

Boon or Bane? Well-being, Others' Unemployment, and Labor-Market Risk

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Abstract

Unemployment produces negative externalities, in addition to the direct effect on those who lose their jobs. It is suggested that aggregate unemployment reduces the well-being of the employed, but has a far smaller, or even null or positive effect on the unemployed. This latter is suggested to reflect a social norm in labor market status. We use long-run German panel data to reproduce this standard result, but then suggest that the appropriate distinction may not be between employment and unemployment, but rather between higher and lower levels of labor-market risk, measured as job security for the employed, and ease of finding a new job for the unemployed. The good-prospects group, both employed and unemployed, are strongly negatively affected by regional unemployment. However, the insecure employed and the poor-prospect unemployed are less negatively, or even positively, affected by aggregate unemployment. This distinction may be important in existing labor-market models.

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1. Introduction

Unemployment is widely considered to be one of the strongest correlates of individual well-being. Losing a job is not only associated with a significant drop in income, but also in the non-pecuniary benefits associated with work. These latter might well include a loss in social status, fewer contacts with people outside the family, a weaker time structure leading to motivational disorientation, and a general lack of sense of purpose and goals in life. In the well-being literature, these non-pecuniary effects are often considered to be more important than the loss of income in and of itself, in that the “compensating differential” for unemployment (the rise in income that would make the unemployed just as happy as the employed) is typically an order of magnitude larger than the actual observed difference in income between the employed and the unemployed.

While a number of papers have traced out the link between own unemployment and own well-being, a separate literature has underlined the relationship between an individual’s unemployment and the well-being of others in the same family, neighborhood, or community. At a fairly broad level, the novel work on the macroeconomics of happiness has shown that individual well-being is related to aggregate macroeconomic variables such as the unemployment rate, inflation, and the interest rate (see Blanchflower, 2007, and Di Tella *et al.*, 2001). The estimated coefficients on these aggregate variables can be used to construct sacrifice ratios.

The macro literature calculates an average effect of unemployment or inflation, say, across all individuals in a region or a country. It is also of interest to see if different groups have different reactions. In this context, a number of papers have distinguished between the effect of aggregate unemployment on the employed and the unemployed. Aggregate unemployment is commonly found to be associated with lower levels of well-being amongst the employed. Perhaps the most obvious relationship is with the individual’s own perception of job insecurity: bad news for others makes me feel more afraid for myself. Job insecurity is only one of the characteristics of a job, but it is obviously contextual in the sense that it is heavily influenced by what happens to others; it is also considered to be one of the most important of the job domains (see Clark, 2001). Other channels of influence that have been emphasized in the psychological literature include the feelings of guilt experienced by those remaining employed during periods of layoffs, and individuals staying in psychically distressing jobs that they would otherwise likely have quit were labor market conditions to be better.

The effect of aggregate unemployment on the unemployed is arguably more contentious. Higher levels of unemployment reduce the chances of a given unemployed person of leaving unemployment, absent some kind of powerful thick market externality, which makes their future prospects greyer. On the other hand, the unemployed may benefit from a “social norm effect”: with more people being unemployed, one’s own unemployment is a smaller deviation from the social norm than it would have been in a community with a lower unemployment rate. Clark (2003) finds, using British Household Panel Survey (BHPS) data, that regional

unemployment reduces the well-being of the employed, but that there is a social norm effect for the unemployed. The unemployed have higher levels of well-being in regions with higher unemployment rates. A weaker type of social norm effect has been found by Shields and Wheatley Price (2005) for the UK, Shields *et al.* (2008) for Australia, and Powdthavee (2007) for South Africa. In all of these studies, the effect of higher regional unemployment is greater for the employed than for the unemployed. This distinction has also been found in related work on suicides and para-suicides by the unemployed, which have been shown to be more prevalent in low-unemployment regions (Platt and Kreitman, 1990, and Platt *et al.*, 1992).

This evidence is consistent with the existence of social norms in the labor market. In this paper, we attempt to shed some more light on the social norm effect of unemployment by questioning the assumption that the appropriate cleavage is between the employed and the unemployed. We instead argue that a more appropriate distinction results from individuals' perceptions of labor market risk or attachment. Specifically, those with greater labor market risk are more susceptible to the social norm effect of unemployment.

Eisenberg and Lazarsfeld (1938) noted many years ago that individuals' perception of labor market risk and uncertainty is much more important for their well-being than actual labor force status:

“Just having a job itself is not as important as having a feeling of economic security. Those who are economically insecure, employed or unemployed, have a low morale.”

The perception of labor market risk (which we here pick up by self-reported job security for the employed and by the perceived probability of finding a new job for the unemployed) is an important determinant in and of itself of subjective well-being (Knabe and Rätzel, 2008). We here suggest that the dividing line for the social norm effect of others' unemployment does not run between the employed and the unemployed *per se*, but instead between those with lower and higher levels of labor market risk. The employed suffer from higher regional unemployment, but this negative effect weakens for those who feel that their jobs are less secure (if they become unemployed, they will conform more to the social norm). The unemployed also suffer from higher regional unemployment, with a weaker negative effect the less likely it is that the individual will return to employment (as, again, long-term unemployment becomes more “normal”).

The paper is structured as follows. In the next section, we provide an overview of the existing literature of the well-being effects of others' unemployment. Section 3 describes the data and the estimation methodology, and Section 4 contains the empirical results. The last section provides a summary and concludes.

2. Literature review

It is well-established in both social psychology and economics that own unemployment is amongst the most detrimental experiences for individual well-being. Eisenberg and Lazarsfeld (1938), using a descriptive method, were the first psychologists to examine the emotionally destructive effects of unemployment. They showed that job loss deprives individuals not only of their labor income, but also of the non-pecuniary benefits of work. These latter include the external imposition of a time structure on the working day, regularly-shared experiences and contact with people outside of the family, links to goals and purposes that transcend the individual, the definition of personal status and identity, and the enforcement of activity (Jahoda 1981, 1988). Unemployment is destructive mainly because it withdraws these latent functions from individuals.¹

More recent work in the economics literature on subjective well-being has produced overwhelming support for these findings. Clark and Oswald (1994), using the first wave of the BHPS, show that unemployment is associated with significantly lower mental well-being scores, as measured by the answers to twelve psychological functioning questions (the GHQ-12). Other social surveys, for example the German Socio-Economic Panel (GSOEP), contain direct information on life satisfaction. The GSOEP was used by Gerlach and Stephan (1996) and Winkelmann and Winkelmann (1995, 1998) who showed that unemployment reduces life satisfaction beyond what would be expected from the loss of labor income. Blanchflower and Oswald (2004) find similar results for Great Britain and the United States. Research using panel data has allowed some progress to be made in identifying causality. In particular, unemployment is still associated with lower well-being even when controls for individual fixed effects are introduced.

