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The Case of Austria

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Health and Employment Status: The Case of Austria

Gudrun Biffl[•]

Abstract

There are considerable differences in the incidence of sickness, the pattern of diseases and the duration of episodes of sickness by age, gender, education and employment status. Employed have a significantly better health record than the unemployed. The question why this should be so is followed up in this paper. The data base is microcensus data, i.e., household health surveys, complemented by administrative data (morbidity rates of the employed and unemployed) and data from the European Community Household Panel (ECHP).

The starting point of the analysis is the calculation of morbidity rates of different population groups, i.e., the number of days of sickness over a year, followed by the establishment of the linkage between the morbidity rate and an index of subjective feelings of wellbeing.

The morbidity rate can be decomposed into the frequency of spells of sickness and the average duration of a spell of sickness. The age group which experiences the most frequent episodes of sickness are the elderly, followed by small children. However, the average duration of a spell of sickness is comparatively short in the case of children and quite long for older persons. Accordingly, the morbidity rate by age is slightly u-shaped, i.e., children under five have higher rates than youngsters between 5 and 15, the age groups with the lowest sickness rates. Thereafter the sickness rate rises exponentially with age. The gender pattern of morbidity rates by age has changed between the early 1970s and the late 1990s.

The morbidity rate does not only depend on demographic factors like age and gender, but also on socio-economic factors like educational attainment level and employment status. There is a decreasing trend of morbidity with rising educational attainment. The mechanism by which education may influence health is the life style, i.e., an awareness of individuals of

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the role of nutrition, smoking, physical exercise, frequency of getting medical advice for one's health. Another factor which may promote the linkage between the morbidity rate and the educational attainment level is the type of work open to people with different educational background and thus work related diseases.

Unemployed have significantly higher morbidity rates than employed, independent of age. In 1999 the morbidity rate of the unemployed was more than double the rate of the employed (23 days of sickness p.a. on average compared to 9.3 days).

Employed tend to lead healthier lifestyles than unemployed, documented by regular sports activities and health conscious nutrition. While the differential between employed and unemployed in the case of regular sports activities is bipolar, i.e., particularly pronounced for unskilled and highly skilled, it is concentrated in the medium skill bracket when health conscious nutrition is concerned.

The analyses of health data of the European Community Household Panel (ECHP) and microcensus data suggest that the 'healthy worker effect', i.e., the lower morbidity rate of employed compared to unemployed workers, is at least partly the result of explicit screening of the employed by their health record. This is to say that in the course of micro-economic reform, structural change and cyclical downturns persons with a bad health record are amongst the first to be made redundant. In addition, unemployment per se may act as a psychological stress factor and through that mechanism exacerbate health problems. This fact has to be taken into account when drawing up measures to reintegrate unemployed, particularly long term unemployed, into the labour market.

Introduction

Unlike Anglo-Saxon countries and Germany, analyses of the relationship between socio-economic status and health are only in their infancy in Austria (*BMSG,* 2001, *Pochbradsky et al.,* 2002). This may be due to the general belief, that Austria's universal access to health services[1] should remove any potential differences in health between socio-economic groups. This is, however, not the case. Austrian experience suggests that free access to health services cannot eradicate differences in health patterns by socio-economic status. Considerable differences in the incidence of sickness, the duration of episodes of sickness, and the pattern of diseases by education and employment status remain after correcting for demographic factors like age and gender[2]. Why this should be so that employed have a considerably better health record than the unemployed is the focus of analysis of this paper.

We first provide an overview of the long-term development of morbidity rates (days of sickness over one year) by demographic group and socio-economic status[3]. Secondly, the paper highlights the role of the employment status, education and lifestyle, in particular health conscious behaviour, in reducing the morbidity rate. In order to confirm the development of morbidity rates over time and the level differences between employed and unemployed as exemplified by the household survey, time series of administrative data on sick leave of employed and unemployed are consulted. As a next step, the European Community Household Panel (ECHP) data is analysed, in order to check the hypothesis that long term unemployed are significantly less healthy than short term unemployed.

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[1] 99 percent of the resident population in Austria are entitled to health services on their own account, in the main as a result of insurance covered employment or family linkage with an employed person (Mitversicherung) – Source Statistics, *OECD* (2003). The only group of persons without a direct personal health insurance coverage are recipients of social assistance (Sozialhilfe), asylum seekers and prisoners. They are covered against sickness via the communities/institutions. Low income persons are exempt from paying pharmaceutical prescription fees and other medical expenses. As practically the whole population gets health coverage through the public health insurance system, only a relatively small proportion of the population (about one third) has in addition a private supplementary health insurance scheme, often co-financed by employers. This allows one to access medical doctors who do not have a contract with the health insurance service, and/or obtain better facilities (single room in the hospital); in addition, waiting times for non-urgent cases of surgery can be reduced by paying extra, i.e., out of the supplementary insurance scheme.

[2] In contrast to many developed countries – *Hadley* (2002) for USA and *Kooiker – Wildeboer Schut* (2003) for some EU member countries –, there is no statistically significant positive relationship between the income level and the morbidity rate in Austria.

[3] The data on which the paper is based, are special health surveys which have been added to the (quarterly) labour force household survey (micro census) in 1973, 1981, and 1999, complemented by time series of administrative data on sick leave of the employed and unemployed (social security statistics) and the European Community Household Panel (ECHP). According to the household survey, an episode of sickness is given if the normal pursuit of life is thereby affected, e.g. if one can not go to work or attend school as in the case of influenza, bronchitis, hospitalisation, etc. The administrative data base provides information on the number of days of sickness per year.

The paper concludes with the suggestion that synergies between employment and health policies could be achieved by introducing health awareness measures into active labour market policies and linking them with skill promotion and more part-time work particularly for long-term unemployed. This would reduce work related stress, promote healthy lifestyles and, by addressing the health problem of long-term unemployed, foster their chances of finding a job. The promotion of health of the unemployed will not only improve individual wellbeing but contribute to macro-economic growth[4].

Stable global morbidity rate between the early 1980s and late 1990s

In order to arrive at a complete picture of the health situation of the total population and various socio-economic groups, one must go beyond administrative health statistics, which range from mortality rates, spells of sickness registered with the various social security services, absenteeism from work due to sickness/injuries (*Biffl*, 2002), to consumption of health services (*OECD,* 2003). Household surveys provide this additional information, in particular subjective feelings of wellbeing, lifestyles and behaviour patterns, which have a significant impact on health, e.g., eating and drinking habits (healthy food), regular physical exercise, smoking, obesity, regular health checks, etc.; another advantage of household surveys is that this information is linked consistently with the demographic and socio-economic background of the various groups of people.

The first household health survey was undertaken in September 1973 in Austria; then every person was on average 10 days of the year sick (between September 1972 and September 1973). A decade later (from December 1982 to December 1983), the (weighted) average number of days of sickness per person had increased to 13.7 days and remained fairly stable thereafter (1999: 13.4 days)[5], (Figure 1).

