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# **THE IMPACT OF UNEMPLOYMENT ON INDIVIDUAL WELL-BEING IN THE EU**

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## Abstract

Among the working-age population, one of the most damaging individual experiences is unemployment. Many previous studies have confirmed the devastating effects of unemployment on individual well-being, both pecuniary and non-pecuniary. Using the data from the European Community Household Panel survey, we examine the factors that affect unemployed workers' well-being with respect to their situations in their main vocational activity, income, housing, leisure time and health in Europe.

Unemployment substantially reduces an individual's satisfaction levels with his or her main vocational activity and finance, while it greatly increases his or her satisfaction levels with leisure time. With respect to health, it has a small negative effect. Unemployment duration also has a small, negative impact on individual well-being, suggesting that unemployment has a lasting and aggravating effect throughout the spells of unemployment, contradicting the theory of adaptation.

Three other results are worth mentioning. First, there are large cross-country differences in the consequences of unemployment on individual well-being. Fewer effects resulting from unemployment are observed in Denmark and the Netherlands than in other countries. Part of this difference seems to be the result of the differences in the regulations and functioning of the labour market. In these two countries, where the unemployment rate is lower, the spells are shorter and unemployment protection (unemployment benefits and active labour market policies) is greater. Second, with respect to methodology, there are small differences between the cross-section and panel estimates, suggesting a small bias as a result of unobserved fixed-effects in the cross-section estimation. Finally, among the unemployed, non-pecuniary factors – such as job prospects, health and social relations – show significant effects on individual well-being, along with household income.

**Key words:** satisfaction, health and unemployment.

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\* FEDEA, Madrid.

# Las consecuencias de paro sobre el bienestar individual en la Unión Europea

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## Sumario

Entre la población en edad de trabajar, una de las experiencias individuales más dañinas es encontrarse desempleado. Estudios anteriores han confirmado efectos devastadores del desempleo sobre el bienestar individual, tanto pecuniarios como no pecuniarios. Usando los datos del Panel de Hogares de la Unión Europea, examinamos los factores que afectan al bienestar de los desempleados en Europa en relación a su actividad principal, su situación económica, las condiciones de su vivienda, su tiempo de ocio y su salud en Europa. La incidencia del desempleo disminuye sustancialmente los niveles de satisfacción con la actividad y la situación económica, mientras que aumenta el nivel de satisfacción con el tiempo de ocio. Con respecto a la salud, su efecto es negativo pero reducido. La duración del desempleo afecta también negativamente al bienestar individual, lo que sugiere un efecto duradero que se agrava con el tiempo de permanencia en dicha situación, contradiciendo la teoría de la adaptación. Cabe destacar tres resultados adicionales. En primer lugar, se constatan diferencias importantes entre países en cuanto a las consecuencias del paro sobre el bienestar individual. Las repercusiones del desempleo son menores en Dinamarca y los Países Bajos que en los restantes países de la UE. Una parte de esta discrepancia parece ser debida a las diferencias en cuanto al funcionamiento y regulación del mercado de trabajo. En Dinamarca y los Países Bajos, la tasa de desempleo es menor, el tiempo de permanencia en el desempleo es más corto y la protección social (los subsidios de desempleo y políticas de mercado de trabajo activas) es mayor. En segundo lugar, con respecto a la metodología, hay pequeñas diferencias entre las estimaciones transversales y las de panel, lo que sugiere que el sesgo provocado por la heterogeneidad inobservada en las estimaciones de sección cruzada es reducido. Finalmente, entre los parados, los factores no pecuniarios, tales como las perspectivas de trabajo, el estado de salud y las relaciones sociales, muestran efectos significativos sobre el bienestar individual, junto con la renta del hogar.

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# **The Impact of Unemployment on Individual Well-Being in the EU**

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## **1. Introduction**

Individual well-being (or happiness) depends on many things, including income, labour market status, job characteristics, health, leisure, family, social relationships, security, liberty, moral values and many others. Among the working-age population, one of the most damaging individual experiences is unemployment. Many previous studies have confirmed the devastating effects of unemployment on individual well-being. Economists have emphasised income and consumption consequences (Browning & Crossley, 1998; Bentolila & Ichino, 2002), while other research papers have emphasised the physical, mental and emotional damage of unemployment (for example, Argyle, 1999; Darity & Goldsmith, 1996; Clark & Oswald, 1994 and 2002; Frey & Stutzer, 2002).

There are fewer studies that examine the factors that affect the extent of well-being loss among the unemployed. Obviously, the extent that unemployment causes unhappiness depends on individual, social and institutional circumstances. Although unemployed workers usually suffer a reduction of income, its extent varies depending on other income sources, such as savings and income-generating asset holdings, unemployment insurance and private transfers. Non-pecuniary consequences such as the loss of identity and self-esteem, stress and depression also depend on the individual, family and social circumstances surrounding unemployed workers. On the other hand, unemployed workers gain time for activities such as leisure, training, physical exercise and domestic activities (Ahn et al., 2004). Therefore, in evaluating the effect of unemployment on individual well-being, we should consider all these relevant factors as well.

Most studies concerning the effect of unemployment on subjective well-being have used overall life satisfaction or happiness as a dependent variable, mainly because of the data availability. In this study, we examine the effect of unemployment on satisfaction in five domains of life – work or main activity, financial situation, housing situation, and leisure time and health – using the European Community Household Panel survey (ECHP). These five domains are without a doubt among the most important aspects of life that determine the quality of life and ultimately well-being.

Some of the questions that we try to respond to are: How large are the differences across countries in the effects of unemployment on individual well-being? What factors are behind these differences? What individual and family factors affect the satisfaction levels of unemployed workers and in which domains of life? For example, do unemployment benefits or other sources of income reduce the fall in satisfaction among the unemployed? How does the local economic variable affect the satisfaction level of the unemployed? That is, does the unemployed individual in a high unemployment region feel equally dissatisfied as those in a low unemployment region? How does the satisfaction level change as the unemployment duration becomes longer?

## **2. Conceptual background and literature**

### **2.1 Satisfaction consequence of unemployment**

The immediate consequences of unemployment are (usually) a reduced income and an increased amount of time spent in non-labour market activities such as leisure. Consequently, the satisfaction level regarding income decreases and with respect to leisure time it increases. Concerning the satisfaction level with main vocational activity, unemployment tends to have negative psychological consequences, including the loss of identity and self-esteem, increased stress from family and social pressures, along with greater future uncertainty with respect to labour market status.

The satisfaction level with the financial situation of unemployed workers depends positively on other income sources, such as income-yielding assets, savings and unemployment benefits. It depends negatively on the opportunity costs in terms of foregone earnings. The higher the alternative income and the lower the opportunity costs, the smaller the drop in financial satisfaction will be.

The psychological effects of unemployment are fewer if future job prospects are better or if one has greater moral support from family and society. Those who have a working spouse are likely to feel less pressure and therefore enjoy greater satisfaction with his or her main work activity, income and leisure. Family and social relationships also alleviate the stress and anxiety of job loss. For many, work provides important sources of social relationships. Therefore, the satisfaction and health consequences of unemployment also depend on the family and social circumstances surrounding unemployed individuals. There is some evidence that family and social support promotes satisfaction and physical health, while social isolation is detrimental (Berkman & Glass, 2000).

