Well-Being, Insecurity and the Decline of American Job Satisfaction

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Rev. 22 July 1999

Abstract

The paper studies job satisfaction and stress levels in the advanced nations. There are seven main findings. First, the great majority of workers in the industrial democracies appear to be remarkably content with their jobs. The old Dickensian idea that work subjugates people is apparently not supported by the data. Second, job satisfaction appears to be gently trending down over time in the United States (among the over-30s, from approximately 56% very satisfied in the 1970s to 48% by the mid-1990s). Third, we show that this fall is not explained by the decline of unions, nor by, as we document, the existence of a slowly growing job-insecurity in the US. Fourth, the cross-section patterns in job satisfaction are similar from one nation to another. Reported well-being is higher among women, the self-employed, the young and the old (not the middle-aged), supervisors, and particularly those with secure jobs. Fifth, after controlling for personal characteristics, we produce a ranking of job satisfaction across nations. Ireland is top. Sixth, workers across the European Union say that compared with five years earlier they are under much increased stress and pressure at work. Seventh, when a standard mental stress measure is used to examine workers' well-being across 15 nations, Ireland and Sweden emerge as the least-stressed countries, and Italy, France and Spain appear the most-stressed.

Keywords: Job satisfaction, labor markets, well-being, job security, mental health.
JEL Classification: J28

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* For advice and helpful discussions about the area, we thank Marianne Bertrand, Andrew Clark, Jonathan Gardner, Dan Hamermesh, Mark Stewart, Peter Warr, and numerous Irish journalists ('it's the drink' was one theory). The authors are grateful to the Leverhulme Trust and Nuffield Foundation for research support. Email addresses are (blanchflower@dartmouth.edu); andrew.oswald@warwick.ac.uk.

Nicholas was about to descend when he was arrested by a loud noise of scolding in a woman's voice. "You good-for-nothing brute" cried the woman, stamping on the ground, "why don't you turn the mangle?" "So I am, my life and soul!" replied a man's voice. "I am always turning, I am perpetually turning, like a demd old horse in a mill. My life is one demd horrid grind!" Charles Dickens, Nicholas Nickleby, LXIV.

I. Introduction

Most of us spend around a quarter of our lives at work. Understanding people's well-being in the workplace, therefore, is likely to be important to economists and other social scientists. Yet the study by labor economists of job satisfaction is still in its infancy. This may be, in part, because economists are suspicious of the usefulness of data on reported well-being. However, it is known that satisfaction levels are strongly correlated with observable phenomena (such as quit behavior). Moreover, it seems difficult to believe that economists have a more acute understanding of the limitations of well-being statistics than do the thousands of psychologists who use such data in their own research.

This paper attempts to examine the factors that shape well-being at work. It uses data from three sources – the International Social Survey Programme, the Eurobarometer Surveys, and the US General Social Surveys. While the literature by economists is small, it has begun to grow recently with the work of, among others, Andrew Clark and Daniel Hamermesh. Useful introductions to the psychology literature concerned with well-being data are Campbell (1981) and Argyle (1987). An overview paper from the economist's perspective is Oswald (1997). Easterlin (1974) is an early contribution. Two survey papers by Diener (1984, with co-authors 1999), in one of the world's leading psychology journals, are fairly accessible to non-specialists. Warr (1987, 1997) provides a readable account of the links between work and mental health.

Early papers by economists on job satisfaction include Borjas (1979), Freeman (1978) and Hamermesh (1977). Blanchflower (1991) is a recent attempt to use data on feelings of job insecurity within a conventional wage equation. A fast-growing modern literature on the border between economics and psychology includes Akerlof et al (1988), Birdi et al (1995), Clark (1996, 1998), Clark and Oswald (1994), Clark et al (1995), Curtice (1993), Frey and Stutzer (1999), Judge and Watanabe (1993), Kahheman et al (1997), Levy-Garboua and Montmarquette (1997), Ng (1996, 1997), Pavot et al (1991), Sui and Cooper (1998), and Veenhoven (1991). A slightly earlier empirical paper on relativity effects and utility is Van de Stadt et al (1985). Frank (1985) contains many interesting ideas that cross disciplines. Inglehart (1990) is a large study using the Eurobarometer surveys; it reports data on overall well-being for a range of western countries. Spector (1997) is a new overview of the job satisfaction literature. Parts of his book make unfamiliar reading for an economist. Interesting recent studies of job satisfaction among managers include Worrall and Cooper (1998) for Great Britain, and Spector et al (1999) for a group of twenty-two countries.

II. A Detailed Look at the USA

It is natural to begin with the United States. This is the country for which there is the longest run of randomly-sampled workers. The first data come from the start of the 1970s. Table 1 gives the pattern of job satisfaction responses from 1973 to 1996 drawn from the annual General Social Surveys. Here the question is

On the whole how satisfied are you with the work you do – would you say you are very satisfied, moderately satisfied, a little dissatisfied, or very dissatisfied?

While the size of sample is not large (at just under 1000 American workers per year), and these are cross-sections rather than a longitudinal sample, the GSS reveals some useful patterns. Two

conclusions follow from Table 1, in part A. First, the great majority of US workers express themselves as rather content with their work. Approximately half say they are very satisfied, and forty per cent moderately satisfied. Only a tiny fraction of the population put themselves in the very-dissatisfied category. This appears to allow us to reject any simple version of the idea -- found in Dickensian and Marxian accounts of capitalist markets -- that work exploits people. It also makes less plausible the commonly heard journalistic view that stress at work is overwhelming modern Americans. This is not to imply that such numbers should be accepted uncritically, but that the first pass through the data seems to reveal a good degree of happiness at work.

Labor economists -- raised on data and theories of rationality -- are perhaps more likely than some social scientists to expect workers to express satisfaction with their jobs. It is known that people move around a great deal early in their careers. They sort themselves into jobs they like and out of jobs they dislike. To sample the well-being levels of a cross-section of employees, therefore, is to sample a group of individuals who are already heavily self-selected into suitable occupations.

Having established the current pattern, the next question is what is happening over time. Table 1 shows there is a small but systematic downward trend in the satisfaction numbers reported in American workplaces (a formal test is reported later in the paper). Through the 1990s, for example, approximately 46% of workers gave the top answer 'very satisfied' to the satisfaction question. Yet in the 1970s, 51% of workers said very satisfied. A reason to find this unusual is that by objective standards the safety and cleanliness (and probably physical arduousness) of working life in America have been improving through the decades. Table 1B explores this a little more. It breaks down the time movements by different sections of the population. For people over age 30, the trend towards

lower reported well-being at work is more marked. Here the average proportions giving the top score are:

1970s: 56% of over-30s Americans were very satisfied

1980s: 52% were very satisfied

1990s: 48% were very satisfied.

The trends are not very different between men and women (which might be viewed as unexpected because of a presumption that gender discrimination has dropped over the last few decades).

There is essentially no satisfaction time-trend among young workers in the US. This is shown in the penultimate column of Table 1B. Relatively, therefore, the young in the 1990s are doing better than the old, but not better than the equivalent young people did in the 1970s. Earlier work on life satisfaction and well-being levels, in Blanchflower and Oswald (1999), also found evidence that younger Americans are gaining over older groups. However, the possible links between the two findings -- on job satisfaction and life satisfaction -- remain largely unexplored and are not pursued further in this paper.

It appears from Table 1B that the proportion of non-whites saying they are very satisfied with their jobs has declined similarly to the trend for whites. Although figures are given for non-white men and women, there are not enough observations to allow confident statements on race broken down by gender.

Our finding of falling American job satisfaction is consistent with a small amount of earlier research. Blanchflower et al (1993) documented at best flat well-being levels through time in Britain and the US. Oswald (1997) describes earlier literature. A classic reference is Easterlin (1974). Although not his primary concern, interesting new work by Hamermesh (1998) documents signs of

diminishing job satisfaction among young workers in the 1978-88 and 1984-1996 periods of the NLSY for the United States, and in the 1984-96 SOEP for Germany. Hamermesh is actually fairly sceptical of his results (p.21: "difficult to believe…at a time when real earnings were rising").

If the next twenty-five years make clear that the trend is not a fluke of recent decades, it will become important to understand the reason for a downward spiral in reported well-being. One mechanical possibility is that Americans now use words differently: they are no less content with work than their parents but they put things in more vehement language when asked. On such a view, the trend down in the satisfaction scores is an illusion, and modern workers simply express themselves more critically about everything (including their own lives) than their fathers and mothers. Such an eventuality cannot be discounted. It does not seem natural, however, to believe that use of language has changed in this way in a short space of time. Moreover, if this were true, it would presumably mean that the younger sample (the under 30s) would show up as having the largest 'decline' in job satisfaction. The older sample could be expected to be disproportionately made up of individuals using language as they did when they were young men and women in the 1970s. As the data show that it is the older workers who have become particularly less content, the hypothesis that declining satisfaction is an artefact of our surveys -- caused by a changed use of language -- is less compelling.

If the trend is real, its roots need to be uncovered. One potential explanation is that satisfaction in the workplace is closely connected with feelings of job security and insecurity. Table 2 looks at the simple correlation between reported well-being and people's views about how likely they are to lose their job or be laid off. It can be seen that those who say they are "not at all likely" to be pushed out of their jobs have a much greater probability of giving the top satisfaction response. The lower half of Table 2 inquires about the ease with which a person could, if necessary, find a new job of the same

quality. People who think it "very easy" to find a similarly good position with another employer are the ones most likely to say they are very satisfied with their job.

To pursue this in a multivariate way, a simple ordered logit regression equation is given in Table 3. The sample size changes as we move across the columns, because some of the variables are only available in a subset of years. One purpose is to answer the question of how well the satisfaction answers can be explained by a small number of personal and workplace characteristics, pay, job security, and area dummies. The second is to provide a more formal test for the existence of a negative time trend in reported contentment in the American workplace. The broad answer to the first is that not a great deal of the variation in satisfaction answers is explicable this way. Even so, there are microeconomic patterns. Satisfaction is higher among the old, females, the self-employed, whites, those in non-union plants, the highly educated (except when income is controlled for in the regressions), those with high perceived job security, those who feel it would be easy to get a comparable job elsewhere, and those on high earnings. Some of these correlations are compatible with the hypothesis that employees have an expected utility function that is increasing in income and declining in risk. Demographic variables work strongly – as in other areas of labor economics.

The time-trend variable in Table 3's regressions is consistent with the simple downward movement observed in the raw numbers of Table 1. Knowing the appropriate units in order to interpret this is not straightforward, but it can be seen that time enters with a coefficient of approximately –0.010 (t of 5.74) in the short specification of column 1 of Table 3. This drops only slightly in absolute value to –0.008 (t of 3.77) when, in column 2, variables are included for union status and job security. In columns 6 and 7, the coefficient comes up somewhat, in absolute size, once a variable for pay is incorporated.

Other features of Table 3 are relevant. It is not immediately clear how to read the size of the coefficients. However, working out the effects quantitatively, particularly large consequences for well-being are found from being black and having a secure job (negative and positive, respectively). Surprisingly, there appears to have been no attempt to use the former to study racial discrimination from an angle different from the conventional focus on levels of pay.

In exploring the reasons for declining well-being at work, two testable hypotheses come to mind:

- Is US job satisfaction falling because of the decline of trade unions and worker representation?
- Is satisfaction falling because of increasing job insecurity?

There is reason to take the first of these seriously: there has been a strong drop in union density in the United States over the period studied here. On the second, it seems to be believed in the press that Americans' sense of job security has declined in recent years. Academic evidence has been largely missing. Henry Farber's work (1990, 1999), for example, does not find evidence of greatly heightened unemployment durations. Gregg and Wadsworth (1995) and Burgess and Rees (1996) paint a broadly similar picture for Britain.

The Appendix shows in Table A1 that, in the General Social Surveys studied here, respondents do seem to have become a little less confident over the last two decades. These data are not well known. At the end of the 1970s, around 70% of people in the US thought it was not at all likely they would lose their jobs. By the end of the 90s, this % had dropped to the low 60s. More revealingly, in Table A2, a regression equation for 'perceived likelihood of job loss' has a statistically signficant upward time trend. Perceived ease of finding another comparable job has also moved in the direction of increased insecurity: in Table A2 its time trend is down.