Research in social psychology has suggested that unemployment affects not only the mental well-being of those concerned, but also that of their families, colleagues, neighbors, and others who are in direct or indirect contact with them. Evidence on the negative intra-familial consequences of unemployment goes back at least to the Great Depression, when Oakley (1936) reported that the unemployment of German parents produced a drop in their children's school grades of two-thirds.² More recent work has found that children with unemployed fathers are at risk of socio-emotional problems, deviant behavior, and reduced aspirations and expectations (McLoyd, 1989). Unemployment is also harmful for the mental health of spouses. McKee and Bell (1986) underline the difficulties faced by spouses, typically the wives of unemployed men, in trying to cope with the partner's intrusive presence at home, supporting distressed partners and dealing with intra-family conflict. Jones and Fletcher (1993) provide further evidence that occupational stress and distress from unemployment can be transmitted between partners.

¹ Feather (1990) presents a comprehensive survey of the social psychology literature on the psychological impact of unemployment.

² More recent evidence for Dutch families is presented in Te Grotenhuis and Dronkers (1989).

At a broader level, unemployment may also affect the employed. One strand of the literature has considered the “survivors” – people who are left in organizations after their colleagues have been made redundant. Higher unemployment increases individuals’ perception of their own future unemployment prospects (and by more than the actuarial rise in risk). Cobb and Kasl (1977), Fryer and McKenna (1987, 1988), and De Witte (1999) have all emphasized that the anticipation of redundancy is at least as distressing for individuals as the experience of unemployment itself. Hartley *et al.* (1991), in their survey of a number of pieces of work on job insecurity, found that those with falling perceived job security also report severe uncertainty in other life areas, impaired mental health (as expressed by psychosomatic symptoms and depression), lower job satisfaction, reduced organizational commitment and trust in management, resistance to change and deteriorating industrial relations. Nelson *et al.* (1995) and Ferrie *et al.* (1995) present evidence from case studies in the UK in which formerly public organizations were privatized and parts of the workforce were made redundant. These privatizations increased the perceived job insecurity of employees and caused significant falls in their mental well-being. Dekker and Schaufeli (1995) present complementary evidence showing that, after it had become clear who would be laid off, those who knew that they would be made redundant experienced a rise in their well-being. This illustrates the harmful impact of job insecurity compared to actually becoming unemployed.

Even without an effect on job security, surrounding unemployment may still reduce employees’ well-being. Workers who see their coworkers becoming unemployed may suffer some psychological impact as well. Managers in firms where layoffs took place report that these had deleterious effects on the remaining workers’ productivity, morale and commitment to the firm (Brockner, 1988 and 1992). Survivors have feelings of guilt, show poor concentration and increasingly seek alternative employment (Noer, 1993). In addition, Cooper (1986) shows that occupational stress, which workers typically react to by changing jobs, increases with unemployment as individuals are more likely to be stuck in mentally-distressing jobs. Even professional groups whose job prospects are unaffected by general unemployment might suffer from adverse labor market conditions. Beale and Nethercott (1985) report anecdotal evidence that the workload of local physicians increases substantially after the closure of principal local employers due to increased consultations and outpatient visits to job losers and their dependants. Fineman (1990) shows that similar effects arise not only for physicians, but also for clergy, probation officers, and police officers. For these professional groups, unemployment produces a sense of crisis through higher quantitative and qualitative workloads, role conflicts, and other stressors.

The externalities associated with higher unemployment are not restricted to employees, but also affect those who were already unemployed. Here the sign of the externality may change: higher unemployment may be beneficial (or at least less harmful) for the unemployed. The social psychology literature provides evidence that the unemployment of others can help to make one’s own unemployment easier to bear. Kessler *et al.* (1987, 1988) find that support

from others reduces the negative impact of unemployment by helping the unemployed to escape from boredom and establish a goal direction in daily activities. It is easier for the unemployed to establish social contacts if others in the local area are also unemployed. Cohn (1978) finds that the unemployed's satisfaction with self was lower if there was no external cause to which unemployment could be attributed. Satisfaction among the unemployed was higher in regions with higher local unemployment rates. Jackson and Warr (1987) find similar results for the UK. Unemployed men in England and Wales have significantly better psychological health if they live in areas where unemployment is chronically high compared with those living in areas with moderate or low unemployment. Dooley *et al.* (1988), however, find that the aggregate unemployment rate has a negative impact on the unemployed when investigating psychological symptoms in the Los Angeles region.

While social psychology has contributed very detailed accounts of particular case studies and qualitative research, economists have recently started to make use of large-scale datasets to quantitatively examine the effect of unemployment on others. Clark (2003) uses seven waves of the BHPS to examine the impact of other's unemployment both on the employed and on the unemployed. Other's unemployment is measured at the regional, household, and couple level. While surrounding unemployment generally has a negative effect on the employed at all three levels, there is evidence of a counteracting effect for unemployed men. As regional unemployment increases, unemployed men become happier. Even at the household and partner level, men feel better if they are not the only unemployed person in the household. These results are consistent with the utility return of adhering to an employment norm.

Work in other countries or with other datasets generally finds similar results. Using Australian data, Shields *et al.* (2008) show that people suffer less from unemployment if they live in a region with more unemployment. Powdthavee (2007) finds a weak social norm effect in South Africa. His findings suggest that unemployed people suffer much less from regional unemployment than employed people, but they still suffer nevertheless. Social norm effects also appear for informally employed people (casual wage employees) whose life satisfaction is less adversely affected by regional unemployment than that of regularly employed workers.

Shields and Wheatley Price (2005) use an index of multiple deprivation at the regional level that consists of six deprivation domains (low income, employment, education and training, poor health and disability, poor housing, and poor geographical access to services). They show that the detrimental effect of unemployment on psychological health is greater in low employment-deprivation areas than in highly-deprived areas. However, Scutella and Wooden (2006), using Australian data, do not find any social norm effect at the household level: the well-being of the unemployed rather worsens as other household members become unemployed.

A different path of modeling the prevalence of an (un)employment norm is taken by Stutzer and Lalive (2004), who infer the social work norm in Swiss cantons from the outcome

of a referendum in which the population voted on cuts in unemployment benefits. Stronger cantonal support for this cut was interpreted as corresponding to a stronger social norm of work. Stutzer and Lalive (2004) show that a weaker work ethic is correlated with greater subjective well-being of the unemployed.