The duration of unemployment is one important variable that affects the satisfaction levels among the unemployed. How does the satisfaction level change the longer one remains unemployed? The theory of adaptation and habituation, proposed mostly by psychologists, suggests a recuperation of satisfaction over unemployment spells as one adapts to the situation (Diener & Lucas, 1999). Easterlin (2003) distinguishes some life events such as income changes in which adaptation operates and others such as marriage, divorce and health where there is little or no adaptation. Lack of adaptation or habituation is also found with respect to unemployment in some studies that use panel data (Winkelmann & Winkelmann, 1998; Clark & Oswald, 2002; Clark et al., 2003).

### **2.2 Health consequence of unemployment**

The impact of unemployment on individual health has been an important issue for researchers in many different areas. Many studies have shown the significant harmful effects of unemployment on morbidity and mortality (see a survey by Mathers & Schofield, 1998) as well as psychological health (Clark & Oswald, 2002). Recently, however, some studies have challenged the conventional findings. For instance, using extensive Danish longitudinal data, Browning et al. (2003) find no significant effects of unemployment (job displacement) on stress-related health outcomes. This finding is important in the literature because they use a large representative Danish sample with detailed longitudinal information on individuals' socio-demographic and economic situations. Nevertheless, there is a possibility that the Danish results are not applicable to other countries. Similarly, Ruhm (2003) and Ruhm & Black (2002) claim that health status is counter-cyclical, since unemployment leads to

improvements in physical health through the reduction of smoking and drinking, lower calorie intake, fewer traffic accidents and the increase of leisure time devoted to physical exercise.

### 2.3 Endogeneity bias

People choose to do things in order to be happier. Therefore, all the variables that can be chosen to some extent by individuals suffer the problem of endogeneity bias. Those who value money relatively more tend to do things to be richer than those who do not. Those who enjoy working are more likely to be employed than those who do not. Similarly, those who enjoy being in a stable partnership (are more likely to be married) healthy (try to be healthier) educated (are more likely to have higher education levels) having a stable residence (are more likely to be owner-occupiers) are more likely to engage in such activities than those who do not. Therefore, all of these variables are endogenous in the happiness or satisfaction regression. Only those variables that cannot be chosen by individuals, such as gender, age and involuntary unemployment (and to some extent education) are exogenous. The estimated coefficients of the endogenous variables by a standard regression are likely to be underestimated. The magnitude of bias will depend on the degree to which individuals can act on such choices in order to be happier. A typical remedy is to use instrumental variables that are sufficiently correlated with the endogenous independent variables but not with dependent variables. In our case, we cannot carry out this method since we have no variables that satisfy this criterion. Thus, in interpreting the results of following analyses, one has to take into account of the possibility of this bias.

## 3. Data

The data we use come from the European Community Household Panel, which was conducted annually from 1994 until 2001 across many Western European countries. It started with 12 incumbent member countries and was joined by Austria in 1995 and by Finland in 1996. Sampling and survey questions were carefully prepared to insure maximum comparability across countries.<sup>1</sup> A further advantage of the ECHP is that the surveyed countries share more or less similar culture and development levels as well as geographical proximity.

At the outset, it is important that the survey questions we analyse are well-understood. The respondents in the ECHP were asked “How satisfied are you with your present situation in 1) your work or main activity, 2) your financial situation, 3) your housing situation, and 4) the amount of leisure time you have?” with six possible response categories ranging from “very dissatisfied” (=1) to “fully satisfied” (=6). With respect to health, the question is “How is your health status in general?” with five possible response categories ranging from “very bad” to “very good”.

The satisfaction and health questions are based entirely on individuals’ own perceptions. The questions asked are not concrete in terms of comparison groups or in the description of each category of satisfaction levels or health status,<sup>2</sup> therefore leaving large room for interpretation

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<sup>1</sup> See Peracchi (2002) for a general description of the survey and some discussion on the problems of attrition, non-response and weighting procedures in the survey.

<sup>2</sup> For the satisfaction questions, the categories (2, 3, 4 and 5) between the worst (“very dissatisfied”=1) and the best (“fully satisfied”=6) have no words attached to them. It is also interesting to note that there is no single category exactly in the middle as there are six categories in total. People who consider their satisfaction level to

by interviewees. Second, the possible responses are ordered qualitatively.<sup>3</sup> Comparing the responses between groups of people is not straightforward. We begin with simple ‘averages’ of the responses to the questionnaire. The simple average provides a satisfaction or health index (the bigger the average, the happier or healthier) that is comparable across the populations if we are willing to assume the linearity across responses.

#### 4. Well-being differences between the employed and the unemployed

First, we examine the association between employment status on the one hand and satisfaction or health status on the other hand using pooled cross-section samples of all waves (1994-2001) of the ECHP. In Table 1, we compare the average levels of satisfaction and health status between the employed and the unemployed. We restricted the category of employed persons to paid employees with more than 15 hours of work per week. Furthermore, to avoid confounding the possible correlated effect of educational activities and semi-retired unemployment, we restricted the sample to those aged from 25 to 54. We also report average ages by employment status to see whether age strongly affects satisfaction or health differences by employment status.

The largest difference in satisfaction by employment status is shown in the satisfaction with main activity. Paid employees enjoy 1.76 points higher satisfaction than unemployed persons. This difference is indeed large given that the satisfaction scale ranges from 1 to 6. The difference is also large in individuals’ level of satisfaction with their financial situation, being 3.81 for employees versus 2.42 for the unemployed. As expected, housing satisfaction does not vary so much by employment status as it does with main activity or income satisfaction although employees again declare higher satisfaction in this area than the unemployed. As to leisure-time satisfaction, the unemployed declare substantially higher satisfaction than the employed. With respect to health status, the difference is 0.2 in favour of employed persons. The age difference between the employed and the unemployed, with workers being 1.54 years older on average, is relatively small to explain the satisfaction or health differences between the two groups. In summary, there is quite clear evidence that the unemployed suffer substantial reductions in satisfaction in all aspects of life except for leisure time. Even in leisure-time satisfaction, the difference might not be so favourable for the unemployed if we consider the quality of leisure, since employees – who are relatively richer than their unemployed counterparts – are likely to spend more money during each hour of leisure.

Although the differences revealed by employment status are the same across countries, their magnitude varies substantially. With respect to the satisfaction with vocation or main activity, the employed-unemployed difference is much smaller in Denmark and the Netherlands than in other countries mainly owing to the high satisfaction levels declared by the unemployed in these two countries. The search for an explanation of this variance by country is one of the objectives of this paper.

With respect to individuals’ satisfaction with their financial situation, Denmark and the Netherlands again stand out for their relatively small differences between the employed and the unemployed. Nevertheless, the cross-country differences are much smaller than in the

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be in the middle (there are usually many of them) have to choose between three and four. In the health question, each category is attached with the specific words, “very bad”, “bad”, “fair”, “good”, and “very good”.

<sup>3</sup> To the extent that respondents consider the response numbers (1 to 6 or 1 to 5) as a cardinal measure of their happiness (for example, the response of 4 means two-times happier or healthier than the response of 2) the reported values may be used as the cardinal measure of satisfaction.

previous case. With respect to their satisfaction with their housing situation, there are much smaller differences between employees and unemployed persons with the largest variation (0.73) found in Ireland.