Column 2 of Table 3 tests and appears to dispose of two possible explanations for America's declining job satisfaction – unions and insecurity. Column 2 enters a trade union membership dummy, Union, which enters strongly negatively. The regression in column 2 enters also a set of job security and insecurity proxies. These capture people's perceptions, recorded in GSS, of whether they are likely or unlikely to lose their job; they capture too the ease with which each individual feels he or she could get another job. Workers who answer "it is not at all likely I will lose my job" are much more satisfied at work. Similarly people saying "it would be easy for me to find another job", which is the omitted base variable, are statistically much more likely to declare themselves satisfied.

Moving from column 1 to column 2 of Table 3 makes little difference to the coefficient on Time, the annual time trend from 1973 to 1996. In other words, controlling for union status and job insecurity makes little substantive difference to the conclusion that perceived well-being at work is falling. Americans must be experiencing – or more precisely reporting – declining job satisfaction for different reasons.

Finally, in columns 6 and 7 of Table 3, a control for workers' pay (measured annually) is introduced. As might be expected, it enters strongly positively. Well-paid people tend to be satisfied. Interestingly, years of education then change from being significantly positive to being negative and insignificantly different from zero. The finding that the positive education effect disappears once income is entered as a control – in column 6 of Table 3 – is somewhat similar to a result of Clark and Oswald (1996) in which in British data the impact of years of education on satisfaction is negative. Clark and Oswald view this as a kind of curse of high aspirations. Schooling apparently does not directly buy happiness at work; it procures a larger salary and also raises expectations of what someone thinks they should receive. An early econometric treatment of this kind of idea is in Hamermesh (1977).

III. International Evidence

What of job satisfaction levels in other advanced nations? Table 4 presents cross-sectional information from the International Social Survey Programme of 1989, and from two Eurobarometers conducted in 1995 and 1996.[1] It can be seen from parts A and B of Table 4 that, as for the US General Social Survey, there is strong bunching of answers at the high end of the satisfaction scale. Again the old idea that the drudgery of work exploits human beings is -- at least at face value -- apparently not true.

On both parts of Table 4, individuals in Southern Ireland appear to record the greatest job satisfaction. Another highly satisfied nation is Denmark. By contrast, Hungary and the Mediterranean countries (Greece, Italy, Spain, France, Portugal) show up far down on the job satisfaction world league table. According to Eurobarometer data, 38% of Greek employees say they are dissatisfied.

Because the surveys asked questions in different languages in different countries, there exists the chance that the Greek and other results are illusory. They may be a trick of how words translate. It is not possible to overturn such a view conclusively, but two counter-arguments are worth considering. The first is that psychologists are well aware of such – translation – objections. For this reason, there is a preference among researchers for satisfaction questions, rather than happiness questions, because it is believed that the word 'satisfaction' translates with less international error from one language to the next. The second is that large differences are discovered even across nations using the same language, so differences nation-by-nation cannot be attributed solely to the language of the survey team. Moreover, Ireland comes out top among the three English-speaking nations here (57% very satisfied). This is despite the fact it is not a rich country: the United Nations Human Development Report estimates

[1] For earlier work on job satisfaction using the 1989 International Social Survey Programme data, see Blanchflower and Freeman (1997). Curtice (1993) and Clark (1998) also use ISSP data.

Ireland's GDP per head at around half that of the US, and about two thirds of the UK's (all measured at purchasing power parity prices). By contrast, in the United Kingdom, for example, only 38% of workers report themselves as very satisfied. Why the Irish should be so much more satisfied is unclear.

It should be noted that the size of samples continue to be relatively small: approximately 1000 workers are sampled from each country in Eurobarometers and slightly less than this in the International Social Survey Programme. We have no reason to doubt the quality of the sampling, but it would be comforting to have larger numbers of workers. This is another reason to treat the estimates cautiously.

As in the United States, there is a strong connection in the European data between feeling secure and saying one is satisfied with a job. Table 5 summarises the numbers (a recent study of European job insecurity is OECD 1997). People who state their job is secure have a much larger probability of reporting themselves happy with their work. In Eurobarometers, for example, Table 5B shows that of those secure in their jobs approximately 40% say "very satisfied", while the figure is only 20% among the sub-sample saying not secure.

Table 6 reveals that most of the patterns survive multiple regression controls. It presents an ordered logit for the ISSP sample of seven thousand workers. The data are for the single year 1989. Even after personal characteristics are entered, Ireland is top (followed by the US), and Hungary and Italy are bottom. As has been found in many studies, there is a strong U-shape in age. The quadratic minimizes around age 30. Men are much less satisfied; schooling is weak; self-employment is strongly positive; supervisors enjoy their jobs more; unions continue to be associated with less job satisfaction. The union result goes back at least to Freeman (1978) and continues to puzzle researchers; it may be simply reverse causation led by the tendency of displeased workers to seek union representation.

Most strikingly, job security enters monotonically. As a rule of thumb, its effect is the largest in the data. It is unlikely this finding is known to most labor economists, or even most psychologists.

A range of job characteristics are introduced in Table 7. As would be guessed, human beings like to work independently and in workplaces with high pay and good chances of advancement. They also like to 'help people' and to work in healthy rather than unhealthy conditions. It might be reasonable for an economist to object that some -- perhaps even most -- of these subjective judgments could be close to generating truisms in the data, but we report them because these are the patterns found in our surveys. The result that people enjoy independence is well-known to psychology researchers. It is sometimes referred to as an example of the 'locus of control' hypothesis. Spector et al (1999) is a recent paper looking at a similarly large range of nations. As we found above for the USA, having a secure job increases job satisfaction: the easier it is to find a similar job the higher is satisfaction. In these countries also, job security is an important determinant of work satisfaction.

As a sense of job security plays an influential role in earlier satisfaction equations, it seems sensible to examine the structure of cross-section equations in which job security is the dependent variable. This is what Table 8 does for the countries in the International Social Survey Programme. In the survey interviews, individuals were given the option of replying to the question "How much do you agree or disagree that your job is secure?". Answers were coded as: strongly agree, agree, neither, disagree, strongly disagree. As the lower part of Table 8 shows, percentage responses were heavily concentrated in the top two categories of 'strongly agree' and 'agree' (the others are omitted in Table 8's lower part). In other words, most individuals do not fear imminent job loss. Across the sample of countries, 72% of people said they either agreed or strongly agreed that their job was secure. Table 8 attempts to uncover the econometric structure of security. It estimates ordered logit equations using as

independent variables the following: a set of country dummies, age, gender, education, whether a supervisor, union member, and public sector employee.

Table 8 is based on a simple cross-section rather than longitudinal data, and makes no identifying assumptions. It would therefore be unwise to place causal interpretations upon it. Nevertheless, the correlations are such that, in the full specification of column 4, job security is greater among older workers, those who supervise, and those in public sector occupations. Translation of 'job security' in a consistent way across different languages is likely to be imperfect. However, it is worth noting that the United Kingdom performs consistently badly on the security score (see also Turnbull and Wass, 1999), and that this is true judged against also the other English-speaking countries, the US and Ireland.

The large and well-determined impact from being a public sector employee is notable. Such workers are a lot less fearful for their jobs than private-sector people.

This means that job satisfaction equations that omit job-security measures may tend to generate upwardly-biased coefficients on public-sector dummy variables. Of course this would be likely to change over time and by country: Gardner and Oswald (1999) show that in the UK the size of the public-sector satisfaction premium seems to have fallen sharply through the 1990s.

Job satisfaction equations for the Eurobarometer Surveys data in the mid-1990s are reported in Tables 9 and 10. As in the tables of means, Ireland is comfortably top of the satisfaction ranking, and Greece bottom. The same microeconomic patterns are found as in other data sets. There is a well-determined U-shape in age; men are less satisfied; the self-employed, public sector people and supervisors are more satisfied; education enters here positively. It ought to be noted that there is no income variable; this data set does not provide it. In the first column of Table 9, long job tenure is

associated with high satisfaction. This disappears, however, when three other variables are included -- commuting time and two perceived job-security measures. The U-shape in age minimizes, in Table 9, in a person's 40s.

More detailed job-satisfaction equations, done separately for male and female sub-samples, are contained in Table 10. Variables are included that capture quality of the job. For example, Table 10 reveals that job satisfaction is greater in quiet workplaces, ones with no gaseous vapours, ones where workers say 'no painful or tiring positions', where employees control the equipment, their work pace, where they do not have to carry loads or work at high speed. Working at home appears to be associated with raised satisfaction for women but not men. The ability to control the temperature and ventilation is correlated with higher satisfaction. Employees who identify a health and safety risk at their workplace are much more likely to say they are dissatisfied. Unsurprisingly, women appear to value equal opportunities at work. We find no significant evidence that the gender of one's boss has an effect on job satisfaction for either men or women.

Table 11 reports the results of estimating a further job satisfaction equation using 1996 data from Eurobarometer Survey #44.3OVR. The results are similar to those discussed in Table 10 above: more job security, for example, is associated with increased job satisfaction. Moreover, improvements in perceived security over the preceding five-year period, holding constant current job security, are associated with increased satisfaction. Once again, the existence of unions is correlated with lower job satisfaction for both men and women. The countries with the highest levels of job satisfaction here are Denmark and the Netherlands, while Italy and Greece have the lowest. It seems surprising that Ireland loses its top spot in the 1996 data. There are relatively few observations, which may be one factor.

Also included in the 1996 Eurobarometer Survey was a series of questions which allow us to examine psychological health. One issue is whether declining job satisfaction and increased job security have affected workers' mental well-being. Table 12 provides the responses to a series of questions that asked workers whether they had a)…lost much sleep over worry, b)…been feeling unhappy and depressed, c)…been losing confidence in yourself, d)…been feeling you could not overcome your difficulties, e)…been feeling constantly under strain, f)…been thinking of yourself as a worthless person? These may appear strange to economists but are standard questions that are traditionally combined to form part of a so-called GHQ score (or General Health Questionnaire score). Among European medical statisticians and psychiatrists, the GHQ level is the most widely used questionnaire method for detecting low-grade mental health or stress (in other words, mild forms of psychological problems). It originates from the work of Goldberg (1972). As might be imagined, for serious mental illness GHQ is not viewed as so appropriate, and is supplanted by clinical examinations. In its most basic form, GHQ measures the sum of the number of times a person puts himself or herself in the stressed category.

Only a semi-GHQ score can be calculated here. That is because only six questions (instead of the usual 12) are asked.

The first six columns of Table 12 report the percentage saying "not at all" to each of the stated questions. The final column gives the semi-GHQ score, which sums the six components, and reports the aggregate outcome as a stress proxy. Table 12's final column is interesting because it may be a moderately comparable test for stress across workers from a range of different countries. The most-stressed countries – among samples of workers -- are Italy (at 1.35), France (0.99) and Spain (0.89). The least-stressed are Eire (0.33) and Sweden (0.46). These results are interestingly reminiscent of some aspects of the job satisfaction league tables.

Tables 13 and 14 examine the overall determinants of stress and its constituents. In Table 13, a series of ordered logits are estimated where the dependent variable is the first level if 'not at all", number two if "no more than usual", three if "rather more than usual" and four if "much more than usual". Hence a positive coefficient is to be interpreted as showing the variable is associated with lower mental wellbeing. Strain levels increase in age, are higher for females than males, and are strongly increased by the number of hours worked and job insecurity, and eased by a healthy financial situation. Based on the semi-GHQ score in Table 14 (European-15 mean = 0.95, meaning stressed on approximately one category on average), overall stress levels appear to be particularly low in Southern Ireland and especially high in Italy. The third column of Table 14 reports the results of estimating a probit equation where the dependent variable is set to one if the worker replied positively when asked if he or she worked under "a great deal of pressure". Perceived pressure appears to be greater in the private than in the public sector, and for those with longer hours and tenure.

One of the interesting questions is what has been happening through the 1990s to stress levels in these nations' workplaces. While perhaps imperfect because it is retrospective, Table 15 provides a start. Workers were asked in the 1996 survey to compare their current job with what they were doing five years ago (even if in the same job) and say whether there had been an increase compared to five years ago in (a) the effort they put into their job, (b) the responsibility involved in their job, (c) the stress involved in their job, (d) the tightness of supervision over their job. The Table gives the percentages of people who reported an increase and those saying there had been no change (the remainder, omitted, is of course the small percentage reporting a decrease[2]). In all cases there is evidence in Table 15 of large

[2] The overall distributions, weighted to be representative of the European 15 were as follows (%)

perceived increases in strain over time. Roughly half of all Europe's workers believe that there has been in the workplace a significant rise in effort, responsibility and stress. Approximately a quarter believe that the tightness of supervision has gone up significantly.