Overall, the literature clearly provides evidence that unemployment has adverse psychological effects both for those becoming unemployed as well as for those remaining in employment. The employed suffer from, for example, increased job insecurity, feelings of guilt, and higher workloads. However, for those who are already unemployed, a social norm effect might be at work. Higher unemployment may even increase the well-being of the unemployed.

3. Data and Methodology

To estimate the external effects of unemployment, we use all available waves (1984-2006) of the German Socio-Economic Panel (GSOEP).³ We include all individuals aged between 21 and 60 who are either employed or registered unemployed. This yields roughly 60,000 observations (from 9,000 different individuals) for each sex. Life satisfaction is measured on a 0 to 10 scale (where 0 denotes “not satisfied at all” and 10 stands for “completely satisfied”).

In a first step, we explain life satisfaction by a fairly standard set of variables, including the respondent's own employment status and the regional unemployment rate. To test for a social norm effect, we include interaction terms between own employment status and the regional unemployment rate. We estimate the following equation:

$$LS_{it} = \alpha_i + \beta_1 UE_{it} + \beta_2 (E_{it} * UERATE_{it}) + \beta_3 (UE_{it} * UERATE_{it}) + \gamma' X_{it} + \mu_t + \varepsilon_{it} \quad (1)$$

where α_i is an individual fixed effect, E_{it} is a dummy for own employment, UE_{it} is a dummy for own unemployment, and $UERATE_{it}$ is a measure of the regional unemployment rate (at the German federal state level).⁴ The vector X_{it} is a set of standard control variables that might potentially be correlated with individual well-being (such as income and marital status), μ_t represents the wave dummies, and ε_{it} is a random error term. We check to see whether we can replicate the results of the social norm literature noted previously with this extensive German panel database.

³ The data used in this publication were made available by the German Socio-Economic Panel Study (GSOEP) at the German Institute for Economic Research (DIW), Berlin. The data were extracted using the Add-On-package PanelWhiz for Stata, see Haisken-DeNew and Hahn (2006) for details.

⁴ We only keep observations on employed or registered unemployed respondents, and for ease of interpretation define β_2 and β_3 as the coefficients revealing the impact of aggregate unemployment on the employed and the unemployed respectively.

We have three prior hypotheses regarding equation (1):

- * $\beta_1 < 0$ (the unemployed are less happy than the employed);
- * $\beta_2 < 0$ (higher regional unemployment makes the employed less happy); and
- * $\beta_3 > \beta_2$ (there is a counteracting social norm effect for the unemployed, who are thus less negatively affected by regional unemployment than are the employed).

In the second empirical specification, we check our hypothesis that the fault line is actually perception of labor market risk rather than labor force status. We therefore run an extended regression that includes individual expectations about labor market prospects:

$$\begin{aligned}
 LS_{it} = & \alpha_i + \beta_1(E_{it} * Low_Empl_Security_{it}) \\
 & + \beta_2(UE_{it} * High_Empl_Chance_{it}) + \beta_3(UE_{it} * Low_Empl_Chance_{it}) \\
 & + \beta_4UERATE_{it} * E_{it} * High_Empl_Security_{it} \\
 & + \beta_5UERATE_{it} * E_{it} * Low_Empl_Security_{it} \\
 & + \beta_6UERATE_{it} * UE_{it} * High_Empl_Chance_{it} \\
 & + \beta_7UERATE_{it} * UE_{it} * Low_Empl_Chance_{it} \\
 & + \gamma' X_{it} + \mu_t + \varepsilon_{it}
 \end{aligned} \tag{2}$$

Here $High_Empl_Security_{it}$ and $Low_Empl_Security_{it}$ are respectively dummy variables for employees feeling that their job is relatively secure or insecure. These are constructed from the following question: “*How concerned are you about your job security?*”, with reply options: “*Very concerned*”, “*Somewhat concerned*”, and “*Not concerned at all*”. To indicate that this question is only asked of the employed, we pre-multiply the two dummies by E_{it} . The dummies $High_Empl_Chance_{it}$ and $Low_Empl_Chance_{it}$ result from the GSOEP question “*If you were currently looking for a new job: Is it or would it be easy, difficult or almost impossible to find an appropriate position?*”? These take the value one if the unemployed reply respectively that it would be “*easy*” or “*difficult/almost impossible*” to obtain a good position. As this question is only valid for the employed, we pre-multiply these two dummies by UE_{it} . The omitted category in equation (2) is employees with high job security.

Our hypotheses in this expanded estimation are as follows:

- * $\beta_1 < 0$ Job insecurity reduces the well-being of the employed
- * $\beta_2 > \beta_3$ The unemployed with good re-employment chances are happier than the unemployed with worse re-employment chances
- * $\beta_3 < 0$ The unemployed with worse re-employment chances are less happy than the employed with secure jobs

With respect to the external effects of unemployment, we expect the following:

$\beta_4 < 0$	Regional unemployment has a negative effect on the employed with secure jobs
$\beta_5 > \beta_4$	Regional unemployment has a less negative, or even positive, effect on the employed people with risky jobs
$\beta_7 > \beta_6$	Regional unemployment has a less negative, or even positive, effect on the unemployed with poor re-employment prospects than on the unemployed with good re-employment prospects

We therefore group individuals together on the labour market according to their prospects or their labour market risk, rather than by their labor force status. We consider that the employed with insecure jobs are analogous to the unemployed with poor re-employment prospects, but that the employed with secure jobs are similar to the unemployed with good re-employment prospects. The externality from higher regional unemployment is expected to be decidedly negative for this second group (who face less risk), but less negative for the first group.

4. Results

4.1. Descriptive Statistics

We start with some descriptive statistics. Table 1 shows the mean life satisfaction scores among different groups defined by employment status and labor market prospects described above. For both men and women, the happiest group is the employed with high job security, and the unhappiest are the unemployed with poor job prospects. The average life satisfaction scores of the employed with low job security with the unemployed with good future prospects are remarkably similar.

Table 1: Mean life satisfaction scores

	Men	Women
Employed		
High job security	7.49	7.43
Low job security	6.78	6.71
Unemployed		
Easy to find a job	6.66	6.98
Hard to find a job	5.33	5.68

We are most interested in the relationship between well-being and regional unemployment for the different groups. Figures 1 and 2 illustrate, for men and women respectively, the correlation between regional unemployment and the difference between the mean life satisfaction of the employed and the unemployed, by region and by five-year periods from 1984 to 2006. Figure 1 shows that there is a negative relationship for men between regional unemployment and the employed-unemployed well-being gap. This is consistent with a social norm effect: there is always a life satisfaction gap between the employed and the unemployed, but joblessness hurts less in regions with greater unemployment. In Figure 2 it is difficult to detect any social norm effect for women, and the relationship would appear to be positive, if anything rather than negative. Clark (2003) did not find a social norm effect of unemployment for women in the BHPS data either.