The average number of days of sickness per person is, of course, an artefact. Not every person in the population is sick in the course of the year. In 1973, 58.9 percent of the population were not sick once; the proportion declined thereafter to 53.6 percent in 1983 and 50.3 percent in 1999. The increasing incidence of a spell of sickness per person is one of the reasons for the rise in morbidity between the early 1970s and 1980s[6] (Figure 3). Another reason is increased longevity. The life expectancy at birth increased between 1973 and 1999

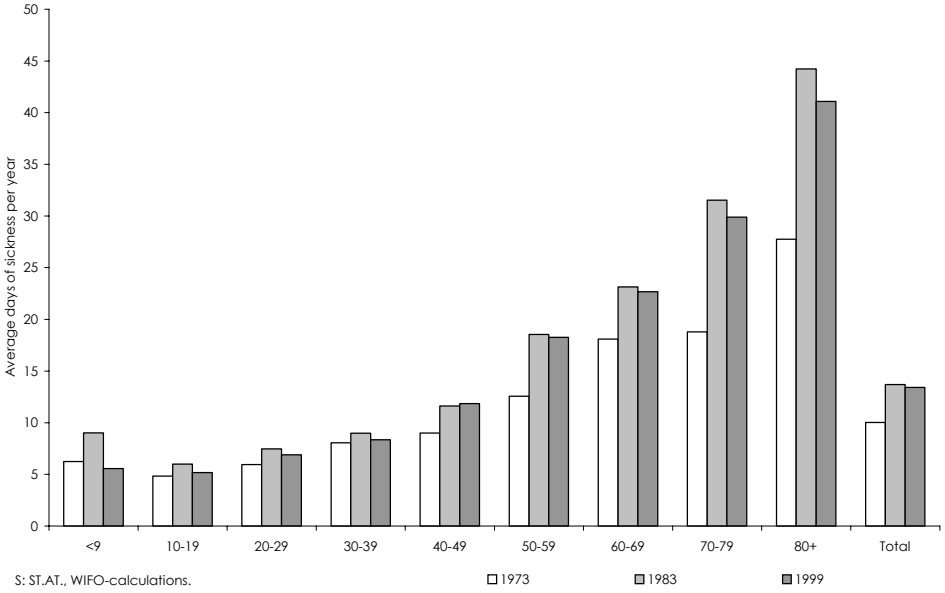
[4] For more details as to the relationship see *WHO* (2001).

[5] According to administrative (social security) data, the average number of days of absence from work per employee due to a spell of sickness increased from 14 days in 1973 to 15 days 1983, i.e., by somewhat less than in the case of the total population, and declined somewhat between 1983 and 1999 (to 14.4 days), (*Biffl,* 2002). Administrative data on sick leave of the employed and unemployed exhibit somewhat higher morbidity rates than household surveys.

[6] This corresponds with the development of sick leave of the employed according to social security data.

by 7 years, at the cost of rising average sickness rates – in the main of persons older than 50[7]. But also the morbidity rate of younger and middle aged persons increased between the early 1970s and early 1980s; in the case of youngsters and middle aged persons, this is often attributed to increasing numbers of them adopting unhealthy lifestyles, in particular illicit drug use including alcohol, and smoking[8]. Also administrative data on sick leave of the employed indicates a clear rise in morbidity rates of youth and middle aged persons between the early 1970s and 1980s.

Figure 1: Average days of sickness of the total population by age: 1973 to 1999



S: ST.AT., WIFO-calculations.

The morbidity rate by age is slightly u-shaped, i.e., children under five have higher rates than youngsters between 5 and 15, the age groups with the lowest sickness rates. Thereafter the sickness rate rises exponentially with age. In the year 1999, persons older than 80 tended to be sick on average 41.1 days per year – compared to 27.8 days in 1973, but three days less than in 1983. In contrast, in 1999, 10 to 19 year olds were on average 5.2 days sick (after six days in 1983 and 4.8 days 1973).

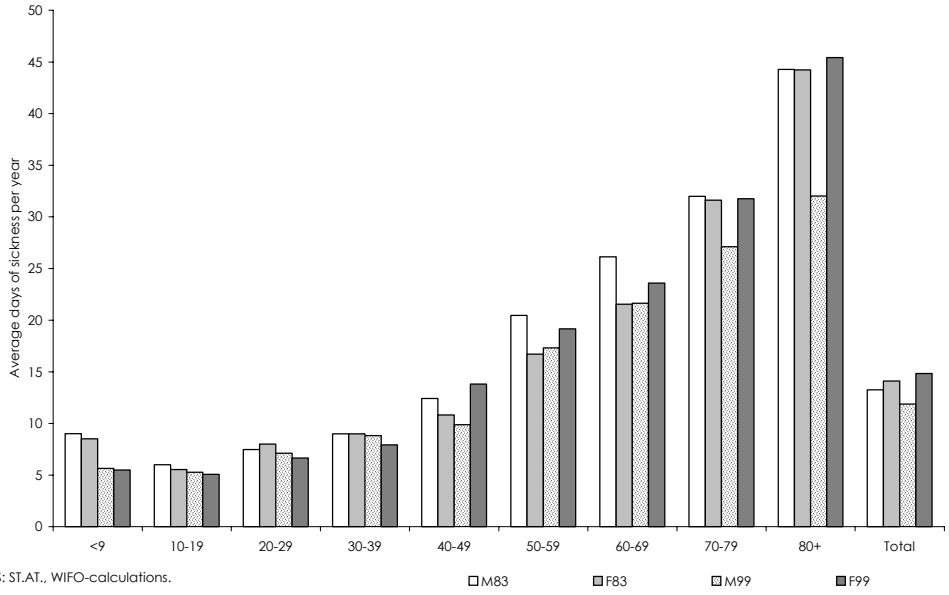
The average morbidity rate (days of sickness per year) of the total population does not only depend on the age structure of the population and the development of age-specific sickness rates but also on the development of gender-specific profiles of diseases. In 1973, women had a somewhat lower average sickness rate than men (9.8 days versus 10.3 days for

[7] The relative mortality rate (adjusted for the age structure) declined in Austria by 18 percent between 1970 and 1995; this was a somewhat faster decline than in the EU on average (*European Observatory on Health Care Systems,* 2000).

[8] This point is raised in *European Commission* (2003B) when trying to explain rising health problems of youth and middle aged persons.

men); however, over time, the sickness rate of women increased faster than that of men. In 1983 women were on average 14.1 days sick compared to 13.2 days with men. Between the early 1980s and the late 1990s the sickness rate of men declined somewhat to 11.9 days while it continued to rise in the case of women to 14.8 days.

Figure 2: Morbidity rate of men and women by age: 1983 and 1999



S: ST.AT., WIFO-calculations.

While gender differences in morbidity rates remained stable over the long run for persons under 20, with males having somewhat higher rates than females, this was not the case for persons over 20. In the case of 20 to under 30 year olds, the morbidity rate switched from a somewhat higher morbidity rate of females in 1983 to a lower one in 1999. Also for 30 to under 40 year olds, the health status of women improved over time relative to men. In contrast, for over 40 year olds, the morbidity rate of women rose more than proportionately between the early 1980s and the late 1990s such that women overtook men in terms of days of sickness per year (Figure 2).

