insurance. From the mid 1950s until 1991, all sick leaves regardless of length were covered by public sickness insurance.[6] From 1992, the employer became responsible for paying the first 14 days of a sickness absence spell.[7] As a consequence, after 1992 no data on the overall sickness absence rate in Sweden are available. However, data from the Swedish Labor Force Survey (LFS)[8] and from the Confederation of Swedish Enterprise (CSE) offer partial coverage.[9] The LFS data cover sick leave absences that last for at least all working days during the week of survey and the CSE data cover all employees working in the member companies (private sector).

Sickness-absence rates and the unemployment rate[10] from 1974 to 2003 are plotted in figure 1. The first thing to note is the difference between the LFS data and the CSE data, which can likely be explained by the lack of short sick leaves in the LFS data. More interestingly, the behavior over time of sickness-absence rates and the

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[6] Except for the waiting day, which was removed in December 1987.

[7] The responsibility of the employer for sickness absence compensation payments has been altered during the 1990s (see next section).

[8] The Labor Force Study sickness-absence data obtained from Statistics Sweden (www.scb.se).

[9] The sickness-absence data from the Swedish Employers Confederation are obtained from www.svensktnaringsliv.se.

[10] The unemployment data is obtained from the Labor Force Survey (Statistics Sweden: www.scb.se).

unemployment rate differ systematically. At the end of the 1980s, the average proportion of sickness absence among employees was fairly high (almost ten percent in the CSE data). The sickness absence level decreased during the first half of the 1990s, reaching about half its previous level by the middle of the decade. Thereafter, sickness absence rates increased again. By comparison, the Swedish unemployment rate over the same time frame exhibits an inverse pattern; the unemployment rate was as low as 1.5 percent at the end of the 1980s, reached almost nine percent in 1993 then declined over the following decade to four percent in 2002. The inverse relationship between the sickness-absence rate and the unemployment rate evident in Figure 1 suggests that the two are related.

Studying the number of sickness absence days produced by the National Social Security Board over time, is associated with many problems. From 1992 when the employer provided sick pay period was introduced no data for sickness absence shorter or equal to the length of the sick-pay period is available. Furthermore, the sickness absence data consists of both employed and unemployed workers as well as individuals in education. Unemployed worker in Sweden are also covered by the sickness absence insurance, but these are likely to have other incentives to "call in sick" as it prolongs the benefited period. The cap in the unemployment insurance has previously been lower than the cap in the sickness absence insurance, which gives economic incentives for some individuals to be "sick" rather than "unemployed". See Larsson (2002) for a nice study of incentive for usage of sickness absence insurance during a period of unemployment.

Using the data from the Confederation of Swedish Enterprise that covers employees in private sector to predict the over all short-term absence rate by applying this data on the data from the National Social Security Board will yield inconsistent results. This due to several factors, but the main reason is that the unemployed receives benefits from the 2nd day of a sickness absence from the national insurance. Thus, their short term sickness absences are included in the data. To control for this we need the number of benefited days received by unemployed worker, but this is not registered in the database. The same problem holds for self employed individuals.

The sickness absence rates from the Labor Force Study (LFS)[11], the Confederation of Swedish Enterprise (CSE) and the National Social Security Board (NSSB) are plotted in figure 2. One striking difference is that the rate from the LFS is much lower than the others, and is likely to be explained by the lack of short term sickness absence. The CSE rate is lower than the NSSB rate in the end of the 1980s, which may indicate that the absence rate is higher in public sector. The introduction of the sick-pay period in 1992 can be seen in the sharp drop in the NSSB absence rate the same year. From the mid 1990s, the NSSB rate increases quite rapidly in relation to both the CSE and LFS rates. This might indicate on a higher increase in sickness absence among the unemployed relative to the employed.

4.2. Disability Retirement

In figure 3, the percentage disability retirees of total working age population for all, men and women are plotted over time.

In figure 4, the percentage disability retirees of total working age population is plotted and also by adding the fraction individuals with sickness absence longer than one year and 30 days.

TBD…

4.3. Adding Unemployed and Labor Market Program Participants

In figure 5, the percentage disability retirees, sickness absence spell equal to or longer than 30 days, unemployed and labor market program participants of total working age population is plotted.

TBD…

[11] Keep in mind that the Labor Force Study sickness absence rate lacks absence spells shorter than 5 days.