Figure 1: Employed-unemployed life satisfaction gaps and regional unemployment: Men

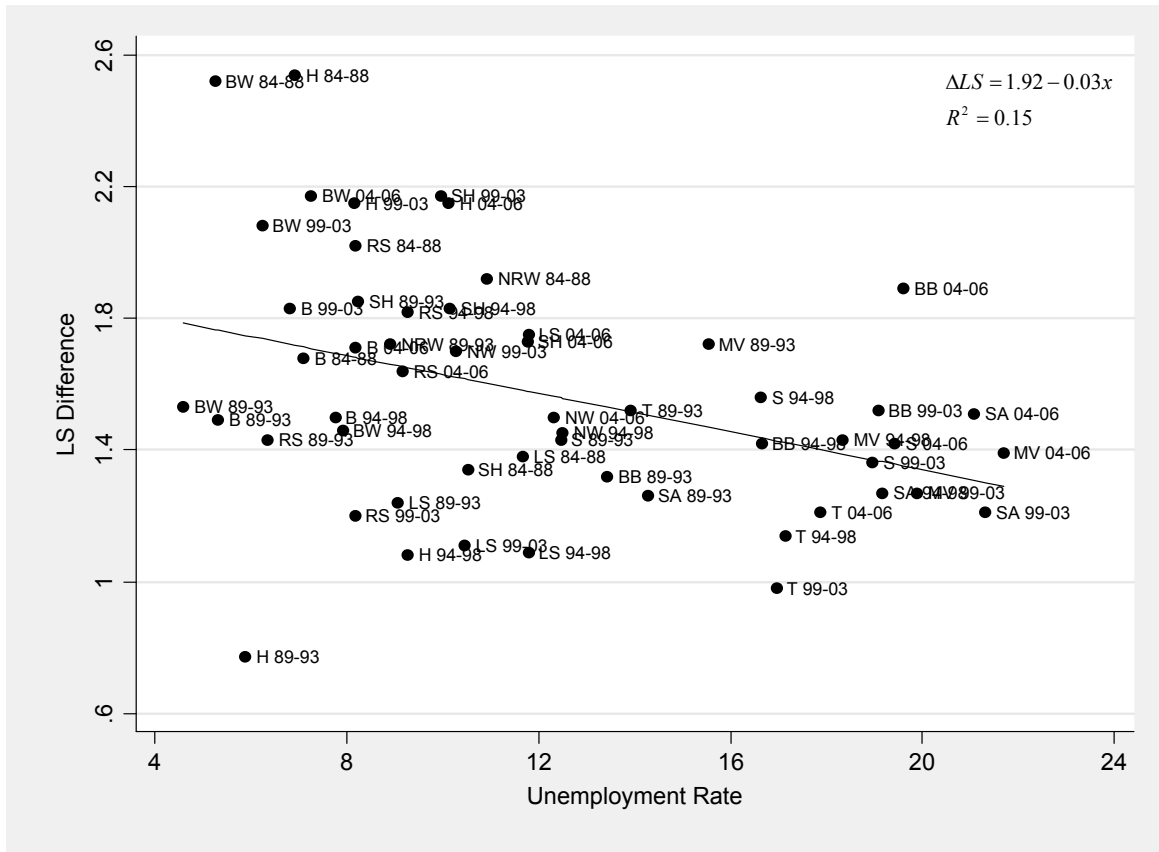
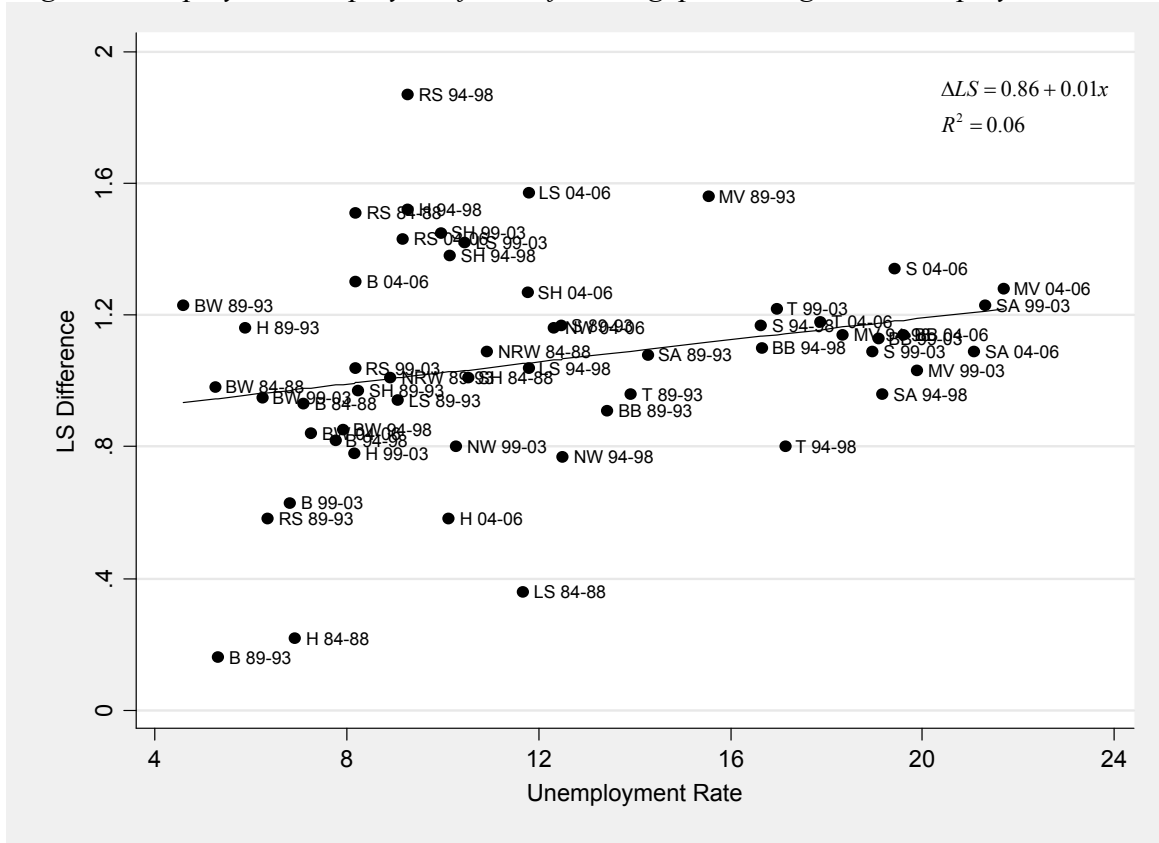