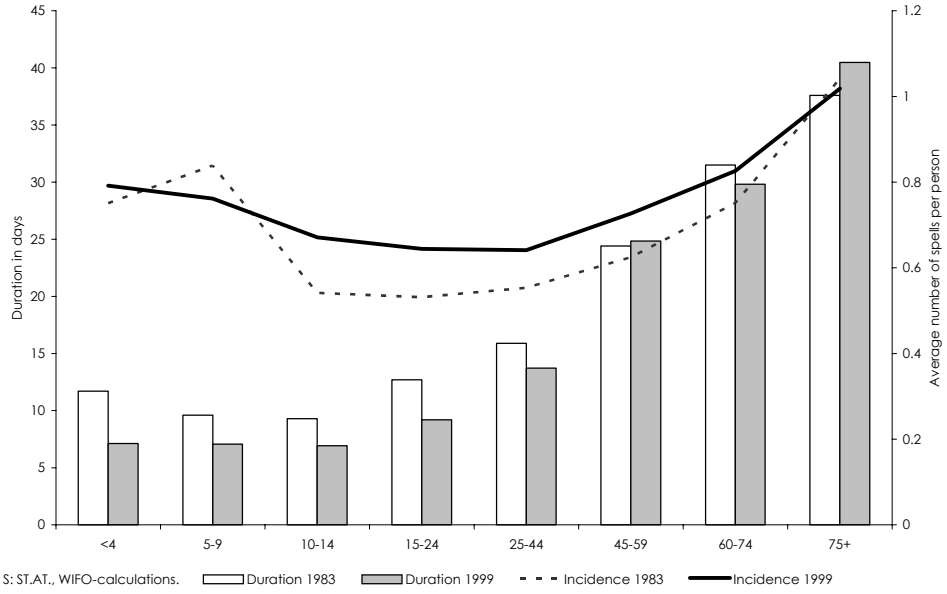
Adjusting for the changing age and gender structure of the population between 1973 and 1999, i.e., applying the demographic composition of 1999 to 1973 and 1983, does not affect the general outcome of average morbidity rates over time.

Rising incidence of morbidity but declining duration of a spell of sickness

The morbidity rate can be decomposed into the frequency of spells of sickness and the average duration of a spell of sickness. The age group which experiences the most frequent episodes of sickness are the elderly, followed by small children (under five year olds).

However, the average duration of a spell of sickness is comparatively short in the case of children and quite long for older persons (Figure 3).

Figure 3: Incidence and duration of a spell of sickness in 1983 and 1999



The number of spells of sickness per person increased from an average of 0.4 per person in 1973 to 0.6 in 1983 and 0.7 in 1999. It rose in every age group; the rise was comparatively small in the case of under 10 year olds and most pronounced for people of working age. In contrast, the average duration of a spell of sickness remained fairly stable for the whole population between 1973 and 1983. Between 1983 and 1999 it declined in every age group.

The high and rising morbidity rate of 45 to 60year olds is a matter of concern when wanting to promote the employment of older workers without imposing undue cost pressure on enterprises (active ageing)[9]. This fact has to be taken into account when developing age management programmes at the work place to ensure sustainable employment of older workers.

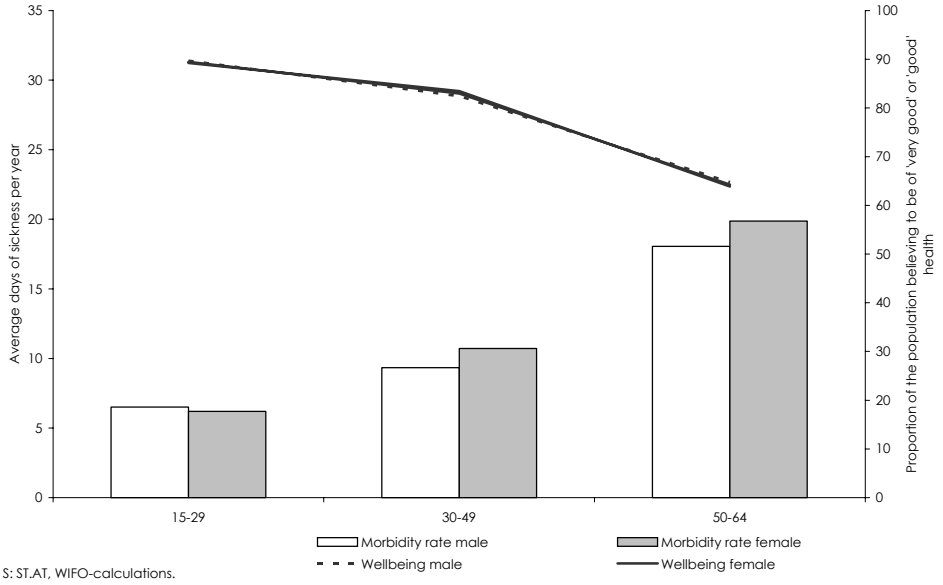
Strong negative correlation between morbidity rate and feelings of wellbeing

The microcensus does not only enquire about the actual days of sickness in the course of one year, but also about the subjective feeling of wellbeing. Between the two there is a significant negative correlation (coefficient of correlation of –1.0). Figure 4 visualises this close

[9] The *OECD* (1998: p. 84) defines active ageing as "... the capacity of people, as they grow older, to lead productive lives in the society and the economy. This means that they can make flexible choices in the way they spend time over life – in learning, in work, in leisure and in care-giving".

relationship for men and women by age group. Accordingly, youth does not only have a lower morbidity rate than middle aged and older persons but feels healthier as well.

Figure 4: Morbidity rate and subjective feeling of wellbeing of the population 15 to 64 in 1999



S: ST.AT, WIFO-calculations.

In 1999, 89.5 percent of the 15 to 29 year olds stated that their health status was very good or good, compared to 82.9 percent of the 30 to 49 year olds and 64.3 percent of the 50 to 64 year olds. There is hardly any difference in the age specific subjective feeling of well being of the total population by gender. This contrasts somewhat with the morbidity rate, which, in 1999, was with the exception of youth always a bit higher for women than for men.

Morbidity declines as the educational attainment level rises

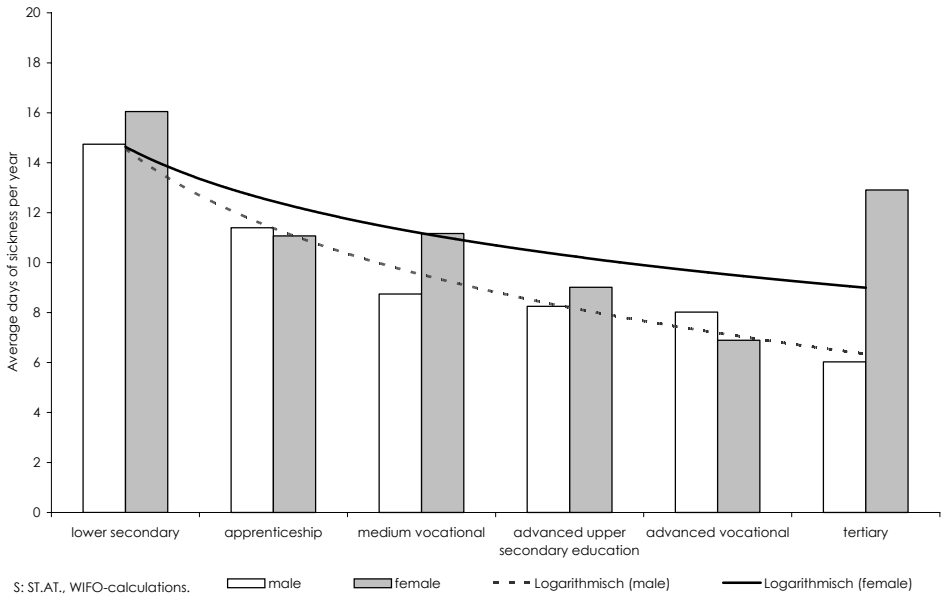
The morbidity rate does not only depend on demographic factors like age and gender, but also on socio-economic factors like educational attainment level and employment status. In general, an inverse relationship may be expected between the morbidity rate and the educational attainment level. The mechanism by which education may influence health is the life style, i.e., an awareness of individuals of the role of nutrition, smoking, physical exercise, frequency of getting medical advice for one's health. Another factor which may link the morbidity rate with the educational attainment level is the type of work open to people with different educational background and thus work related stress and diseases[10]. Another aspect may be access to information about the impact of the lifestyle, in particular food

[10] For details see Chapter 2, the social dimension of health in *European Commission* (2003A).

intake, regular health checks and the like, on health – it can be expected to be less accessible for people who are not engaged in continued learning and education.