5. Studies on Sickness Absence

5.1. Sickness Absence and the Replacement Rate

The numerous changes in the Swedish sick-leave compensation rate have affected the direct cost for the individual of a sickness-absence spell and the income loss during a sick leave is likely to affect the individual's willingness to call in sick. The changes in the sick-leave compensation schemes coincidence with the variation in the business cycle, which gives that the effects on the sickness-absence rate of changes in the compensation rate are not easily seen in figure 1. Several recent studies have analyzed the effect of the changes in the Swedish sickness-absence benefits.

Johansson and Palme (1996) study sickness absence among Swedish blue-collar workers in 1981. One of their findings shows that the direct cost of being absent has a negative effect on male sickness absence, where a reduction in the replacement rate by one percent would decrease the mean level of days absent by about 4.6 percent. In Cassel et al. (1996), Swedish blue-collar workers are followed during 1991, and the effect of the reduction in the sickness-absence benefit on March 1 is analyzed. Their findings show a negative effect on the probability of being sickness absent of the reduced sick-leave wage replacement rate. Henrekson and Persson (2004) study the effect of changes in the sick-leave compensation level on the sickness-absence rate using Swedish time-series data covering 1955-1999. They find highly significant effects of the changes in the compensation levels, where an increase in the level yields a positive effect on the absence rate. Furthermore, Johansson and Palme (2002) show that increased costs of being absent decrease the incidence of sick leave and increase the intensity of returning to work if absent. Thus, according to all these results, the relationship between the sick-leave replacement rate and the sickness-absence rate is undoubtedly positive.

5.2. The Role of Monitoring Sickness Insurance Claimants

Insurance claims are often controlled to be accurate, e.g. the claimant has to show the damaged good. The same holds, in some degree, for sickness benefit claimants in Sweden as a doctor's certificate has to be shown at least from the 8th day in a sickness absence spell. Usually unmonitored sickness absence of 7 days or less contributed with 24 to 34 percent of the total sickness absence rate between 1988 and 1999 for employees in private sector. Thus, the role of monitoring may be an important factor when studying Swedish sickness absence.

Hesselius et. al (2005) exploits a unique Swedish social experiment carried out in 1988 to identify the effect of monitoring on sickness absence. The treatment consists of postponing the first formal point of monitoring during a sickness-absence spell, namely the requirement for a doctor's certificate, from day eight to day fifteen. The experiment was conducted in two geographical areas with the treatment group randomized by date of birth. The results for both regions show that extension of the waiting period has strong effects on sickness-absence duration, see figure 6 for the results in Gothenburg. On average, duration increased by 6.6 percent. Heterogeneity analysis reveals that monitoring affects men more than women. However, no effect is found on the incidence of sickness absence.

5.3. Sickness Absence and the Business Cycle

The relationship between the sickness-absence rate and the unemployment rate is not a new finding. Leigh (1985) discusses the theoretical procyclical relationship between the sick-leave rate and the unemployment rate, he also presents some empirical evidence of the relation using British data. He suggests that a procyclical absence rate can be due to fear of unemployment during a period of high unemployment. Leigh (1985) also claims that besides a possible disciplining effect of the unemployment rate on the sick-leave rate, a labor force composition effect is likely if absence-prone workers have a higher incidence of unemployment in an economic downturn.

A negative correlation between the sickness-absence rate and the unemployment rate is also found in some studies using Swedish data, e.g. Henrekson and Persson (2004), Arai and Skogman-Thoursie (2001) and Palme and Johansson (1996). Using Norwegian data, Askildsen et al. (2000) and (2002) find strong evidence of a procyclical pattern in sickness absence. In these studies, the unemployment rate at the country level has been used in the analyses. Johansson and Palme (2002) use local unemployment to capture local labor market effects, which gives a contradictory result as compared to the studies presented above. Higher local unemployment rates seem to be associated with a higher incidence of sickness absence, as well as a lower intensity of returning to work from a sickness-absence spell. This may be a spurious relation, where the local unemployment rate is likely to be correlated with local-specific social norms. This, in turn, implies that the social environment can be of importance when analyzing individual sickness behavior.