*Table 1. Data on average satisfaction and health between employees and unemployed persons: pooled cross-section of ECHP 1994-2001*

<b>Main activity</b>				<b>Finance</b>			<b>Housing</b>		
Country	Emp.	Unemp.	Diff.	Emp.	Unemp.	Diff.	Emp.	Unemp.	Diff.
Austria	4.93	3.00	1.93	4.29	2.70	1.59	5.05	4.58	0.47
Belgium	4.49	3.03	1.46	4.16	2.94	1.22	4.72	4.48	0.24
Denmark	4.93	4.10	0.83	4.54	3.50	1.04	4.98	4.73	0.25
Finland	4.54	3.03	1.51	4.03	2.64	1.40	4.71	4.49	0.22
France	4.41	2.57	1.84	3.70	2.38	1.32	4.65	4.28	0.37
Germany	4.37	2.11	2.26	3.86	2.21	1.65	4.59	4.16	0.42
Greece	3.99	2.09	1.90	3.34	2.09	1.26	4.17	3.76	0.40
Ireland	4.57	2.71	1.86	3.84	2.00	1.84	4.85	4.12	0.73
Italy	4.03	1.92	2.11	3.45	1.88	1.57	4.24	3.62	0.63
Luxembourg	4.75	2.18	2.56	4.23	2.04	2.19	4.81	4.81	0.00
Netherlands	4.73	4.04	0.69	4.59	3.69	0.90	4.91	4.78	0.13
Portugal	4.00	1.85	2.14	3.11	1.96	1.15	3.93	3.57	0.36
Spain	4.23	2.38	1.85	3.44	2.08	1.35	4.41	4.11	0.31
UK	4.33	2.51	1.82	3.77	1.96	1.80	4.54	4.08	0.46
<b>Total</b>	<b>4.38</b>	<b>2.63</b>	<b>1.76</b>	<b>3.81</b>	<b>2.42</b>	<b>1.39</b>	<b>4.57</b>	<b>4.15</b>	<b>0.42</b>
<b>Leisure time</b>				<b>Health</b>			<b>Average age</b>		
Country	Emp.	Unemp.	Diff.	Emp.	Unemp.	Diff.	Emp.	Unemp.	Diff.
Austria	4.47	4.96	-0.49	4.27	3.66	0.61	37.82	39.08	-1.26
Belgium	3.88	4.62	-0.74	4.13	3.77	0.36	38.23	38.31	-0.07
Denmark	4.31	5.00	-0.68	4.42	4.09	0.33	39.45	37.37	2.08
Finland	4.12	4.95	-0.83	3.97	3.83	0.14	40.15	40.04	0.11
France	3.97	4.44	-0.47	3.81	3.68	0.13	39.06	36.72	2.34
Germany	3.89	4.59	-0.70	3.96	3.58	0.37	38.76	39.72	-0.96
Greece	3.39	4.34	-0.95	4.64	4.53	0.11	38.16	35.06	3.10
Ireland	4.22	4.26	-0.04	4.49	4.09	0.40	37.50	37.15	0.35
Italy	3.55	4.13	-0.58	3.88	3.93	-0.05	38.52	33.16	5.36
Luxembourg	4.32	4.99	-0.67	4.06	3.31	0.74	37.53	37.19	0.34
Netherlands	4.06	4.46	-0.40	4.06	3.64	0.42	38.12	39.42	-1.31
Portugal	3.57	3.90	-0.33	3.63	3.32	0.31	37.42	37.66	-0.23
Spain	3.40	4.11	-0.71	4.04	3.98	0.07	37.64	35.64	2.00
UK	3.80	4.33	-0.53	4.26	3.98	0.28	38.32	37.96	0.36
<b>Total</b>	<b>3.86</b>	<b>4.36</b>	<b>-0.49</b>	<b>4.01</b>	<b>3.82</b>	<b>0.20</b>	<b>38.49</b>	<b>36.96</b>	<b>1.54</b>

*Note:* The sample period is 1994-96 for Germany, Luxembourg and the UK, 1995-2001 for Austria and 1996-2001 for Finland.

*Source:* ECHP (1994-2001).

Concerning satisfaction with the amount of leisure time, the unemployed declare a satisfaction level of about 0.5 points higher in most countries, except for Ireland where there is almost no difference. This lack of variation in Ireland should be examined further. The difference in health status between the employed and the unemployed is negligible in Greece,



Italy and Spain, while it is substantial in Austria and the Netherlands. Some of the lack of difference in health status among the Mediterranean countries may be because of age, given that the unemployed in these European countries tend to be substantially younger than the employed. We try to examine this using multivariate analysis later on.

## 4.2 Cross-section versus panel

As is well-documented, cross-sectional differences in satisfaction levels confound the effects of unobserved heterogeneity. The magnitude of this bias in cross-section estimates will depend on the extent to which the included variables are correlated with the uncontrolled variables that affect satisfaction. By examining the satisfaction levels of the same individuals before and after unemployment and during the unemployment spells, we control unobserved time-invariant individual heterogeneity.

Most previous studies that use longitudinal data have found substantial and lasting negative effects of unemployment on individual well-being, such as Clark & Oswald (2002) on psychological health in the UK, both Clark et al. (2003) and Winkelmann & Winkelmann (1998) on life satisfaction in Germany and Clark (2002) on life satisfaction in Europe.

First, we report the results of a simple bivariate analysis where we contrast the changes in satisfaction level to the changes in employment status. Over two consecutive years we compare four possible employment statuses: employed both for years, transition from employment to unemployment, transition from unemployment to employment and unemployed for both years.<sup>4</sup> While the transition from employment to unemployment provides us with the effects of unemployment incidence, unemployment for both years provides us with the effects of lengthening (by approximately one year) the unemployment duration.

These results confirm the results of the cross-sectional analysis. The incidence of unemployment reduces individual satisfaction with main activity and finance substantially while it greatly increases the satisfaction level with leisure time. Re-employment, on the other hand, increases the satisfaction levels with main activity and finance (and decreases it with leisure time) by a similar magnitude. With respect to individuals' satisfaction with their housing condition there is no change. With respect to health, incidences of unemployment slightly worsen health status while re-employment improves it slightly.

Although general patterns are similar across countries, there are large differences in the magnitude of the effect. As in the cross-section analysis, the negative (or positive) effects of unemployment incidence (or re-employment) on satisfaction with one's main work activity are far less significant in Denmark and the Netherlands than in other countries.

In the satisfaction with leisure time, the effect of unemployment or re-employment is less significant in Ireland and Portugal than in other countries. The increase in unemployment duration by one year does not affect satisfaction levels or health status by much. This suggests that the effects of unemployment are persistent throughout the unemployment spells (see Table 2).

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<sup>4</sup> The employment status in each year refers to the time of the survey. Therefore, we do not know if any other transitions occurred during the period.