It is not easy to know what to make of the numbers in Table 15. Taken at face value, they seem remarkable, and perhaps worrying for the Western democracies. A natural response is to wonder if human beings accidentally or deliberately exaggerate their difficulties. Perhaps the numbers in Table 15 are unreliable. However, one reason to question the idea that answers to such questions are automatically biased up is found in the final column: perceived tightness of supervision has worsened much less. Hence 50% saying that things are worse is not an inevitable outcome from questionnaire inquiries.

To explore the characteristics of the people most prone to view things as getting worse, the first four columns of Table 16 report probit equations. These are for the probability of giving different responses for each category (with the dependent variable set to 1 if an increase was reported and zero if a decrease or no change). The dependent variable in the final column of Table 16 is an amalgam: it is the sum of the responses in the previous four columns -- with a value of four if the respondent reported increases in each of the four elements and so on down to zero if no perceived increases were revealed (European 15 mean=1.75). Raised stress, effort, responsibility and tightness of supervision all turn out to be negatively correlated with age, and -- except for 'responsibility' -- lower for men than women.

	Not at all	No more than usual	Rather more than usual	Much more than usual
a) Sleep	46	35	15	4
b) Unhappiness	49	35	12	4
c) Lost confidence	67	24	7	2
d) Difficulties	56	31	11	2
e) Strain	42	37	16	4

Increases in these strain variables are positively correlated with hours of work and greater job insecurity. Growth in the various items has been especially marked in East Germany, and least noticeable in Belgium (the excluded category). The burden appears worsened, as would be expected, by financial difficulties. For each of these equations, we also report coefficients and t-statistics on sets of industry, occupation and establishment size dummies. In each column, there is evidence that mental stress is greater for non-manuals than manuals; is increasing in establishment size, but appears to flatten out around five hundred employees; and is relatively high in financial services.

Table 17 provides, for cross-sections in the 1990s, a set of probit equations for the probability of reporting stress, tiredness, fatigue and sleep problems. The dependent variable draws on questions of the kind "How often do you find your work stressful? Always, often, sometimes, hardly ever, never." The patterns in the table are again consistent with those in earlier tables of various kinds. Once more, for example, unionism is associated with greater stress and greater tiredness. Interpretation of the coefficients across countries is again likely to be fraught with difficulties. Ireland scores well -- although not perfectly consistently across the columns of Table 17 -- with low measured strain. By contrast a nation like Greece shows poorly: it comes near the top of the strain league.

IV. Conclusions

This paper documents the patterns in job satisfaction and well-being data on approximately 50,000 randomly sampled people across eighteen countries. The main purpose of the analysis is to describe the facts and point out that labor economists have had fairly little to say about why these features exist in international data. Although it could be argued that economists should not concern themselves with workers' well-being, we find it hard to see a cogent case for such a position. 'Utility

f) Worthless 78 17 4 1

levels' are implicitly studied in most published work in labor economics; there are systematic patterns in these data sets; satisfaction scores are correlated with observable behavior; psychologists ought to know more than economists about how to measure well-being, and their research journals have for years used such statistics.

Our data are simple. They come in the form of responses to questions such as "How satisfied are you with your job as a whole?", or "Have you lost much sleep over worry?". People's answers, the paper shows, are systematically correlated with personal characteristics.

There are a number of conclusions. Partly because of the lack of longitudinal data, it is not always straightforward to draw causal inferences.

- Perceived levels of job satisfaction seem remarkably high in the western democracies. Only a small minority of workers say they are dissatisfied with work.
- Nevertheless, the data suggest a slow but steady decline in job satisfaction in the US between 1973 and today. This is especially true among those employees greater than thirty years old: in the 1970s 56% were very satisfied while by the mid-1990s the proportion had fallen to 48%. This downward trend appears to be statistically significant (even after we control for changing demographics and other factors).
- The downward movement is not because of the falling proportion of unions to represent workers, nor because of a drop in Americans' feelings of job security (even though we present new data to suggest there has been a fall in perceived security).
- There are strong microeconomic patterns in satisfaction, and these are approximately the same in all countries. Expectations of possible job loss have one of the largest discernible negative effects on reported job satisfaction. We document other correlates. Satisfaction is

U or J shaped in age, minimising in the 30s. It is greater among women, whites, those on high pay, supervisors, public sector employees, the self-employed, and those who commute short distances. Once pay is held constant, education and job tenure have small or negative effects.

- Workers across the European Union believe they are under growing stress and pressure. A significant proportion report being constantly under strain, losing sleep over worry, losing confidence in themselves, and feeling unhappy and depressed. In comparison with their situation five years earlier, workers reported dramatic increases in the amount of stress, responsibility, and effort -- alongside some tightening in the level of supervision they receive. Life at work is perceived to be tougher than at the start of the 1990s.
- Workers' mental well-being levels appear to be especially high in Ireland and Sweden, and especially low in Italy, France and Spain.

These international patterns in job satisfaction and psychological health present economists with many puzzles. It seems we will be back.

Table 1. Job Satisfaction in the USA, 1973-98

A) Proportions (Current Workers Only)

Question: On the whole how satisfied are you with the work you do – would you say you are very satisfied, moderately satisfied, a little dissatisfied, or very dissatisfied?

All	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984
Very satisfied	49%	50	50	56	53	49	52	47	48	53	47
Moderately satisfied	37	37	38	33	33	39	37	37	39	35	35
A little dissatisfied	11	8	8	8	9	10	8	12	9	8	12
Very dissatisfied	3	4	4	3	5	2	4	4	5	4	6
N	864	775	737	748	741	867	850	821	1009	897	875

All	1985	1986	1987	1988	1989	1990	1991	1993	1994	1996	1998	*All*
Very satisfied	49	49	46	48	48	48	46	44	47	46	*48*	*48*
Moderately satisfied	38	40	38	40	38	39	42	42	40	40	*38*	*38*
A little dissatisfied	10	9	11	10	10	10	8	10	11	11	*10*	*10*
Very dissatisfied	3	2	4	3	4	4	4	4	3	4	*3*	*4*
N	903	838	1132	889	911	847	882	975	1903	1935	*2216*	*23354*

Weighted to control for over-sampling of blacks in 1982 and 1987

Source: General Social Surveys

Table 1 continued

B) **The Percentage Very Satisfied by Different Demographic Characteristics % very satisfied with work**

	All	Men	Women	Whites	Non-whites	Non-white Men	Non-white women	Age <30	Age >=30
1972	49%	48	50	51	38	39	35	34	54
1973	50	50	51	50	47	41	56	36	55
1974	50	51	49	52	34	39	28	41	54
1975	55	56	55	57	44	51	37	42	61
1976	53	54	52	54	40	38	42	40	59
1977	49	48	51	50	45	53	35	36	54
1978	52	51	53	54	34	31	36	44	55
1980	47	46	48	48	37	40	46	37	51
1982	48	48	48	49	40	43	43	37	53
1983	53	51	56	54	45	43	45	42	58
1984	47	44	49	47	43	44	43	37	50
1985	49	46	53	49	48	52	36	37	53
1986	49	53	46	50	45	47	31	40	53
1987	47	48	45	49	35	34	34	35	50
1988	48	50	46	50	39	49	40	39	51
1989	49	47	50	50	35	37	26	37	52
1990	48	46	50	49	43	46	40	39	51
1991	46	49	43	49	32	39	26	40	48
1993	44	43	46	45	41	39	43	33	47
1994	47	47	47	49	35	37	33	36	49
1996	46	47	45	47	41	42	40	39	47
1998	48	45	50	51	37	40	34	42	50
Average	*49*	*49*	*49*	*50*	*40*	*42*	*38*	*38*	*53*
N	23354	12204	11150	19927	3160	1721	2039	5945	17409

Note: average is simply the unweighted average of the year estimated reported in the table. Weights are used to control for statistical over-sampling of minorities in some years. Source: General Social Surveys

Table 2. Job Satisfaction and Job Security in the USA, 1977-1998 (Source: General Social Surveys**).**

A) Prospects of job loss

Question*: Thinking about the next twelve months, how likely do you think it is that you will lose your job or be laid-off – very likely, fairly likely, not too likely, or not at all likely?*

	Job loss				
Job satisfaction	Very likely	Fairly likely	Not too likely	Not at all likely	All
Very satisfied	37%	32	39	54	48
Moderately satisfied	38	45	47	36	39
A little dissatisfied	16	16	11	8	10
Very dissatisfied	9	6	3	3	3
N	605	697	3112	7693	12378

A) Prospects of finding another job

Question: *About how easy would it be for you to find a job with another employer with approximately the same income and fringe benefits you now have? Would you say very easy, somewhat easy, or not easy at all?*

Ease of finding a job

Job satisfaction	Very easy	Somewhat easy	Not easy at a	All
Very satisfied	56%	43	46	48
Moderately satisfied	33	44	40	39
A little dissatisfied	7	11	10	9
Very dissatisfied	4	3	4	3
N	3212	3935	5143	12290

Table 3. Job Satisfaction in the USA, 1972-1998: Ordered logit (Current workers only)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	.0259 (24.18)	.0254 (20.01)	.0257 (16.91)	.0247 (12.64)	.0247 (12.12)	.0211 (9.69)	.0237 (14.52)
Male	-.0799 (3.04)	-.0522 (1.67)	-.1060 (2.96)	-.0965 (2.06)	-.0933 (1.97)	-.2008 (3.79)	-.1919 (4.80)
Self-employed	.5326 (12.89)	.5198 (10.59)	.4598 (8.03)	.5711 (7.81)	.4960 (6.54)	.4938 (6.07)	.4529 (7.33)
Black	-.4176 (10.32)	-.4328 (8.89)	-.3346 (5.92)	-.5106 (6.64)	-.4418 (5.65)	-.4697 (5.71)	-.3529 (5.95)
Other non-white	-.1661 (2.27)	-.1882 (2.20)	-.1917 (1.98)	-.2483 (1.96)	-.2490 (1.99)	-.2427 (1.75)	-.2007 (1.94)
Time	-.0104 (5.74)	-.0082 (3.77)	-.0138 (4.88)	-.0115 (2.90)	-.0101 (2.49)	-.0186 (4.17)	-.0211 (6.76)
Years of Schooling	.0391 (8.24)	.0384 (6.78)	.0231 (3.62)	.0318 (3.65)	.0219 (2.45)	-.0049 (0.49)	.0089 (1.36)
Union		-.1610 (3.85)		-.0760 (1.17)	-.0217 (0.33)	-.1071 (1.53)	
Lose job fairly likely			-.1234 (1.15)		-.1295 (0.90)	-.1583 (1.03)	-.1543 (1.36)
Lose job not too likely			.1910 (2.19)		.0758 (0.65)	-.0023 (0.02)	.1335 (1.44)
Lose job not at all likely			.6530 (7.78)		.5509 (4.91)	.4621 (3.82)	.5889 (6.57)
Find job somewhat easy			-.3088 (6.46)		-.2487 (3.96)	-.2572 (3.90)	-.3026 (6.02)
Find job not easy at all			-.3259 (6.97)		-.2669 (4.28)	-.3109 (4.73)	-.3664 (7.43)
Log of annual income						.1955 (6.68)	.1495 (6.86)
Cut_1	-2.2109	-2.2488	-2.3091	-2.1530	-2.5104	-1.5413 -1.4384	
Cut_2	-.7749	-.8602	-.8089	-1.0948	-1.0821	-.1169 .0590	
Cut_3	1.2371	1.1314	1.3039	.9744	1.0210	2.0176 2.1919	
Log likelihood	-22771.5	-16413.3	-12198.5	-7222.8	-7016.5	-6380.2	-11099.0
Chi-Squared	1188.1	851.2	968.2	405.6	544.6	522.4	921.7
Pseudo R^2	.0254	.0253	.0382	.0273	.0374	.0393	.0399
N	21908	15806	11983	7087	6950	6333	10916

Notes: losing and finding a job variables not available in years 1972-1976, 1980, 1984 and 1987. Union status not available in 1972, 1974, 1977 & 1982. Column 4 is the same sample period as columns 5 and 6. Excluded categories are lose job very likely and find job – very easy. All equations include 44 state dummies.

t-statistics in parentheses

Table 4. Job Satisfaction by Country (%)