5.4. Sickness Absence and Subsequent Labor Market Outcomes

The everyday decision for the worker of whether to attend work, cannot exclusively be seen as a choice between earning the normal wage rate or being compensated through the sickness benefit system. Health status is deemed to be important when valuing the two choices; where e.g. a cold may raise the effort needed to remain as productive as in a healthier state. According to efficiency wage models[12], the non-work opportunity will be more attractive for the worker if the required effort level is higher. The labor market outcome, such as e.g. the subsequent risk of unemployment and the effect on future wages, may also be important factors in the valuation of an absence spell. The probability of being tagged as a less productive worker or a shirker, due to sickness absence, is likely to be positively correlated with the number of days absent. Yaniv (1991) points out that the worker is taking a risk by calling in sick, due to the fact that misuse of sick leaves may lead to dismissal and involuntary unemployment.

[12] For an overview, see e.g. Layard et Al. (1991).

Andrén and Palmer (2001) examine the effect of previous sickness absence on the log wage using Swedish data. They perform a cross-sectional analysis of wages in 1988 and find some evidence of a negative wage effect of previous sickness absence. In Hansen (2000), Swedish cross-sectional data for two consecutive years are used to estimate the effect on wages of sick leave. The findings show on the existence of a significant wage penalty associated with sickness absence. Hesselius (2004) investigates the effect of sickness absence on subsequent wages, which is estimated using a rich Swedish panel data set covering 1996 to 2001. The main results of this paper are that for both genders, full-time sickness absence has a short-term and a long-term negative effect on wages. One year of full-time sick absence yields a long-run wage penalty of 5.7 percent for men and 4.7 percent for women. The wage penalty of full-time sick leave is significantly higher in the private than in the public sector. Separately estimating the wage equation for four age groups yields a pattern of a decreasing negative wage effect of full-time sick leaves over age. Furthermore, an increasing wage penalty of full-time sickness absence in the years of education is also found.

Hesselius (2003) examines whether a worker's sickness absence behaviour influences the risk of becoming unemployed. Swedish panel data are used to estimate the relationship between the incidence and the duration of sick leaves and subsequent unemployment. The results indicate that an increase in the number of sick leaves as well as an increase in the duration of sick spells is associated with a higher risk of unemployment. An implication of the results is that less absence-prone workers are more likely to remain employed in a recession. This, in turn, may partly explain the pro-cyclical pattern of aggregate Swedish sickness absence rates.

5.5. Sickness Absence and Non-Direct Economic Moral Hazard

Non-direct economic incentives seem also to affect individual sickness absence behavior. Skogman Thoursie (2002) finds evidence of an increased sick-leave rate among Swedish men during e.g. the Calgary winter Olympics in 1988, where the findings suggest that male sickness absence increased by 6.6 percent during this

major sport event. Persson (2005) studies the effect on short-term sickness absence (less than 5 days) of another major sport event, the soccer world championship in 2002. During the month long championship, male short term sickness absence significantly increased by more than 40 percent whereas women seem to be unaffected.

Hesselius (2004) studies the relationship between sickness absence and spousal retirement using Swedish panel data. Spousal old-age retirement significantly increases female average long-term sickness absence by approximately one week, while spousal disability retirement yields a significant increase in average sickness absence for men by approximately one week and for women by approximately two weeks.

6. An International Comparison

The sickness-absence rate in Sweden, along with Norway and the Netherlands, has been fairly high in comparison to other European countries as e.g. Germany, the United Kingdom and Denmark (Nyman et al., 2002). Cyclical variations in the sickness-absence rate can be found in Sweden, Norway and the Netherlands, whereas it seems to be constant over the business cycle in Denmark, Finland, France, the United Kingdom and Germany. In countries with constant rates, the sickness-absence rates have been below and even well below the lowest sickness-absence rate in Sweden during the 1990s.

Historically, the Swedish sick-leave insurance has been quite generous in comparison to other European countries[13], whereas the reforms in the 1990s increased the wage loss during sickness absence. Some European countries had fairly generous sick-leave compensations in the 1990s, but also a relatively low sickness-absence rate (e.g. Germany), which indicates that the sickness-absence rate cannot solely be explained by the sick leave-replacement rate.

[13] See Nyman et al. (2002) for a cross-country comparison of sick-leave insurance policies.