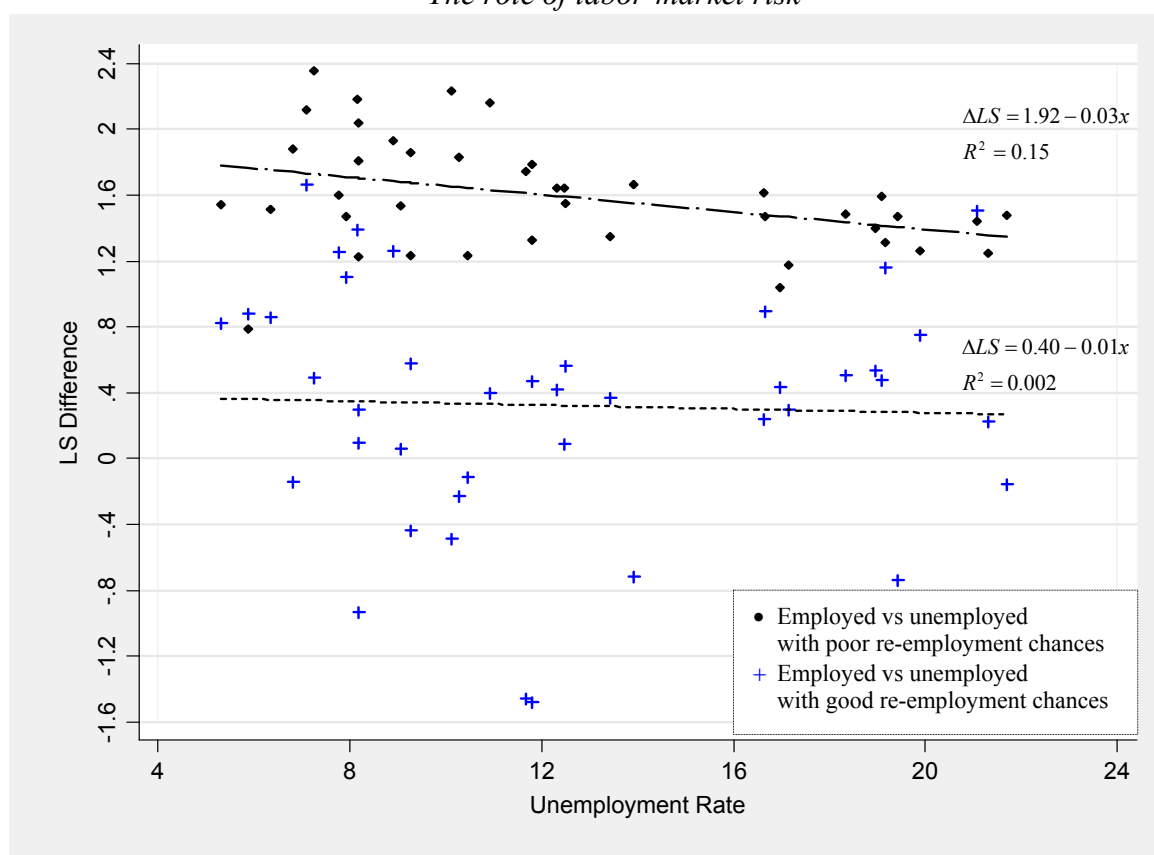
Figure 2: Employed-unemployed life satisfaction gaps and regional unemployment: Women



Notes to both figures: Observations by 13 German Federal States for 1984-1988 (only former West Germany), 1989-1993, 1994-1998, 1999-2003, and 2004-2006. We excluded the three city states (Berlin, Hamburg, Bremen) due to the lack of sufficient observations.

Our main hypothesis is, however, that the dividing line for the social norm works via labor market risk, rather than employment and unemployment. Figure 3 therefore presents the relationship between regional unemployment and the employment-unemployment life satisfaction gap for men, where we divide the unemployed up into those with good and those with poor chances of finding a new job. The life satisfaction gap is larger between employment and poor-chance unemployment than that with good-chance unemployment. Poor future job prospects thus reduce life satisfaction, whereas the unemployed with good prospects are not much different in life satisfaction terms from the employed. Of most interest for social norms is the slope of the relationship with regional unemployment. Figure 3 shows that this is negative for the unemployed with poor prospects (i.e. being unemployed hurts less, relative to employment, in a high-unemployment region). There is no relationship between the well-being gap and regional unemployment for the unemployed with good prospects.⁵

Figure 3: Employed-unemployed life satisfaction gaps and regional unemployment: men.
The role of labor-market risk



⁵ As such, the gap between good- and poor-prospect unemployment shrinks in higher unemployment regions: the two regression lines approach each other in Figure 3.

Note: The data include 13 German Federal States for the years 1984-1988 (only former West Germany), 1989-1993, 1994-1998, 1999-2003, and 2004-2006. We excluded the three city states (Berlin, Hamburg, Bremen) due to the lack of sufficient observations.

Before we move on to the econometric analysis, it is useful to take seriously the criticism that individuals may not be able to judge their future employment prospects accurately. One way of evaluating this is to see whether individuals' perceptions of their labor market risk is correlated with what actually happens to them in the future. Table 2 presents the percentage of individuals who are employed or unemployed in year t , as a function of their subjective evaluations in year $t-1$. The probability of remaining in unemployment from $t-1$ to t is clearly correlated with individual perceptions of re-employment chances at $t-1$. Of the unemployed at $t-1$ reporting poor chances, 56.0% are still unemployed at t ; the analogous figure for the unemployed reporting good chances at $t-1$ is 30.2%. The same figures for being in employment at t are 29.1% and 51.2% respectively.

Table 2: Future labor-force status and current perceptions of risk

	Unemployed at t	Employed at t
<i>Unemployed at $t-1$</i>		
Low re-employment chance	56.0%	29.1%
High re-employment chance	30.2%	51.2%
<i>Employed at $t-1$</i>		
Low job security	5.2%	91.1%
High job security	1.8%	93.0%

Note: The numbers do not add up to 100 percent as individuals may also switch to periods of training and education, maternity leave, retirement, or leave the labor force for other reasons.

A similar story can be told for the employed, relative to their chances of losing their job. The differences in percentage terms for the employed are smaller than those for the unemployed, partly because relatively fewer of them transit between statuses from one year to the next. However, the same broad conclusion can be drawn that what individuals say about their labor-market risk has a counterpart in what actually occurs to them in the future.