In order to isolate the impact of education on morbidity rates, we examine the health record of the population aged 18 to 64[11]. Figure 5 indicates a clear declining trend of the morbidity rate of men with rising education, while it is bi-polar in the case of women.

Figure 5: Morbidity rate of the population aged 18 to 64 by educational attainment level and gender in 1999



The morbidity rate of men declines more or less continuously from a high of 14.7 days p.a. on average for persons with compulsory education as their maximum attainment level, to a low of six days for university graduates. In contrast, the morbidity rate of women is highest for women with compulsory education (16 days per year on average), followed by university graduates (12.9 days), and lowest for women with vocational college education (6.9 days). The morbidity rate of female university graduates is thus double the rate of male university graduates, while it hardly differs for men and women with apprenticeship education. This pronounced gender difference in morbidity rates by education may have something to do with the significant gender segmentation of employment by occupation in Austria (*Biffl,* 1996). The marked difference in morbidity rates of male and female university graduates deserves particular attention in that context.

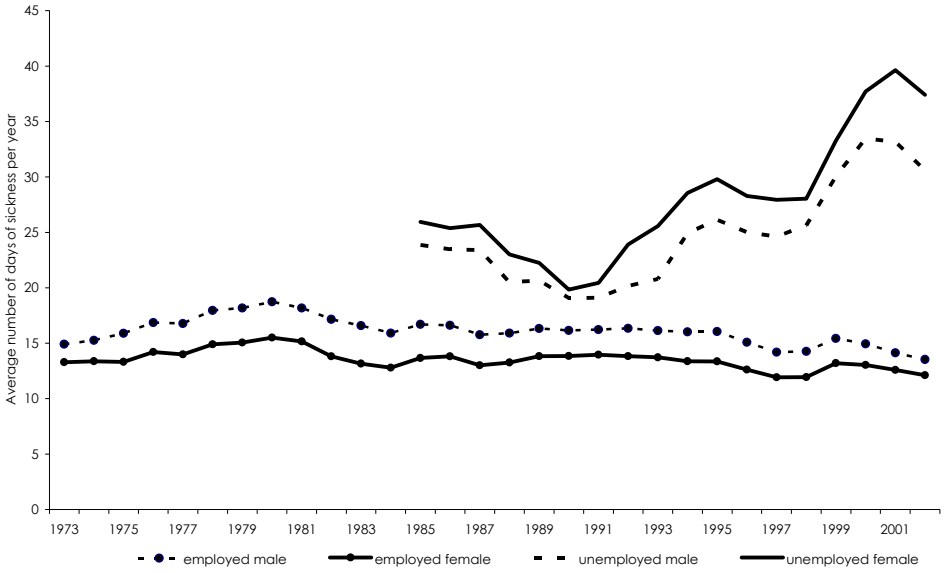
[11] We are not looking at the total population over 18 in order not to confuse the issue. Older persons are on average less educated than younger ones, while at the same time having higher morbidity rates. In addition, lower socio-economic status of over 60 year olds is linked with higher mortality rates. See *Leclerc et al.* (2000).

Unemployed have significantly higher morbidity rates than the employed

It is a fairly universal feature that morbidity rates are higher for unemployed than for employed[12]. The causal factors are subject to continued debate, however. In Austria, the morbidity rate of the unemployed is more than double the rate of the employed and the difference has been increasing over time, particularly in the second half of the 1990s; (Figure 6) this is partly a result of the changing demographic composition of the work force (ageing of the work force), partly a consequence of rising age specific morbidity rates. The significant rise in the morbidity rate of unemployed in the 1990s may also be promoted by the possibility to prolong the duration of unemployment benefit payment by becoming sick, i.e. by institutional factors.

According to social security data, the average number of days of sickness of the registered unemployed was 33 days compared to 13 days of wage and salary earners in the year 2002. In the year of the household survey of 1999, the difference was somewhat less pronounced. The morbidity rate is lower in the household survey with 23 days for the unemployed (compared to 31 days in the social security data) and 9.3 days of sickness of the employed (14.4 days in social security data).

Figure 6: Morbidity rate of employed and unemployed by gender



S: Department of Social Security Serrvices, WIFO-calculations.

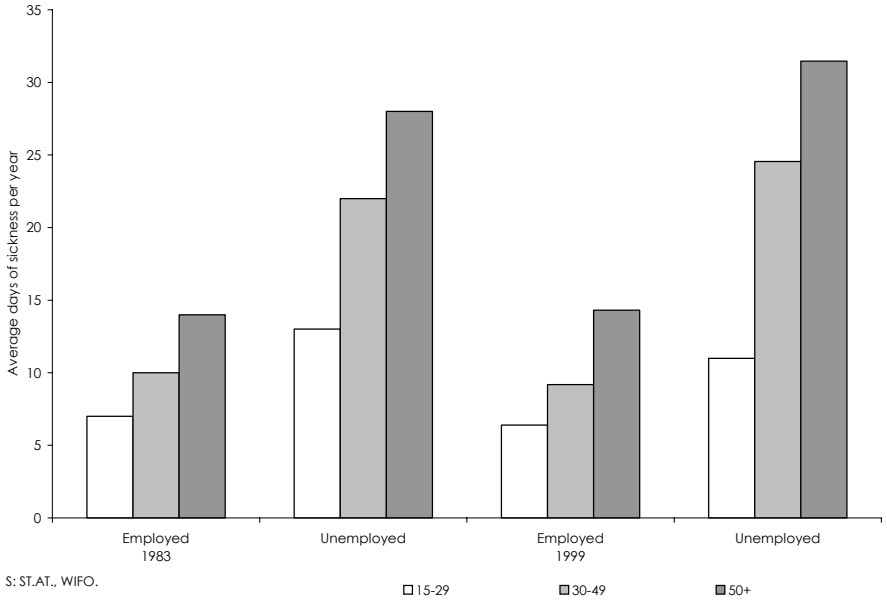
The rise in the average morbidity rate of the unemployed between 1983 and 1999 – an average of five days per person in the household survey – can be attributed to the rising

[12] For more literature see *European Commission* (2003B); *Mesrine* (2000) points out that also the mortality rate is higher for unemployed than employed of equal age.

share of older persons in unemployment on the one hand (from 46.3 percent of the unemployed in 1983 to 73 percent in 1999), and to increasing morbidity rates of over 30 year olds on the other[13]. Only 15 to 29 year olds had a significantly lower morbidity rate in 1999 than in 1983. As in social security data, the morbidity rate of the employed declined from the early 1980s to the end of the 1990s for every major age group except the over 50 year olds, for whom it remained stable (Figure 7).

As to the gender aspect, a significant difference between household surveys and social security data has to be noted. The latter shows consistently higher morbidity rates of employed men compared to employed women, while the contrary is true in household surveys[14]. In contrast, unemployed women have significantly higher morbidity rates than men in both data sources.