Table 2. Changes in satisfaction by employment-status change during any two consecutive years – ECHP 1994-2001

	Main activity				Finance			
	E→E	E→U	U→E	U→U	E→E	E→U	U→E	U→U
Denmark	-0.049	-0.443	0.661	-0.002	-0.010	-0.584	0.679	0.031
Netherlands	-0.019	-0.682	0.756	0.037	0.026	-0.527	0.690	0.015
Belgium	-0.026	-1.030	1.810	0.122	0.000	-0.682	0.888	0.014
France	-0.037	-1.268	1.793	0.164	0.009	-0.529	0.860	0.073
Ireland	-0.022	-1.277	1.580	0.142	0.071	-0.755	1.135	0.069
Italy	-0.024	-1.221	1.427	0.024	0.011	-0.763	0.920	0.049
Greece	0.002	-1.084	1.166	-0.022	0.068	-0.595	0.725	-0.001
Spain	-0.024	-1.195	1.563	-0.038	0.033	-0.486	0.917	-0.021
Portugal	-0.003	-1.484	1.590	-0.025	0.018	-0.716	0.771	-0.046
Austria	-0.014	-1.375	1.800	0.030	0.005	-0.885	1.005	0.010
Finland	-0.042	-1.149	1.587	0.081	0.060	-0.583	1.027	0.048
Total	-0.024	-1.144	1.426	0.042	0.024	-0.608	0.845	0.022
	Housing				Leisure time			
	E→E	E→U	U→E	U→U	E→E	E→U	U→E	U→U
Denmark	-0.009	0.067	-0.071	-0.026	-0.020	0.694	-0.569	-0.063
Netherlands	0.008	0.081	-0.101	-0.029	-0.020	0.577	-0.318	0.015
Belgium	0.005	0.185	-0.048	-0.053	-0.008	0.714	-0.726	-0.070
France	0.015	0.011	0.029	0.028	0.008	0.475	-0.554	-0.051
Ireland	0.000	-0.090	-0.036	0.007	-0.003	0.130	-0.321	0.130
Italy	0.000	-0.094	0.136	0.017	-0.028	0.667	-0.687	-0.018
Greece	-0.009	-0.149	-0.018	-0.045	-0.034	0.700	-0.900	-0.099
Spain	0.023	0.030	0.025	0.008	0.014	0.816	-0.783	-0.043
Portugal	0.020	-0.041	0.143	-0.007	-0.010	0.205	-0.207	-0.018
Austria	0.007	-0.072	0.195	0.020	-0.019	0.791	-0.626	0.050
Finland	0.008	0.081	0.050	0.003	-0.032	0.652	-0.604	0.018
Total	0.007	-0.004	0.029	-0.005	-0.014	0.617	-0.614	-0.027
	Health				Number of observations			
	E→E	E→U	U→E	U→U	E→E	E→U	U→E	U→U
Denmark	-0.046	-0.033	-0.046	-0.121	12,051	331	415	423
Netherlands	-0.025	-0.157	0.071	-0.037	21,728	356	506	1,583
Belgium	-0.023	0.015	0.012	-0.010	13,243	261	251	1,177
France	-0.045	0.005	-0.084	-0.042	26,838	740	767	1,834
Ireland	-0.019	-0.158	-0.011	-0.048	9,673	203	279	790
Italy	-0.008	-0.065	0.040	-0.012	24,992	588	823	2,731
Greece	0.015	0.002	0.085	0.022	11,879	486	614	1,084
Spain	-0.018	0.016	0.009	-0.034	18,834	1,205	1,440	2,233
Portugal	-0.039	-0.130	-0.037	-0.057	18,804	509	522	727
Austria	-0.020	-0.122	0.174	0.027	11,101	263	195	299
Finland	-0.042	0.020	-0.070	-0.010	10,825	326	492	668
Total	-0.027	-0.052	0.030	-0.031	179,968	5,268	6,304	13,549

Source: ECHP (1994-2001).

In Table 3, we compare the effects of unemployment between pooled cross-section data and panel data estimates, including other control variables. The control variables include age, gender, marital status, health status, housing tenure, housing cost, household income, unemployment rate, and country and time dummies.<sup>5</sup>

Controlling unobserved time-constant individual heterogeneity slightly reduces the effects of unemployment in all life domains. The change is largest in health: the substantial negative effect of unemployment in the cross-section estimation becomes almost negligible in the panel estimation, suggesting that less healthy persons are more likely to become or stay unemployed than healthier ones. Nevertheless, the effect of unemployment on individuals' satisfaction with their main activity and financial situation is still significant and negative while it remains strong and positive on the satisfaction with leisure time.

*Table 3. Cross-section versus panel effect of unemployment (for employed persons)*

Satisfaction with	Cross-section (N*T=438,302)	Panel (N=82,329;N*T=422,350)
Main activity	-1.39 (193)	-1.14 (139)
Financial situation	-0.76 (111)	-0.62 (76.5)
Housing situation	-0.04 (6.79)	-0.01 (1.87)
Leisure time	0.59 (73.6)	0.58 (61.5)
Health status	-0.11 (24.5)	-0.03 (5.71)

*Note:* Also included are age, gender, education, marital status, health, social interaction, housing tenure, housing cost, unemployment rate, household income, and country and time dummies.

*Source:* ECHP (1994-2001).

## 5. Determinants of well-being among the unemployed

Now, given the clear evidence that unemployment substantially reduces satisfaction levels with main vocational activity, finance, housing and health, and significantly increases the satisfaction level with leisure time, we examine the individual and social factors that affect satisfaction levels *among the unemployed*.

As for the individual characteristics, we include age, gender, education and marital status. There is ample evidence of the negative impact of age on health. With respect to the domain satisfaction, we have no theoretical hypothesis. If we consider the evidence that job satisfaction decreases until the ages of around 40 and increases thereafter (Blanchflower & Oswald, 2004), we might expect the opposite in the case of the unemployed. With respect to gender, we expect unemployed men to declare higher dissatisfaction with their main vocational activity and income than unemployed women owing to their greater market participation and greater financial responsibility on average. Similar reasoning may apply to married partners versus single persons although married persons may feel less pressure when unemployed if his or her spouse is employed. All studies of life and job satisfaction find health to be one of the most important determinants. We include health status as an additional explanatory variable in the regressions of satisfaction. Although there is a possibility of endogeneity in that those who are less satisfied in life domains are more likely to become ill and less healthy, we believe the causality link from health to satisfaction to be much stronger than the other way around.

<sup>5</sup> We run OLS regressions. One important disadvantage of the OLS is its assumption of cardinality of the dependent variable. Nevertheless, ordered probit results were very similar to those of the OLS. For interpretation convenience we report the OLS results.

We can distinguish three kinds of reasons for being unemployed: quitting, being laid off and other reasons. Unfortunately, the proportion of those who quit in our sample is very low (less than 1%) since they usually have very short spells of unemployment or none. We expect those who are laid off suffer more from unemployment. Unemployment benefit increases the satisfaction level among the unemployed as it fills a temporary income drop from job loss. The magnitude of the effect will depend on the replacement rate and the duration of entitlement. Obviously, its effect should be felt most strongly in financial satisfaction.

Expectation also plays an important role in determining unemployed workers' emotional satisfaction. For example, how unemployed workers feel about their misfortune depends on their job prospects in the future. Those who think it is easy to find another job tend not to feel as miserable as those who see little chance of receiving a decent job offer in the future. To this effect, the ECHP provides the question, "How good or bad do you think are your chances of finding the kind of job you are looking for within the next 12 months?". Further, there is a question asking if the respondent had received any offers during the last four weeks. We use this variable as another proxy for job offer prospects.

Social relations help to ease the pain and stress of unemployment. The ECHP includes three variables regarding the intensity of social interaction with relatives, neighbours and friends. The first variable (*club*) asks the respondents if they are affiliated with any sports or social clubs. The second (*chat*) asks the frequency of conversation with neighbours and friends and the third (*see*) asks the frequency of seeing relatives. We expect that all of these three variables have positive effects on the satisfaction level, especially in the domains of main vocational activity, leisure and health.