4.2. Regression results

To analyze the effects of aggregate unemployment on well-being, we now turn to econometric analysis. The first two columns of Table 3 shows the results of estimating specification (1) via an OLS regression with individual fixed effects. The estimation results with German data are consistent with those found in a number of other countries (see Section 2 above). Unemployment is associated with sharply lower well-being, and higher regional

unemployment rate is associated with lower well-being for the employed. This highlights two channels via which unemployment affects individual welfare. It first generates non-pecuniary losses for those who become unemployed, but also produces negative externalities for those who remain employed. A ten percent higher regional unemployment rate (corresponding, for example, to the unemployment gap between the German federal states of Bavaria and Mecklenburg-Western Pomerania), is estimated to reduce the life satisfaction of an employed man (woman) by 0.17 (0.12) points on the 11-point scale.⁶

On the contrary, there is no significant effect of regional unemployment on the well-being of already unemployed men, in line with the social norm hypothesis. The difference between the effect of aggregate unemployment on employed and unemployed men is statistically significant at the 1% level. The unemployed suffer less than the employed from higher regional unemployment (although we can not conclude that it actually makes them feel better). There is no evidence of a social norm effect for women.

We now turn to specification (2), the estimation results of which are presented in columns 3 and 4 of Table 3. Here both men and women are less happy with insecure jobs and when it is harder to find a new job from unemployment. The impact of poor future prospects is sizeable. A deterioration in job security from high to low produces a 0.362 point fall in subjective well-being for men, and a 0.216 point fall for women (disregarding the interaction effects, i.e. at a regional unemployment rate of zero). The unemployed with poor re-employment chances have life satisfaction scores that are 1.579 points lower than those of the employed in secure jobs (again disregarding the interaction effects). However, the unemployed with promising prospects are at least as happy as the employed individuals. This supports the finding by Eisenberg and Lazarsfeld (1938) cited in the introduction.

One major result from this econometric analysis is that the effect of aggregate unemployment depends on the degree of labor-market risk. These effects are shown by the bottom estimates in each panel.

For men, regional unemployment particularly reduces well-being for the employed with secure jobs *and* for the unemployed with good prospects. This negative effect is attenuated for the employed with insecure jobs, and actually becomes positive for the unemployed with poor prospects. The difference between the two employment interaction coefficients is significant at the 10% level, and that between the two unemployment interaction coefficients at the 1% level. These results provide some support for the hypothesis that the dividing line for the social norm effect of aggregate unemployment is not employed *vs.* unemployed, but rather

⁶ Calculating “compensating income variations” shows that this effect is substantial. It relates to a loss of about 8,600 Euro household income a year for a man and about 7,100 Euro household income a year for a woman.

good *vs.* bad prospects. A ten percentage point rise in the regional unemployment rate, reduces the life satisfaction of an unemployed man with good prospects by 0.47 life satisfaction points, but has no effect on the life satisfaction of an unemployed man with bad prospects. Those who feel stuck in unemployment are not negatively influenced by worsening labor-market conditions.

There are no significant effects of regional unemployment for employed women. The two interaction terms for the unemployed both attract significant negative coefficients, with that for the poor prospect unemployed being less negative than that for the good prospect unemployed, as for men.

Table 3: Regression result (Fixed Effects OLS)

	Without Future Expectations		With Future Expectations	
	(1) Men	(2) Women	(3) Men	(4) Women
Reference	Full-time employed	Full-time employed	Full-time employed with secure job	Full-time employed with secure job
Employed				
x Low job security			-0.362*** (0.036)	-0.216*** (0.041)
x U Rate	-0.017*** (0.004)	-0.012** (0.005)		
x U Rate x Secure Job			-0.018*** (0.005)	-0.006 (0.005)
x U Rate x Insecure Job			-0.012*** (0.005)	-0.008 (0.005)
Unemployed				
x Good Prospects			0.141 (0.203)	0.232 (0.252)
x Poor Prospects			-1.579*** (0.076)	-0.604*** (0.080)
x U Rate	0.002 (0.006)	-0.027*** (0.006)		
x U Rate x Good Prospects			-0.047*** (0.016)	-0.050** (0.021)
x U Rate x Poor Prospects			0.009 (0.006)	-0.028*** (0.007)
Income (Monthly net household income divided by number of household members)				
Income/1000	0.236*** (0.018)	0.203*** (0.018)	0.235*** (0.018)	0.196*** (0.019)
Individual controls	Yes	Yes	Yes	Yes
Individual fixed effects	Yes	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes	Yes
R ²	0.066	0.051	0.089	0.071
No. observations	67,263	57,916	65,468	55,744

Note: OLS estimation with individual fixed effects and wave dummies. Individual controls include marital status, number of children, years of education, part-time, age (and age-squared), living in owned accommodation, and having a household member in need of care. Standard deviations in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Since life satisfaction is an ordinal variable, we check our results using fixed-effect conditional logits. We transform life satisfaction to a binary variable, where the cut-point is set at the individual mean life satisfaction level (Ferrer-i-Carbonell and Frijters, 2004). The

results, in Table 4, are qualitatively similar to those from the linear “within” regressions in Table 3. Overall, unemployed men are not affected by worsening labor-market conditions, whereas employed men are. But when we distinguish by labor-market risk, the largest significant negative effects of aggregate unemployment are found for the secure employed and the good-prospect unemployed. The poor-prospect unemployed are not affected by higher regional unemployment.

Table 4: Regression results (Conditional Fixed Effects Logit)

	Without Future Expectations		With Future Expectations	
	(1) Men	(2) Women	(3) Men	(4) Women
Reference	Full-time employed	Full-time employed	Full-time employed with secure job	Full-time employed with secure job
Employed				
x Low job security			-0.589*** (0.064)	-0.300*** (0.069)
x U Rate	-0.027*** (0.008)	-0.013 (0.008)		
x U Rate x Secure Job			-0.031*** (0.009)	-0.002 (0.009)
x U Rate x Insecure Job			-0.019** (0.008)	-0.008 (0.009)
Unemployed	-1.165*** (0.120)	-0.353*** (0.118)		
x Good Prospects			-0.015 (0.354)	0.003 (0.440)
x Poor Prospects			-1.750*** (0.142)	-0.470*** (0.137)
x U Rate	-0.013 (0.010)	-0.044*** (0.011)		
x U Rate x Good Prospects			-0.052* (0.027)	-0.048 (0.038)
x U Rate x Poor Prospects			-0.006 (0.011)	-0.049*** (0.011)
Income (Monthly net household income divided by number of household members)				
Income/1000	0.355*** (0.033)	0.309*** (0.035)	0.359*** (0.034)	0.307*** (0.036)
Individual controls	Yes	Yes	Yes	Yes
Individual fixed effects	Yes	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes	Yes
Log-likelihood	-28,958	-24,394	-27,813	-23,194
No. observations	62,507	52,933	60,654	50,761

Note: Conditional fixed effect logit estimates. Individual controls include marital status, number of children, years of education, part-time, age (and age squared), living in owned accommodation, and having a household member in need of care. Standard deviations in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

While it does respect the ordinality of life satisfaction, the disadvantage of conditional fixed effect logit estimation is the reclassification of eleven life satisfaction scores into just two categories, which obviously throws away a lot of information. As such, we also appeal to a third estimation method that retains the original dependent variable – the Probit-adjusted

OLS (POLS) approach of Van Praag and Ferrer-i-Carbonell (2004). In contrast to standard OLS which assumes equal distances between the life satisfaction categories, POLS transforms these latter on the entire real axis by using the overall sample distribution. Van Praag (2004) shows that the results generated by traditional ordered probit and Probit OLS are the same up to a multiplication factor. The advantage of POLS lies in the possibility of applying panel data methods, such as individual fixed effects.