An international comparison of sickness absence is presented in DS (2003), where one of the findings shows that gender, age and labor market composition along with employment characteristics can only explain one-fifth of the difference in sickness absence between Sweden and the European countries with low sickness-absence rates. Furthermore, no differences in the willingness among physicians to issue sickness certificates between the European countries are found. The report concludes that the Swedish sickness absence is hard to explain in comparison with other countries.

Comparisons of institutions…TBD…

Comments on OECD (2005)… TBD…

7. Concluding Remarks

TBD…

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Table 1. Sickness-absence compensation levels in Sweden, as a percentage of normal wage.

Day in sick leave	Dec 1987 – Feb 1991		Mar 1991 – Dec 1991		Jan 1992 – Mar 1993		Apr 1993 – Jun 1993	
	Empl.	SI	Empl.	SI	Empl.	SI	Empl.	SI
1	(10)	90	(10)	65	75	0	0[1]	0
2-3	(10)	90	(10)	65	75	0	75	0
4-14	(10)	90	(10)	80	90	0	90	0
15-21	(10)	90	(10)	80	(10)	80	(10)	80
22-28	(10)	90	(10)	80	(10)	80	(10)	80
29-90	(10)	90	(10)	80	(10)	80	(10)	80
91-365	(10)	90	0	90	0	90	0	80
366-	(5)	90	0	90	0	90	0	80

Day in sick leave	Jul 1993 – Dec 1995		Jan 1996 – Dec 1996		Jan 1997 – Dec 1997		Jan 1998 – Mar 1998	
	Empl.	SI	Empl.	SI	Empl.	SI	Empl.	SI
1	0[1]	0	0[1]	0	0[1]	0	0[1]	0
2-3	75	0	75	0	75	0	80	0
4-14	90	0	75	0	75	0	80	0
15-21	(10)	80	(10)	75	75	0	80	0
22-28	(10)	80	(10)	75	75	0	80	0
29-90	(10)	80	(10)	75	(10)	75	(10)	80
91-365	0	80	0	75	0	75	(10)[2]	80
366-	0	70	0	75	0	75	0	80

Day in sick leave	Apr 1998 – Jun 2003		July 2003 – Dec 2004		Jan 2005 –	
	Empl.	SI	Empl.	SI	Empl.	SI
1	0[1]	0	0[1]	0	0[1]	0
2-3	80	0	77.6	0	80	0
4-14	80	0	77.6	0	80	0
15-21	(10)	80	77.6	0	12+(10)	68
22-28	(10)	80	(10)	77.6	12+(10)	68
29-90	(10)	80	(10)	77.6	12+(10)	68
91-365	(10) [2]	80	(10) [2]	77.6	12+(10) [2]	68
366-	0	80	0	77.6	12	68

Note: Numbers in parentheses denote additional sickness absence compensation paid by the employer due to collective agreements. Throughout the presented period, sick leaves of 8 days or longer require a physician's certificate. A ceiling in the sickness absence compensation has existed during the presented period, where the coverage in the public system has been capped for approx. 25 percent of the wage-earners in 2003.

[1] The worker can avoid part of the qualification day by attending work and reporting sick during the work day and thus diminish the qualification period to as much as ¼ of a work day.

[2] Collective agreements covering blue collar workers and municipal/county employees.