A) International Social Survey Programme (ISSP), 1989

	Completely satisfied	Very satisfied	Fairly satisfied	Neither	Dissatisfied	N
W. Germany	9%	34	41	11	4	605
UK	12	27	46	7	8	984
USA	15	35	37	6	7	797
Austria	17	29	39	11	4	814
Hungary	6	7	63	19	6	564
Netherlands	10	30	45	10	5	650
Italy	17	17	47	10	10	581
S. Ireland	18	33	41	5	4	474
Norway	14	28	43	12	4	1057
Israel	11	26	49	9	5	678
All	13	27	45	10	6	7204

Table 4. Job Satisfaction by Country (%) (continued)

B) Eurobarometers, 1995-1996

	Very satisfied	Moderately satisfied	A little dissatisfied	Very dissatisfied	N
Belgium	44%	49	6	1	1011
Denmark	50	45	3	2	997
W. Germany	34	51	11	4	1025
Greece	11	50	29	9	1003
Italy	26	56	15	4	1028
Spain	23	57	16	4	996
France	22	60	14	5	999
S. Ireland	57	38	4	1	1004
Luxembourg	40	53	5	2	494
Netherlands	46	46	7	1	1064
Portugal	21	62	13	3	998
UK	38	49	9	5	1064
E. Germany	34	56	9	2	1047
Finland	31	62	6	2	1059
Sweden	39	53	5	2	1055
Austria	44	45	9	1	1070
All	35	52	10	3	15914

Notes: Results are weighted

C) Eurobarometers, 1996

	Dissatisfied	Neither	Satisfied	Satisfied	Satisfied	N

	1, 2 or 3	4	5	6	7	
Belgium	8%	14	37	31	10	432
Denmark	8	9	23	35	25	547
W. Germany	8	13	30	32	16	474
Greece	19	24	26	21	10	448
Italy	14	25	28	20	13	508
Spain	15	20	24	23	18	443
France	14	23	33	21	9	604
S. Ireland	18	16	24	25	17	433
Luxembourg	11	13	31	27	18	289
Netherlands	6	11	21	39	23	465
Portugal	15	22	30	21	12	467
UK	11	16	29	27	16	661
E. Germany	12	14	27	31	16	468
Finland	9	11	31	34	16	432
Sweden	6	126	33	33	12	563
Austria	13	16	28	28	24	535
All	12	18	29	26	15	7769

All in all how satisfied are you with your job?

Completely satisfied Completely dissatisfied

1 2 3 4 5 6 7

Table 5A. Job Security and Job Satisfaction in Nine Countries

	Strongly agree	Agree	Neither	Disagree**	All
Completely satisfied	20%	10	9	8	13
Very satisfied	32	28	21	19	27
Fairly satisfied	38	49	47	45	45
Neither	7	8	17	14	10
Dissatisfied*	3	5	6	14	6
All					
Unweighted N	2196	2852	1029	951	7028

Notes: * dissatisfied includes fairly dissatisfied, very dissatisfied and completely dissatisfied
** disagree includes disagree and strongly disagree.

Countries are UK, USA, Austria, Hungary, Netherlands, Italy, Eire, Norway, Israel. Source: ISSP 1989.

Table 5B. Job Security and Job Satisfaction in Sixteen Countries

	Secure	Not secure	DK secure	All	Unweighted N
Very satisfied	40	20	27	35	5559
Fairly satisfied	51	53	60	52	8291
Not very satisfied	7	19	11	10	1588
Not at all satisfied	2	8	3	3	476
All	70	22	8	100	15914
Unweighted N	11133	3451	1330	15914	

Notes: countries are Belgium, Denmark, W. Germany, Greece, Italy, Spain, France, Ireland, Luxembourg, Netherlands, Portugal, UK, E. Germany, Finland, Sweden, Austria.

Source: Eurobarometer 44.2, November 1995 – January 1996

Table 5C. Job Security and Job Satisfaction in Sixteen Countries, 1996

		My job is secure					
	score	very true	quite true	a little true	not at all true	All	N
completely satisfied	7	27	13	8	8	15	1196
	6	34	31	22	17	26	2108
	5	22	33	32	25	29	2079
	4	10	15	24	24	18	1211
completely dissatisfied	1.2,3	6	9	15	27	12	865
All		31	36	18	15	-	7459
		2526	2522	1356	1055	7459	

Notes: countries are Belgium, Denmark, W. Germany, Greece, Italy, Spain, France, Ireland, Luxembourg, Netherlands, Portugal, UK, E. Germany, Finland, Sweden, Austria. Results are weighted

Source: Eurobarometer 44.3OVR, February-April 1996

Table 6. Job Satisfaction Ordered Logit Equations (Source: ISSP 1989) – t-statistics in parentheses)

	(1)	(2)	(3)	(4)	(5)
UK	-.1889 (2.00)	-.2108 (2.20)	-.2026 (1.95)	-.0121 (0.12)	-.0202 (0.19)
USA	.2227 (2.50)	.1854 (1.78)		.2497 (2.38)	
Austria	.1530 (1.72)	.2135 (2.35)	.3024 (3.17)	.0572 (0.62)	.1454 (1.50)
Hungary	-.9846 (10.16)	-.9053 (9.14)	-.8989 (8.32)	-.8455 (8.47)	-.7548 (6.89)
Netherlands	-.0825 (0.87)	-.0457 (0.46)	.0199 (0.19)	.0298 (0.30)	.0812 (0.77)
Italy	-.3182 (3.17)	-.3744 (3.25)	-.3402 (2.87)	-.4767 (4.11)	-.4160 (3.49)
Eire	.3862 (3.73)	.4350 (4.07)	.5403 (4.77)	.5553 (5.14)	.6570 (5.75)
Norway	-.0466 (0.56)	.0309 (0.36)	.1029 (1.13)	.1347 (1.55)	.2028 (2.21)
Israel	-.2006 (2.16)				
Age	.0188 (10.42)	-.0284 (2.18)	-.0323 (2.25)	-.0216 (1.65)	-.0227 (1.58)
Age^2		.0005 (3.57)	.0006 (3.55)	.0004 (2.92)	.0004 (2.80)
Male	-.1789 (4.04)	-.2665 (5.30)	-.2348 (4.30)	-.2391 (4.73)	-.2251 (4.10)
Self-employed		.4630 (5.38)	.1774 (1.24)	.4879 (5.64)	.1426 (0.99)
Years schooling		.0053 (0.62)	.0014 (0.14)	-.0015 (0.17)	-.0010 (0.10)
Supervisor		.3456 (6.32)	.3211 (5.33)	.3037 (5.52)	.2755 (4.55)
Union member		-.1517 (2.93)	-.1679 (3.01)	-.2110 (4.05)	-.1886 (3.36)
Public sector			.1213 (1.98)		-.0402 (0.64)
Strong agree secure job				1.2182 (9.79)	1.2976 (9.46)
Agree secure job				.6735 (5.53)	.7626 (5.70)
Neither agree/disagree				.2595 (1.96)	.3593 (2.47)
Disagree secure job				-.1023 (0.73)	-.0009 (0.00)
Cut_1	-4.716	-5.4801	-5.4795	-4.8655	-4.7252
Cut_2	-3.691	-4.5248	-4.5907	-3.9061	-3.8325
Cut_3	-2.382	-3.1884	-3.2490	-2.5576	-2.4783
Cut_4	-1.243	-2.0151	-2.0235	-1.3594	-1.2269
Cut_5	.946	.1907	.2108	.9259	1.0851
Cut_6	2.481	1.7753	1.7637	2.5558	2.6785
LR Chi^2	339.2	417.6	331.4	728.6	578.2
Pseudo R^2	0.017	.0249	.0232	.0428	.0404

N	7202	5942	5086	5942	5086

Table 7. Job Satisfaction Ordered Logit Equations (Source: ISSP 1989) – t-statistics in parentheses

	All	Men	Women
UK	-.0417 (0.41)	-.0872 (0.67)	-.0050 (0.03)
USA	.1754 (1.60)	-.0688 (0.47)	.4899 (2.85)
Austria	.0097 (0.10)	-.1164 (0.95)	.1773 (1.17)
Hungary	-.5703 (5.38)	-.4289 (3.01)	-.7761 (4.76)
Netherlands	.0673 (0.66)	.0004 (0.00)	.0893 (0.51)
Italy	-.0849 (0.69)	-.0351 (0.22)	-.1621 (0.83)
Eire	.5761 (5.13)	.4498 (3.18)	.8213 (4.35)
Norway	.2093 (2.32)	.1524 (1.30)	.2433 (1.69)
Age	-.0120 (0.89)	-.0250 (1.39)	-.0058 (0.28)
Age^2	.0003 (2.27)	.0005 (2.35)	.0003 (1.28)
Male	-.2618 (4.84)	n/a	n/a
Self-employed	.2692 (2.93)	.2694 (2.48)	.3060 (1.67)
Years schooling	-.0446 (4.93)	-.0329 (2.95)	-.0650 (4.11)
Supervisor	-.0698 (1.21)	-.0669 (0.93)	-.0520 (0.52)
Union member	-.0826 (1.53)	.0102 (0.14)	-.2034 (2.36)
Strong agree secure job	.6028 (4.46)	.5510 (3.07)	.7474 (3.54)
Agree secure job	.4521 (3.42)	.4330 (2.46)	.5134 (2.50)
Neither agree/disagree	.2442 (1.72)	.2219 (1.19)	.2723 (1.22)
Disagree secure job	.0819 (0.55)	.0823 (0.42)	.1342 (0.57)
My income is high - agree	-.0938 (0.60)	-.0249 (0.13)	-.1278 (0.42)
My income is high – neither	-.4070 (2.64)	-.4249 (2.33)	-.2921 (0.97)
My income is high – disagree	-.7170 (4.58)	-.7925 (4.26)	-.5465 (1.81)
My income is high – strongly disagree	-1.2423 (7.13)	-1.3210 (6.09)	-1.1090 (3.46)
My income is high – can't choose	.1698 (0.50)	.1930 (0.43)	.2781 (0.51)
My income is high – don't know	.1153 (0.22)	-.1749 (0.27)	.6665 (0.73)
Advancement opps high - agree	-.2520 (1.79)	-.3173 (1.86)	-.0987 (0.39)
Advancement opps high - neither	-.6472 (4.58)	-.7764 (4.48)	-.3954 (1.59)
Advancement opps high - disagree	-.9892 (6.94)	-1.1000 (6.23)	-.7597 (3.07)

Advancement opps high – strongly disagree	-1.3324 (8.56)	-1.6090 (8.24)	-.9346 (3.52)
Advancement opps high – can't choose	-.5017 (2.26)	-.6809 (2.38)	-.2596 (0.71)
Advancement opps high – don't know	-.5603 (1.31)	-.2108 (0.32)	-.6443 (1.09)
Work independently - agree	-.5728 (8.44)	-.6395 (7.29)	-.4689 (4.31)
Work independently – neither	-.9170 (9.45)	-1.0990 (8.71)	-.6747 (4.36)
Work independently – disagree	-1.2114 (11.2)	-1.3940 (9.46)	-1.0000 (6.27)
Work independently – strongly disagree	-1.5986 (8.91)	-1.5600 (6.51)	-1.6690 (6.08)
Work independently – can't choose	-.2053 (0.38)	-.1224 (0.17)	-.5119 (0.64)
Work independently – don't know	-1.1133 (2.58)	-.6500 (0.88)	-1.3900 (2.49)
Help people - agree	-.3277 (4.48)	-.2740 (2.71)	-.4263 (3.92)
Help people - neither	-.5760 (6.68)	-.5660 (4.92)	-.5896 (4.35)
Help people - disagree	-.7467 (7.69)	-.6546 (4.98)	-.8970 (6.03)
Help people – strongly disagree	-1.1038 (7.35)	-1.1560 (5.97)	-1.0640 (4.37)
Help people – can't choose	-.6142 (2.29)	-.5430 (1.69)	-.8580 (1.68)
Help people – don't know	.0520 (0.10)	-.1201 (0.18)	-.0831 (0.09)
Unhealthy conditions – often	.0534 (0.34)	.3017 (1.61)	-.5559 (1.93)
Unhealthy conditions – sometimes	.2767 (2.02)	.4399 (2.69)	-.0774 (0.31)
Unhealthy conditions – hardly ever	.3499 (2.56)	.5143 (3.12)	-.0622 (0.25)
Unhealthy conditions – never	.6915 (5.31)	.7532 (4.73)	.4586 (1.98)
Unhealthy conditions – can't choose	.2369 (0.97)	.6869 (1.88)	-.3310 (0.92)
Unhealthy conditions – don't know	1.2135 (3.02)	.9471 (1.79)	1.3540 (2.17)
Find a job – fairly easy	-.3699 (3.63)	-.5413 (4.09)	-.1465 (0.90)
Find a job – neither	-.7047 (6.57)	-.9561 (6.89)	-.3867 (2.26)
Find a job – fairly difficult	-.5690 (5.34)	-.7813 (5.61)	-.2573 (1.53)
Find a job – very difficult	-.4334 (3.73)	-.6625 (4.36)	-.0621 (0.34)
Find a job – can't choose	-.1587 (0.99)	-.2070 (0.98)	-.1040 (0.41)
Find a job – don't know	-1.0013 (1.87)	-1.4833 (11.71)	-.8280 (1.22)
Cut_1	-8.0931	-8.1189	-8.19680
Cut_2	-7.1058	-7.3647	-6.66899
Cut_3	-5.6929	-5.9032	-5.3120