Household economic situation is included by using two variables. The first is household monthly income adjusted according to the OECD equivalent scale. The higher one's income is the higher their satisfaction level is generally and particularly with his or her financial situation. The second variable captures the financial burden of housing costs either from rent or from mortgage payments. We include the ratio of the burden to household income. We expect the higher the ratio, the lower the satisfaction levels are with financial and housing situations.

Local unemployment rates could affect the satisfaction level of the unemployed person either positively – since those living in higher unemployment regions may feel less stigma and pressure – or negatively, since higher local unemployment rates may represent poorer future job prospects. Country dummy variables capture country-fixed effects net of included individual characteristics. Meanwhile, the year dummy variable captures temporal macroeconomic effects common to all countries.

## 5.1 Results: Cross-section versus panel results

In Table 4 we examine the factors that affect the well-being of the unemployed. Although the cross-section estimation uses the pooled cross-section sample of any periods of unemployment, the panel data estimation uses only those who are observed as unemployed at multiple waves of the survey, which is the main reason why the sample size reduces substantially in the panel estimation. While the panel-data estimation controls for fixed individual effects, the requirement that individuals have to have been unemployed at least twice (at the time of the survey) restricts the sample to those who are very prone to

unemployment. Therefore, the panel-data sample may be drastically different from the cross-section sample.<sup>6</sup> This difference has to be considered when interpreting the results.

*Table 4. Determinants of well-being among the unemployed  
Cross-section (N\*T=12,019) versus panel data (N=2854, N\*T=7814)*

	Main activity		Finance		Housing		Leisure		Health	
	C-S	Panel	C-S	Panel	C-S	Panel	C-S	Panel	C-S	Panel
Age	0.00	<b>0.06</b>	0.00	<b>0.06</b>	<b>0.01</b>	0.01	0.00	-0.03	<b>-0.02</b>	0.00
Men	<b>-0.47</b>	–	<b>-0.36</b>	–	<b>-0.08</b>	–	<b>0.14</b>	–	<b>0.04</b>	–
Education (re: low)										
Middle	<b>-0.16</b>	–	-0.03	–	<b>0.07</b>	–	-0.05	–	<b>0.15</b>	–
High	<b>-0.17</b>	–	-0.03	–	<b>0.08</b>	–	<b>-0.09</b>	–	<b>0.18</b>	–
Marital Status (re: single)										
Married	<b>0.13</b>	-0.16	<b>0.37</b>	0.23	-0.03	-0.28	<b>-0.26</b>	<b>-0.46</b>	<b>0.04</b>	-0.10
Divorced	<b>-0.17</b>	<b>-0.62</b>	<b>-0.11</b>	-0.18	<b>-0.15</b>	-0.26	<b>-0.36</b>	0.30	-0.04	<b>-0.29</b>
Widowed	-0.20	-0.24	-0.05	-0.18	0.04	-0.63	-0.21	-0.17	-0.08	0.33
Health (re: very bad)										
Very good	<b>0.51</b>	0.12	<b>0.41</b>	-0.07	<b>0.53</b>	<b>0.33</b>	<b>1.08</b>	<b>0.48</b>	–	–
Good	<b>0.36</b>	0.04	<b>0.31</b>	-0.14	<b>0.27</b>	0.18	<b>0.80</b>	0.31	–	–
Fair	<b>0.27</b>	0.04	0.18	-0.14	0.10	0.03	<b>0.64</b>	0.16	–	–
Bad	0.17	-0.12	0.05	<b>-0.32</b>	-0.02	-0.17	<b>0.61</b>	0.27	–	–
UB yes	<b>0.07</b>	-0.01	<b>0.14</b>	<b>0.14</b>	0.04	0.05	0.04	0.07	-0.01	-0.04
Job prospect (re: very bad)										
Good	<b>0.52</b>	<b>0.30</b>	<b>0.44</b>	<b>0.37</b>	<b>0.15</b>	<b>0.12</b>	<b>0.11</b>	0.01	<b>0.19</b>	0.06
Fair	<b>0.31</b>	<b>0.20</b>	<b>0.33</b>	<b>0.21</b>	<b>0.15</b>	0.04	0.04	0.00	<b>0.12</b>	0.03
Bad	<b>0.12</b>	0.06	<b>0.17</b>	<b>0.11</b>	0.03	0.02	0.00	-0.06	<b>0.05</b>	0.00
Offer yes	<b>0.10</b>	<b>0.20</b>	-0.04	-0.01	-0.05	<b>-0.12</b>	<b>-0.10</b>	<b>-0.16</b>	-0.02	0.03
Social Interaction (re: no)										
Club yes	0.05	0.03	<b>0.06</b>	<b>0.09</b>	0.01	0.08	<b>0.13</b>	0.01	<b>0.06</b>	0.03
Chat yes	<b>0.10</b>	0.03	<b>0.15</b>	0.04	<b>0.18</b>	<b>0.16</b>	0.06	<b>0.15</b>	<b>0.08</b>	0.04
See yes	<b>0.09</b>	0.03	<b>0.07</b>	0.06	<b>0.09</b>	0.01	<b>0.19</b>	0.01	<b>0.12</b>	<b>0.14</b>
Housing Tenure (re: owner without mortgage)										
Own-mort.	<b>0.17</b>	0.00	0.10	0.11	<b>-0.18</b>	0.01	-0.01	-0.07	0.04	-0.07
Renter	<b>0.14</b>	0.02	-0.03	-0.05	<b>-0.99</b>	<b>-0.69</b>	<b>-0.18</b>	-0.17	-0.04	0.02
Others	-0.07	0.19	<b>-0.12</b>	-0.12	<b>-0.59</b>	<b>-0.35</b>	<b>-0.16</b>	-0.10	0.00	0.06
Layoff	<b>-0.12</b>	-0.02	<b>-0.06</b>	0.00	0.02	0.09	0.02	0.10	0.01	0.01
Housing cost	<b>-0.07</b>	0.01	<b>-0.06</b>	-0.05	<b>0.13</b>	0.07	-0.01	0.01	-0.01	0.01
HH income	<b>0.13</b>	<b>0.17</b>	<b>0.44</b>	<b>0.29</b>	<b>0.37</b>	0.05	<b>0.20</b>	0.09	<b>0.08</b>	0.01
Un. Duration	<b>-0.05</b>	<b>-0.04</b>	<b>-0.04</b>	<b>-0.05</b>	0.01	-0.01	0.00	-0.01	0.00	-0.01
Unemp. Rate	0.11	0.27	<b>0.21</b>	<b>0.30</b>	-0.08	-0.18	<b>-0.34</b>	<b>-0.44</b>	<b>0.25</b>	0.16
R-squared	0.19	0.02	0.26	0.05	0.19	0.03	0.10	0.01	0.18	0.01

*Note:* Those in bold face are significant at 5%. Housing cost, household income, unemployment rate and unemployment duration in months are all in logarithm. Also included in the regressions are age, gender, education, marital status, housing tenure, country dummies and time dummies.

*Source:* Authors' calculations based on ECHP data.