Table 5 presents the results from a POLS regressions with fixed effects. The results are again qualitatively similar to those from OLS and conditional logit estimation. The difference between the effect of regional unemployment on employed men (negative) and unemployed men (zero) in column (1) is significant at the 1% level. However, as before, the unemployed and the employed are not a homogeneous group. Column 3 shows that regional unemployment reduces the well-being of the good-prospect unemployed (who are more like the employed in this respect), but actually increases the well-being of the poor-prospect unemployed. Both effects are significant, and the difference between them is significant at the one percent level. We again do not find any social norm effects for women.

All three methods (OLS, conditional fixed-effect logit, and POLS) produce the same results. There is first a significant difference in the effect of regional unemployment on the well-being of the unemployed and the employed. But these groups are far from being homogeneous. By taking labor market prospects into account, we suggest that the key distinction might be between those with good prospects (the secure employed and the unemployed who say that it is easy to obtain a new job), and those with bad prospects (the insecure employed and the unemployed who say that it is difficult to obtain a new job). Regional unemployment produces negative externalities for the first group, but there is evidence of a social norm effect, whereby regional unemployment matters less, or is even welcomed, for the second group.

Table 5: Regression result (Fixed Effects Probit-adjusted OLS)

	Without Future Expectations		With Future Expectations	
	(1) Men	(2) Women	(3) Men	(4) Women
Reference	Full-time employed	Full-time employed	Full-time employed with secure job	Full-time employed with secure job
Employed				
x Low job security			-0.215*** (0.019)	-0.127*** (0.022)
x U Rate	-0.010*** (0.002)	-0.006** (0.003)		
x U Rate x Secure Job			-0.011*** (0.003)	-0.003 (0.003)
x U Rate x Insecure Job			-0.007*** (0.002)	-0.004 (0.003)
Unemployed				
	-0.596*** (0.035)	-0.236*** (0.037)		
x Good Prospects			0.013 (0.108)	0.180 (0.134)
x Poor Prospects			-0.813*** (0.040)	-0.314*** (0.043)
x U Rate	0.002 (0.003)	-0.012*** (0.003)		
x U Rate x Good Prospects			-0.022*** (0.008)	-0.031*** (0.011)
x U Rate x Poor Prospects			0.005* (0.003)	-0.012*** (0.004)
Income (Monthly net household income divided by number of household members)				
Income/1000	0.123*** (0.009)	0.105*** (0.010)	0.122*** (0.010)	0.101*** (0.010)
Individual controls	Yes	Yes	Yes	Yes
Individual fixed effects	Yes	Yes	Yes	Yes
Wave dummies	Yes	Yes	Yes	Yes
R ²	0.050	0.040	0.074	0.058
No. observations	67,263	57,916	65,468	55,744

Note: Probit-adjusted OLS estimation with individual fixed effects. Individual controls include marital status, number of children, years of education, part-time, age (and age squared), living in owned accommodation, and having a household member in need of care. Standard deviations in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

5. Conclusion

Unemployment is widely considered to generate negative externalities, quite apart from its effect on those who lose their jobs. A distinction is often made between the influence on the

employed and the unemployed: aggregate unemployment reduces the well-being of the employed, but has a far smaller, or even null or positive effect on the unemployed. This latter is suggested to reflect a social norm in labor market status.

We here use long-run German panel data to reproduce this standard result. Our main contribution is to suggest that the relevant faultline in externalities may not be between employment and unemployment, but rather between higher and lower levels of labor-market risk. This latter is measured as job security for the employed, and ease of finding a new job for the unemployed. The good prospects group, both employed and unemployed, are strongly negatively affected by regional unemployment. However, the insecure employed and the poor-prospect unemployed are far less affected by aggregate unemployment.

If there is a social norm effect of unemployment, it is then felt specifically for both the unemployed who don't see themselves leaving unemployment easily, and for the employed who suspect that they may be joining the ranks of the unemployed. This distinction appears to be particularly relevant for men.

While this paper has appealed to measures of subjective well-being to distinguish groups in the labor market, it would be of great interest to apply these results in other areas. One obvious application is in job search, which has as one of its keystones the value of employment compared to the value of unemployment. Another is efficiency wage theory. Future research should perhaps pay greater attention to heterogeneity in the labor market, not necessarily in terms of the current position that is occupied, but in terms of future prospects, as perceived by individuals themselves.

References

- Blanchflower, D. (2007). "Is Unemployment more Costly than Inflation?". NBER Working Paper No. 13505.
- Blanchflower, D., and A. Oswald (2004): "Well-being over time in Britain and the USA", *Journal of Public Economics* 88, 1359– 1386.
- Brockner, J. (1988): "The Effects of Work Layoffs on Survivors: Research, Theory and Practice", in B. Staw and L. Cummings (eds.): *Research in Organizational Behavior*, Vol. 10, Greenwich: JAI Press, 213-55.
- Brockner, J. (1992): "Managing the Effects of Lay offs on Survivors", *California Management Review* 34, 9-28.
- Clark, A.E. (2001). "What Really Matters in a Job? Hedonic Measurement Using Quit Data". *Labour Economics*, **8**, 223-242.
- Clark, A.E. (2003): "Unemployment as a Social Norm: Psychological Evidence from Panel Data", *Journal of Labor Economics* 21(2), 323-351.
- Clark, A.E., and A. Oswald (1994): "Unhappiness and Unemployment", *Economic Journal* 104, 648-659.
- Cobb, S. and S. Kasl (1977): *Termination: The Consequences of Job Loss*, Cincinnati: US Department of Health, Education and Welfare.
- Cohn, R. (1978): "The effect of employment status change on self-attitudes", *Social Psychology* 41, 81-93.
- Cooper, C. (1986): "Job distress: Recent research and the emerging role of the clinical occupation psychologist", *Bulletin of the British Psychological Society* 39, 325-331.
- De Witte, H. (1999): "Job Insecurity and Psychological Well-being: Review of the Literature and Exploration of Some Unresolved Issues", *European Journal of Work and Organizational Psychology* 8(2), 155-177.
- Dekker, S., and W. Schaufeli (1995): "The effects of job insecurity on psychological health and withdrawal: A longitudinal study", *Australian Psychologist* 30(1), 57-63.
- Di Tella, R., MacCulloch, R.J., & Oswald, A.J. (2001). "Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness". *American Economic Review*, **91**, 335-341.
- Dooley, C., R. Catalano, and K. Rook (1988): "Personal and aggregate unemployment and psychological symptoms", *Journal of Social Issues* 44, 107-123.
- Eisenberg, P., and P. Lazarsfeld (1938): "The psychological effects of unemployment", *Psychological Bulletin* 35, 358-390.