Cut_4	-4.3873	-4.568	-4.03084
Cut_5	-1.7777	-1.9349	-1.38915
Cut_6	.0528	-.10714	.476861
LR Chi^2	1857.0	1208.1	722.4
Pseudo R^2	.1107	.1213	.1062
N	5942	3495	2447

Notes: excluded categories, Germany. In the case of secure job – strongly disagree. For find a job the excluded category is – very easy and for all the other attitudinal variables - strongly agree.
Source: Eurobarometer #44.2, November 1995 – January 1996

Table 8. Job Security Ordered Logit Equations (Source: ISSP 1989) – t-statistics in parentheses

	(1)	(2)	(3)	(4)
UK	-.7550 (8.09)	-.8053 (8.52)	-.8269 (8.67)	-.7763 (7.54)
USA	-.1419 (1.60)	-.2418 (2.61)	-.2662 (2.54)	n/a
Austria	.7709 (8.45)	.8088 (8.76)	.7845 (8.39)	.8273 (8.52)
Hungary	-.3844 (4.04)	-.3542 (3.67)	-.3795 (3.90)	-.8043 (7.51)
Netherlands	-.2466 (2.62)	-.2835 (2.90)	-.2856 (2.89)	-.2571 (2.47)
Italy	.0931 (0.91)	.0985 (0.96)	.4773 (4.02)	.3319 (2.72)
Eire	-.4414 (4.27)	-.3955 (3.78)	-.4501 (4.23)	-.4155 (3.78)
Norway	-.2829 (3.32)	-.2712 (3.12)	-.3414 (3.87)	-.3169 (3.40)
Israel	-.4633 (4.82)	-.5344 (5.41)	n/a	n/a
Age	.0119 (6.57)	.0115 (6.20)	.0126 (5.95)	.0105 (4.50)
Male	-.0600 (1.34)	-.1192 (2.59)	-.1761 (3.49)	-.0817 (1.48)
Years schooling		.0289 (3.63)	.0357 (3.97)	.0161 (1.62)
Supervisor		.3067 (6.09)	.2368 (4.27)	.2462 (4.01)
Union member			.2697 (5.24)	.0857 (1.52)
Public sector				.7583 (12.05)
Cut_1	-3.201	-2.849	-2.764	-2.846
Cut_2	-1.650	-1.288	-1.164	-1.264
Cut_3	-0.712	-.348	-.225	-.308
Cut_4	1.083	1.464	1.640	1.607
LR Chi^2	356.8	412.7	441.2	550.3
Pseudo R^2	.0187	.0221	.0283	.0413
N	7026	6896	5814	4983

Question: "How much do you agree or disagree that your job is secure?" (Choices are strongly agree, agree, neither, disagree, strongly disagree)

	Agree	Strongly agree	N		Agree	Strongly agree	N
UK	47	39	593	Italy	28	43	578
USA	43	19	955	Eire	47	23	473
Austria	48	28	781	Norway	33	33	1011
Hungary	34	53	808	Israel	33	29	639

Netherlands	53	19	563	All	41	31	7028

Table 9. Job Satisfaction Ordered Logit Equations, 1995-1996

	(1)	(2)	(3)
Denmark	.2609 (2.89)	.1646 (1.72)	.1704 (1.78)
W. Germany	-.3900 (4.39)	-.4209 (4.50)	-.4335 (4.63)
Greece	-1.8920 (20.89)	-1.8071 (18.84)	-1.8414 (19.13)
Italy	-.9303 (10.46)	-1.0000 (10.56)	-1.0033 (10.55)
Spain	-.9311 (10.34)	-.9481 (9.96)	-.9575 (10.03)
France	-.9577 (10.75)	-.8645 (9.18)	-.8613 (9.12)
Ireland	.4793 (5.26)	.38380 (3.90)	.3857 (3.92)
Luxembourg	-.3218 (2.96)	-.4457 (3.88)	-.4484 (3.90)
Netherlands	.0112 (0.13)	-.0815 (0.87)	-.0471 (0.50)
Portugal	-.9621 (10.60)	-.8876 (9.25)	-.8971 (9.33)
UK	-.3042 (3.40)	-.3561 (3.73)	-.3149 (3.28)
E. Germany	-.3456 (3.91)	-.0898 (0.95)	-.1178 (1.24)
Finland	-.4358 (4.97)	-.3590 (3.84)	-.3478 (3.71)
Sweden	-.2217 (2.52)	-.1440 (1.54)	-.1296 (1.39)
Austria	-.0700 (0.79)	-.0830 (0.87)	-.0808 (0.85)
Age	-.0223 (2.59)	-.0310 (3.42)	-.0281 (3.08)
Age^2	.0002 (2.63)	.0003 (3.50)	.0003 (3.17)
Male	-.0665 (1.87)	-.0707 (1.91)	-.0629 (1.69)
Self-employed	.3724 (7.76)	.3686 (6.85)	.3138 (5.09)
16-19 years schooling	.0701 (1.56)	.0547 (1.16)	.0559 (1.19)
>=20 years schooling	.1193 (2.28)	.1134 (2.08)	.1224 (2.24)
Supervisor	.3372 (8.87)	.2943 (7.40)	.2880 (7.06)
Public sector	.0700 (1.56)	.0518 (1.11)	.1066 (2.23)
Job tenure	.0004 (2.63)	.0000 (0.08)	.0001 (0.52)
Commuting time		-.0025 (5.08)	-.0023 (4.53)
Agree secure job		1.0590 (24.68)	1.0639 (24.72)
Secure job DK		.4317 (6.31)	.4322 (6.31)
Industry dummies	10	10	10
Occupation dummies .	10	10	10
Size of establishment dummies	-	-	6
Cut_1	-3.4875	-4.0215	-3.953
Cut_2	-1.8335	-2.3192	-2.2498
Cut_3	.9234	.5652	.6396
Likelihood ratio	-15471.3	-14250.9	-14232.5
LR Chi^2	1815.8	2328.0	2364.9
Pseudo R^2	.0554	.0755	.0757
N	15727	14772	14772

Notes: excluded categories, Belgium, <16 years schooling. Source: Eurobarometer 44.3OVR, February-April 1996

Table 10. Further Job Satisfaction Ordered Logit Equations, 1995-1996

	All	Males	Females
Denmark	.2082 (2.04)	.0580 (0.43)	.3941 (2.47)
W. Germany	-.4845 (4.83)	-.6423 (4.90)	-.2725 (1.71)
Greece	-1.4849 (14.11)	-1.3942 (10.35)	-1.6598 (9.62)
Italy	-.9707 (9.68)	-.9426 (7.31)	-.9598 (5.89)
Spain	-.9239 (9.26)	-.8643 (6.83)	-1.0504 (6.31)
France	-.7457 (7.53)	-.6639 (5.00)	-.7629 (4.99)
Ireland	.3639 (3.48)	.4361 (3.22)	.3241 (1.91)
Luxembourg	-.4446 (3.71)	-.3708 (2.42)	-.5379 (2.74)
Netherlands	-.0801 (0.81)	-.3233 (2.55)	.3282 (2.05)
Portugal	-.8311 (8.19)	-.6439 (4.78)	-1.0151 (6.41)
GB	-.3048 (2.95)	-.3885 (2.83)	-.1855 (1.14)
E. Germany	-.1502 (1.48)	-.0858 (0.63)	-.2258 (1.43)
Finland	-.2519 (2.49)	-.4074 (3.00)	-.0604 (0.38)
Sweden	-.0558 (0.55)	.0345 (0.26)	-.1729 (1.09)
Austria	-.0540 (0.54)	-.0684 (0.52)	-.0112 (0.07)
Age	-.0237 (2.54)	-.0179 (1.45)	-.0378 (2.57)
Age^2	.0002 (2.21)	.0001 (0.96)	.0004 (2.51)
Male	-.0463 (1.14)	n/a	n/a
Self-employed	.3426 (4.87)	.3837 (4.01)	.3619 (3.18)
16-19 years schooling	-.0021 (0.04)	.0125 (0.20)	-.0834 (1.06)
>=20 years schooling	-.0385 (0.67)	-.0355 (0.47)	-.0911 (0.99)
Supervisor	.2550 (5.94)	.3051 (5.57)	.1795 (2.50)
Public sector	.1019 (2.05)	-.0002 (0.00)	.1907 (2.53)
Job tenure	.0003 (1.69)	.0004 (1.92)	.0002 (0.68)
Commuting time	-.0018 (3.55)	-.0013 (2.05)	-.0027 (3.19)
Agree secure job	.9183 (20.87)	.9658 (16.26)	.8547 (12.81)
Secure job DK	.3449 (4.91)	.3613 (3.81)	.3222 (3.04)
No vibrations from hand tools	-.0643 (1.33)	-.053 (0.84)	-.0772 (1.00)
No noise	.1369 (3.12)	.0905 (1.48)	.2293 (3.55)
No high temperatures	.0483 (1.10)	.0784 (1.35)	.0327 (0.47)
No low temperatures	.0582 (1.32)	-.0371 (0.63)	.1798 (2.63)
No vapors or fumes	.1560 (3.26)	.2562 (4.10)	.0191 (0.25)
No dangerous substances	-.0523 (1.06)	-.0379 (0.61)	-.0714 (0.86)
No radiation	-.0158 (0.29)	.0159 (0.24)	-.0860 (0.86)
No painful or tiring positions	.2193 (5.16)	.2309 (3.99)	.2037 (3.18)
No carrying or moving loads	.1592 (3.67)	.1821 (3.01)	.1697 (2.64)
No repetitive arm movements.	.0377 (0.89)	.0272 (0.48)	.0237 (0.37)
No protective clothing	-.1485 (3.33)	-.1604 (2.81)	-.1106 (1.50)
No computers	.0233 (0.54)	-.0540 (0.93)	.0971 (1.44)
No work at high speed	.1101 (2.40)	.0967 (1.57)	.1346 (1.90)

No tight deadlines	.1713 (3.83)	.1947 (3.20)	.1106 (1.64)
No dealing with people	-.1476 (3.00)	-.1059 (1.67)	-.2035 (2.52)
Not working at home	-.1143 (2.69)	-.0817 (1.42)	-.2109 (3.22)
No night work	.0028 (0.05)	.0006 (0.01)	.0913 (1.05)
No Saturdays	-.0681 (1.38)	-.1346 (2.12)	.0359 (0.44)
No Sundays	.0846 (1.96)	.1232 (2.18)	.0544 (0.79)
Work pace depends colleagues*	-.0038 (0.10)	.0303 (0.61)	-.0622 (1.06)
Work pace depends customers*	-.0295 (0.70)	-.0237 (0.43)	.0771 (1.13)
Work pace depends prodn. norms*	-.1330 (3.25)	-.0823 (1.58)	-.2158 (3.16)
Work pace depends on machine*	-.0398 (0.83)	.0297 (0.49)	-.1639 (2.03)
Work pace depends on boss*	-.1562 (3.93)	-.1485 (2.79)	-.1649 (2.70)
Equal opportunities at work	.2228 (6.16)	.1058 (2.15)	.4404 (7.96)
Boss a man	.0705 (1.58)	.1225 (1.64)	.0513 (0.89)
Health and safety a risk*	.7246 (17.09)	-.6837 (12.59)	-.8296 (11.99)
Can control temperature	.1159 (2.68)	.1209 (2.07)	.1324 (2.03)
Can control lighting	.0305 (0.69)	.0498 (0.84)	.0164 (0.24)
Can control ventilation	.1217 (2.76)	.1321 (2.22)	.1048 (1.56)
Can control position of desk	.0638 (1.41)	.0201 (0.32)	.1299 (1.93)
Can control position of seat	.0500 (1.09)	-.0212 (0.33)	-.0501 (0.73)
Can control equipment used	.1689 (4.50)	.1766 (3.56)	.1720 (2.93)
Occupation dummies	10	10	10
Industry dummies	10	10	10
Size of establishment dummies	6	6	6
Cut_1	-3.8530	-3.9457	-3.6102
Cut_2	-2.0830	-2.1414	-1.8544
Cut_3	.9720	.9516	1.2252
Likelihood ratio	-13472.18	-7708.3	-5658.9
LR Chi^2	3313.4	1894.4	1613.3
Pseudo R^2	.1095	.1094	.1248
N	14505	8317	6189

Notes: excluded categories, Belgium, <16 years schooling

*= a variable also included where the respondent reported they did not know the answer to this question.