<sup>6</sup> The sample means for the two groups are shown in Appendix A.1. Those who are dropped in the panel estimation (those who are observed as unemployed only once) are significantly different from those who are included in both. The former were younger, with higher levels of education, in better health, with better job prospects, higher income and shorter unemployment durations than the latter.

In the panel-data estimation we estimate the impact of changes in each variable on the changes in the satisfaction levels and health status of individuals while controlling for fixed individual effects. We do this by estimating well-being equations using the deviations from the mean as the dependent variable. Therefore, those variables that do not vary over time – such as gender, education and country of residence – are dropped from the panel-data estimation.

In general, the explanatory power of the regressions (R-squared) and the precision of estimates are much smaller in the panel-data estimation than in the cross-section regressions. Although the signs are in general the same among the different estimations, the magnitudes and statistical significance vary considerably for some variables.

*Age and gender.* Age in general has a small or no effect on individuals' satisfaction in all domains in the cross-section, but in the panel estimation it has a significant positive effect on the satisfaction levels with main vocational activity and finance and a negative effect on health. By gender, men declare substantially lower satisfaction levels with respect to main activity and finance supporting the hypothesis of stronger labour market attachment, higher opportunity costs and greater financial responsibility among men. On the other hand, men enjoy higher satisfaction levels with leisure time and health than women, which suggests that unemployed women dedicate more time on non-leisure activities than unemployed men do as found in Ahn et al. (2004).

*Education.* Unemployed workers with higher education levels declare lower satisfaction rates with respect to their main vocational activity and leisure but declare better health than those with less education. Better health among the higher educated is consistent with previous findings (Ahn, 2002). Lower satisfaction levels with respect to leisure and main activity among the higher educated may reflect higher opportunity costs and a greater stigma of unemployment.

*Marital status.* Married unemployed workers declare substantially higher satisfaction levels with respect to their main vocational activity and finance than single persons, suggesting alternative income sources among the married. Thus marriage seems to serve as a form of income-protection among the unemployed. Lower satisfaction levels with respect to leisure time as declared by married unemployed workers suggest their increased domestic activities compared with singles.

*Health.* Health stands out as one of the most important factors in determining satisfaction levels in all four domains in the cross-section estimation. In the panel estimation, the effect, although the results are maintained, is substantially reduced. Without a doubt, healthier persons are much more satisfied in all domains of life. Its effect is largest in the satisfaction with leisure. Those in very good health enjoy about 0.5 points higher levels of satisfaction with leisure time than those in very bad health.

*Unemployment benefits.* This variable is included in the dichotomous category – whether receiving any unemployment benefits or not – owing to data availability. The receivers declare higher satisfaction levels with their financial situation than those who do not receive them, but the effect is modest. On other domains there are no effects.

*Job prospects.* Labour market expectations are important. Those who consider themselves to have good job prospects declare about 0.3-0.5 points higher satisfaction levels with respect to their main activity and financial situation than those who feel they have very poor job prospects. In general, better job prospects are also associated with higher levels of satisfaction in all other domains, although it is only significant in the cross-section estimation. On the

other hand, it is notable that previous job offers positively affect the satisfaction levels with main vocational activity but negatively affect individual satisfaction levels with leisure time.

*Social relations.* As hypothesised earlier, those who are affiliated with some sports or social club, or who have higher frequencies of conversing or seeing neighbours, friends or relatives declare higher satisfaction and better health. Yet there are some possibilities of reverse causation in these variables. That is, those who have a joyful and optimistic nature are likely to relate more with others. There are similar results with respect to health. With regard to the positive effect of club affiliation on the satisfaction level with financial situation, a reverse causation is likely as those who have a greater purchasing power are more likely to be able to afford club membership.

*Housing.* As expected, housing ownership mostly affects the satisfaction level with respect to housing situation. Those who are owners without any mortgage pending are most satisfied and renters are least satisfied with their housing situation. The financial burden of housing costs somewhat reduces the satisfaction level with finance but increases the satisfaction with housing condition. This might suggest that a higher financial burden relates to a better quality house as household income is included in the regression.

*Quits versus layoffs.* Those who quit (usually seeking better jobs) are more likely to find jobs faster and suffer less during the spells of unemployment. As our sample includes only those who were unemployed at the time of survey (stock sample), we have very few (less than 1%) unemployed workers who quit to find a better one. Therefore, in our sample most of the quitters are those who left their previous job for family reasons. We find that those who are laid off are worse off with respect to satisfaction with their main activity, but only in the cross-section estimation.

*Household income.* Higher household income increases satisfaction levels in all domains of life. As expected the effect is largest in the domains of finance and housing. The panel effect is larger than the cross-section effect in the domain of main vocational activity but smaller in other domains. For example, a 100% increase in income raises financial satisfaction by 0.29-0.44 points and satisfaction with main activity by about 0.15.

*Unemployment duration.* The length of unemployment affects individual satisfaction levels negatively in the domains of main activity and financial situation in both estimations. For example, doubling the unemployment duration reduces the satisfaction level in both domains by only about 0.05 points. Nevertheless, this effect might be underestimated owing to a selection bias wherein those who would suffer more from lengthening unemployment are likely to exit faster. The negative effect contradicts the theory of adaptation, but is consistent with the hypothesis that lengthening unemployment aggravates financial and emotional deprivations.

*Local unemployment rate.* Country- and year-specific unemployment rates have no significant effect on individual satisfaction levels with respect to their main vocational activity or housing. It has a significant positive effect however on the satisfaction with finance and health, but a significant negative effect on the satisfaction with leisure time. The lack of effect on main vocational activity does not support either the hypothesis that unemployed persons living regions with higher unemployment feel less pressure or the hypothesis that higher local unemployment rates represent poorer future job prospects and thus lower satisfaction. The substantial negative effect on the satisfaction with leisure time (or positive effect on finance and health) is not readily explicable and remains to be explored further. Finally, in interpreting the results one has to consider that there is some correlation between the local

unemployment rate and job prospects (i.e. lower unemployment rates mean better job prospects). Interpreting the effect of job prospects and local unemployment rates together, we can say that the better the local labour market situation, the more satisfied (or less desperate) are the unemployed.

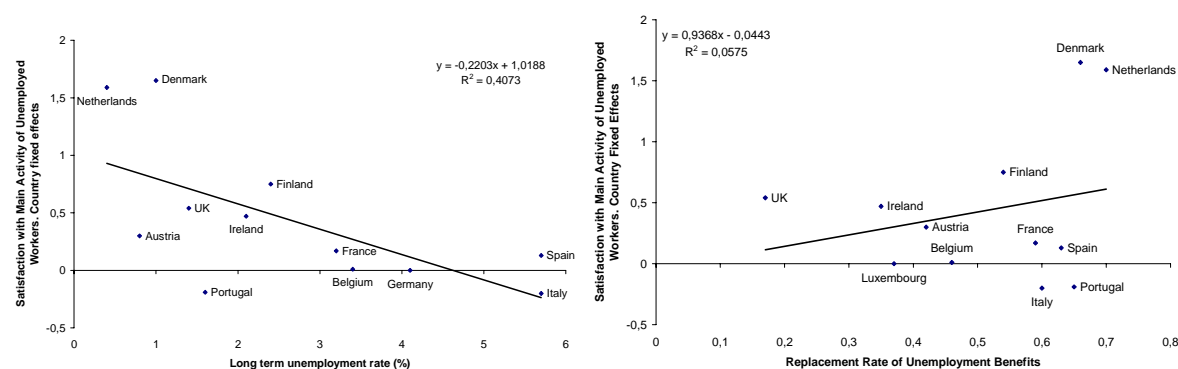
## 6. Cross-country differences in the effect of unemployment