Figure 7: Morbidity rate by age and employment status in 1983 and 1999



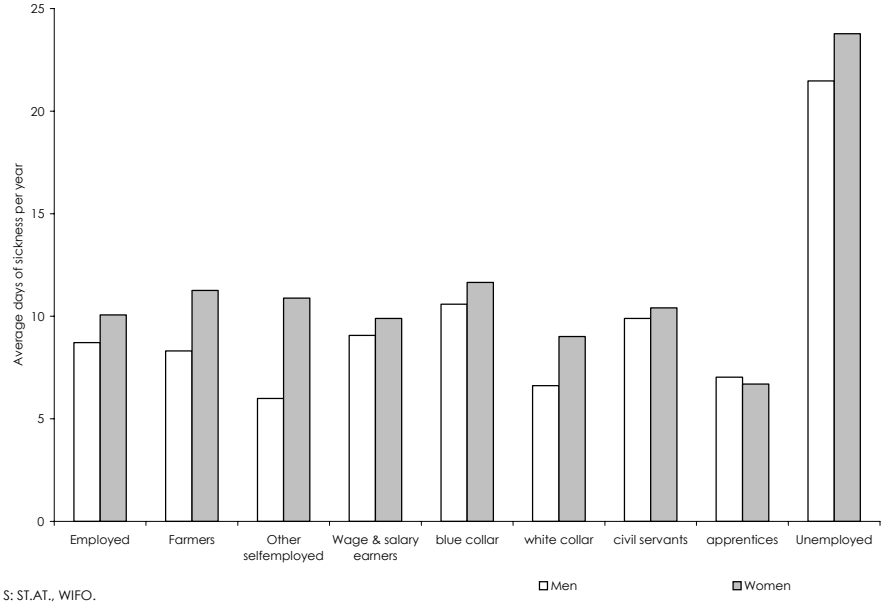
S: ST.AT., WIFO.

[13] The aging of the baby boom generation explains the formidable rise in the share of persons over 30 in the labour force.

[14] *Barmby et al.* (2000) show that in an international comparison sickness absence rates tend to be higher for women. A closer look at administrative data in Austria suggests that sick leave data is affected by institutional arrangements. As administrative procedures for blue and white collar workers were harmonised in Austria in 2001, sick leave rates of blue collar workers, the majority of them male, started to converge to those of white collar workers, and in so doing also reduced the gender gap.

The group with the highest morbidity rates amongst the employed are blue collar workers, followed by civil servants (10.9 and 10.1 days, respectively, in 1999)[15]. White collar workers (salary earners) in private sector industries have comparatively low morbidity rates with 7.9 days in 1999, about the same as farmers (9.8 days) and persons working on their own account (7.6 days), (Figure 8).

Figure 8: Morbidity rate of the population of working age by gender and employment status in 1999



S: ST.AT., WIFO.

Morbidity rate of the employed declines as unemployment rises

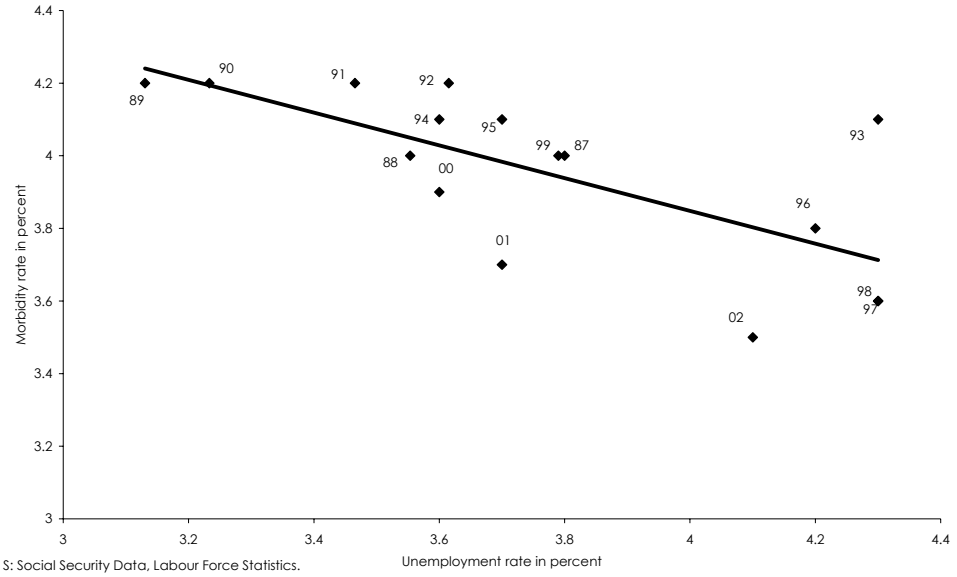
The development of the morbidity rate of the employed (absentee rate due to sickness) has a statistically significant cyclical pattern – the morbidity rate tends to fall when unemployment rises (Figure 9). This appears to be a fairly universal feature, well documented in the literature (*Doherty,* 1979; *Larson – Fukami,* 1985, *Leigh,* 1985, *Lantto – Lindblom,* 1987; *Markham – McKee,* 1991; *Drago – Wooden,* 1992; *Bäckman,* 1998, *Andrén,* 2001A).

Causal links are difficult to establish but may work both ways, i.e., health problems may be responsible for job loss but unemployment per se may also be a cause for diseases, in particular psychosomatic ones.

[15] In Austria, civil servants do not only comprise highly skilled administrative personnel in federal, state and local government and social security services, but also the bulk of teachers, security personnel, and persons working in the health and social services.

The relationship between the morbidity rate of the employed, measured in terms of the sum of days of sickness per year over the volume of working days of wage and salary earners, and the unemployment rate, is estimated by a linear regression for the period 1987 to 2002 in Austria (Figure 9). Accordingly, the development of the unemployment rate can help 'explain' about 50 percent of the variability of the morbidity rate; the relationship is statistically significant. This implies that in the case of a rise in the unemployment rate by 1 percentage point, the morbidity rate of the employed will decline by 0.45 percentage points.

Figure 9: Negative correlation between the morbidity rate of employed and the unemployment rate in Austria 1987-2002
$y=5.7-0.45x$ $R^2=0.49$



S: Social Security Data, Labour Force Statistics.

Orthodox economic theory suggests that the negative relationship between the morbidity and unemployment rate is the result of the interaction of various behavioural aspects on the labour demand and supply side:

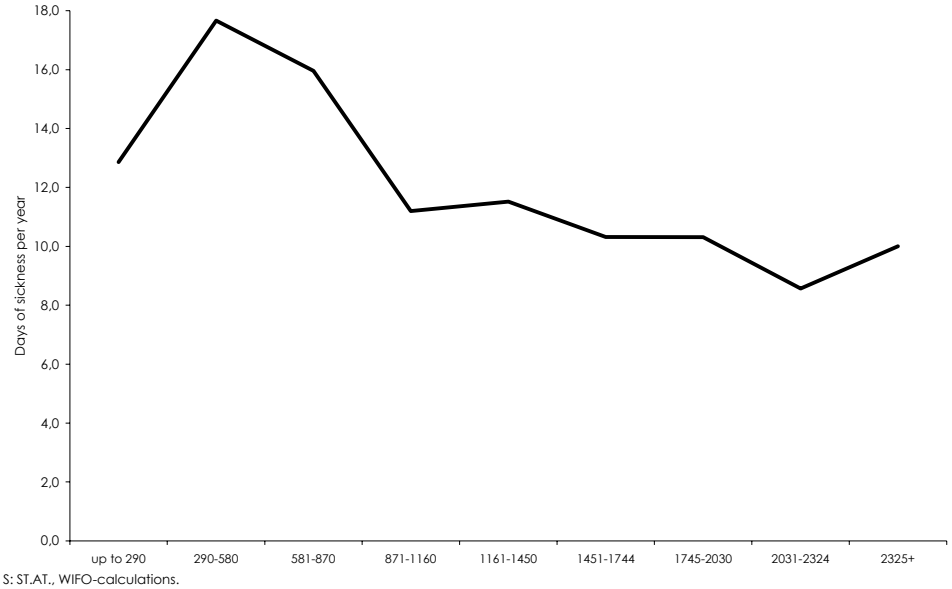
- Workers expect that the probability of job loss is higher in case of high rates of absence due to sickness, i.e., job loss is seen as a penalty for absenteeism. Thus, workers signal their interest in the job by reducing absenteeism in phases of rising unemployment.
- The morbidity rate will decline more than proportionately in those occupations, in which the substitution with other workers is particularly easy (unskilled and semiskilled workers).
- The morbidity rate will decline more than proportionately for workers at the periphery of internal labour markets, in particular persons with limited firm specific skills (outsiders versus insiders).

The rising differential between the morbidity rates of the employed and the unemployed in the course of the 1990s and early 2000 in Austria (Figure 6) may be linked with the structural change of employment away from occupations and industries with significant health hazards. While young and healthy laid off workers may move back into employment relatively quickly, older and less healthy may remain on the unemployment register. This is suggested by analyses in Sweden (*Knutsson – Goine,* 1998) as well as Austria (*Biffl,* 2002). In addition, screening of the employed by their health/absentee record in case of layoffs may also play a role. This is to say that in the course of micro-economic reform, structural change and cyclical downturns persons with a bad health record may be amongst the first to be made redundant. In addition, unemployment per se may act as a psychological stress factor and with rising duration of unemployment exacerbate health problems.

Negative relationship between income and morbidity?

International studies show that income is negatively correlated with morbidity. This is also the case in Austria (Figure 10). If we take into account, however, that age-income profiles are positively sloped and that morbidity rates rise with age, an analysis of the income-morbidity nexus controlled for age does not come up with a significant negative impact. This should not come as a great surprise, given the universal access to a high level of health care in Austria and the complex ways in which income is distributed over individuals and households.

Figure 10: Morbidity rate (days of sickness per year) of the population of working age by income (monthly net wages and salaries in €) in 1999



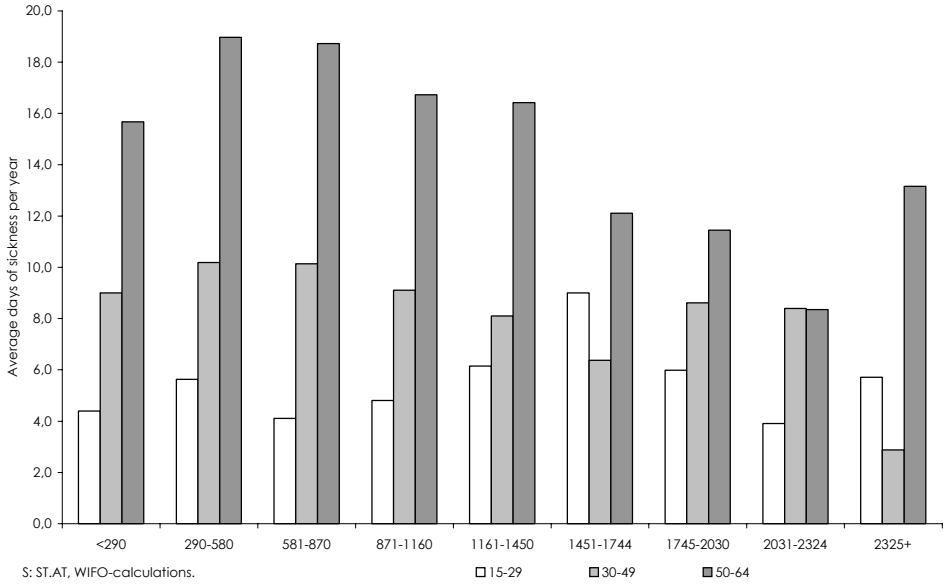
S: ST.AT., WIFO-calculations.

On the one hand, wages depend on supply factors like the educational attainment level, age and gender, on the other on demand factors like type of industry and firm size. Differences in income by age and gender may therefore be the result of a variety of factors, and rarely provide insight into the health hazards and differences in the wear and tear by type of job. Even if one assumes that higher income groups have supplementary health insurance and may therefore have access to better health care, high income groups tend to be older and by that mechanism have higher morbidity rates.

Figure 11 visualises this complex relationship between age, income and morbidity. The morbidity rate does not have a clear linear and negative relationship with income when we look at the various age and income groups. The morbidity rate of 50 to 64 year olds tends to decline as income rises, with the exception at the lower end (less than € 290 per month) and upper end of the income spectrum (more than € 2,325 per month). 50 to 64 year olds who are at the bottom end of the wage income have a lower morbidity rate than older workers in the lower to middle income groups. On the other hand, the highest income earners have a higher morbidity rate than middle to upper income groups.

The morbidity rates of 15 to 29 year old youth and middle aged workers have no clear linkage with the level of monthly earnings. The age specific pattern of morbidity rates and income looks fairly similar for women and men, except that low income young and middle aged women have significantly lower morbidity rates than men in that income bracket.

Figure 11: Morbidity rate of the population by age and income (monthly net wages and salaries in €) in 1999



S: ST.AT, WIFO-calculations.

The morbidity rate and age are highly correlated (coefficient of correlation of 0.75); when calculating a regression with the morbidity rate as the dependent variable, and age as the

only explanatory variable, about three quarters of the variation of the morbidity rate can be explained by the age variable ($R^2 = 0.57$; y = 0.1 + 2.9x). If, on the other hand, one calculates a regression with income as the only explanatory variable, a similarly high explanatory value results, whereby the relationship is negative (coefficient of correlation of –0.78, $R^2 = 0.61$; y = 16.3 – 0.85x). As there is a significant correlation between age and income, the explanatory power of a regression including both variables, is not improved; income remains statistically significant but exerts hardly any influence on the level of the morbidity rate (y = –6.1 + 0.8age – 0.00007inc – 0.4men; $R^2 = 0.763$, Durbin-Watson: 1.820). These results suggest that age is the strongest single predictor of changes in the morbidity rate of the population.

Table 1: Regression results

	$y = a + b_1age+b_2inc+b_3men$	$y = a + b_1age+b_2inc+b_3men + b_4edu + b_5emp$
a	– 6.068	– 9.867
SE (a)	0.169	0.323
T-value	– 35.945	– 30.588
b_1	0.750	0.738
SE (b_1)	0.003	0.003
T-value	286.935	272.477
b_2	– 0.00007	– 0.00001
SE (b_2)	0.000	0.000
T-value	– 14.989	– 2.259
b_3	– 0.355	– 0.278
SE (b_3)	0.077	0.077
T-value	– 4.639	– 3.617
b_4	.	– 0.158
SE (b_4)	.	0.021
T-value	.	– 7.555
b_5	.	0.345
SE (b_5)	.	0.024
T-value	.	14.518
SE (y)	5.677	5.650
F-value	28251.929	17169.154
R^2	0.763	0.765
Durbin-Watson	1.820	1.845

$y = a + b_ix_i$, y . . . morbidity rate, x_i . . . age, income (inc), gender (men), educational attainment (edu), employment status (emp); a . . . constant, b_i . . . coefficient; *SE (.)* . . . standard error.