Source: Eurobarometer 44.3OVR, February-April 1996

Table 11. Job Satisfaction Ordered Logit Equations, 1996 (workers only)

	All	Males	Females
Denmark	.3596 (2.81)	.4704 (2.79)	.2759 (1.37)
West Germany	.1263 (0.98)	.4070 (2.46)	-.2603 (1.24)
Greece	-.7480 (5.71)	-.7907 (4.78)	-.4965 (2.24)
Italy	-.6208 (4.92)	-.4193 (2.59)	-.9231 (4.49)
Spain	-.2481 (1.86)	-.2573 (1.51)	-.2010 (0.92)
France	-.3527 (2.92)	-.2747 (1.75)	-.3961 (2.02)
Eire	-.2361 (1.73)	-.2079 (1.20)	-.2729 (1.18)
N. Ireland	-.1970 (1.00)	-.3744 (1.45)	.1707 (0.55)
Luxembourg	-.2159 (1.45)	-.1819 (0.94)	-.1821 (0.76)
Netherlands	.4909 (3.76)	.4859 (2.83)	.5350 (2.60)
Portugal	-.3756 (2.87)	-.3517 (2.01)	-.3883 (1.93)
Great Britain	.0212 (0.16)	-.1640 (0.98)	.2721 (1.37)
East Germany	.2987 (2.21)	.3577 (2.00)	.3035 (1.42)
Finland	.3261 (2.37)	.2698 (1.50)	.4585 (2.10)
Sweden	.0892 (0.72)	.0836 (0.51)	.1005 (0.52)
Austria	.3386 (2.61)	.3831 (2.27)	.3611 (1.74)
Age	-.0208 (1.64)	-.0397 (2.38)	.0088 (0.44)
Age squared	.0003 (2.12)	.0005 (2.67)	-.0000 (0.08)
Male	-.2076 (4.22)	n/a	n/a
Secure job – quite true	.7863 (6.19)	.9382 (5.73)	.5251 (2.58)
Secure job – a little true	.2250 (1.81)	.3480 (2.17)	.0201 (0.10)
Secure job – not at all true	-.2414 (1.88)	-.1548 (0.93)	-.4399 (2.13)
Secure job – DK	-.6279 (4.71)	-.6449 (3.74)	-.6810 (3.19)
Job security increase last 5yrs	.2564 (4.42)	.2122 (2.81)	.3014 (3.26)
Job security decrease last 5yrs	-.2845 (4.91)	-.3109 (4.12)	-.2637 (2.86)
Job security DK if changed last 5yrs	-.0041 (0.03)	-.1276 (0.84)	.1163 (0.70)
Financial situation very difficult	-.6669 (7.13)	-.6005 (4.72)	-.7569 (5.36)
Financial situation quite difficult	-.3679 (6.24)	-.3599 (4.60)	-.4177 (4.57)
Financial situation quite easy	.2555 (4.39)	.3041 (3.99)	.1729 (1.88)
Financial situation very easy	.5911 (6.52)	.7533 (6.32)	.3570 (2.53)
Ever unemployed last 5 yrs	-.1632 (2.53)	-.1981 (2.29)	-.1274 (1.29)
Private sector	.0579 (0.99)	.1423 (1.81)	-.0758 (0.85)
Job tenure months	-.0020 (0.61)	.0003 (0.07)	-.0057 (1.07)
Union member	-.1464 (2.64)	-.1510 (2.13)	-.1471 (1.62)
Age left school	-.0121 (1.89)	-.0059 (0.69)	-.0244 (2.44)
Self-employed	.2958 (1.63)	.3144 (1.40)	.3713 (1.19)
Occupation dummies	13	13	13
Industry dummies	11	11	11
Establishment size dummies	7	7	7

cut1	-4.6980	-4.6554	-4.3278
cut2	-3.5371	-3.4957	-3.1531
cut3	-2.5714	-2.5390	-2.1615
cut4	-1.3526	-1.2807	-.9765
cut5	.0608	.1468	.4537
cut6	1.7160	1.8851	2.0420
Log likelihood ratio	-10701.6	-6222.8	-4421.1
Chi square	1510.1	1016.4	595.5
Pseudo R^2	.0659	.0755	.0631
N	6921	4049	2872

Notes: excluded categories Belgium; secure job – very true; job security no change last 5yrs: financial situation neither easy nor difficult.

Source: Eurobarometer 44.3OVR, February-April 1996.

Table 12. Mental well-being -- % saying 'not at all' – workers only

Q. Would you say that you have not at all, no more than usual, rather more than usual, much more than usual?
a) …lost much sleep over worry, b)…been feeling unhappy and depressed, c)…been losing confidence in yourself, d)…been feeling you could not overcome your difficulties, e)…been feeling constantly under strain, f)…been thinking of yourself as a worthless person?

	Not lost much sleep	Not uhappy & depressed	Not losing confidence	Can overcome difficulties	Not worthless person	Not constantly under strain	**Stress Level (semi-GHQ score)**
Belgium	43%	56	62	57	67	42	.57
Denmark	63	59	78	70	82	50	.51
West Germany	52	48	70	60	77	40	.47
Greece	38	46	77	53	90	42	.91
Italy	34	38	62	43	77	31	1.35
Spain	38	49	64	51	79	49	.89
France	42	50	60	48	74	38	.99
Eire	53	61	71	66	78	57	.33
N. Ireland	50	56	71	67	77	50	.74
Luxembourg	49	56	69	61	75	45	.65
Netherlands	52	59	72	69	83	51	.61
Portugal	39	50	71	60	76	47	.75
Great Britain	55	53	68	65	81	47	.71
East Germany	41	46	75	55	76	35	.64
Finland	45	35	61	53	65	30	.82
Sweden	61	58	79	67	83	49	.46
Austria	47	50	66	60	70	52	.82
European 15	46	49	67	56	78	42	.81
N	7857	7853	7841	7835	7833	7847	7749

Notes: Semi-GHQ score calculated as the sum of each component where 0= not at all or no more than usual and 1 if rather more than usual or much more than usual. The normal GHQ score is based on 12 questions not 6; hence we use the term semi-GHQ. The semi-GHQ score in the final column must lie between zero (not stressed on any of the six questions) and 6 (stressed on all six).

Source: Eurobarometer 44.3OVR, February-April 1996

Table 13. Ordered Logit Mental Well-being Equations, 1996 (workers only)

	Constantly under strain		Lose sleep over worry		Unhappy & depressed		Losing confidence		Not overcome difficulties	
Age	.0036	(1.37)	.0167	(6.27)	.0127	(4.75)	.0073	(2.40)	.0071	(2.49)
Age left school	.0216	(3.20)	.0020	(0.29)	.0042	(0.61)	.0071	(0.89)	.0117	(1.61)
Male	-.2513	(4.69)	-.2794	(5.19)	-.3802	(6.95)	-.2523	(4.07)	-.3699	(6.43)
Ever unemployed last 5 yrs	-.1549	(2.30)	-.0910	(1.34)	-.1296	(1.89)	-.1893	(2.46)	-.3047	(4.29)
Private sector	-.0300	(0.48)	-.0776	(1.26)	-.1165	(1.86)	-.0148	(0.21)	-.1497	(2.28)
Financial situation very difficult	-.5245	(5.24)	-.5338	(5.33)	-.5463	(5.41)	-.3654	(3.41)	-.7212	(7.06)
Financial situation quite difficult	-1.0288	(10.62)	-.9976	(10.25)	-.9876	(10.09)	-.7823	(7.50)	-1.2393	(12.43)
Financial situation quite easy	- 1.2099	(11.58)	-1.2484	(11.82)	-1.2555	(11.80)	-1.0379	(9.04)	-1.582	(14.44)
Financial situation very easy	-1.3380	(10.34)	-1.4103	(10.60)	-1.5012	(11.17)	-1.2162	(7.98)	-1.7853	(12.52)
Job tenure months	.0026	(0.76)	-.0050	(1.47)	-.0005	(0.15)	.0033	(0.83)	.0052	(1.41)
Hours	.0221	(10.65)	.0100	(4.86)	.0076	(3.63)	.0000	(0.00)	.0069	(3.18)
Self-employed	.0498	(0.29)	.0313	(0.18)	.0120	(0.06)	-.1219	(0.61)	-.0564	(0.30)
Denmark	-.1969	(1.45)	-.5785	(4.15)	.069	(0.48)	-.5685	(3.52)	-.3410	(2.27)
West Germany	-.0400	(0.28)	-.4704	(3.36)	.1995	(1.39)	-.3247	(2.03)	-.1623	(1.07)
Greece	-.0417	(0.29)	.3188	(2.25)	.4575	(3.14)	-.6751	(4.04)	.0535	(0.36)
Italy	.6665	(4.91)	.4904	(3.64)	.842	(6.03)	.1563	(1.03)	.6477	(4.52)
Spain	-.3471	(2.44)	.2719	(1.95)	.2961	(2.02)	-.0836	(0.53)	.2670	(1.79)
France	.0954	(0.73)	-.0353	(0.27)	.0942	(0.68)	-.0739	(0.51)	.1723	(1.24)
Eire	-.5837	(3.97)	-.3505	(2.42)	-.1743	(1.14)	-.2824	(1.72)	-.4486	(2.83)
N. Ireland	-.3542	(1.58)	-.2512	(1.12)	-.0481	(0.20)	-.3782	(1.47)	-.4592	(1.85)
Luxembourg	.0486	(0.30)	.0350	(0.21)	.1880	(1.12)	-.0805	(0.44)	.0233	(0.13)
Netherlands	-.0745	(0.52)	.0368	(0.26)	.2264	(1.53)	-.1666	(1.03)	-.1061	(0.68)
Portugal	-.4036	(2.86)	-.0336	(0.24)	.1034	(0.70)	-.5425	(3.35)	-.4270	(2.80)
Great Britain	-.0791	(0.58)	-.3741	(2.69)	.1784	(1.25)	-.2219	(1.44)	-.3362	(2.26)
East Germany	-.0368	(0.26)	-.2058	(1.45)	.1263	(0.85)	-.7247	(4.26)	-.2258	(1.46)
Finland	.4388	(3.06)	.0132	(0.09)	.8184	(5.55)	.1243	(0.77)	.2423	(1.57)
Sweden	-.3434	(2.59)	-.7842	(5.76)	-.1329	(0.95)	-.8215	(5.19)	-.4553	(3.15)

Austria	-.3922	(2.83)	-.1086	(0.79)	.2903	(2.03)	.0332	(0.21)	-.0312	(0.21)
Job security decrease	.3625	(4.83)	.2798	(3.70)	.2656	(3.47)	.2304	(2.67)	.3012	(3.74)
Job security no change	.0180	(0.29)	-.0372	(0.59)	.0389	(0.61)	-.0186	(0.25)	.0749	(1.11)
Job security DK	-.0583	(0.47)	-.1410	(1.11)	-.0244	(0.19)	-.3121	(2.09)	-.0336	(0.25)
Secure job – quite true	.1383	(2.33)	.1679	(2.79)	.1113	(1.82)	.2972	(4.19)	.1793	(2.76)
Secure job – a little true	.3292	(4.52)	.2934	(4.00)	.3219	(4.35)	.4450	(5.26)	.4726	(6.09)
Secure job – not at all true	.5031	(6.03)	.4268	(5.05)	.5560	(6.56)	.7855	(8.42)	.5494	(6.23)
Secure job – DK	.1186	(0.87)	.0698	(0.51)	-.0203	(0.14)	.0078	(0.04)	.3066	(2.13)
Cut_1	.49356		-.01829		.1470		.23007		-.27718	
Cut_2	2.3541		1.8013		1.97202		.0604		1.6484	
Cut_3	4.3236		3.6653		3.7819		3.8172		3.6973	
Log likelihood ratio	-7412.8		-7272.1		7018.9		-5315.5		-6161.4	
Chi square	783.7		748.9		684.2		541.8		831.4	
Pseudo R^2	.0502		.0490		.0465		.0485		.0632	
N	6903		6907		6904		6893		6891	