In our regressions, despite controlling for variables related to the hardships of unemployment and an individual's perceptions about future prospects, there are significant cross-country differences regarding the impact of unemployment on individual satisfaction. Conceivably, these differences reflect individual perceptions based on the aggregate state of the labour market and, in particular, on the labour market institutions designed to protect the unemployed.<sup>7</sup>

There is extensive literature on the effects of labour market institutions on unemployment. This literature makes available some indicators about labour market institutions that are typically used to characterise the 'generosity' and 'strictness' of labour market legislation. In what follows we relate several indicators of labour market institutions and the country-fixed effects that we have found in the regression on the satisfaction of unemployed workers with their main vocational activity. As for the country-fixed effects, we choose those estimated by OLS in the pooled cross-section regarding satisfaction levels with main vocational activity (see Table A.2). The cross-country coefficients of correlation between these estimates, on the one hand, and the corresponding average satisfaction (presented in the column Un. of Table 1) and the country-fixed effects on the other hand (presented in the column E→U of Table 2) are, respectively, 0.921 and 0.817. The indicators of labour market institutions are taken from Nickell et al. (2001), which are the 1995-99 averages of the long-term unemployment rate (more than one year), the replacement rate and duration of unemployment benefits, and the expenditure on active labour market policies as a percentage of GDP.

As seen in Figures 1a and 1b, there is some correlation between the satisfaction of the unemployed and the aggregate nature of the labour market. First, in countries where the long-term unemployment rate is higher, the satisfaction of the unemployed is lower. In countries where unemployment benefits are more generous, as indicated by replacement rates and duration, the satisfaction of the unemployed is higher.

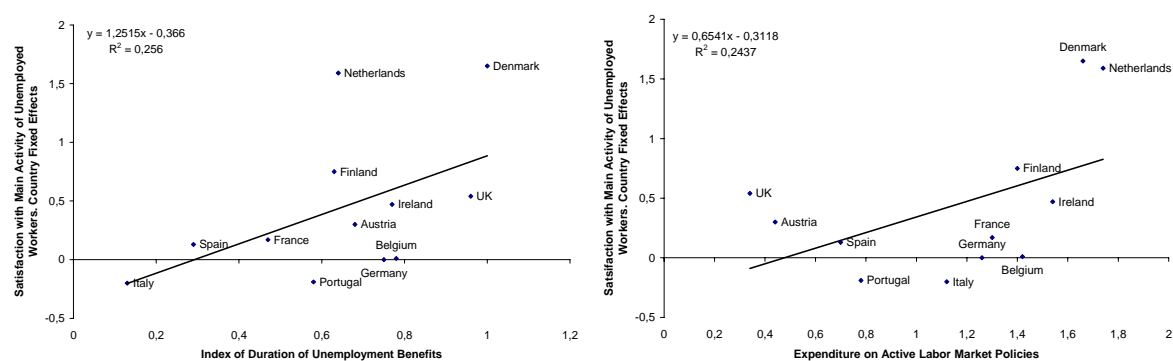
Figure 1a. Satisfaction of unemployed workers with labour market institutions – long-term unemployment rate and replacement rate of unemployment benefits



<sup>7</sup> It is also likely, however, that these institutions are designed to be more generous in those countries where the costs of unemployment are perceived to be higher. In this case, the causation will run the other way around.



Figure 1b. Satisfaction of unemployed workers with labour market institutions – duration of unemployment benefits and expenditure on active labour market policies



Similarly, there is a positive correlation across countries between expenditure on active labour market policies and the satisfaction of the unemployed with their main activity. Hence, there seems to be an indication that cross-country differences in the satisfaction of the unemployed are related to the functioning of the labour market and institutions, in particular those regarding the unemployment protection system.

## 7. Conclusions

One of the most damaging individual experiences among the working-age population is unemployment. Many previous studies have confirmed the devastating effects of unemployment on individual well-being. Using the data from the ECHP survey we have examined the factors that affect the well-being (satisfaction) of unemployed persons in the EU with respect to their occupations, income, housing, leisure time and health.

Unemployment substantially reduces an individual's satisfaction levels with his or her main activities and finance, while it substantially increases his or her satisfaction level with leisure time. With respect to health, it has a small negative effect. Unemployment duration, on the other hand, shows a small negative effect on individual well-being, suggesting that unemployment has lasting and aggravating effects that contradict the theory of adaptation.

Three other results are worth mentioning. First, there are large cross-country differences in the impact of unemployment on individual well-being. Fewer and less significant effects of unemployment are observed in Denmark and the Netherlands than in other countries. This difference seems to be the result of variations in the regulations and functioning of the labour market. In these two countries where the unemployment rate is lower, the spells are shorter and unemployment protection (unemployment benefits and active labour market policies) is greater. Second, with respect to methodology, there are small differences in the effects of unemployment incidence (compared with employed persons) but considerable differences in the estimation of the well-being determinants between the cross-section and the panel estimates among the sample of unemployed persons. Yet before we discard the cross-section results, we have to consider that the panel estimation sample includes only those who are observed as unemployed in multiple periods of the survey, which creates a sample of those who are very prone to unemployment and not representative of overall unemployed workers. Finally, among the unemployed, non-pecuniary factors, such as job prospects, health and social relations show a significant impact on individual well-being, along with household income. In particular, better job prospects greatly increases the satisfaction levels in all domains of life.

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## Appendix

Table A.1. Sample means of the unemployed (Table 4)

Variable	Those who are dropped in panel estimation (N=4205)		Those included in both estimation (N=7814)	
	Mean	Std. dev.	Mean	Std. dev.
Satisfaction with				
Main activity	2.39	1.54	2.19	1.45
Financial situation	2.29	1.28	2.08	1.22
Housing situation	4.19	1.41	4.00	1.41
Leisure time	4.39	1.43	4.40	1.38
Health status	4.02	0.84	3.93	0.86
Age	35.55	8.78	36.79	8.46
Men	0.48	0.50	0.53	0.50
Education level				
High	0.18	0.38	0.13	0.34
Middle	0.34	0.48	0.32	0.47
Low	0.48	0.50	0.55	0.50
Marital status				
Single	0.38	0.48	0.43	0.50
Married	0.53	0.50	0.48	0.50
Divorced	0.08	0.27	0.08	0.27
Widowed	0.01	0.11	0.01	0.10
Health status				
Very good	0.31	0.46	0.26	0.44
Good	0.45	0.50	0.48	0.50
Fair	0.19	0.40	0.21	0.41
Bad	0.03	0.18	0.04	0.20
Very bad	0.01	0.09	0.01	0.11
UB yes	0.49	0.50	0.45	0.50
Job prospect				
Good	0.15	0.35	0.07	0.26
Fair	0.25	0.43	0.21	0.41
Bad	0.35	0.48	0.41	0.49
Very bad	0.25	0.43	0.31	0.46
Social interaction				
Club yes	0.25	0.43	0.22	0.41
Chat yes	0.79	0.40	0.80	0.40
See yes	0.84	0.37	0.83	0.37
Housing tenure				
Own w/o mortgage				
Own w/mortgage	0.25	0.44	0.19	0.39
Renter	0.31	0.46	0.31	0.46
Others	0.05	0.23	0.05	0.23
Layoff	0.58	0.49	0.57	0.49
Ln (housing cost)	1.70	1.64	1.49	1.62
Ln (HH income)	6.15	0.68	6.00	0.66
Ln (unemp. rate)	2.36	0.38	2.41	0.34
Ln (unemp. dur.)	2.03	1.08	2.69	1.15