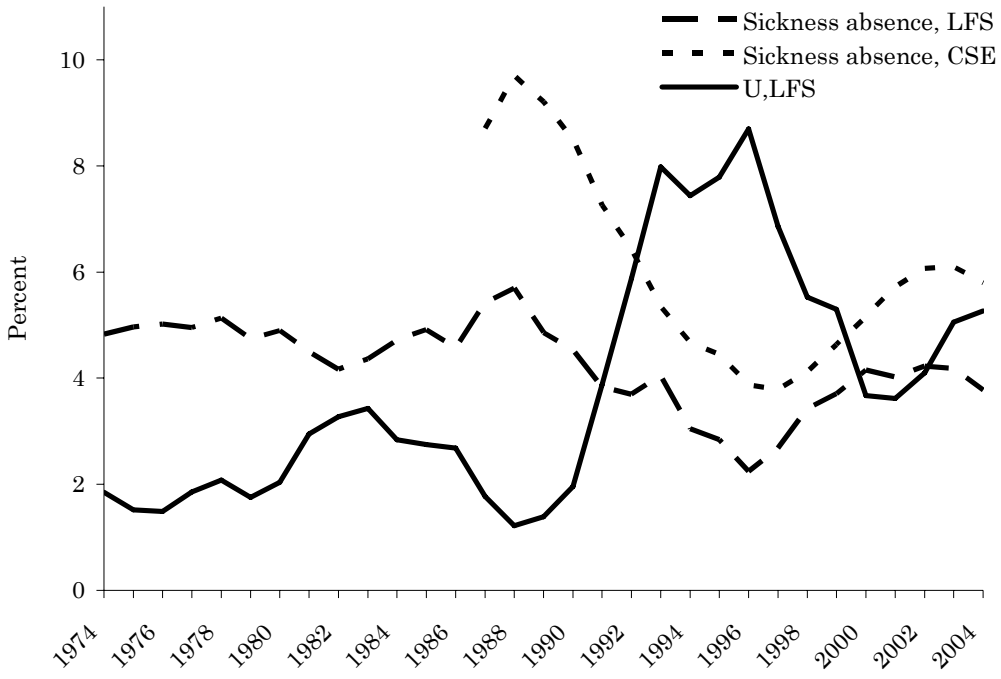

Figure 1. The sickness-absence rate and the unemployment rate in Sweden 1974 to 2004.

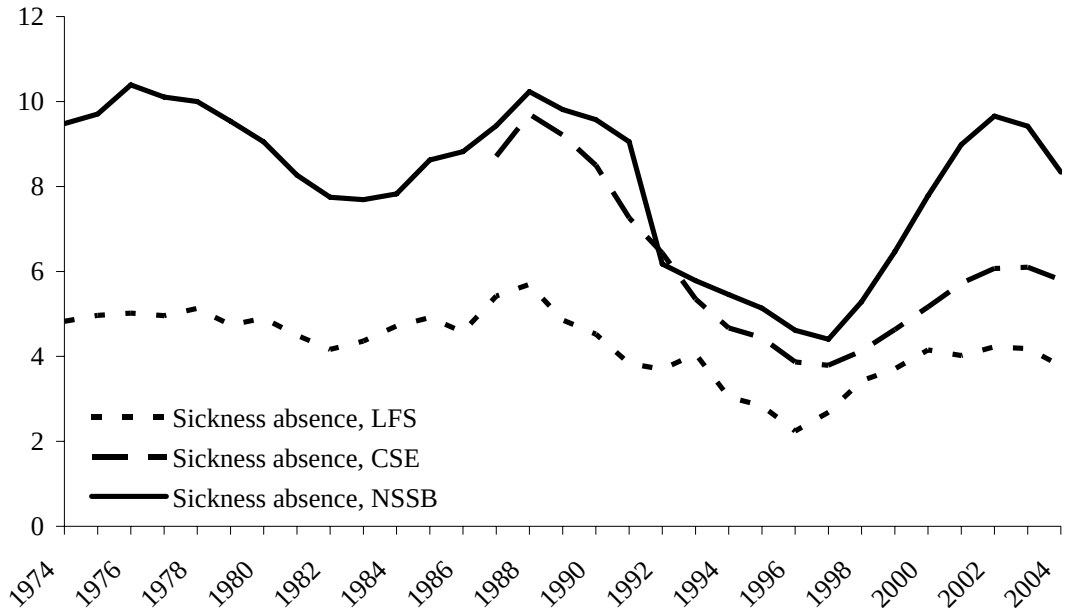

Figure 2. The sickness-absence rate in various measures 1974 to 2004.