Notes: excluded categories Belgium; secure job – very true; Job security no change last 5yrs: financial situation neither easy nor difficult. All equations also include 13 occupation dummies, 11 industry dummies and 7 establishment size dummies.
Source: Eurobarometer 44.3OVR, February-April 1996

Table 14. Mental Well-being Equations, 1996(workers only)

	Worthless Person Ordered logit		GHQ Score OLS		Work under great pressure Probit	
Age	.0106	(3.15)	.0060	(3.41)	-.0006	(0.91)
Age left school	.0044	(0.50)	.0069	(1.51)	.0058	(3.11)
Male	-.2171	(3.15)	-.2385	(6.61)	-.0190	(1.29)
Ever unemployed last 5 yrs	-.1438	(1.70)	-.1322	(2.91)	.0011	(0.06)
Private sector	-.1041	(1.33)	-.0168	(0.40)	.0344	(2.04)
Financial situation very difficult	-.3047	(2.63)	-.6911	(10.15)	-.0685	(2.53)
Financial situation quite difficult -	-.6574	(5.80)	-1.0913	(16.68)	-.1319	(5.06)
Financial situation quite easy -	-.8904	(7.09)	-1.1080	(15.84)	-.1606	(5.88)
Financial situation very easy -	-.9447	(5.72)	-1.0778	(12.63)	-.1655	(5.08)
Job tenure months	-.0023	(0.51)	-.0024	(1.04)	.0024	(2.57)
Hours	.0027	(1.02)	.0075	(5.52)	.0087	(14.99)
Self-employed	-.0141	(0.06)	-.0403	(0.35)	.0609	(1.26)
Denmark	-.6750	(4.01)	-.0651	(0.71)	.2589	(7.00)
West Germany	-.5545	(3.26)	-.1474	(1.54)	.1186	(3.02)
Greece	-1.4866	(7.34)	.2045	(2.13)	.0582	(1.47)
Italy	-.5337	(3.24)	.6967	(7.55)	.1356	(3.57)
Spain	-.7034	(4.03)	.2343	(2.44)	-.1071	(2.68)
France	-.5064	(3.28)	.1943	(2.18)	.0798	(2.16)
Eire	-.5616	(3.21)	-.2732	(2.79)	.1221	(3.00)
N. Ireland	-.5900	(2.15)	.1361	(0.92)	.3023	(5.19)
Luxembourg	-.3143	(1.62)	.1205	(1.10)	.0811	(1.80)
Netherlands	-.6556	(3.72)	.1165	(1.23)	.1506	(3.84)
Portugal	-.7828	(4.52)	-.0528	(0.55)	.0084	(0.21)
Great Britain	-.7583	(4.53)	.0617	(0.66)	.2871	(7.68)
East Germany	-.6779	(3.87)	-.0991	(1.01)	.0749	(1.86)
Finland	-.0199	(0.12)	.1569	(1.58)	.1397	(3.44)

Sweden	-.9674	(5.81)	-.2090	(2.33)	.3948	(11.27)
Austria	-.0761	(0.47)	.1456	(1.54)	.0732	(1.87)
Job security decrease	.1547	(1.61)	.2234	(4.41)	.0717	(3.47)
Job security no change	-.0405	(0.50)	-.0226	(0.55)	-.0044	(0.27)
Job security DK	-.0687	(0.43)	-.0794	(0.97)	-.0498	(1.50)
Secure job – quite true	.2880	(3.63)	-.0393	(0.99)	.0336	(2.09)
Secure job – a little true	.4457	(4.72)	.0591	(1.20)	.0711	(3.51)
Secure job – not at all true	.5989	(5.73)	.3591	(6.37)	.0720	(3.12)
Secure job – DK	-.0197	(0.10)	-.1556	(1.66)	.0560	(1.45)
Cut_1/constant		.98277	1.1425			
Cut_2		2.8386				
Cut_3		4.4813				
Log likelihood ratio		-4353.3			-4219.5	
Chi square		380.2			1043.9	
Pseudo R^2 $R^{2/}$		.0418	.1234		.1122	
F			14.42			
N		6892	6830		6792	

Notes: excluded categories Belgium; secure job – very true; job security no change last 5yrs: financial situation neither easy nor difficult. All equations also include 13 occupation dummies, 11 industry dummies and 7 establishment size dummies
Where probits are used the procedure is dprobit in STATA.
Source: Eurobarometer 44.3OVR, February-April 1996

Table 15. Changes in Mental Well-being -- % 'saying 'significant increase or 'no change' – workers only

(Q22) *I would like you to compare your current job with what you were doing five years ago (even if in the same job) For each of the following things say whether there has been a significant increase compared to five years ago, a significant decrease or little or no change* – a) the effort you put into your job, b) the responsibility involved in your job, c) the stress involved in your job, d) the tightness of supervision over your job

	Effort		Responsibility		Stress		Tightness of supervision	
	Increase	No change	Increase	No change	Increase	No change	Increase	No change
Belgium	41%	55	40	56	35	58	21	70
Denmark	45	46	50	45	45	45	12	74
West Germany	56	39	50	45	49	44	23	64
Greece	50	42	59	38	59	35	22	70
Italy	47	48	54	40	51	42	24	67
Spain	29	63	37	58	38	54	27	65
France	52	41	50	43	44	48	29	60
Eire	53	43	55	41	44	49	29	63
N. Ireland	63	35	59	35	50	40	31	53
Luxembourg	43	39	50	46	42	48	26	62
Netherlands	50	41	61	34	43	46	22	50
Portugal	35	55	46	49	42	52	23	70
Great Britain	58	33	56	34	50	38	27	55
East Germany	69	28	60	35	70	26	43	49
Finland	58	35	57	37	47	46	28	61
Sweden	53	42	55	40	47	44	22	64
Austria	45	46	56	38	48	44	38	53
European 15	50	43	51	43	48	44	26	62
N	7496		7509		7472		7171	

Source: Eurobarometer 44.3OVR, February-April 1996

Table 16. Equations for Perceived Change in Stress Over the Last Five Years : Asked in 1996 (workers only)

	Increased Stress Probit	Increased Responsibility Probit	Increased Effort Probit	Increased Supervision Probit	**Increased All [OLS]**
Age	-.0026 (3.61)	-.0059 (8.17)	-.0029 (4.03)	-.0012 (2.00)	-.0116 (6.23)
Age left school	.0013 (0.73)	-.0000 (0.05)	.0028 (1.52)	-.0013 (0.82)	.0019 (0.40)
Male	-.0409 (2.78)	.0147 (1.00)	-.0346 (2.35)	.0340 (2.68)	-.0139 (0.36)
Ever unemployed last 5 yrs	.0475 (2.57)	.0347 (1.87)	.0358 (1.94)	.0237 (1.53)	.1469 (3.07)
Private sector	-.0088 (0.52)	.0036 (0.22)	-.0029 (0.17)	-.0083 (0.57)	-.0238 (0.54)
Financial situation very difficult	-.0837 (3.01)	-.0068 (0.25)	-.0536 (1.93)	-.0311 (1.36)	-.1332 (1.79)
Financial situation quite difficult	-.1287 (4.84)	-.0121 (0.46)	-.0796 (3.00)	-.0380 (1.72)	-.2257 (12.11)
Financial situation quite easy	-.1516 (5.39)	.0063 (0.22)	-.0843 (2.98)	-.0627 (2.72)	-.2729 (0.52)
Financial situation very easy	-.1746 (5.20)	-.0245 (0.70)	-.1156 (3.39)	-.0746 (2.69)	-.3457 (3.02)
Job tenure months	.0031 (3.32)	.0004 (0.48)	.0014 (1.57)	-.0012 (1.52)	.0043 (1.79)
Hours	.0066 (11.55	.0047(8.24)	.0064 (11.20)	.0022 (4.50)	.0179 (12.11)
Self-employed	-.0153 (0.32)	-.0463 (0.96)	.0112 (0.24)	-.0284 (0.63)	-.0642 (0.52)
Denmark	.1599 (4.32)	.1307 (3.61)	.0713 (1.94)	-.0791 (2.50)	.2868 (3.02)
West Germany	.1793 (4.68)	.1221 (3.25)	.1742 (4.65)	.0351 (1.00)	.5002 (5.04)
Greece	.2377 (6.22)	.1903 (5.06)	.0582 (1.50)	.0169 (0.48)	.4992 (4.98)
Italy	.2005 (5.38)	.1752 (4.84)	.0818 (2.19)	.0647 (1.79)	.5027 (5.03)
Spain	.0994 (2.50)	.0054 (0.14)	-.1020 (2.58)	.1181 (3.16)	.1051 (1.04)
France	.1290 (3.53)	.1457 (4.13)	.1453 (4.10)	.1075 (3.13)	.5101 (5.45)
Eire	.1466 (3.61)	.1948 (5.05)	.1552 (3.93)	.1118 (2.92)	.6056 (5.79)
N. Ireland	.1668 (2.72)	.1992 (3.45)	.2300 (3.96)	.1265 (2.23)	.7081 (4.42)
Luxembourg	.1130 (2.52)	.1024 (2.31)	.0478 (1.08)	.0653 (1.56)	.3245 (2.80)
Netherlands	.1528 (3.95)	.2221 (6.08)	.1364 (3.61)	.0359 (1.02)	.5269 (5.27)
Portugal	.0861 (2.18)	.0790 (2.03)	-.0570 (1.46)	.0045 (0.13)	.1180 (1.17)
Great Britain	.1994 (5.26)	.2060 (5.69)	.2114 (5.76)	.0729 (2.05)	.6761 (6.88)
East Germany	.3272 (8.74)	.1872 (4.99)	.2374 (6.26)	.2133 (5.56)	.9351 (9.21)
Finland	.1275 (3.16)	.1943 (5.09)	.1856 (4.76)	.0939 (2.51)	.5821 (5.62)