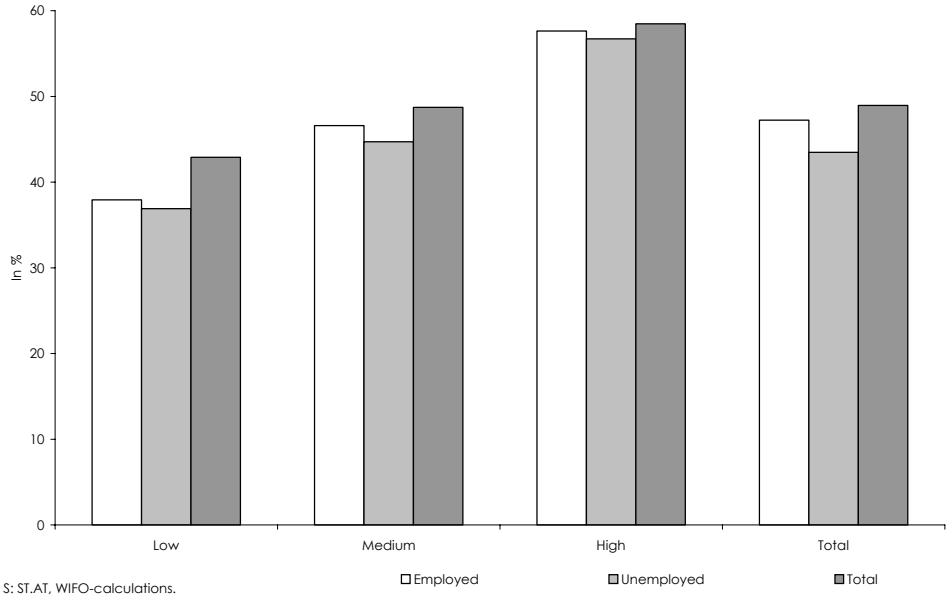
The explanatory power of the regression function can be slightly improved, if we add gender, educational attainment level, and employment status as explanatory variables of the variation of morbidity rates. As can be seen from the regression results, the morbidity rate rises

with age, declines somewhat for men and with rising educational attainment level, and rises when losing the job. It is lowest in the case of employed and rises with the growing distance from the labour market, i.e., it is highest in the case out persons who are out of the labour force ($y = –9.9 + 0.7age – 0.00001inc – 0.3men – 0.2edu + 0.3empl$; $R^2 = 0.765$, Durbin-Watson: 1.845).

Health conscious behaviour reduces morbidity rate

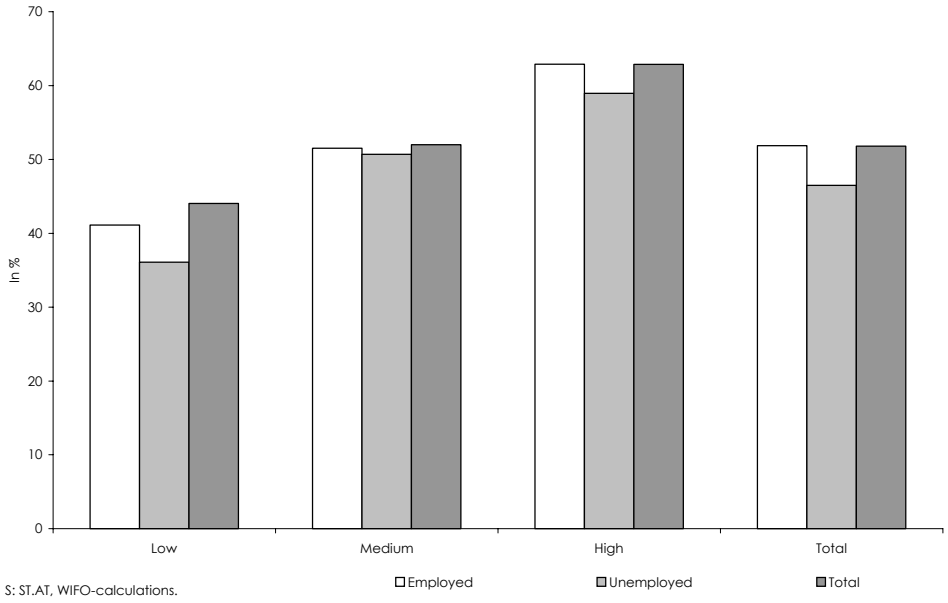
One of the major explanatory factors for differences in morbidity rates, independent of age and gender, are behaviour patterns and/or lifestyles. This can be deduced from an analysis of the health survey data, which addresses the question of health conscious behaviour. According to this data, the propensity to live a health conscious life, i.e., to take active measures to improve one's health, increases with educational attainment level. It is clear from Figures 12 and 13 that employed people in general are more health conscious in their behaviour patterns than unemployed, independent of educational attainment level. Health conscious behaviour is measured for example by the proportion of the working age population which engages in sports and which is conscious of the nutrition intake. This proportion is higher for employed than for unemployed. The difference is particularly pronounced in the case of the medium skilled employed versus unemployed as to nutrition and in the case of sports activities at the lower and upper end of the skill spectrum.

Figure 12: Proportion of the population of working age which is health conscious in its nutrition intake by educational attainment and employment status in 1999



S: ST.AT, WIFO-calculations.

Figure 13: Proportion of the population of working age which is physically active (sports activities) by educational attainment and employment status in 1999



S: ST.AT, WIFO-calculations.

Similarly, the proportion of the population, which does not take any conscious actions to promote health, e.g., regular medical check ups and the like, is highest in case of low skilled persons and lowest with high educational attainment levels. Again it is the unemployed who are making less effort to promote their health than the equally skilled employed persons.

Also bad housing conditions may contribute to a higher morbidity rate, particularly in the case of the unemployed. In 1999, the morbidity rate was about twice as high for persons in medium to lower status housing than for persons in high status housing[16]. The average morbidity rate of persons living in medium to low status housing is about twice as high as in the case of good status housing (24 days compared to 12.6 days a year). In the case of the unemployed, the difference in the morbidity rate is even more pronounced, with 21.8 days for unemployed in good housing conditions, compared to 39 days in medium housing and 52 days in low status housing. The small sample size of persons in substandard housing does account for a large margin of error concerning the level of the morbidity rate, however.