Table A.2. OLS regression of satisfaction and health of unemployed workers

Data: Pooled cross-section of ECHP (1994-2001)

	Sample mean	Main activity		Finance		Housing		Leisure time		Health	
		Coef,	t	Coef,	t	Coef,	t	Coef,	t	Coef,	t
Age	36	0,01	0,64	-0,01	1,50	-0,03	3,32	-0,08	7,96	-0,03	4,92
Age-sq.	1375	0,00	0,4	0,00	1,71	0,00	4,43	0,00	8,52	0,00	1,24
Men	0,47	-0,44	23,52	-0,35	22,83	-0,11	6,04	0,12	6,50	0,03	2,78
Education (re: low)											
Middle	0,33	-0,13	6,22	-0,03	1,48	0,06	3,23	-0,05	2,29	0,12	10,37
High	0,16	-0,14	5,05	-0,02	1,01	0,07	2,79	-0,11	4,06	0,17	11,16
Marital status (re: single)											
Married	0,50	0,20	9,19	0,41	22,77	0,02	1,03	-0,26	11,88	0,05	3,75
Divorced	0,08	-0,13	3,5	-0,14	4,77	-0,10	2,90	-0,26	7,38	-0,05	2,25
Widowed	0,01	-0,08	0,92	0,04	0,60	0,08	1,08	-0,21	2,52	-0,05	1,01
Health (re: very bad)											
Very good	0,27	0,54	5,75	0,38	4,93	0,50	5,63	0,95	10,15	–	–
Good	0,48	0,44	4,73	0,29	3,84	0,25	2,88	0,69	7,45	–	–
Fair	0,20	0,34	3,62	0,15	1,95	0,08	0,93	0,52	5,62	–	–
Bad	0,04	0,23	2,31	0,06	0,74	-0,01	0,13	0,48	4,76	–	–
UB yes	0,41	0,03	1,37	0,08	4,23	0,02	1,08	0,00	0,06	0,02	1,67
Job prospect (re: very bad)											
Good	0,12	0,56	17	0,48	17,76	0,22	6,96	0,14	4,30	0,20	10,60
Fair	0,23	0,30	11,86	0,32	15,69	0,15	6,19	0,06	2,52	0,12	8,22
Bad	0,38	0,12	5,7	0,18	10,08	0,05	2,26	0,02	1,02	0,04	3,19
Offer yes	0,08	0,07	2,09	0,00	0,09	0,01	0,21	-0,04	1,14	-0,05	2,55
Club yes	0,23	0,07	3,27	0,05	3,02	0,06	2,98	0,12	5,77	0,06	4,72
Chat yes	0,80	0,06	2,54	0,12	6,35	0,13	6,01	0,05	2,10	0,06	4,75
See yes	0,84	0,09	3,55	0,06	3,09	0,10	4,37	0,20	7,87	0,08	5,94
Housing tenure (re: owner without mortgage)											
Own-mort	0,22	0,05	0,94	0,14	3,54	-0,24	5,36	-0,05	1,03	0,05	1,97
Renter	0,32	0,02	0,41	-0,06	1,63	-0,99	22,14	-0,19	3,97	-0,02	0,86
Others	0,05	0,01	0,26	-0,08	2,37	-0,55	14,42	-0,12	3,00	0,00	0,06
Reason for being unemployed (last job lost less than two years ago; re: quit)											
Layoff	0,54	0,12	5,04	-0,08	4,10	0,02	0,80	0,05	2,07	0,09	6,73
Others	0,29	-0,02	0,77	-0,03	1,37	-0,04	1,28	0,02	0,61	0,12	6,73
House cost	1,64	-0,03	2,34	-0,06	5,18	0,14	10,66	0,01	0,67	-0,01	1,63
Income	6,08	0,17	10,14	0,46	34,03	0,36	23,13	0,18	10,74	0,06	6,60
Un duration	-0,03	-0,05	4,69	-0,04	3,82	-0,01	1,08	0,00	0,29	-0,1	0,91
Unemp.rate	2,32	0,12	1,64	0,07	1,28	-0,10	1,47	-0,30	4,38	0,21	5,26
Country (re: Germany)											
Denmark	0,05	1,65	23,61	0,83	14,50	-0,01	0,20	0,04	0,64	0,42	10,65
Netherlands	0,05	1,59	21,06	1,12	18,15	0,25	3,51	-0,26	3,47	0,22	5,19
Belgium	0,04	0,01	0,14	0,21	3,62	0,01	0,15	0,11	1,50	0,09	2,23
France	0,11	0,17	2,58	0,03	0,46	0,09	1,46	0,05	0,73	-0,07	1,94

UK	0,03	0,54	7,04	0,09	1,37	-0,19	2,57	-0,39	5,07	0,31	7,05
Ireland	0,04	0,47	6,41	-0,20	3,39	-0,04	0,64	-0,42	5,79	0,43	10,36
Italy	0,20	-0,20	2,95	-0,16	2,89	-0,44	6,81	-0,36	5,29	0,12	2,94
Greece	0,10	-0,16	2,41	-0,11	2,04	-0,58	9,00	-0,25	3,73	0,73	18,96
Spain	0,22	0,13	1,59	-0,14	2,07	-0,09	1,18	-0,31	3,86	0,11	2,35
Portugal	0,06	-0,19	2,65	0,07	1,19	-0,29	4,39	-0,55	7,88	-0,11	2,83
Austria	0,02	0,30	3,38	0,01	0,13	0,01	0,08	0,18	2,01	0,22	4,26
Finland	0,06	0,75	10,2	0,27	4,43	0,04	0,60	0,39	5,30	0,04	0,99
Year (re: 1994)											
1995	0,16	-0,13	4,19	-0,01	0,36	0,05	1,89	0,04	1,48	0,05	2,74
1996	0,16	-0,10	3,3	-0,01	0,22	0,03	1,05	-0,03	0,95	0,02	1,27
1997	0,12	0,00	0,1	0,07	2,68	0,05	1,58	-0,02	0,61	0,04	1,82
1998	0,11	0,07	2,04	0,16	5,55	0,06	1,88	-0,03	0,93	0,02	0,84
1999	0,10	0,09	2,39	0,16	5,15	0,01	0,27	-0,14	3,57	0,03	1,55
2000	0,09	0,18	4,07	0,25	7,01	-0,01	0,32	-0,20	4,74	0,06	2,63
2001	0,08	0,19	4,05	0,24	6,18	0,00	0,01	-0,21	4,45	0,07	2,43
Constant		0,10	0,34	-1,26	5,31	2,29	8,27	4,89	16,89	3,54	22,32
R-squared	–	0,219		0,29		0,18		0,09		0,18	–
Obs.	24,659	24,659		24,659		24,659		24,659		24,659	–

Note: Housing cost, household income, unemployment rate and unemployment duration in months are all in logarithm.

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