Sweden	.1393 (3.79)	.1843 (5.27)	.1369 (3.83)	.0430 (1.28)	.4931 (5.25)
Austria	.1365 (3.55)	.1444 (3.89)	.0131 (0.35)	.1804 (4.90)	.4665 (4.75)
Job security decrease	.1111 (5.72)	-.1607 (8.15)	-.0069 (0.36)	-.0318 (2.05)	-.0821 (1.63)
Job security no change	-.1353 (8.31)	-.2816 (17.01	-.1981 (12.18	-.1619 (11.67)	-.7328 (17.24)
Job security DK	-.0445 (0.99)	-.1870 (4.25)	-.0515 (1.15)	-.0430 (1.13)	-.2164 (1.68)
Fisherman	.0166 (0.05)	-.1222 (0.35)	-.0594 (0.17)	n/a	-.3060 (0.40)
Professional	-.1128 (1.46)	.0615 (0.80)	-.0289 (0.38)	.1107 (1.83)	-.1655 (0.81)
Owner of a shop	-.1230 (1.84)	-.0238 (0.36)	-.0715 (1.09)	.1259 (2.49)	-.3490 (2.01)
Business proprietor	-.0818 (1.13)	.0893 (1.27)	.0301 (0.42)	-.0456 (0.77)	-.0189 (0.10)
Employed professional	-.1297 (1.53)	.0583 (0.67)	-.0065 (0.08)	-.1210 (1.92)	-.1987 (0.89)
General management	-.1874 (2.32)	.1169 (1.42)	.0201 (0.24)	-.1258 (2.06)	-.1638 (0.75)
Middle management	-.0973 (1.25)	.0440 (0.57)	.0247 (0.32)	-.1117 (1.84)	-.1166 (0.58)
Employed at a desk	-.1536 (2.00)	-.0290 (0.37)	-.0346 (0.45)	-.1026 (1.66)	-.2741 (1.37)
Salesman	-.1483 (1.89)	-.0918 (1.15)	-.0482 (0.61)	-.0259 (0.39)	-.2638 (1.28)
Service employee	-.1023 (1.31)	-.0408 (0.52)	-.0360 (0.47)	-.0732 (1.15)	-.2130 (1.06)
Supervisor	-.0539 (0.64)	.1273 (1.56)	.0091 (0.11)	-.0478 (0.70)	.0467 (0.21)
Skilled manual	-.1904 (2.53)	-.1420 (1.85)	-.0751 (1.00)	-.0834 (1.34)	-.4371 (2.21)
Unskilled manual	-.2467 (3.35)	-.2376 (3.13)	-.1511 (2.00)	-.0890 (1.44)	-.6579 (3.29)
Mining and quarrying	.1465 (1.27)	.0461 (0.40)	.1227 (1.07)	.1369 (1.34)	.3885 (1.32)
Manufacturing	.1179 (2.07)	.0657 (1.21)	.0690 (1.26)	.0738 (1.45)	.2930 (2.08)
Electricity, gas & water	.1405 (1.86)	.0679 (0.92)	.1627 (2.23)	.1337 (1.91)	.4159 (2.19)
Construction	.1417 (2.40)	.0895 (1.58)	.0931 (1.64)	.0811 (1.51)	.3553 (2.42)
Wholesale & retail trade, repairs	.1191 (2.12)	.0245 (0.46)	.0571 (1.07)	.0569 (1.15)	.2342 (1.69)
Hotels & restaurants	.0878 (1.37)	.0027 (0.04)	.0675 (1.09)	-.0103 (0.19)	.1398 (0.87)
Transport & communications	.1840 (3.02)	.0238 (0.40)	.0110 (0.19)	.0496 (0.91)	.2325 (1.52)
Financial intermediation	.2323 (3.67)	.1541 (2.50)	.1218 (1.95)	.1007 (1.66)	.5585 (3.41)
Real estate & business activities	.1803 (2.81)	.0176 (0.28)	.0613 (0.97)	.0574 (0.97)	.2687 (1.65)
Public administration	.1437 (2.49)	.0504 (0.91)	.0905 (1.63)	.0715 (1.38)	.2968 (2.07)
Other services	.1531 (2.74)	.0715 (1.34)	.1076 (2.02)	.0417 (0.86)	.3235 (2.35)
1-10 workers	.0698 (2.80)	.0669 (2.71)	.0703 (2.84)	.0460 (1.97)	.1904 (2.93)
10-24 workers	.1413 (4.93)	.1100 (3.88)	.1152 (4.03)	.1029 (3.78)	.3970 (5.34)

25-49 workers	.1475 (4.75)	.0968 (3.15)	.0869 (2.81)	.0783 (2.66)	.3309 (4.10)
50-99 workers	.1561 (4.74)	.0945 (2.90)	.0651 (1.97)	.1150 (3.61)	.3459 (4.04)
100-499 workers	.1788 (5.73)	.1036 (3.34)	.0896 (2.87)	.1301 (4.30)	.4183 (5.14)
>=500 workers	.1032 (3.01)	.0933 (2.76)	.0792 (2.32)	.1192 (3.63)	.3177 (3.58)
Size DK	.0456 (0.72)	-.0189 (0.30)	-.0021 (0.03)	.0331 (0.58)	.0158 0.09)
Log likelihood ratio	-4232.6	-4197.2	-4276.8	-3425.6	
Chi square/F-statistic	799.6	910.2	758.4	542.8	18.69
Pseudo R^2/R^2	.0863	.0978	.0814	.0734	.1469
N	6696	6727	6718	6456	6370

Notes: excluded categories Belgium; secure job – very true; job security no change last 5yrs: financial situation neither easy nor difficult; agriculture, farmer, work at home alone; farmer; agriculture, forestry and fishing, works at home alone.

The final column, Increased All, has as its dependent variable the number 1 to 4. If the individual reported increased strain on all four categories, he or she is assigned 4; if he or she reported increased strain on three categories, a 3 is assigned; and so on. The aim of the column is to give a simple way of judging the size of personal characteristics' effects.

Source: Eurobarometer

Table 17. Probability of Reporting Strain (Dprobit equations)

	1991 Stress	1991 Tiredness	1995-6 Stress	1995-6 Fatigue	1995-6 Sleep problems
Belgium	-.0314 (1.81)	-.0330 (3.01)	-.0327 (1.61)	-.0744 (4.98)	-.0230 (2.32)
Netherlands	-.0586 (3.35)	-.0230 (1.97)	-.0587 (2.96)	-.0978 (6.86)	-.0087 (0.86)
West Germany	-.0056 (0.33)	-.0573 (5.69)	.0005 (0.02)	-.0800 (5.45)	.0019 (0.18)
Italy	-.0298 (1.63)	-.0336 (2.92)	.1862 (8.52)	.0110 (0.68)	-.0217 (2.20)
Luxembourg	.0981 (4.18)	-.0533 (4.09)	.1410 (5.34)	-.0721 (3.90)	-.0167 (1.34)
Denmark	-.0067 (0.37)	-.0587 (5.74)	.0200 (0.95)	-.1069 (7.38)	-.0082 (0.79)
Ireland	-.0485 (2.62)	-.0558 (5.44)	-.1204 (6.02)	-.1166 (8.28)	-.0377 (3.89)
Great Britain	.0864 (4.44)	-.0149 (1.29)	.0433 (2.06)	-.0757 (5.18)	.0387 (3.28)
Greece	.1168 (5.65)	.1291 (8.27)	.2651 (11.75)	.2914 (14.34)	.0399 (3.30)
Spain	-.0622 (3.46)	-.0434 (4.00)	.0006 (0.03)	.0407 (2.39)	-.0252 (2.52)
Portugal	-.0780 (4.28)	-.0042 (0.35)	.0674 (3.09)	.0171 (1.02)	.0018 (0.16)
East Germany	-.0296 (1.80)	-.0788 (8.60)	.0897 (4.25)	-.0431 (2.83)	.0176 (1.59)
Age	.0107 (5.62)	.0008 (0.68)	.0176 (8.53)	.0048 (2.83)	.0054 (4.83)
Male*	.0222 (2.82)	.0089 (1.58)	-.0102 (1.32)	-.0306 (4.55)	.0029 (0.72)
Union*	.0730 (8.22)	.0283 (4.37)	n/a		n/a
Age^2	-.0001 (5.95)	-.0000 (0.77)	-.0002 (8.28)	-.00005 (2.60)	-.00006 (4.38)
Fisherman	.1614 (2.32)	-.0031 (0.09)			
Professional	-.0285 (0.95)	-.0823 (7.30)			
Shop owner	-.0030 (0.13)	-.0856 (9.79)			
Employed professional	.1144 (3.67)	-.0689 (6.06)			
General management	.0734 (2.52)	-.0874 (8.57)			
Middle management	.0516 (2.08)	-.0953 (10.17)			
Other office employees	-.0164 (0.71)	-.1069 (12.28)			
Non-office non-manuals	.0516 (2.13)	-.0822 (8.75)			
Supervisors	.0480 (1.45)	-.0676 (5.16)			
Skilled manuals	.0261 (1.15)	-.0599 (5.82)			
Other manuals	-.0311 (1.34)	-.0651 (6.48)			
Legislators and managers			.0429 (1.87)	-.0633 (3.84)	-.0007 (0.06)

Professionals			.0715 (3.05)	-.0506 (2.97)	.0163 (1.31)
Technicians			.0126 (0.57)	-.0553 (3.35)	.0186 (1.54)
Clerks			-.0517 (2.49)	-.1119 (7.58)	-.0223 (2.19)
Service & sales workers			-.0150 (0.71)	-.0579 (3.62)	.0033 (0.29)
Craft & related trades			-.0477 (2.34)	-.0371 (2.32)	-.0133 (1.29)
Plant and machine operators			.0115 (0.49)	-.0033 (0.18)	.0149 (1.17)
Elementary occupations			-.0924 (4.51)	-.0434 (2.64)	-.0079 (0.72)
Armed forces			-.0770 (1.76)	-.0490 (1.42)	-.0124 (0.54)
Age left school dummies	9	9	2	2	2
Log likelihood	-6154.8	-3886.3	-9038.5	-7230.3	-3824.5
N	12499	12499	15986	15986	15986
Chi^2	680.6	856.6	993.0	1358.7	278.1
Pseudo R^2	.0524	.0993	.0521	.0859	.0351

Source: Eurobarometer

Notes: 1991 QA7. In which ways does your work affect your healt.h – a) stressful b) overall tiredness, work that is too tiring?
Excluded category France, farmer/agriculture
Method of estimation is dprobit.
Source: Eurobarometers #35A (ICPSR 9696) Spring 1991 and #44.2, November 1995 – January 1996

Appendix

Table A1. Losing and Finding a Job over Time – United States 1977-1998 (%)

a) Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid-off?

	Not at all likely	Not too likely	Fairly likely	Very likely	N
1977	66%	24	6	4	883
1978	71	21	4	4	876
1982	60	27	6	7	1016
1983	61	25	8	6	914
1985	65	23	5	6	927
1986	67	23	7	4	843
1988	66	25	4	4	607
1989	70	22	4	4	606
1990	67	25	6	3	588
1991	62	25	7	6	602
1993	61	27	8	4	668
1994	63	27	5	6	1279
1996	61	28	7	4	1338
1998	65	27	4	4	1232
All	64	25	6	5	12397

Source: General Social Survey

Table A1. Losing and Finding a Job over Time – United States 1977-1998 (%) (continued)

b) About how easy would it be for you to find a job with another employer with approximately the same income and fringe benefits you now have?

	Not easy at all	Somewhat easy	Very easy	N
1977	42%	30	27	878
1978	39	33	28	865
1982	51	26	22	1009
1983	51	30	19	908
1985	43	32	25	917
1986	39	33	28	847
1988	35	37	28	598
1989	38	28	35	600
1990	38	30	32	589
1991	40	36	24	596
1993	45	33	22	665
1994	46	33	21	1267
1996	40	33	27	1331
1998	33	36	31	1221
All	42	32	26	12291

Source: General Social Surveys.

Table A2. Probability of a) Losing and b) Finding a Job in the USA, 1972-1996: ordered logits (Current workers only)

	Losing a Job			*Finding a job*		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Age	-.0089 (5.56)	-.0085 (5.20)	-.0075 (3.43)	-.5975 (9.08)	-.0268 (17.41)	-.0278 (13.54)
Male	.0251 (0.64)	-.0843 (1.96)	-.0497 (0.87)	-.1036 (2.87)	.0429 (1.09)	.0879 (1.70)
Self-employed	-.8079 (11.86)	-.8650 (12.07)	-.9076 (9.42)	.5610 (10.13)	.3701 (6.36)	.2570 (3.38)
Black	.4577 (7.91)	.5014 (8.24)	.4958 (5.79)	-.2428 (4.30)	-.2421 (4.07)	-.1837 (2.21)
Other non-white	.1529 (1.37)	.1456 (1.27)	.1407 (0.92)	-.0056 (0.06)	-.0589 (0.56)	-.0685 (0.50)
Time	.0244 (6.83)	.0274 (7.22)	.0327 (6.27)	-.0099 (3.10)	-.0186 (5.46)	-.0200 (4.34)
Years of Schooling	-.0656 (9.13)	-.0500 (6.40)	-.0527 (5.08)	.0693 (10.53)	.0618 (8.56)	.0646 (6.80)
Log state unemployment	.5161 (7.21)	.7064 (8.10)	.7768 (6.55)	-.5975 (9.08)	-1.0182 (12.58)	-1.0155 (9.34)
Union			.2550 (3.46)			-.6222 (8.62)
Industry dummies (9)	No	Yes	Yes	No	Yes	Yes
State dummies (44)	Yes	Yes	Yes	Yes	Yes	Yes
Cut_1	.6832	.8692	1.1925	-1.7301	-2.8702	-2.7832
Cut_2	2.2473	2.4527	2.7727	-.3095	-1.4008	-1.2670
Cut_3	3.1030	3.3141	3.6608			
Chi-Squared	448.9	639.3	424.5	669.81	1142.3	763.9
Pseudo R^2	.0214	.0305	.0350	.0284	.0484	.0551
N	11058	11045	6471	10981	10967	6431

Notes: losing and finding a job variables not available in years 1972-1976, 1980, 1984 and 1987.
Union status not available in 1972, 1974, 1977 & 1982.

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