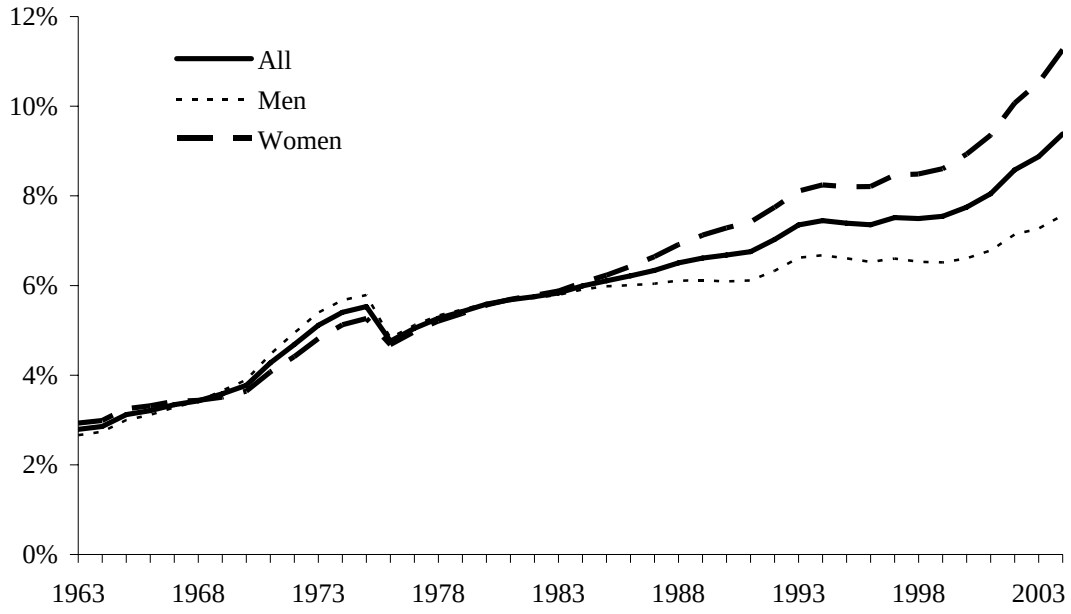

Figure 3. Percentage disability retirees of total working age population.

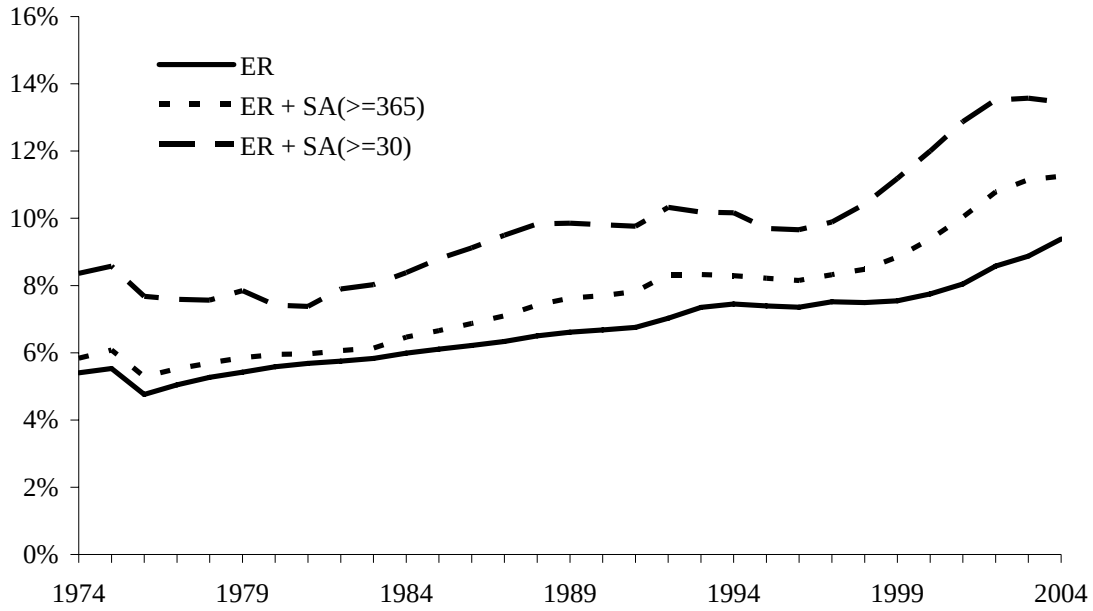

Figure 4. Percentage disability retirees, disability retirees plus sickness absence spell equal to or longer than 365 days, and disability retirees plus sickness absence spell equal to or longer than 30 days of total working age population.