- Feather, N. (1990): *The Psychological Impact of Unemployment*, New York: Springer.
- Ferrer-i-Carbonell, A. and Frijters, P. (2004). "How important is methodology for the estimates of the determinants of happiness?". *Economic Journal*, **114**, 641-659.
- Ferrie, J., M. Shipley, M. Marmot, S. Stansfeld, and G. Smith (1995): "Health effects of anticipation of job change and non-employment: Longitudinal data from the Whitehall II study", *British Medical Journal* 311, 1264-1269.
- Fineman, S. (1990): *Supporting the jobless: Doctors, clergy, police, probation officers*. London: Tavistock/Routledge.
- Fryer, D., and S. McKenna (1987): "The laying off of hands – unemployment and the experience of time", in S. Fineman (ed.): *Unemployment: Personal and social consequences*, London: Tavistock.
- Fryer, D., and S. McKenna (1988): "Redundant skills: temporary unemployment and mental health", in M. Patrickson (ed.): *Readings in organisational behaviour*, Sydney: Harper and Row.
- Gerlach, K., and G. Stephan (1996): "A paper on unhappiness and unemployment in Germany", *Economics Letters* 52(3), 325-330.
- Hartley, J., D. Jacobson, B. Klandermans, T. van Vuuren, with L. Greenhalgh and R. Sutton (1991): *Job Insecurity: Coping with jobs at risk*, London: Sage.
- Jackson, P., and P. Warr (1987): "Mental health of unemployed men in different parts of England and Wales", *British Medical Journal* 295, 525.
- Jahoda, M. (1981): "Work, employment, and unemployment: Values, theories, and approaches in social research", *American Psychologist* 36, 184-191.
- Jahoda, M. (1988): "Economic recession and mental health: Some conceptual issues", *Journal of Social Issues* 44, 13-23.
- Jones, F., and B. Fletcher (1993): "An empirical study of occupational stress transmission in working couples", *Human Relations* 46(7), 881-903.
- Kessler, R., J. House, and J. Turner (1987): "Unemployment and health in a community sample", *Journal of Health and Social Behavior* 28, 51-59.
- Kessler, R., J. Turner, and J. House (1988): "The effects of unemployment on health in a community survey: main, modifying, and mediating effects", *Journal of Social Issues* 44(4), 69-85.
- Knabe, A. and S. Rätzl (2008): *Scarring or Scaring? The psychological impact of past unemployment and future unemployment risk*, FEMM Working Paper No. 13/2008, Otto-von-Guericke-University Magdeburg.

- McKee, L., and C. Bell (1986): "His unemployment, her problem: the domestic and marital consequences of male unemployment", in S. Allen, S. Waton, K. Purcell, and S. Wood (eds.): *The experience of unemployment*, Basingstoke: Macmillan.
- McLoyd, V. (1989): "Socialisation and development in a changing economy: The effects of paternal job and income loss on children", *American Psychologist* 44(2), 293-302.
- Nelson, A., C. Cooper, and P. Jackson (1995): "Uncertainty amidst change: The impact of privatization on employee job satisfaction and well-being", *Journal of Occupational and Organizational Psychology* 68, 57-71.
- Noer, D. (1993): *Healing the Wounds: Overcoming the Trauma of Layoffs and Revitalizing Downsized Organizations*, San Francisco: Jossey-Bass.
- Oakley, C. (1936): "Some psychological problems of a depressed area", *Human Factor* 10, 393-404.
- Platt, S., & Kreitman, N. (1990). "Long term trends in parasuicide and unemployment in Edinburgh, 1968-87". *Social Psychiatry and Psychiatric Epidemiology*, **25**, 56-61.
- Platt, S., Micciolo, R., & Tansella, M. (1992). "Suicide and Unemployment in Italy: Description, Analysis and Interpretation of Recent Trends". *Social Science & Medicine*, **34**, 1191-1201.
- Powdthavee, N. (2007): "Are there geographical variations in the psychological cost of unemployment in South Africa?", *Social Indicators Research* 80, 629-652.
- Scutella, R., and M. Wooden (2006): *Effects of Household Joblessness on Subjective Well-Being*, Melbourne Institute Working Paper Series, Working Paper No. 10/06, Melbourne.
- Shields, M., and S. Wheatley Price (2005): "Exploring the Economic and Social Determinants of Psychological and Psychosocial Health", *Journal of the Royal Statistical Society (Series A)* 168(3), 513-538.
- Shields, M., S. Wheatley Price, and M. Wooden (2008): "Life Satisfaction and the Economic and Social Characteristics of Neighbourhoods", forthcoming in *Journal of Population Economics*.
- Stutzer, A., and R. Lalive (2004): "The role of social work norms in job searching and subjective well-being", *Journal of the European Economic Association* 2(4), 696-719.
- Te Grotenhuis, H., and J. Dronkers (1989): "Unequal opportunities in a West-European Welfare State", *The Netherlands Journal of Social Sciences* 25(1), 18-29.
- Van Praag, B. M. S. (2004): "The Connexion between Old and New Approaches to Financial Satisfaction", forthcoming in L. Bruni and P. Porta (eds.): *Economics and Happiness: Reality and Paradoxes*, Oxford: Oxford University Press.

Van Praag, B. M. S. and A. Ferrer-i-Carbonell (2004): *Happiness Quantified: A Satisfaction Calculus Approach*, Oxford: Oxford University Press.

Winkelmann, L., and R. Winkelmann (1995): "Happiness and Unemployment: a Panel Data Analysis for Germany", *Konjunkturpolitik* 41(4), 293-307.

Winkelmann, L., and R. Winkelmann (1998): "Why are the unemployed so unhappy? Evidence from panel data", *Economica* 65, 1-16.