Long-term unemployed are less healthy than employed persons

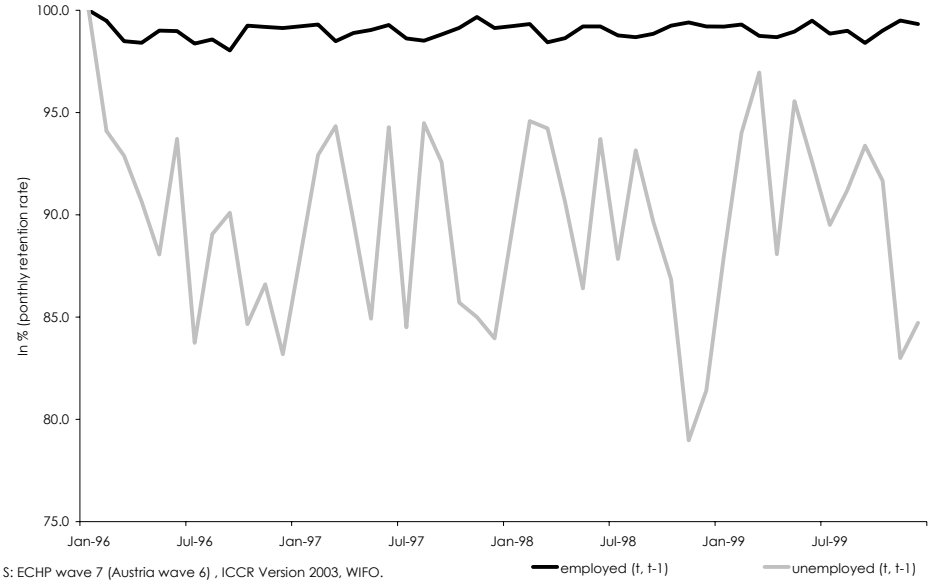
So it is that unemployed are living a less healthy life style than employed which contributes to their above average morbidity rate. In what follows, we examine the question if and to what

[16] High status housing is defined as bath and toilet in the apartment, medium status is without bath, low status is without bath and toilet. A somewhat larger proportion of the unemployed is living in bad housing conditions than of employed.

extent prolonged unemployment is linked to a deterioration of the health status and/or the subjective feeling of wellbeing. This is a linkage which has been established for Sweden by *Andrén* (2001B) and *Sundberg* (1996). In the case of Austria, we take the ECHP as a data source[17].

According to this data base, 51 percent of the panel population (2,961 out of a total of 5,800 persons) were employed and 2.6 percent unemployed (152 persons) in 1999. 90.7 percent of the unemployed could expect to remain unemployed, while 99 percent of the employed could expect to remain employed in the course of the year of 1999. There was a flow of workers from employment into unemployment (8.5 percent of the unemployed) and from the non-working population (in the main school-leavers and re-entrants) into unemployment (0.9 percent of the unemployed). 0.4 percent of the unemployed left unemployment and moved into the non-working population (in the main into retirement) and 0.5 percent moved into employment. This pattern did not differ much between the individual years.

Figure 14: Monthly retention rate of employed and unemployed persons between January 1996 and December 1999

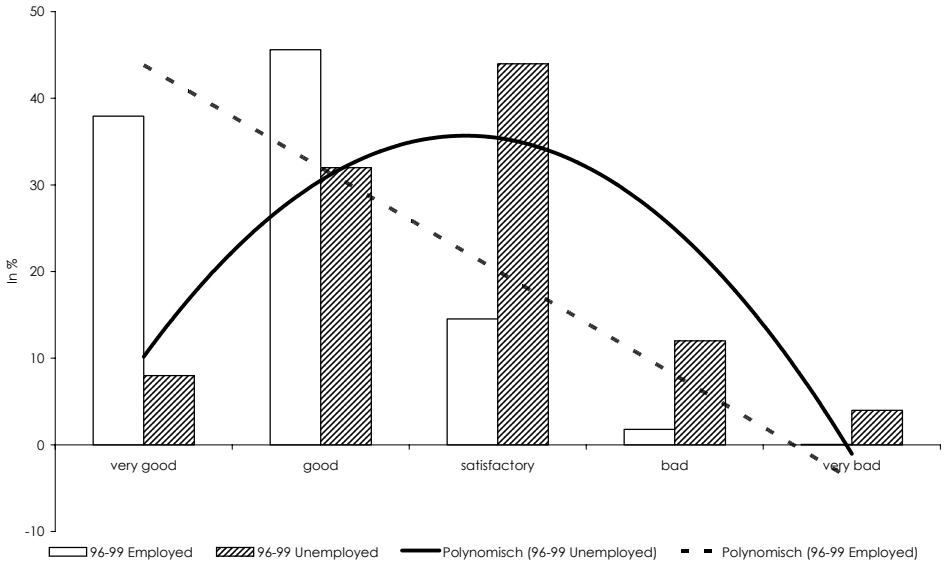


S: ECHP wave 7 (Austria wave 6) , ICCR Version 2003, WIFO.

[17] The European Community Household panel provides information on the health record of the population of working age in connection with their employment status. Austria has introduced the ECHP in 1995, one year after the EU. In this panel, some 6,000 persons are interviewed per year in Austria; the most recent wave is the 6th in the year 2000, which is the basis of the current research.

Figure 14 visualises the in European comparison unusually high seasonal fluctuations of unemployment in Austria. They are an indicator of the important role of industries with a pronounced seasonality, in particular the construction industry, tourism and farming/forestry. The particular institutional set up of unemployment insurance and the ample availability of labour supply, in particular migrant labour, promotes seasonal fluctuations of employment. The large proportion of seasonal workers and the large share of small, and medium sized firms in total employment are major factors for the high turnover of unemployed in the course of a year in Austria (*Biffl,* 2000). Accordingly, it is not surprising that in any given year the proportion of healthy persons amongst the unemployed should be fairly high. But if we examine the health record, or rather the structure of the indicator of wellbeing – the ECHP distinguishes between five states of well being (very good, good, satisfactory, bad, very bad) – over time, the group of persons which has been continuously employed between 1996 and 1999 is significantly healthier than the group of persons, which has been continually unemployed (Figure 15). The persons who have been employed continuously between 1996 and 1999 are on average four times as healthy as persons who have been unemployed over that time span.

Figure 15: Perceived health status of person who have been unemployed throughout the period in comparison with persons who have been employed throughout the period (1995-2000)



S: ECHP Wave 2-6 for Austria , ICCR Version 2003, WIFO-calculations.

Concluding remarks

The analysis of morbidity rates by socio-economic status has provided some insight into the factors which account for the significantly higher morbidity rates of unemployed compared

to employed persons. Not only the educational attainment level but above all the limited knowledge about the role of health awareness measures for one's health are important discriminating factors. It could be shown that prolonged periods of unemployment may reinforce the lack of attention for one's health and in so doing exacerbate the problem of socio-economic exclusion. This suggests that an important element of efforts to re-employ long term unemployed lies in health promotion and affirmative action programmes to improve the health status of the unemployed.

Thus, synergies between employment and health policies should be achievable by introducing health awareness measures into active labour market policies and linking them with skill promotion and more part-time work particularly for long-term unemployed. This would reduce work related stress, promote healthy lifestyles and, by addressing the health problem of long-term unemployed, foster their chances of finding a job. The promotion of health of the unemployed will not only improve individual wellbeing but contribute to macro-economic growth.

The analysis has, however, not only thrown light on some reasons for long term unemployment. It has also raised a number of questions whose answers remain to be pursued. The analysis of the differences in morbidity rates by employment status confirms the a priori belief that the unemployed are a particularly vulnerable group of people also as far as their health status is concerned. This may have something to do with their limited health consciousness on the one hand, but it could also be the result of screening measures of employers by health related absenteeism. This point deserves further research.

In addition, the different patterns of morbidity by gender suggest that there are other factors than education, which account for differences in health. Given the strong gender segmentation of the labour market, more research into occupational patterns of diseases and their impact on health conditions over the life cycle seems warranted. The marked difference in the morbidity rate between unemployed and employed, independent of gender and age, should be the basis of further research. The major question to be answered is, if weaker and unhealthier persons are less likely to make it into internal labour markets and careers, i.e. if they are a somewhat like a floating population between employment and unemployment spells. The second question following from the first one is the role of unemployment per se on the health conditions of workers.

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