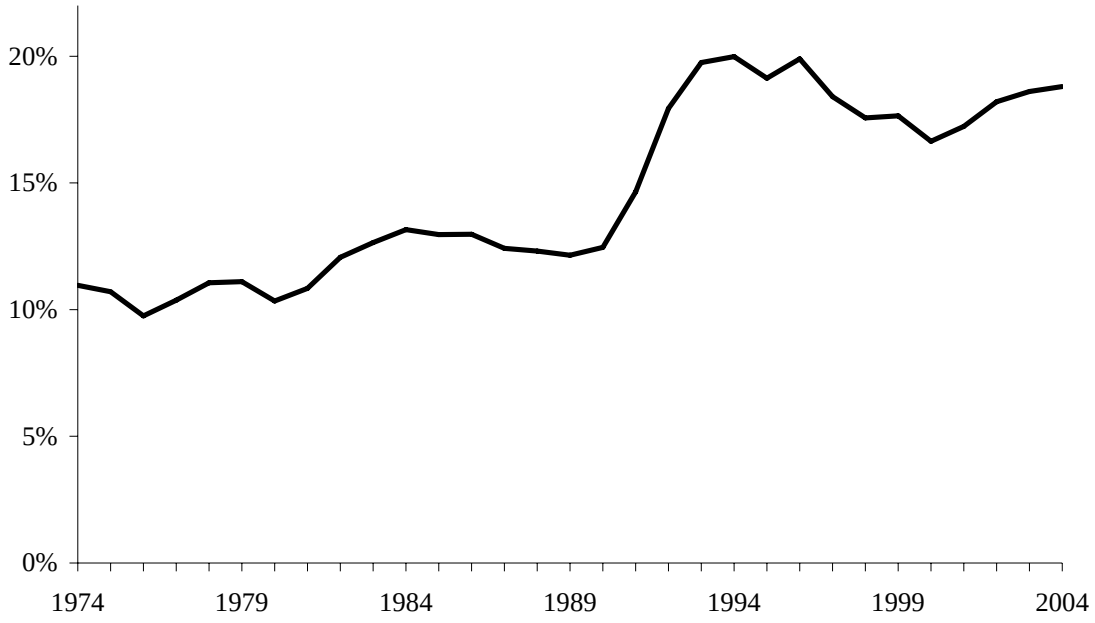

Figure 5. Percentage disability retirees, sickness absence spell equal to or longer than 30 days, unemployed and labor market program participants of total working age population.

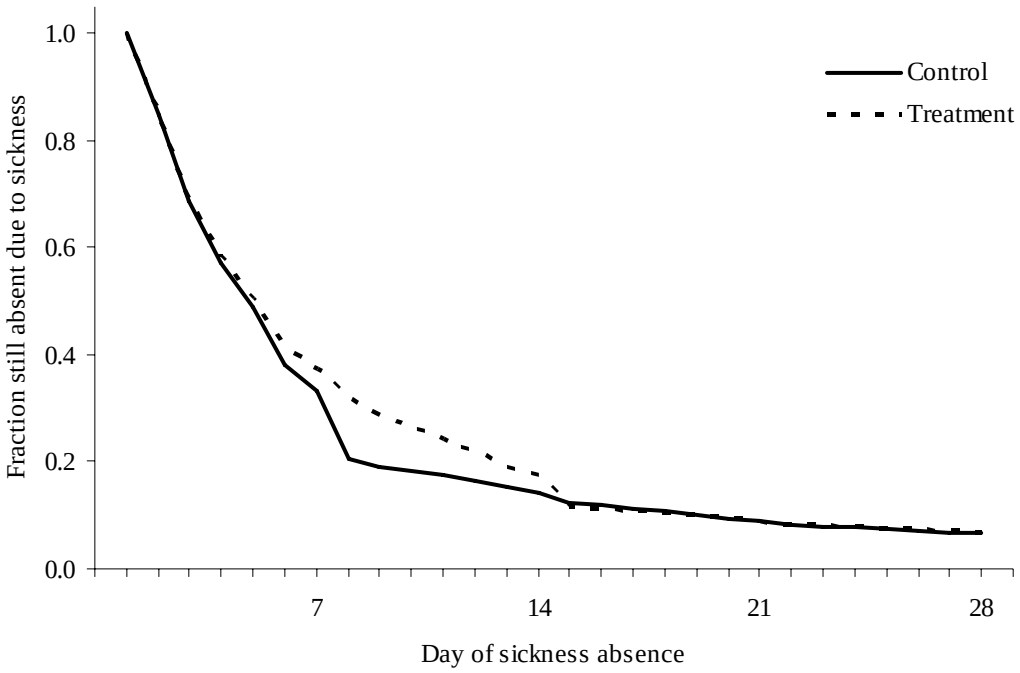

Figure 6. Fraction still absent due to sickness in Gothenburg during the experiment period.